THE INTERACTION BETWEEN LANGUAGE AND CULTURE: A TEST OF THE CULTURAL ACCOMMODATION HYPOTHESIS IN SEVEN COUNTRIES

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ABSTRACT

This article investigates whether the language of the questionnaire influences response patterns. More specifically we test the cultural accommodation hypothesis: Do respondents subconsciously adjust their responses in a way that reflects the cultural values associated with the language in question? We tested this hypothesis with a sample of undergraduate students in seven countries. Half of the students in each country received an English-language questionnaire, while the other half received the same questionnaire in their native language. Three type of questions were included in the questionnaire: questions about cultural norms and values, questions about characteristics of the type of jobs student would prefer after graduation and questions about reasons for choosing elective subjects in their studies. Cultural accommodation would be present when the mean scores for students who responded to the English-language questionnaire were closer to the mean scores of a control group of English students than to the mean scores of their fellow students who responded to the native language questionnaire. This was shown to be the case for a substantial number of the cultural values and job characteristic questions but not for the elective questions. Consequences and recommendations for cross-cultural research are discussed.

INTRODUCTION

The globalisation of the world economy and the increasing importance of multinational companies has made more and more researchers realise that theories and concepts developed in one part of the world (usually the USA) might not be applicable across borders. However, in order to find out which theories and concepts are universally valid and which have to be adapted, cross-cultural research is necessary. Cross-cultural research is plagued by many problems (for an overview see for instance Sekeran, 1983; Adler, 1984; Nasif et al. 1991; Hines, 1993; Singh, 1995, Harpaz, 1996; Cavusgil & Das, 1997; Usinier, 1998; Leung & van de Vijver, 2000; Lim and Firkola, 2000). This article focuses on one of these problems: the fact that research in more than one country often involves subjects with different native languages.

When confronted with a linguistically diverse population, the researcher has two basic options. The first option is to translate the questionnaire into as many languages as necessary. This is the only option if respondents are monolingual or if there is no shared second language among respondents. However, translation of questionnaires is not an unambiguous process. An instrument developed in one culture and language has to be translated into the language of the second culture, while at the same time preserving and maintaining the meaning of the original. Brislin (1986) offers a set of recommendations for translation of research instruments. However, translation of research instruments might be a time-consuming and expensive process.

Although the researcher has no option when working with monolingual populations, multilingual populations might offer the possibility of a second option: administer the questionnaire in the original language (usually English), assuming English is one of the languages these multilinguals have mastered. This might be an especially attractive option for surveys within multinational companies where the corporate language is English. However, this leads us to another problem: could the language of the questionnaire influence a person's response? In order to answer this question, we need to look at two different conceptions of the role of language in the study of

cross-national differences: the Whorfian and the linguistic position (Hulin & Mayer, 1986). According to the extreme Whorfian position individuals who speak different languages live in different worlds rather than living in the same world with different labels for objects, events, and concepts. This position is based on the Sapir-Whorf hypothesis that sees language as a filter between an individual and his environment. According to this position, language has such a strong impact that cross-language research is impossible. According to the extreme linguistic position very high fidelity translations from a source to a target language would provide a sufficient basis for cross-language and cross-cultural assessments and comparisons. According to the linguistic hypothesis, the human race is united through common evolutionary events. This means that languages are simply linguistic symbols for common terms and can be translated into an equivalent set of symbols, a different language, with little loss of meaning (Brislin, 1980, cited in Hulin & Mayer, 1986).

Neither of these positions is likely to be completely true in their extreme forms. Although translation of research instruments might be possible, such translations may not produce scales that are psychometrically equivalent. The extreme version of the Whorfian hypothesis also seems untenable. Although language might influence thought processes and shapes the way we perceive our environment, it seems unlikely that these differences would create cognitive worlds that are so different that cross-language research is impossible. However, a less extreme version of the Whorfian hypothesis suggests the language of the questionnaire might influence people's responses to the questions. This is especially likely when the instrument assesses cultural norms and values, since language and culture are interrelated. Yang & Bond (1980) suggest that when learning a second language, individuals might be subconsciously influenced by the culture of that language and acquire some of the cultural attitudes and values associated with that language, a process called cultural accommodation. Previous research on the effects of language has indeed found that the language version of an instrument can influence individuals' responses in this fashion (see for instance Bond & Yang, 1982; Botha, 1970; Candell & Hulin, 1986; Earle, 1969; Ralston et al. 1995). These studies will be discussed in more detail below.

Two other explanations for response differences with different language questionnaires – ethnic affirmation and social desirability – have so far received less support (Church et al. 1988). According to the ethnic affirmation hypothesis respondents will show a stronger endorsement of native cultural values when responding in their second language, since the use of a second language makes their ethnicity more salient. Although Bond & Yang (1982) and Yang & Bond (1980) found some support for this position, Church et al. (1988) found the opposite to be true and rightly claim that if endorsement is stronger in the native language this hypothesis becomes indistinguishable from the accommodation hypothesis. Bond & Yang (1982) found that the greater the importance their respondents attached to a particular value, the more likely they were to show ethnic affirmation. They subsequently try to reconcile this with earlier studies that found an accommodation effect by claiming that respondents in these studies were probably not very committed to the values included in these studies. This would seem to us to be a rather far-reaching conclusion. The studies by Yang & Bond focused on small samples of a very specific group: male psychology students in Hong Kong and it would seem unwise to generalise them without replication in other circumstances.

The social desirability hypothesis claims that respondents will give a more socially desirable answer in their second language (Marin et. al. 1983). However, Tyson et al. (1988) indicate that social desirability effects are likely to occur only if there is a status difference between the two languages/cultures, as is the case for Hispanics in the US, but not for bilingual WASP Americans. Given the more ambiguous support for these two explanations our study will focus on testing the cultural accommodation hypothesis in a more controlled setting and on a larger scale than has been done so far. The remainder of this article is structured as follows. We will first discuss previous studies that have tried to assess the impact of language on answers to questionnaires in bilingual populations and either implicitly or explicitly tested the cultural accommodation hypothesis. We will then describe how our study complements these studies. Subsequently, we will discuss our methodology and results. A discussion section will conclude our article.

STUDIES OF BILINGUAL POPULATIONS

Studies on the impact of language on response patterns for bilingual populations have focused on one of two approaches: within-participant comparisons and between participant comparisons. The within-participant approach presents the same questionnaire in two different languages to every respondent. The between participant approach splits up the group of respondents and each respondent answers the questionnaire in only one language. In order to isolate the impact of language all respondents come from the same culture.

Within-participant comparisons

The within-participant approach would be the ideal test of the impact of language, because it tests the way in which a specific individual accommodated to the culture associated with the language employed in the measure. It was first applied by Earle (1969) who made a cross-cultural comparison between the Dogmatism scores of British and Hong Kong Chinese students. She found that for Chinese-English bilingual students in Hong Kong the mean score in the English language was significantly different from both the mean score of the British students and the mean score for the Chinese language. The mean score for the English language questionnaire was situated between the mean score for the Chinese language and the mean score for the British students, suggesting cultural accommodation. Questionnaires were applied with an interval of three months. Botha (1970) used a yearlong interval with a group of 30 bilingual students when comparing responses to a questionnaire on eight value categories in either Afrikaans or English. Scores for three values are significantly different in the two language versions and bilingual students score closer to their monolingual control group for all but one of the eight value categories. Katerberg et al. (1977) compared responses to the English and Spanish version of two instruments: the Job Description Index and the Index of Organizational Reactions. Respondents were of Cuban and Puerto Rican origin. No significant differences were found. However, respondents received both language questionnaires at the same time, which might lead them to strive for consistency in their answers. A reanalysis of this sample by Hulin et al. (1982) found only 3 of the 72 items to be biased and for

one of them this was caused by inadequate translation. Tyson et al. (1988) introduced a four-week period between the administration of the different language versions (Afrikaans and English) of a questionnaire on values important to the South-African context. They did not find any significant differences between the two language versions. Sanchez et al. (2000) administered a questionnaire on organizational commitment, role ambiguity, role conflict, work tension, locus of control and job satisfaction to Hispanic bilinguals. The two language versions were separated by a 60 days interval. No differences were found in this study either. In sum, results for within-participants comparisons are mixed. Although the first two studies found significant differences, the three later studies did not. However, it is possible that many respondents will make an effort to remember their earlier responses. In addition, separating the administration of the questionnaire in time allows for confounding variables to intervene. Depending on the design of the study it might also lead to a smaller sample since some respondents might decline participation in the second study. In Tyson et al.'s study small sample sizes (16-22) might also have influenced the results.

Between-participant comparisons

The between-participant approach eliminates the potential consistency bias, but puts heavy demands on the comparability between samples. Bond & Yang (1982) administered three different questionnaires measuring cultural values in two languages – Chinese and English – to a group of 184 male psychology students in Hong Kong (each student only answered one questionnaire in one language). They found a combination of the ethnic affirmation (higher endorsement of Chinese values on the English questionnaires) and the accommodation (higher endorsement of English values on the English questionnaires) effect. They explained this difference by the commitment of respondents to the values in question, with a lower commitment leading to accommodation. Candell & Hulin (1986) compared the English and French versions of the Job Description Index, using samples of bilingual Canadians in the Canadian Forces and found 6 of the 86 items to be biased. However, we cannot exclude the possibility that even this small number of differences was caused by self-selection, since participants were allowed to choose which language version

they wanted to complete. Out of the 596 respondents who identified French as their primary language, 235 choose to complete the English-language questionnaire. It is quite likely that these 235 respondents were closer to the norms and values of the English-speaking Canadians than the ones who chose the French version. This concern was addressed to some extent by Ralston et al. (1995) who studied differences between managers from Hong Kong that answered either an English or a Chinese version of an attitudinal survey. Consistent with the accommodation hypothesis they found that managers who answered the English language version of an attitudinal survey scored higher on Western-culturally important values than those answering the Chinese version. However, as Sanchez et al. (2000) aptly remark the self-selection bias cannot be completely ruled out. Ralston et al. (1995) used volunteer MBA students who had to hand out the questionnaires – one English, one Chinese – to two managers in their own company. It is possible, however, that some of the managers, when finding out that there were two versions requested the language of their preference. And given the high respect for and loyalty to ones superiors it is unlikely that students would have refused. Ralston et al.'s (1995) study illustrates a major drawback of the between-participant approach in comparison to the within-participant approach: it is very difficult to find samples that are matched on all other characteristics apart from the language of the questionnaire. Respondents might differ in terms of demographic characteristics, their position in the company, the type of company they work for etc. Although some of these characteristics were measured in the Ralston et al. (1995) study, they were not included in the analysis.[1]

OUR STUDY'S CONTRIBUTION

Since we feel that the "consistency" problem associated with the within-participant approach might hinder meaningful comparisons, we have chosen to use the between-participant approach in our study. However, we have made every effort to avoid the problems associated with earlier studies that used this approach by eliminating self-selection and matching respondents as closely as possible. In addition, our study will improve upon earlier studies in three other areas.

First, we include both questions that relate to cultural values and questions that are more neutral. Earlier studies focus on only one category, either cultural values (Earle, 1969; Botha, 1970; Tyson, 1988, Bond & Yang, 1982; Ralston et al. 1995) or questionnaires dealing with organisational issues such as job description and organisational commitment (Katerberg et al. 1977; Hulin et al. 1982; Candell & Hulin, 1986; Sanchez et al. 2000). Generally, studies focusing on cultural values found a response effect, while studies focusing on more neutral questions did not, the 3-7% item bias found by Hulin et al. (1982) and Candell & Hulin (1986) would seem too small to warrant much concern. Our study will try to assess whether this pattern is confirmed when both questions related to cultural values and more neutral questions are included in the same study.

Second, our study compares English with no less than 6 other languages in 7 countries. It therefore includes a much wider range of countries and languages than previous studies that all focused on a comparison between English and one other language only: Chinese (Earle, 1969; Bond & Yang, 1982; Ralston et al., 1995), Spanish (Katerberg et al., 1977; Hulin et al., 1982; Sanhez et al. 2000), Afrikaans (Botha, 1970, Tyson et al. 1988) or French (Candell & Hulin, 1986). It is remarkable that most of the studies that found response effects compared Chinese and English, two languages that are very different and represent countries that are culturally very different. Our study will include both West-European (Austria, Germany, Greece, Portugal, Sweden) and non-European (Chile, Malaysia) countries and will therefore allow us to asses whether response effects also occur for languages that are more similar to English and countries that might not be as culturally different from Anglo-Saxon countries as Hong Kong.

A third aspect that distinguishes our study from most of the earlier studies is that although in most of the countries in our sample there might be a status difference between English and the native language, this is not usually associated with ethnical tensions. These ethnical tensions might be expected for Hong Kong, South Africa or minority groups in the US, the subject of most previous studies. This allows us to focus more clearly on the impact of language as such, rather than including associated cultural tensions.

Our study's main hypotheses are reproduced below. As indicated earlier our study includes both questions on cultural values and more neutral questions. Our first hypothesis therefore investigates the relative impact of the language of the questionnaire for both types of questions, while our second hypothesis tests the cultural accommodation effect we discussed in the literature review. Details of our study's design can be found in the next section.

Hypothesis 1: Within each country the questions on cultural values and ideal jobs will show a significant difference between responses to the English-language questionnaire and responses to the native language questionnaire. This tendency will be more pronounced for the questions on cultural values than for the more neutral questions.

Hypothesis 2: In cases where there is a difference between responses to the English-language questionnaire and responses to the native language questionnaire, the responses to the English questionnaire will be closer to the responses of native English speakers.

STUDY DESIGN & METHODOLOGY

Instrument

As indicated in the literature review, the aim of our study is to assess whether the language of the questionnaire has an impact on the way people respond to questionnaires. Because of the interaction between language and culture, response differences are more likely for questions that relate to cultural values than for more neutral questions. Our instrument therefore included examples of both types of questions. Since our population consisted of students (see below), our neutral questions related to reasons for choosing electives. In addition to cultural values and elective choice questions, we introduced a third set of questions that asked students to assess the importance of various characteristics of their ideal job after graduation. These questions might show *some* language effect, since they might refer to cultural values. However, the language effect is expected to be smaller than for the cultural dimension questions, since the latter are specifically designed to tap into cultural differences.

With regard to cultural values we used a revised version of the Cultural Perspective Questionnaire (Maznevski & DiStefano, 1995), which is based on the culture framework presented by

Kluckhohn & Strodtbeck (1961). Because of constraints in terms of questionnaire length, we chose to focus on only two of the six cultural dimensions that have been put forward by Kluckhohn and Strodtbeck: activity and relationships, each with three variations. The three variations of basic modes of Activity are *doing*, *being* and *thinking*. In a *doing* mode, people assume the natural mode is to work actively and continually to achieve tangible outcomes. In a *being* mode, the culture's members assume that their natural approach is to embrace spontaneity, to do things in their own time, and to live life to its fullest. In the *thinking* variation, people assume that their naturally preferred mode of activity is to be rational and to think things through carefully and thoroughly before acting. The three types of naturally occurring Relationships among humans are *individualism, collectivism,* and *hierarchy*. In the *individualism* variation, individuals consider their most important responsibility to be to and for themselves and their immediate family. In *collectivism*, the main responsibility is to and for a larger group of people, such as an extended family or work group. With the *hierarchy* variation, it is accepted that power and responsibility are unequally distributed, with those having power over others also having responsibility for them. Kluckhohn & Strodtbeck clearly identified individuals as the "holders" of the preference for variations and the cultural pattern in defined by the aggregation of individuals' preferences. We can therefore make hypotheses and test them at the individual level of analysis, aggregate measures to develop descriptions of cultures, and examine variance both within and between cultures.

Each of the variations was measured with 7 single-sentence items and respondents were asked to record their strength of agreement with each, on a scale from 1 (strongly disagree) to 5 (strongly agree).[2] To reduce response bias from proximity of items, items for each variation were randomly distributed, though to preserve a logic structure Activity items and Relationship items were included in separate sections. Scale reliability analysis showed that the reliability of the Activity thinking scale was good (Cronbach's alpha: 0.73), while scale reliabilities for the Activity Doing, Relationship Hierarchy and Relationship Individualism scales were lower (Cronbach's alpha: 0.61, 0.61 and 0.58 respectively[3]). Both the Activity Being variation and the Relationship Collectivism

variations had even lower reliabilities (0.48). A country-by-country analysis showed that most countries had a low reliability for the Activity Being orientation, except for Greece were Cronbach's alpha was acceptable at 0.62.[4]. A country-by-country analysis for the Relationship Collectivism variation showed that the scale reliability was particularly low for Portugal and Chile. Excluding these countries and two items (b33 and b36) that had a low item-total correlation resulted in a scale reliability of 0.58. Overall, although scale reliabilities are not high, they are considered acceptable given the range of cultures represented in our sample. However, results for the Activity Being orientation and for the Relationship Collectivism variations for Chile and Portugal should be considered with some caution.

As a representative for neutral questions, we asked students why they decided to choose a certain elective, providing a range of eight predefined reasons, ranging from: "Because I am interested in the subject" and "Because it is relevant to my future career" to "Because I like the lecturer" and "Because I think I can get a high mark for it". Even though answers to these questions might differ across countries, we do not expect them to differ systematically between languages in one country, since these questions would not appear to be clearly related to cultural values.

The third set of questions asked students to assess the importance of various characteristics of their ideal job after graduation and was adapted from Sirota & Greenwood (1971) and Hofstede (1980). A total of 18 questions were included in the questionnaire. These questions were subsequently subjected to factor analysis (principal components, with varimax rotation). Bartlett's test of sphericity was highly significant (4209.491, $p < 0.000$) and KMO's measure of sampling adequacy was 0.83, which is considered more than satisfactory. The 18 questions were reduced to four relatively clear factors that explained 52% of the variance. As can be seen in Table 1, the first factor includes mostly job-intrinsic aspects and was labeled as such. The second factor would seem to refer to an orientation to serve and share tasks with others and was labeled serving & sharing. The third factor included characteristics that referred to a balance between work and private life and having a job that was not very demanding, but allowed good relationships with others and was

labeled balance and relationships. Security of employment loaded equally on both factor 2 and 3, but was included with factor 3 where it seemed to be more appropriate. Factor 4 clearly referred to monetary rewards and advancement and was therefore labeled money & advancement. Scale reliabilities were subsequently calculated for each of the factors and were deemed acceptable.

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Table 1 here
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Sample and questionnaire administration

Respondents were third or final year university students[5] following a course in Business Administration or Business & Management. Exceptions were Germany where data were collected at a "Fachhochschule" for Economics & Management to more closely match the profile of students in other countries (university students in Germany tend to be older and Business Administration tends to be more theoretical at universities) and the UK, where we only able to collect data from first year students. The average of students was 22 to 23 for Chile, Greece, Germany, Sweden, Portugal and Malaysia, 19 for the UK and 24 for Austria. The gender distribution varied from 37% male in Greece to 65% male in Sweden. International students (less than 5% for Chile and Malaysia, between 5 and 10% for Greece, Germany, Portugal and between 10 and 15% for Austria, Sweden and the UK) were excluded from our sample so that our comparisons only included students that could be assumed to be representative of the country they studied in. The resulting sample sizes ranged from 94 for Chile to 147 for Portugal. Data were collected between March and June 2001.

Individual collaborators were responsible for the translation of the original English questionnaire. All collaborators are bilingual and translations were conducted using translation-back-translation procedures. After discussions between translator and back-translator, back-translated versions were verified by the project coordinator, which usually resulted in further changes and discussions between translator and back-translator. We are confident that the resulting questionnaires are equivalent in meaning across languages. Collaborators were instructed to make sure that

the distribution of the different language versions was as random as possible. In some countries English and native language questionnaires were distributed in the same class. In other countries different classes of the same subject or related subjects were used to separate English and native language questionnaires. Respondents were not told about the aim of the study until after they completed the questionnaire. They were informed the study involved a comparison of values and opinions of students across countries. An equal number of English-language and native-language questionnaires were distributed. In all countries slightly fewer English-language questionnaires than native-language questionnaires were returned. English questionnaires comprised 48 or 49% of the sample in Greece, Sweden, Portugal and Germany and around 45% of the sample in Chile, Austria and Malaysia. This might indicate a slight reluctance of students to complete English-language questionnaires.

To test whether collaborators had succeeded in the randomisation process, we tested whether there was a difference in age and gender between the different language versions. For the English version the gender split was exactly 50/50, while for the native language there were slightly more women (52%), but this difference was not significant ($p = 0.603$). Respondents that completed the English questionnaire were on average slightly older (22.87 vs. 22.63), but again this difference was not significant ($p = 0.271$). Finally, we tested whether the two groups differed systematically on the question: "How typical do you consider your view to be of people who live in the country in which you were born?" This was important in order to assess whether self-selection had inadvertently occurred. This difference was insignificant as well ($p = 0.324$), with students that completed the English even having a higher mean score on this question. We can therefore be reasonably confident that any differences we find between the language version are due to language and not to other characteristics.

RESULTS

Previous research has demonstrated a significant country effect on respondents' tendency to use different parts of the scale (Leung & Bond, 1989; Mullen, 1995; Singh, 1995). Since this would impact on our between-country comparisons, it is important to assess whether these response effects are present in our sample. In order to test this, we summarised the means and variances for each of the main subjects included in this study: the activity cultural dimension, the relationship cultural dimension, choice of electives and ideal job characteristics. ANOVA analysis showed that the means were significantly ($p < 0.000$) different across countries for all of the four subjects with F-values between 22.299 and 32.745. There was a systematic pattern in these differences with low means for Sweden, Austria and the UK and high mean scores for Malaysia, Greece and Chile, while Germany and Portugal scored in between. This was associated by higher variance for the electives and ideal job questions for Sweden, Austria and the UK and lower variance for Malaysia, Greece and Chile, but variances for the two cultural dimensions were not systematically different. It therefore apparent that a response effect is present in our data, possible caused by an acquiescence (yea-saying) bias for our respondents from Malaysia, Greece and Chile and an understatement (nay-saying) bias for our respondents from Sweden, Austria and the UK.

The established procedure for removing bias associated with scale response is within-person standardization across the instrument (Leung and Bond, 1989). However, if data are standardised with respect to the instrument as a whole the scores for one aspect of the questionnaire affect the scores for another, reducing the validity of cross-country comparisons at the level of different aspects of the questionnaire. We therefore chose to standardise the data within-person and within-subject (Activity dimension, Relationship dimension, Electives, Ideal Jobs). A further motivation for within-subject standardisation is that for all of the four subjects we were interested in the relative importance that respondents attach to each aspect, e.g. activity doing vs. activity being and thinking. A standardisation across the instrument as a whole would loose some of this important information.

Before testing the specific hypotheses, we had to verify whether there were any significant "culture effects" for the variables under investigation. If there is no culture effect, than there can be no accommodation effect. Using ANOVA analysis, we therefore first tested whether there were significant differences between UK respondents (who responded to an English-language questionnaire) and respondents in other countries that responded to a native-language questionnaire. These tests indicated that there were no significant "culture effects" for 11 of the 42 comparisons of the cultural dimensions (6 variations for 7 countries), for 10 of the 28 comparisons of the ideal job type (4 job types for 7 countries) and for 28 of the 56 comparisons of the elective questions (8 elective questions for 7 countries). So between a quarter and half of the variables showed no culture effect in a comparison between the UK and other countries.[6] This, however, leaves 31 of the cultural dimension comparisons, 18 of the ideal job type comparisons and 28 of the elective comparisons that can be used to test our two hypotheses.

Hypothesis 1:

Hypothesis 1 predicted that there would be significant difference between responses to the English-language questionnaire and responses to the native language questionnaire. We also expected that this difference would be more prevalent for the questions on cultural values than the questions on ideal job characteristics and that there would be no systematic differences for the elective questions. As can be seen in Table 2 there are significant differences in means between the native-language version and the English-language version of the questionnaire for 13 of the 31 comparisons, more than 40% of the cases. With regard to the ideal job characteristics Table 3 shows there are significant differences between means of the native-language version and the English-language version of the questionnaire for 10 of the 18 comparisons, more than 50% of the cases. With regard to the electives questions, Table 4 shows that there are significant differences in means for only 3 of the 28 comparisons, only 10% of the cases. Only Chile shows more than an incidental difference and none of the elective questions shows a difference for more than one country.

We can therefore conclude that Hypothesis 1 can be accepted with regard to the elective questions. There seem to be no systematic differences between the two language versions for these questions. The cultural-dimension and the ideal-job-type questions show differences for 40-50% of the comparisons, a proportion to large to be discarded as accidental. In contrast to the hypothesis, however, the number of differences for the more applied ideal-job-type questions was slightly larger than for the basic cultural-dimension questions.

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Hypothesis 2:

Hypothesis 2 predicted that where there were differences between responses to the English-language and native-language questionnaire, the responses to the English-language questionnaire would be closer to those of British students. As Table 2 shows this is the case for all of the 13 cases where we found differences for the cultural dimensions and for 12 of these 13 cases the convergence is complete, i.e. British and English-language means are not significantly different from each other, but are significantly different from the native-language means. In one case (the Activity Thinking variation for Malaysia), the English-language mean is significantly different from both the native-language and the British mean. In addition, we find four cases where the native-language mean and British mean are significantly different, while the English mean is in between and is not significantly different from either the native-language or the British mean. In these cases, there is some movement apparent towards to the British mean for the respondents completing the English-language questionnaire. So in total, we find evidence of an accommodation effect for 17 of the 31 cases, well over 50%.

Table 3 shows that for 9 of the 10 cases where we found differences for the ideal-job-type variables, this difference is in the expected direction, i.e. the means for the English-language questionnaire are closer to the means for the British students. In 6 of these 9 cases the convergence is complete, i.e. British and English means are not significantly different from each other, but are significantly different from the native language mean, while in the remaining three cases the Eng-

lish-language mean is significantly different from both the British and the native-language mean. There is only one case (the Serving & Sharing job type for Chile) where we find the opposite result, i.e. the native-language mean is closer to the British mean than to the English-language mean. So in total, we find evidence of an accommodation effect for 9 of the 18 cases, exactly 50%.

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Tables 3&4 here
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Finally although there were only three differences for the elective questions, they were all in the expected direction, i.e. the means for the English-language questionnaire are closer to the means for the British students. In two cases this convergence was complete, i.e. British and English-language means are not significantly different from each other, but are significantly different from the native-language mean, while in third case the English-language mean is significantly different from both the British and the native-language mean. We can therefore conclude that there is strong support for the accommodation effect, thus confirming hypothesis 2.

DISCUSSION AND CONCLUSION

Our results showed that there are language effects in around half of the comparisons for both the cultural dimensions and the ideal job type questions. In all but one case, these effects confirmed the accommodation thesis. Even more so, in 80% of the cases where the differences confirmed the accommodation thesis, the convergence was complete, i.e. British and English-language means are not significantly different from each other, but are significantly different from the native-language mean. In the few cases where we found crossvergence - i.e. the English-language mean is significantly different from both the native-language mean - differences between the extremes were typically very large and three of the five cases concerned Malaysia.

When we add up the cases where language effects are present for cultural dimensions and ideal job types, we see that this language effect is quite important in nearly each country in our survey. Differences between native-language and English-language mean scores are found in 4 out of 6 comparisons for Germany, 5 out of 8 comparisons for Chile and Malaysia, 4 out of 7 com-

parisons for Austria and Portugal, and 4 out of 8 comparisons for Sweden. Only in Greece the language effect does not seem to be very strong. We have seen above that in nearly all of these cases means for the English-language versions were closer to the British means and usually no longer significantly different from it, except in cases were differences between the mean for the native-language version and the British mean score were very large. This means that in a country-by-country comparison valuable cross-cultural information might be lost when English-language questionnaires are used in each country.

This study confirmed the result of earlier studies that found that language has an impact on the way bilinguals respond to questions relating to cultural values. It extends earlier studies by showing that this language effect is present even for languages that are closer to English than Chinese is and for countries whose culture is closer to the UK than the Chinese culture is. This study also confirms the results of earlier studies that found that language has very little impact on the way bilinguals respond to "neutral" questions. Somewhat surprisingly, the language effect seemed to be equally strong for the ideal-job-type questions that were hypothesised to be "in-between" the basic culture questions and the "neutral" elective questions. Retrospectively though this language effect for the ideal-job-type might be less surprising than it would seem at first sight. Many of the ideal-job type characteristics might be considered to have cultural elements. The factors job-intrinsic and serving & sharing could be interpreted as approximations of individualism and collectivism dimensions, while the factors balance & relationships and money & achievement could be interpreted as approximations of Hofstede's femininity/masculinity dimensions. In fact some of the questions relating to ideal job characteristics formed the basis of Hofstede's individualism/-collectivism and femininity/masculinity dimensions.

Overall, our study has shown that a decision on the language of the questionnaire should be a key aspect of any cross-cultural study design. Where questions can be deemed to be "neutral", English-language questionnaires can offer a quick and satisfactory alternative to a lengthy and costly translation process. However, when questions comprise an element of culture, the use of

English-language questionnaires might obscure important differences between countries. If differences between countries are of interest in the study design, as they will be in most cross-cultural studies, researchers seem to have little choice but to accept the cost and inconvenience of questionnaire translation.

A caveat should be added though. Scale reliability of most scales in our study was low, typically around 0.6. While this is below the generally accepted norms for reliability, we feel that it is acceptable for two reasons. First, it is extremely difficult to design reliable scales in a multi-country setting. Second, our results are very consistent and it is unlikely that they have been substantially influenced by low scale reliability. Our study has several additional limitations that we hope to address in follow-up studies. First, we have only one sample of an Anglo-Saxon country (the UK) and this sample consisted of students that were younger than students in the other countries. Additional, more comparable samples of Anglo-Saxon countries would form a stronger test case for our hypotheses. Second, our study included only two non-West-European countries. Inclusion of Eastern European, African and additional Asian countries would allow us to assess whether the language effect is in any way dependent on the extent of cultural and linguistic difference between countries. Third, we included only two countries that shared a common language (Austria and Germany). In future studies we hope to include more countries that are united by a common language, so that we might be able to investigate the interaction between language and culture in more detail.

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Table 1: Factor analysis and scale reliabilities for ideal job questions

Rotated Component Matrix [a]

	Component			
Scale reliability	.75	.69	.63	.62
Job: Have the opportunity to take full responsibility for a task	.687			
Job: Be consulted by your direct superior in his/her decisions	.654			
Job: Make a real contribution to the success of your organisation	.640	.321		
Job: Have challenging work to do	.630			
Job: Have an element of variety and adventure in the job	.618			
Job: Have considerable freedom to adapt your own approach to the job	.609			
Job: Serve your country		.724		
Job: Work according to clear and stable rules and regulations		.719		
Job: Have an opportunity for helping other people		.692		
Job: Have the opportunity to share responsibility for a task with others		.508		
Job: Have security of employment		.468	.444	
Job: Have an opportunity to balance your work and private life			.676	
Job: Have friendly colleaugues who help each other	.317		.646	
Job: Have little tension and stress on the job	-.324		.549	
Job: Have a good working relationship with your direct supervisor	.310		.528	
Job: Have an opportunity for high earnings				.784
Job: Have an opportunity for advancement to higher level jobs	.417			.665
Job: Work in a prestigious, successful comparny or organisation		.366		.609

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Table 2: Difference in standardised mean scores between native-language questionnaire, English-language questionnaire and UK for two culture dimensions.

Country-/ Culture Dimensions	Activity Being	Activity Doing	Activity Thinking	Relationship Collectivism	Relationship Hierarchy	Relationship Individualism
Austria	**Native –0.18 English –0.08 UK –0.03 UK, E > N**	--	UK –0.09 English 0.00 Native 0.08 N > UK	**Native 0.16 UK 0.43 English 0.43 E, UK > N**	n.s.	**UK –0.01 English 0.06 Native 0.30 N > E, UK**
Chile	**Native –0.24 English –0.11 UK –0.03 UK, E > N**	**English 0.01 UK 0.01 Native 0.14 N > UK, E**	n.s.	**Native 0.18 English 0.33 UK 0.43 UK, E > N**	**Native –0.58 English –0.42 UK –0.36 UK, E > N**	n.s.
Germany	--	--	--	n.s.	n.s.	UK –0.01 English 0.11 Native 0.18 N > UK
Greece	**English –0.07 UK –0.03 Native 0.10 N > UK, E**	--	--	n.s.	n.s.	--
Malaysia	n.s.	--	**UK –0.09 English 0.22 Native 0.36 N > E > UK**	n.s.	--	n.s.
Portugal	n.s.	--	n.s.	Native 0.23 English 0.33 UK 0.43 UK > N	Native –0.49 English -0.41 UK –0.36 UK > N	**English –0.04 UK –0.01 Native 0.16 N > UK, E**
Sweden	n.s.	**Native –0.09 English 0.01 UK 0.01 UK, E > N**	n.s.	**Native 0.28 English 0.40 UK 0.43 UK, E > N**	--	**UK –001 English 0.01 Native 0.16 N > E, UK**

--: There is no significant difference between means of the native-language questionnaire and means of the British students (no culture effect)
n.s.: There is no significant difference between means of the native-language and the English-language questionnaire (no language effect)
Boldface indicates that there is a significant difference between the native language and the English language and that this difference is in the expected direction, i.e. the mean for the English language version is not significantly different from the British mean, while the mean for the native language version is.
Underline typeface indicates that although there is no difference between the native language and the English language, the English-language mean is not significantly different from the British mean either and the native-language and British means are significantly different.

Table 3: Difference in standardised mean scores between native-language questionnaire, English-language questionnaire and the UK for ideal job characteristics

Country-/Job type	Money & advancement	Job-Intrinsic	Serving & sharing	Balance & relationships
Austria	n.s.	n.s.	--	--
Chile	n.s.	--	UK -0.81 Native –0.58 English –0.36 E > N > UK	--
Germany	--	**UK 0.22** **English 0.34** **Native 0.52** **N > E > UK**	**Native –1.02** **UK –0.81** **English –0.75** **E, UK > N**	**Native –0.01** **English 0.11** **UK 0.17** **UK, E > N**
Greece	n.s.	--	n.s.	--
Malaysia	**Native 0.04** **English 0.24** **UK 0.37** **UK, E > N**	**Native –0.17** **English –0.02** **UK 0.22** **UK > E > N**	**UK –0.81** **English –0.36** **Native –0.15** **UK > E > N**	**UK 0.17** **English 0.19** **Native 0.30** **N > E,UK**
Portugal	**Native 0.11** **English 0.25** **UK 0.37** **UK, E > N**	--	n.s.	--
Sweden	n.s.	n.s.	**Native –0.96** **UK –0.81** **English - -0.78** **E, UK > N**	--

--: There is no significant difference between means of the native-language questionnaire and means of the British students (no culture effect)
n.s.: There is no significant difference between means of the native-language and the English-language questionnaire (no language effect)
Bold and roman typefaces indicate that there is a significant difference between the native language and the English language. Boldface means this difference is in the expected direction, i.e. the mean for the English language version is not significantly different from the British mean, while the mean for the native language version is. Roman indicates this difference is in the opposite direction, i.e. the mean for the English language version is significantly different from the British mean.

Table 4: Difference in standardised mean scores between native-language questionnaire, English-language questionnaire and the UK for elective choice

Country-/Elective	Interested in subject	Like lecturer	High mark	Future career	Convenient time	Less work	Friends	Lecturer's reputation
Austria	n.s.	--	n.s.	n.s.	n.s.	--	--	--
Chile	n.s.	**English –0.29** **UK –0.11** **Native 0.16** **N > UK, E**	n.s.	**Native 0.17** **English 0.48** **UK 1.03** **UK > E > N**	n.s.	--	--	--
Germany	--	--	--	--	n.s.	--	--	--
Greece	n.s.	n.s.	--	n.s.	n.s.	n.s.	n.s.	--
Malaysia	n.s.	--	**Native 0.04** **English 0.39** **UK 0.51** **UK, E > N**	n.s.	n.s.	--	n.s.	--
Portugal	--	--	n.s.	--	n.s.	--	--	--
Sweden	n.s.	n.s.	n.s.	--	--	n.s.	n.s.	--

n.s.: There is no significant difference between means of the native-language and the English-language questionnaire (no language effect)
--: There is no significant difference between means of the native-language questionnaire and means of the British students (no culture effect)
Bold indicates that there is a significant difference between the native language and the English language and that this difference is in the expected direction, i.e. the mean for the English language version is not significantly different from the British mean, while the mean for the native language version is.

[1] Assessing the descriptive analysis in Ralston et al. (1995), we find that some of the cultural differences might have been caused by differences in other variables. Managers who responded to the English version of the questionnaire are closer to the American managers in terms of age, years employed, level of employment and size of the company than managers who responded to the Chinese version.

[2] A pilot study was conducted in the UK in November 2000, where we tested different scale anchors, running from never to always, but these were not well received by the respondents. In addition, the pilot test resulted in the replacement of some items for the cultural dimensions and the introduction of the ideal job questions. This pilot study coincided with a preliminary discussion among collaborators about translatability of items and several items that proved to be difficult to translate were replaced.

[3] For both the Relationship Hierarchy and the Relationship Individualism scales one of the items that had a low item total correlation was removed and scales are based on six items.

[4] Interestingly, this was mainly caused by a high reliability (Cronbach's alpha: 0.71) for male Greek students.

[5] When studying culture, differences between students and other samples, such as managers, tend to be unimportant (Triandis et al. 2001) and hence students can be used as a good approximation of the general survey population in management studies.

[6] This does not mean that there are no country differences as such on these variables, only that the difference between the UK and the country in questions was not significant. In fact an overall ANOVA analysis between countries showed that significant differences between countries were present for all variables included in this study with F-values varying from 2.53 for Activity Doing to 69.25 for Elective: Because it is scheduled at a convenient time).