

# **Culture, Cultural Distance and Cultural Intelligence**

A Multilevel Hierarchical Linear Model Analysis of Contextual  
Business Cultural Intelligence Quotient Antecedents

GABRIELA ESTER MELGAR ECHEVERRIA  
CECILIE LARSEN

## **SUPERVISORS**

Ilan Alon  
Erik Lankut

**University of Agder, June 2019**  
School of Business and Law  
Department of Management

## **Preface**

This master thesis concludes our journey towards a Master of Science degree in Business Administration at the University of Agder, School of Business and Law.

These past couple of months have been challenging, but rewarding, as we have enhanced our cultural knowledge and improved our understanding of cultural differences. It has been an asset to the research project to work together in a cross-cultural team. Maybe as a result, this process has improved our own cultural intelligence?

We want to extend our thanks to our supervisors, Professor Ilan Alon and PhD candidate Erik Lankut, for their valuable input, guidance and motivation. Additionally, we would like to thank Professor Alon and Dr. Vas Taras for generously sharing, respectively, the BCIQ and X-Culture datasets for our project. Also, we would like to thank our friends and families for their support.

June 1, 2019

Kristiansand, Norway

Gabriela Ester Melgar Echeverria

Cecilie Larsen

## **Abstract**

**Purpose** – The purpose of our master thesis is to investigate contextual antecedents to Cultural Intelligence development. Particularly, we assess the ability of cultural distance to predict Business Cultural Intelligence Quotient scores.

**Design / methodology / approach** – Given our literature review, we hypothesize that cultural distance significantly affects BCIQ in a positive way. For this matter, we split our hypothesis into three sub-hypothesis and measured cultural distance in three ways: having at least one foreign parent, the Mahalanobis cultural distance, and the delta of each GLOBE’s practices dimensions expressed as the difference in birth and residence country scores. Due to having variables at the individual and country level, we utilize a multilevel Hierarchical Linear Model to run our analysis on a sample consisting of 3474 individuals from 54 home and 45 host countries.

**Findings** – In general, we found support for our overarching hypothesis; nevertheless, cultural distance impacts BCIQ in complex ways. On one hand, having a multicultural background has a negative effect on BCIQ; on the other hand, Mahalanobis distance impacts positively but weakly BCIQ. Furthermore, from the nine GLOBE delta practices, only Future Orientation dimension affects positively BCIQ; however, Uncertainty Avoidance and Institutional Collectivism dimensions show a negative impact on BCIQ development. These intricate results are congruent with previous studies. We discuss them under the light of the Social Learning Theory, the nature of cultural distance and empirical studies that confirm contextual characteristics of cultures.

**Originality / value** – We present two main contributions to International Business. Firstly, we map business cultural intelligence quotient globally with our BCIQ Index<sup>40</sup>; secondly, we employ environmental antecedents, e.g. cultural distance, to explain BCIQ variation among countries.

*Keywords:* Business Cultural Intelligence Quotient, cultural distance, Mahalanobis distance multicultural background, GLOBE, cultural intelligence, CQ

## Table of Contents

<b>List of Tables .....</b>	<b>vi</b>
<b>List of Figures .....</b>	<b>vii</b>
<b>List of Abbreviations.....</b>	<b>viii</b>
<b>1 Introduction .....</b>	<b>1</b>
<i>1.1 Relevance and Contextualization .....</i>	<i>2</i>
<i>1.2 Overview and Structure.....</i>	<i>4</i>
<b>2 Theory.....</b>	<b>5</b>
<i>2.1 Culture.....</i>	<i>5</i>
2.1.1 Definitions of Culture.....	5
2.1.2 Selecting a Cultural Framework – the GLOBE–Hofstede Debate .....	6
2.1.3 GLOBE’s Conceptualization of Culture.....	8
<i>2.2 Cultural Distance .....</i>	<i>12</i>
2.2.1 Multicultural Background .....	12
2.2.2 Mahalanobis Distance .....	13
2.2.3 Delta GLOBE “As Is”: Change in Practices from Birth to Residence Country.....	13
2.2.4 The Effects of Cultural Distance.....	14
2.2.5 Bridging Cultural Differences.....	15
<i>2.3 Cultural Intelligence .....</i>	<i>15</i>
2.3.1 Cultural Intelligence Outcomes .....	16
2.3.2 Cultural Intelligence Antecedents .....	17
2.3.3 Cultural Intelligence Development.....	18
2.3.4 Measuring Cultural Intelligence.....	19
2.3.5 Business Cultural Intelligence Quotient (BCIQ) .....	20
<i>2.4 Hypotheses and Conceptual Model.....</i>	<i>23</i>
<b>3 Data .....</b>	<b>26</b>
<i>3.1 Utilization and Analysis of Secondary Data .....</i>	<i>26</i>
<i>3.2 Data Sources .....</i>	<i>26</i>
3.2.1 Business Cultural Intelligence Quotient Dataset .....	27

3.2.2 GLOBE Dataset.....	29
3.2.3 Control Variables Data.....	29
3.3 Demographics Analysis on BCIQ pre-cleaned Data.....	30
3.4 BCIQ Normality and Validity test .....	31
3.5 Cleaning the Dataset.....	32
3.5.1 Removing outliers.....	32
3.5.2 Removing unreliable responses.....	32
<b>4 Methodology.....</b>	<b>34</b>
4.1 Analytical Models.....	34
4.1.1 BCIQ Index40 Creation.....	34
4.1.2 Multilevel Hierarchical Linear Modeling (HLM) - Mixed Modeling .....	34
4.2 Measures.....	36
4.2.1 Countries as Units of Analysis in Cultural Research .....	36
4.2.2 Business Cultural Intelligence Quotient .....	36
4.2.3 Cultural Distance.....	36
4.3 Steps to Develop a Multilevel Model for Two Levels.....	38
4.3.1 No predictors - null model.....	38
4.3.2 Predictor at level 1 - model 3 .....	39
4.3.3. Predictors at level 2 - model 4-5.....	39
4.4 Running the Mixed Model.....	39
<b>5 Results .....</b>	<b>41</b>
5.1 BCIQ Index.....	41
5.2 Correlation and Descriptives Tables and Hierarchical Linear Model (HLM).....	43
5.3 Robustness Check.....	46
<b>6 Discussion .....</b>	<b>51</b>
6.1. H1a: Foreign parents.....	51
6.2 H1b: Mahalanobis distance.....	54
6.3 H1c: GLOBE $\Delta$ (Delta) Practices .....	55

6.4 General Discussion of the Findings.....	56
<b>7 Conclusions and Implications .....</b>	<b>58</b>
7.1 Summary of Findings.....	58
7.2 Conclusions.....	59
7.3 Implications.....	61
7.3.1 Theoretical Implications .....	61
7.3.2 Managerial Implications .....	62
<b>8 Limitations and Future Research .....</b>	<b>65</b>
8.1 Limitations.....	65
8.2 Future Research .....	66
<b>Bibliography.....</b>	<b>68</b>
<b>Appendix .....</b>	<b>75</b>
<i>Descriptive Statistics Tables</i> .....	75
BCIQ scores – Country of Birth .....	75
BCIQ scores – Country of Residence.....	77
<i>Reflection Notes</i> .....	79
Reflection Note – Cecilie Larsen .....	79
Reflection Note – Gabriela Ester Melgar Echeverria .....	83

List of Tables

Table 1 Comparison of Hofstede and GLOBE Frameworks ..... 7

Table 2 GLOBE and its 9 Cultural Dimensions..... 9

Table 3 Hypotheses Overview ..... 24

Table 4 Overview of BCIQ and GLOBE Data ..... 27

Table 5 Overview of the Data: Dependent, Independent and Control Variables..... 29

Table 6 Control and Predictor Variables at Individual and Country Level ..... 36

Table 7 BCIQ Index by Country of Birth ..... 41

Table 8 BCIQ Index by Country of Residence ..... 42

Table 9 Correlation and Descriptives Table..... 44

Table 10 HLM Mixed Model Regression ..... 45

Table 11 Correlation and Descriptives Table - Robustness Check..... 48

Table 12 HLM Mixed Model Regression – Robustness Check..... 49

Table 13 Summary of Significant Results..... 51

Table 14 Summary of Hypotheses and Findings ..... 58

List of Figures

Figure 1 BCIQ Facets..... 22

Figure 2 Conceptual Research Model ..... 25

Figure 3 Visualization of the Mahalanobis distance and BCIQ Score (SPSS output)..... 35



## List of Abbreviations

<b>BCIQ</b>	Business Cultural Intelligence Quotient
<b>CQ</b>	Cultural Intelligence
<b>GLOBE</b>	Global Leadership & Organizational Behavior Effectiveness

## 1 Introduction

This thesis examines cultural distance as a country-level antecedent to the development of the Business Cultural Intelligence Quotient (BCIQ). Therein, we examine how contextual cultural characteristics of the country of residence and country of birth impact a person's BCIQ. This is important because it expands our understanding of how individual's cultural intelligence is developed as a result of the cultural environment in which they live, compared to the cultural environment of their birth country.

Theory suggests that interacting with people of diverse cultural backgrounds increase your cultural intelligence ([Engle, Dimitriadi, & Sadrieh, 2012](#)), which would imply that living in a different cultural context would have a positive impact on one's cultural intelligence, given the increased contact with other cultures. However, there has been limited research on country-level factors, including how cultural characteristics of a country impact a person's cultural intelligence. The aim of our thesis is to fill this research gap, and to add cultural context, specifically cultural distance, to the list of possible antecedents to BCIQ.

In cross-cultural research, Hofstede's work on cultural dimensions has been one of the most cited contributions ([T. Fang, 2003](#)). Expanding on Hofstede's dimensions, Project GLOBE measures culture through nine dimensions ([House, Hanges, Javidan, Dorfman, & Gupta, 2004](#)). By matching BCIQ ([Alon et al., 2018](#)) data with the GLOBE dimensions for birth and residence countries, we examine how cultural distance impacts individuals' BCIQ scores. The BCIQ dataset includes information on the respondents' birth and residence countries, which enables us to examine both home and host culture effects. In addition, we measured cultural distance between the two countries, based on GLOBE scores. We analyze the impact of cultural distance on individual-level BCIQ scores. Having variables at two levels (individual and country) requires us to utilize a multi-level hierarchical linear model (HLM) in order to conduct our analysis.

Hofstede's work is not perfect, as it reduces culture to a few dimensions using a limited sample of a multinational company without taking into account that culture is a living organism that changes over time and has intra-country cultural diversity ([Kirkman, Lowe, & Gibson, 2017](#)). However, it helps to model the reality of culture in a clear way which resonates with managers.

Even though Hofstede envisioned his work for country-level analysis, researchers have adapted it to study cultural values at the individual level ([Kirkman, Lowe, & Gibson, 2006](#)). This has made it possible to describe and measure culture at the individual level, however, empirical results at the individual level cannot challenge Hofstede's work when finding contradicting cultural values ([Kirkman et al., 2006](#)). A country can be collectivistic and individualistic at the same time, due to the different theoretical background behind each level ([Kirkman et al., 2006](#)). We solve this challenge by using a multilevel Hierarchical Linear Model analysis.

[Kirkman et al. \(2006, p. 313\)](#) called to “*move beyond culture's consequences*”, e.g. Hofstede's work ([Hofstede, 1980](#)) and find a “*new 'paradigm' for cross-cultural research*” ([Kirkman et al., 2006, p. 313](#)). ([T. Fang, 2003](#)) has previously called for more “both/and” frameworks when researching culture, in order to understand why individuals behave in different manners depending on the circumstances. “*Culture is full of life, energy, complexity and paradox. Our cross-cultural theories should capture such dynamism*” ([T. Fang, 2003, p. 364](#)). We answer these calls by using GLOBE and its cultural dimensions to build our cultural distance measures. In addition, we control for individual level known cultural intelligence antecedents, economic development, globalization and political system, which create a more dynamic model.

### 1.1 Relevance and Contextualization

The demand for effective international communication and interaction is increasing, as a result of increased globalization in business and trade ([House et al., 2004](#)). For example, almost all corporations in the USA feel the impact of globalization, in one way or another ([Javidan, Dorfman, Sully de Luque, & House, 2006](#)). In order to effectively communicate and interact in culturally diverse environments, it is critical to possess high levels of cultural intelligence (CQ) ([Alon et al., 2018](#)). As domestic businesses continue to expand into foreign markets, the businesses rely on managers and employees that are able to adapt effectively to their new environments ([Engle & Crowne, 2014](#)). CQ has been found to be a key predictor in cross-cultural negotiation effectiveness ([Imai & Gelfand, 2010](#)) and cross-cultural leadership effectiveness ([Ott & Michailova, 2018](#)).

How well do you communicate when visiting a foreign culture? There is no need to guess, as this can be measured. Following the development of the cultural intelligence (CQ) construct ([Ang et al., 2007](#)), the Business Cultural Intelligence Quotient (BCIQ) ([Alon et al., 2018](#); [Alon,](#)

[Boulangier, Meyers, & Taras, 2016](#)) measures how effective you are in communicating and adapting to new cultural environments. The BCIQ instrument stands out from other CQ tests as it allows for comparisons across countries in business settings ([Alon et al., 2018](#)).

The purpose of researching cultural intelligence can be summarized by the following question posed by [F. Fang, Schei, and Selart \(2018\)](#): “*Why are some people more effective in cross-cultural settings than others?*” With this in mind, we raise two essential questions: Are people from some countries more culturally intelligent than others? And does it depend on the cultural characteristics of their home and residence countries?

One consequence of globalization is that people with different cultural backgrounds move, live and work in other parts of the world. In essence, international management is the ability to manage differences between nations ([Beugelsdijk, Kostova, Kunst, Spadafora, & van Essen, 2018](#)). The variation in BCIQ between respondents from different countries suggests that there might be countries (with associated country-specific characteristics) that have a higher propensity to interact cross-culturally in a business environment ([Alon et al., 2016](#)). It is this between-country-variation that we examine in this thesis. After determining that, indeed, some countries are more culturally intelligent than others, we build on known cultural intelligence antecedents to find out context-related predictors of CQ. Answering the call from [Alon et al. \(2016\)](#) to explore country-level factors that influence BCIQ, we examine in this paper the role of cultural distance in CQ development.

Currently, an effective global business leader needs to have a balanced set of multiple intelligences such as the cognitive, emotional and cultural quotients ([Alon & Higgins, 2005](#)). Moreover, international business managers should aim to keep and acquire individuals with high BCIQ. Living abroad, higher education and multilingualism have proven to be antecedents to increase BCIQ; therefore, companies should attract people with such skills and experiences – or develop them internally ([Alon et al., 2018](#)).

A research gap has been identified related to similarities and differences in the effects of cultural values at the different levels of analysis; individual, group and national level ([Kirkman et al., 2017](#)). Our aim is to expand on the research on individual-level antecedents of BCIQ, into the sphere of country-level antecedents, and in particular: the role of cultural distance.

We contribute to cultural intelligence research by mapping BCIQ mean scores by country in our BCIQ Index40. In addition, given between country variation in the BCIQ Index40, we study the potential of contextual factors, such as cultural distance, to predict BCIQ development.

## 1.2 Overview and Structure

This thesis is structured as follows: We start by introducing the concept of culture and why GLOBE's culture definition is more appropriate for our study. Next, we present Project GLOBE's cultural dimensions conceptualization, cultural distance and cultural intelligence. Given our literature review and the Social Learning Theory we hypothesize the relationship between cultural distance and Business Cultural Intelligence Quotient. Then, we describe our data and methodology, and how the data requires us to use a multilevel Hierarchical Linear Modeling. We continue by presenting our results and discussing the mixed findings. We present our conclusions with its respective theoretical and managerial implications. Finally, we show some of our study's limitations, which is the foundation for future research directions.

## 2 Theory

In this chapter we will present a summary of previous research and literature on culture, cultural distance and cultural intelligence. First, we define culture, and present GLOBE as our cultural framework. We continue by examining the nine cultural dimensions of GLOBE, and how they relate to international business. We define cultural distance and what a multicultural background entail. Then, we make the connection of bridging cultural distance with effective cross-cultural interaction through the means of having high levels of cultural intelligence. Cultural intelligence is defined, as well as the Business Cultural Intelligence Quotient (BCIQ).

### 2.1 Culture

While culture can be understood by using the bipolar paradigm derived from the cross-national comparison school, it can also be analyzed under the dynamic paradigm derived from the interactions and multiple cultures school ([T. Fang, 2005](#)). The first paradigm can be visualized metaphorically through Hofstede's "onion model", which uses a layered visualization of culture with values and beliefs at the core of the onion that remain unchanged over time ([T. Fang, 2005](#)). The second paradigm visualization represents culture metaphorically as "oceans" and criticizes the bipolar paradigm arguing that it lacks the ability to face ambiguity and change, e.g. to be both "feminine" in some aspects while "masculine" in others ([T. Fang, 2005](#)). However, [Hofstede \(2006\)](#) does not agree with Fang's criticism and argues that the bipolar paradigm is also useful in a changing dynamic world.

#### 2.1.1 Definitions of Culture

Culture has been defined by [Hofstede \(1980, p. 21\)](#) as "*the collective programming of the mind which distinguishes the members of one human group from another.*" Expanding on Hofstede's definition, [Schwartz \(2006, p. 2\)](#) view culture as a "*latent, hypothetical variable that we can measure only through its manifestations*" which assumes that culture is not found within the individual, but is rather found in the environment that surrounds the individuals in a given society. The manifestations of culture, like beliefs, practices, symbols, norms and values, are the observable components of culture ([Schwartz, 2006](#)). When these manifestations are shared among a group of individuals in a society, they act as external pressure on the individuals ([Schwartz, 2006](#)). Consequently, culture is always a collective phenomenon ([Hofstede, 2011](#)).

Hofstede's six dimensions of culture is one of the most cited cultural frameworks ([T. Fang, 2003](#)), but his framework has also been criticized for inadequately capturing the dynamic facets of culture ([T. Fang, 2005](#)). This has in turn made Hofstede-inspired research “*overlapping, redundant and too reliant on the level of analysis and direction of effects*” ([Kirkman et al., 2006, p. 313](#)). Hofstede's dominating influence on the cross-cultural research field could potentially have contributed to overreliance on his work by other researchers ([Javidan, House, Dorfman, Hanges, & Sully de Luque, 2006](#)).

Project GLOBE view culture as “*a product of a collective's attempt to address two sets of group issues: external adaptation and internal integration*” and argues that there is more to culture than just values ([Javidan, House, et al., 2006, p. 900](#)). Particularly, [Javidan, Stahl, Brodbeck, and Wilderom \(2005, p. 61\)](#) express that, for GLOBE, culture can be defined as “*shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives and are transmitted across age generations.*” Project GLOBE took Hofstede's six cultural dimensions and expanded them to nine, and measured each dimension twice: “as is” (practices) and “should be” (values) ([Javidan, House, et al., 2006](#)).

#### 2.1.2 Selecting a Cultural Framework – the GLOBE–Hofstede Debate

In a review of the discussion between GLOBE and Hofstede, [Smith \(2006\)](#) noted that there is room for both Hofstede and GLOBE in the cross-cultural research field, and that both approaches may be useful if the focus is on the most normative aspects of culture. However, when studying aspects of culture where Hofstede and GLOBE disagree, a choice must be made ([Smith, 2006](#)). [Smith \(2006, p. 917\)](#) argues that GLOBE is “*more useful in studying aspects of intergroup and international relations.*”

The concern that [Kirkman et al. \(2006\)](#) expressed regarding Hofstede's influence on cross-cultural research, is shared by Project GLOBE ([Javidan, House, et al., 2006](#)). GLOBE is also worried about Hofstede's influence, and is critical of how other researchers have used Hofstede's dimensions and its associated country scores in an “*uncritical manner*” ([Javidan, House, et al., 2006, p. 910](#)). Complacency may occur as researchers become satisfied with Hofstede's dimensions and assume that all cultural dimensions have been discovered, even though there still may be undiscovered aspects of culture ([Javidan, House, et al., 2006](#)).

However, these aspects may be harder to discover as researchers are satisfied with Hofstede's framework ([Javidan, House, et al., 2006](#)). For a comprehensive comparison between the frameworks of Hofstede and GLOBE, please see table 1.

Table 1 Comparison of Hofstede and GLOBE Frameworks

	<b>Hofstede</b>	<b>GLOBE</b>
<b>Reference</b>	Hofstede (1980, 2001) Hofstede et al. (2010)	House et al. (2004)
<b>Mainly used in</b>	Cross-cultural psychology Management	Management
<b>Number of dimensions</b>	4 + 2	9 (measured twice)
<b>Nature of questions</b>	Scale 1-5	Scale 1-7
<b>Cultural dimensions</b>	<ol style="list-style-type: none"> <li>1. Collectivism–individualism</li> <li>2. Power distance</li> <li>3. Masculinity</li> <li>4. Uncertainty avoidance</li> <li>5. Long-term orientation</li> <li>6. Indulgence–restraint</li> </ol>	<ol style="list-style-type: none"> <li>1. Uncertainty avoidance</li> <li>2. Future orientation</li> <li>3. Power distance</li> <li>4. Institutional collectivism</li> <li>5. Humane orientation</li> <li>6. Performance orientation</li> <li>7. In-group collectivism</li> <li>8. Gender egalitarianism</li> <li>9. Assertiveness</li> </ol>

*Based on [Beugelsdijk, Ambos, and Nell \(2018\)](#)*

[Hofstede \(2006\)](#) discusses the differences and similarities between his own research and GLOBE and is concerned with how respondents to the GLOBE survey have interpreted the questions. The main concern appears to be that respondents may not have fully understood the operationalization of culture, and that the questionnaire is too abstract ([Hofstede, 2006](#)), but GLOBE responded to this criticism by arguing that it may be useful to have a certain level of abstraction in the questionnaire, leaving room for judgement from the respondents ([Javidan, House, et al., 2006](#)).



Hofstede argues that individuals are not capable of assessing the respondent's society in comparison with other societies ([Hofstede, 2006](#)). For example, in GLOBE there is a negative correlation between the "as is" and "should be" factors in the mean scores for each country in seven out of the nine dimensions ([Hofstede, 2006](#)). GLOBE responded to this criticism by arguing that they did not ask respondents to assess their own society in comparison to other societies, but that they should rather describe their own society in terms of how it is and how they feel it should be, as a type of aspirational future state ([Javidan, House, et al., 2006](#)).

The debate between Hofstede and GLOBE have produced some positive outcomes for subsequent cross-cultural research ([Smith, 2006](#)). Specifically, that the sustainability of national-level analyses has been strengthened ([Smith, 2006](#)). The debate provoked both Hofstede and Project GLOBE to provide new information about their research, which justified both methods ([Smith, 2006](#)). With the introduction of Project GLOBE, researchers are no longer bound to only rely on Hofstede's cultural dimensions, but now have the choice ([Warner-Söderholm, 2012](#)). When measuring cultural distance in leadership studies, using GLOBE data and its model is more appropriate ([H. Berry, Guillén, & Zhou, 2010](#); [Xiumei & Jinying, 2011](#)), as the GLOBE constructs of culture have proven to be better predictors ([Xiumei & Jinying, 2011](#)). For the purpose of our study, we will use the GLOBE framework of cultural dimensions.

### 2.1.3 GLOBE's Conceptualization of Culture

GLOBE characterizes culture on nine dimensions, measured twice - as practices ("as is") and values ("should be") ([House et al., 2004](#)). An overview of the dimensions is presented in table 2. Below the table, we give a more detailed explanation of each dimension and how they relate to international business.

Table 2 GLOBE and its 9 Cultural Dimensions

<b>Power Distance</b>	The degree to which individuals in a society are divided by power.
<b>Uncertainty Avoidance</b>	The degree to which a society depends on norms, rules or procedures to reduce the risk and uncertainty in the future.
<b>Humane Orientation</b>	The degree to which a society supports and encourages individuals to act in a fair, altruistic, caring and generous manner.
<b>Collectivism I (Institutional Collectivism)</b>	The degree to which the society's institutional practices encourage and reward collective distribution of resources and collective action.
<b>Collectivism II (In-group Collectivism)</b>	The degree to which individuals in a society show pride, express loyalty and act in a manner of cohesiveness towards their families or organizations.
<b>Assertiveness</b>	The degree to which individuals in a culture express aggressive behavior, act confrontational or assertive, in their interaction with others.
<b>Gender Egalitarianism</b>	The degree to which a society supports gender equality.
<b>Future Orientation</b>	The degree to which individuals participate in future-oriented behaviors like the deferring of instant gratification, planning ahead or investing in the future.
<b>Performance Orientation</b>	The degree to which a society encourages and rewards its members for high performance or excellence.

Based on [House et al. \(2004\)](#) and [Xiumei and Jinying \(2011\)](#)

#### *Power Distance (PD)*

High power distance indicates an uneven distribution of power in the society ([Javidan, Dorfman, et al., 2006](#)). Countries that score high on this dimension tend to have differences between the social, political and economic layers of the society ([Javidan, Dorfman, et al., 2006](#)) ([Javidan, Dorfman, et al., 2006](#)). Brazil, China, Turkey, France and USA are examples of cultures with high power distance, and businesses in these societies will often have a hierarchically structured decision-making process, with “*limited one-way participation and communication*” ([Javidan, Dorfman, et al., 2006, p. 70](#)).

### *Uncertainty Avoidance (UA)*

Countries that score high on uncertainty avoidance tend to rely on social norms, rules and routines to reduce unpredictability and risk associated with the future ([Javidan, Dorfman, et al., 2006](#)). In cultures with high degree of uncertainty avoidance, people tend to seek predictability, structure and procedures in their daily lives ([Javidan, Dorfman, et al., 2006](#)). For businesses in high uncertainty avoidance countries, such as Singapore and Switzerland, this means creating formal procedures and detailed strategies ([Javidan, Dorfman, et al., 2006](#)). In low uncertainty avoidance cultures, such as Russia and Greece, businesses tend to rely on broader strategies and have less strict procedures, and are also more accepting towards risk-taking behavior ([Javidan, Dorfman, et al., 2006](#)).

### *Humane Orientation (HO)*

Countries with a high degree of humane orientation encourage and reward individuals for behavior that is considered fair, altruistic, caring and being nice to others ([Javidan, Dorfman, et al., 2006](#)). Egypt and Malaysia score very high on this dimension while France and Germany rank low ([Javidan, Dorfman, et al., 2006](#)).

### *Institutional Collectivism (CI)*

A high degree of institutional collectivism implies that the society encourages and rewards collective distribution of resources ([Javidan, Dorfman, et al., 2006](#)). Businesses in countries with a high degree of institutional collectivism, such as Sweden and Singapore, will emphasize and reward performance based on groups rather than individual performance, as is the tendency in low institutional collectivistic countries, such as Brazil and Greece ([Javidan, Dorfman, et al., 2006](#)).

### *In-group Collectivism (CII)*

High degree of in-group collectivism implies that individuals in a country will show pride, loyalty and group-cohesion to their cultural sub-group such as workplace, organization or their family ([Javidan, Dorfman, et al., 2006](#)). Examples of countries that score relatively high on in-group collectivism are China, Ecuador and Singapore, while countries that score relatively lower are New Zealand and England ([Javidan, Dorfman, et al., 2006](#)).

### *Assertiveness (AS)*

High degree of assertiveness means that individuals are often confrontational in their encounters and relationships with others ([Javidan, Dorfman, et al., 2006](#)). Examples of highly assertive countries are USA and Hong Kong, where businesses can expect people to have “*a can-do attitude and enjoy competition*” ([Javidan, Dorfman, et al., 2006, p. 69](#)), while less assertive countries like Sweden and New Zealand will prefer less competitive relationships, and more loyalty and harmony ([Javidan, Dorfman, et al., 2006](#)).

### *Gender Egalitarianism (GE)*

The degree of gender equality in a society involves the reduction of gender inequality, and many European countries generally score the highest on this dimension ([Javidan, Dorfman, et al., 2006](#)). Kuwait, Egypt and South Korea are among the most male-dominated societies ([House et al., 2004](#)). Countries with high degree of gender egalitarianism will often “*encourage tolerance for diversity of ideas and individuals*” ([Javidan, Dorfman, et al., 2006, p. 70](#)).

### *Future orientation (FO)*

Countries that score high on future orientation have individuals that “*engage in future-oriented behavior such as delaying gratification, planning for and investing in the future*” ([Javidan, Dorfman, et al., 2006, p. 69](#)). Businesses and organizations that operate in highly future oriented countries, like Singapore or Switzerland, will have longer time horizons, and engage in systematic planning for the future, but will tend to avoid risk-taking and opportunistic behavior ([Javidan, Dorfman, et al., 2006](#)). Businesses in countries that are less future-oriented, such as Argentina or Italy, will often be less systematic in planning for the future, as well as engage in more risk-taking behavior ([Javidan, Dorfman, et al., 2006](#)).

### *Performance Orientation (PO)*

High performance-oriented countries like the US, Singapore or Hong Kong will encourage and reward excellence and high performance among the individuals ([Javidan, Dorfman, et al., 2006](#)). Businesses in such countries tend to reinforce the importance of training and development, while businesses in lower performance-oriented countries, like Russia or Greece, will reinforce the importance of family ([Javidan, Dorfman, et al., 2006](#)).

## 2.2 Cultural Distance

[Shenkar \(2001\)](#) defines cultural distance as a measure of how similar or different two cultures are. Unlike geographical distance, where A is equally distant from B, as B is from A, cultural distance does not share the same symmetrical properties ([Shenkar, 2001](#)). In international business, not only does the distance between countries matter, but also what is understood by the concept distance and how it can be operationalized (the measures); in other words, theory, data and method should be matched ([Beugelsdijk, Ambos, et al., 2018](#)).

According to [Beugelsdijk, Kostova, et al. \(2018\)](#), cultural distance as a concept can be traced back to 1956, but its first empirical operationalization took place in 1988 when [Kogut and Singh \(1988\)](#) presented their composite index based on the Euclidean distance and Hofstede's foundational work on culture. Based on the period the data collection took place, preferring one specific dataset over another one has no importance ([Drogendijk & Slangen, 2006](#)) because countries' change goes in the same direction and thus keep cultural distances constant ([Beugelsdijk, Ambos, et al., 2018](#)). However, the Kogut-Singh index might not be able to reflect fully cultural differences such as multicultural upbringing and change in each of the static cultural dimensions. Hence, we present three ways to conceptualize cultural distance: having a multi-cultural background, the Mahalanobis distance based on GLOBE, and a change in cultural practices from birth to residence country, operationalized as  $\Delta$  (delta) GLOBE "as is".

### 2.2.1 Multicultural Background

Culture is both a result of genetic inheritance and a result of socialization ([Hofstede, 1980](#)). Having a multicultural background has been found to increase creativity in cross-cultural collaborations ([Tadmor, Satterstrom, Jang, & Polzer, 2012](#)) and to reduce ethnocentrism levels ([Dong, Day, & Collaco, 2008](#)). People with multicultural backgrounds have different ideas and perspectives, as a result of their exposure to foreign cultures ([Tadmor et al., 2012](#)). For instance, [Engle et al. \(2012\)](#) found that multicultural behavior, as measured by the degree of social interaction with people from other cultures, has a positive impact on cultural intelligence and the inclination to accept a job offer from a foreign country. Therefore, there exist a cultural distance at the individual level when a person is born and raised in a country different from his or her parents ([Colvin, Volet, & Fozdar, 2014](#)).

### 2.2.2 Mahalanobis Distance

When conceptualizing cultural distance, one must remember that distance is a mathematical metric which possess three properties, e.g. positive real numbers, symmetry, and triangular inequality ([Cuypers, Ertug, Heugens, Kogut, & Zou, 2018](#)). Usually, this distance is defined in a continuous Euclidean space and thus measured by the Euclidean distance metric ([Cuypers et al., 2018](#)). Cultural distance among countries, initially thought of as a complement to geographical distance, was operationalized in 1973 by Vahlne and Wiedersheim-Paul, and termed “psychic distance” ([Beugelsdijk, Ambos, et al., 2018](#)). Later, the foundational work on culture by [Hofstede \(1980\)](#) inspired [Kogut and Singh \(1988\)](#) to create an easier way to compute distance ([Beugelsdijk, Ambos, et al., 2018](#)).

As a result, the [Kogut and Singh \(1988\)](#) composite cultural distance index (KSI) emerged and gained popularity among scholars in the International Business field ([Beugelsdijk, Ambos, et al., 2018](#)). Despite the progress made to measure cultural distance through the Kogut-Singh index, the index is far from perfect ([Beugelsdijk, Ambos, et al., 2018](#)). Many attempts have been made to improve the index, but still unsatisfactory, for example, [Kostova \(1997\)](#) tried to include an institutional dimension, [Ghemawat \(2001\)](#) tried to include three more dimensions with the CAGE (cultural, economic, geographic, and administrative) framework, and [H. Berry et al. \(2010\)](#) tried to build a new metric with the Mahalanobis Distance ([Beugelsdijk, Ambos, et al., 2018](#)).

The Mahalanobis Distance is a composite index that takes into account the correlation among the different dimensions; thereby, it deals with distance in general and must match the expected outcomes ([Beugelsdijk, Ambos, et al., 2018](#)), in our case, the composite BCIQ score. Thus, the Mahalanobis Distance outperforms Euclidean Distance in measuring distance when there is a mix of high and low correlation among the dimensions – such as in the case of the Schwartz, Hofstede and GLOBE dimensions ([Beugelsdijk, Ambos, et al., 2018](#)). Therefore, cultural distance can also be measured by computing the Mahalanobis Distance ([H. Berry et al., 2010](#)) on the GLOBE data set of cultural values and practices.

### 2.2.3 Delta GLOBE “As Is”: Change in Practices from Birth to Residence Country

As previously mentioned, a distance measure must have coherence among its theory, method and data used ([Beugelsdijk, Ambos, et al., 2018](#)), thus, the theory should guide the

operationalization of the construct. When deciding whether to measure distance as a composite index or unidimensional, first we have to decide if we will define it as a one dimension or aggregated concept ([Beugelsdijk, Ambos, et al., 2018](#)). In this sense, we are also interested in defining cultural distance in a unidimensional way and, specifically, how the culture is – the cultural practices of a society.

GLOBE's nine cultural dimensions have the particularity of being of a double nature which reflects practices and values (“As Is” and “Should Be”-scores, respectively); for instance, “As Is”-scores show current perceptions and measure cultural practices by asking managers “what are” or “what is” a usual behavior and institutional practice in their societies, in order to capture how things were actually done in that culture ([Javidan et al., 2005](#)). While Hofstede linked values to societies and practices to organizations, GLOBE attributes values and practices to each of them, even when the idealized values and practices do not correspond because they each account for unique variance ([Xiumei & Jinying, 2011](#)). Thus, we look at the difference in practices between a person's birth and residence country.

#### 2.2.4 The Effects of Cultural Distance

The concept cultural distance has been used in a variety of research within international business and management, however, it is within the field of foreign-direct investments that the concept has gained traction ([Shenkar, 2001](#)). For example, [Drogendijk and Slangen \(2006\)](#) found that cultural distance affects the expanding mode chosen by multinational enterprises (MNEs); particularly, high cultural distance is positively correlated with greenfield selection. Additionally, cultural distance has been found to increase transaction costs for businesses looking to invest in other countries, as managers have limited information available about cultures that are far away from their home market, and may have trouble to fully understand the social environment of that distant culture ([Schwartz, 2012](#)).

Cultural distance impacts cross-cultural competence negatively ([Johnson, Lenartowicz, & Apud, 2006](#)). Moreover, [Kogut and Singh \(1988\)](#) cultural distance index shows a good predictive power for outcomes at the firm level such as entry mode choices ([H. Berry et al., 2010](#); [Beugelsdijk, Ambos, et al., 2018](#); [Cuypers et al., 2018](#)) and performance ([Cuypers et al., 2018](#)).

### 2.2.5 Bridging Cultural Differences

Culture's ubiquitous nature makes acquiring cultural knowledge a must for any business executive; additionally, a global leader must be able to influence people with different cultural backgrounds, as well as to demonstrate high cultural flexibility and adaptability ([Javidan, Dorfman, et al., 2006](#)). Currently, the demand for global minded managers with cross-cultural leadership capabilities has increased; however, due to a lack of scientifically validated information, business professionals still do not know how to tackle the cross-cultural business challenge: to give consistent business results while showing effective leadership in different cultural settings ([Javidan, Dorfman, et al., 2006](#)).

As a solution, [Ott and Michailova \(2018\)](#) implied that the greater the cultural distance, the more effective cultural intelligence will be to help individuals to overcome difficulties. However, people displaying high CQ experience more job strain ([Ramsey, Abi Aad, Jiang, Barakat, & Drummond, 2016](#)). Given that social rules differ by country, context and time, a person's ability to succeed in different cultural settings is determined by his/her cultural intelligence coefficient (CQ), that ultimately leads to appropriate behaviors adjusted to the specific new culture ([Thomas, 2006](#)). By contrary, sticking too firmly to one's home culture poses a threat to the ability to adapt to new cultural environments ([Earley & Mosakowski, 2004](#)).

While GLOBE provides managers with cultural knowledge and encouragement to solve cultural distance difficulties constructively and proactively ([Javidan et al., 2005](#)), it takes cultural motivation and mindfulness to link the cultural knowledge to the appropriate cultural behavior ([Tuleja, 2014](#)). Therefore, in order to be effective in multicultural environments, and to effectively adapt to new situations, it is important to possess high levels of cultural intelligence ([Alon et al., 2018](#)).

## 2.3 Cultural Intelligence

What characterizes culturally intelligent people? [Thomas \(2006, p. 92\)](#) gives the following definition: *“Individuals who are culturally intelligent are able to see past the stereotypes that a superficial understanding of cultural dimensions (e.g. [Hofstede \(1980\)](#) and [Schwartz \(2006\)](#)) provide. These dimensions are only a first step (part of the knowledge component) of developing CQ. People who are culturally intelligent see the connections between a culture and its context,*



*history and value orientations.*” [Ang et al. \(2007, p. 337\)](#) defined cultural intelligence as “*an individual’s capability to function and manage effectively in culturally diverse settings.*”

As a research topic, cultural intelligence made its first appearance in 2002 when [Earley \(2002\)](#) conceptualized it. Since then, it has received a great deal of attention ([F. Fang et al., 2018](#)). As [Ott and Michailova \(2018\)](#) explain, there are many definitions of CQ, but the two main conceptualizations are the ones given by [Earley and Ang \(2003\)](#) and [Thomas et al. \(2008\)](#). Based on the [Sternberg \(1985\)](#) intelligence theory, [Earley and Ang \(2003\)](#) developed the construct of CQ originally consisting of three facets: cognitive, behavioral and motivational. Later, they added a fourth facet, metacognition, which was derived from the cognitive facet ([Ang et al., 2007](#)). [Thomas et al. \(2008\)](#) identified three dimensions: cultural knowledge, cross-cultural skills and cultural metacognition. CQ can be identified both in organizational and geographic/ethnic cultures ([Alon & Higgins, 2005](#)). However, we focus on the latter.

### 2.3.1 Cultural Intelligence Outcomes

Successful global leaders possess not only high intelligence quotients (IQ) and emotional intelligence (EQ) but also high cultural intelligence (CQ) ([Alon & Higgins, 2005](#)). Cultural intelligence is a key factor for international success from individual up to firm level ([Alon et al., 2018](#)). As an independent variable, cultural intelligence has been found to influence cross-cultural leadership effectiveness, job performance and communication effectiveness ([Ott & Michailova, 2018](#)). Additionally, cultural intelligence positively influences knowledge-sharing and the choice of conflict management style ([F. Fang et al., 2018](#)), as well as inter-cultural negotiation effectiveness ([Imai & Gelfand, 2010](#)).

As a mediating variable, cultural intelligence relates to international leadership potential and work adjustment ([Ott & Michailova, 2018](#)). Furthermore, as a moderating variable, cultural intelligence strengthens the relationship between domestic and global leadership success ([Alon & Higgins, 2005](#)); and moderates important outcomes such as adjustment and performance, innovation adoption, and travel and job strain ([Ott & Michailova, 2018](#)). The most researched outcome of cultural intelligence has been cross-cultural adjustment and performance, as they relate to expatriate assignments abroad ([F. Fang et al., 2018](#)). Expatriates are required to creatively solve problems in a multicultural setting; however, high cultural cognitive loads decrease creativity when metacognitive CQ is low ([Chua & Ng, 2017](#)).

[Ott and Michailova \(2018\)](#) found that 36 out of 73 quantitative empirical studies published between 2011 and 2015 identified cultural intelligence as an independent variable – notably, the interest has been mainly placed on CQ's outcomes rather than its antecedents. However, understanding how CQ is developed is of paramount importance in today's fast changing and globalized environment ([Ott & Michailova, 2018](#)).

### 2.3.2 Cultural Intelligence Antecedents

[Alon et al. \(2018\)](#)'s BCIQ study gave empirical evidence about vital cultural intelligence antecedents. Some well-known antecedents of CQ are cross-cultural contact experience for more than six months, education level and multilingualism ([Alon et al., 2016](#); [Crowne, 2008](#); [Velez-Calle, Roman-Calderon, & Robledo-Ardila, 2018](#)). ([MacNab, Brislin, & Worthley, 2012](#)) found that there are two key antecedents of CQ: individual (self-efficacy) and contextual circumstances (experiential social learning). However, even if context and contact are vital to develop CQ, their presence does not necessarily translate into a positive CQ change ([MacNab et al., 2012](#)).

It is not enough to be in contact with other cultures in order to develop CQ; cross-cultural experiences will only improve CQ if they are considered as positive; whether an experience is regarded as positive or negative will depend on the “implicit cultural beliefs” or “lenses” through which people see their intercultural experience ([Chao, Takeuchi, & Farh, 2017](#)). This ultimately impacts the ability to adjust to a new cultural setting ([Chao et al., 2017](#)). Entity implicit cultural beliefs, which negatively impact CQ, make people think of others as fixed in values that amplifies actual cultural distances ([Chao et al., 2017](#)). On the other hand, incremental cultural beliefs have a positive impact on CQ as they make individuals see others as malleable and unique ([Chao et al., 2017](#)).

[Ott and Michailova \(2018\)](#) summarized the main CQ antecedents and their impact on CQ's dimensions, such as personality traits and self-efficacy. [Holtbrügge and Engelhard \(2016\)](#) found that Cultural Boundary Spanning (CBS) has a positive mediating effect on all dimensions of CQ; Cultural Boundary Spanning, or cultural brokerage, is the self-motivation to build bridges among cultures to improve cross-cultural understanding. [Holtbrügge and Engelhard \(2016, p. 449\)](#) found that “*gender and the number of foreign languages spoken significantly influence CBS abroad. In particular, multilingual individuals will be more engaged in CBS. (...) In*

*addition, gender has a significant impact on CBS in that men engage in fewer CBS initiatives.”* Age and belonging to some countries positively impact CBS ([Holtbrügge & Engelhard, 2016](#)). Because cultural intelligence varies among different countries, it has been suggested that some countries enable a greater tendency for cross-cultural interactions ([Alon et al., 2016](#)).

In addition, studying abroad has a mild but positive effect on cultural intelligence ([Nguyen, Jefferies, & Rojas, 2018](#)). This mild result can be explained by moderating variables, such as the student’s minority status, that strengthens the relationship between exchange experiences and CQ ([Volpone, Marquardt, Casper, & Avery, 2018](#)). [Chao et al. \(2017\)](#) found that the quality of the international contact experience has an impact on the development of cultural intelligence, which is also supported by [Crowne \(2008\)](#) who found that those who had been working or studying in another country revealed higher cultural intelligence compared to those who have been to another country for vacations. Even short-term overseas assignments have been found to have a positive impact on the development of CQ ([Engle & Crowne, 2014](#)). Factors that help to develop CQ are quality cross-cultural experiences, personality factors and cognitive flexibility (the ability to “think outside the box” and shift among the most suitable alternatives given the specific situation) ([Bernardo & Presbitero, 2018](#)). On the other hand, the need for cognitive closure (rigid thinking) is detrimental to CQ development ([Bernardo & Presbitero, 2018](#)).

### 2.3.3 Cultural Intelligence Development

[Thomas \(2006, p. 89\)](#) asserts that “(...) *cultural intelligence, similar to other multifaceted forms of intelligence, exists on a continuum that develops over time.*” According to [Thomas \(2006\)](#), CQ develops with repetitive social experiential learning, but it might take a long time. In the iterative process of CQ development, a base level of knowledge is required to build new knowledge and translate it into appropriate behavior via mindfulness to start the process all over again (as in a series of s-curves) ([Thomas, 2006](#)). This requires understanding of how cultures differ and how cultures influence behaviors in a mindful way, in order to effectively behave in new cultural contexts ([Thomas, 2006](#)).

Multicultural upbringing and experiences correlate positively with cultural intelligence, therefore, CQ can be developed and learned ([Alon et al., 2016](#); [Bücker & Korzilius, 2015](#); [Thomas, 2006](#)). To develop global leaders, a company must first assess their intelligences and

then train them with knowledge and experience ([Alon & Higgins, 2005](#)). Thus, to cultivate cultural intelligence one must first assess the current state, and then take experiential training ([Earley & Mosakowski, 2004](#)). International cultural experiences have been found to contribute to increase cultural intelligence, particularly the time spent abroad (living abroad more than six months) and context (how much direct contact the person has with the native community) moderate the degree of increase in cultural intelligence as expected by the experiential learning theory ([Alon et al., 2018](#)).

#### 2.3.4 Measuring Cultural Intelligence

##### *The Cultural Intelligence Scale*

Based on the cultural intelligence construct conceptualized by [Earley and Ang \(2003\)](#), the Cultural Intelligence Scale (CQS) was developed by [Van Dyne, Ang, and Koh \(2008\)](#). [Ang et al. \(2007\)](#) found the final CQS version to be reliable when comparing different samples, countries and time periods ([Eisenberg et al., 2013](#)). [Thomas et al. \(2015\)](#) stated that the usual CQ measurement, the 20-item self-reported survey developed by [Ang et al. \(2007\)](#), has limitations of incremental validity, as it is similar to other measures of intercultural effectiveness. The Cultural Intelligence Scale does not reflect the interaction among its dimensions and does not specify how each facet is aggregated and how the overall result relates to specific outcomes ([Thomas et al., 2015](#)). Therefore, the measure is not multidimensional as the construct, but only four aggregated facets which does not reflect the nature of the construct ([Thomas et al., 2015](#)).

[Thomas \(2006\)](#) warns against cultural bias (a westernized perspective of intelligence) that could affect the assessment of cultural intelligence. Since current CQ measurement instruments make people self-assess their CQ, actual and perceived cultural knowledge vary ([Alon et al., 2016](#)). One of the main challenges with the cultural intelligence scale proposed by [Ang et al. \(2007\)](#) is that it is difficult to compare it across different countries and cultures in a meaningful way ([Schlängel & Sarstedt, 2016](#)). One reason for this, is that certain dimensions of the cultural intelligence construct are strongly related to the cultural environment in which the respondent is located, and more specifically how values, norms and beliefs affect the interpretation of words, sentences or other items in the construct ([Schlängel & Sarstedt, 2016](#)). Even careful translation of all the items in the cultural intelligence scale does not guarantee that respondents from different countries and in different cultural settings interpret the items in the same manner

([Schlägel & Sarstedt, 2016](#)). This limits the generalizability of the cultural intelligence scale as a cross-cultural assessment instrument, which suggest that adopting the construct measures to each cultural setting is a more appropriate approach ([Schlägel & Sarstedt, 2016](#)).

#### *The Short-form Cultural Intelligence (SFCQ) Scale*

A validated alternative measure was later provided by [Thomas et al. \(2015\)](#), which reflects a multifaceted intelligence for intercultural interaction effectiveness. The new short instrument follows the indirect reflective model as theorized and is composed of three facets that include cultural knowledge, cultural skills as well as cultural metacognition ([Thomas et al., 2015](#)). The SFCQ captures cultural intelligence across different cultures and languages ([Thomas et al., 2015](#)). Despite the construct being slightly related to personality and EQ, SFCQ predicts international job performance, cross cultural adaptation and multicultural relationship development ([Thomas et al., 2015](#)).

However, the SFCQ scale does not have a direct connection to the International Business realm. Fortunately, in 2016, a new way to assess CQ emerged, which is designed specifically for business contexts ([Alon et al., 2016](#)). Compared to other instruments intended to assess and measure cultural intelligence, the BCIQ performs well in terms of psychometric properties and predictive power ([Alon et al., 2016](#)).

#### 2.3.5 Business Cultural Intelligence Quotient (BCIQ)

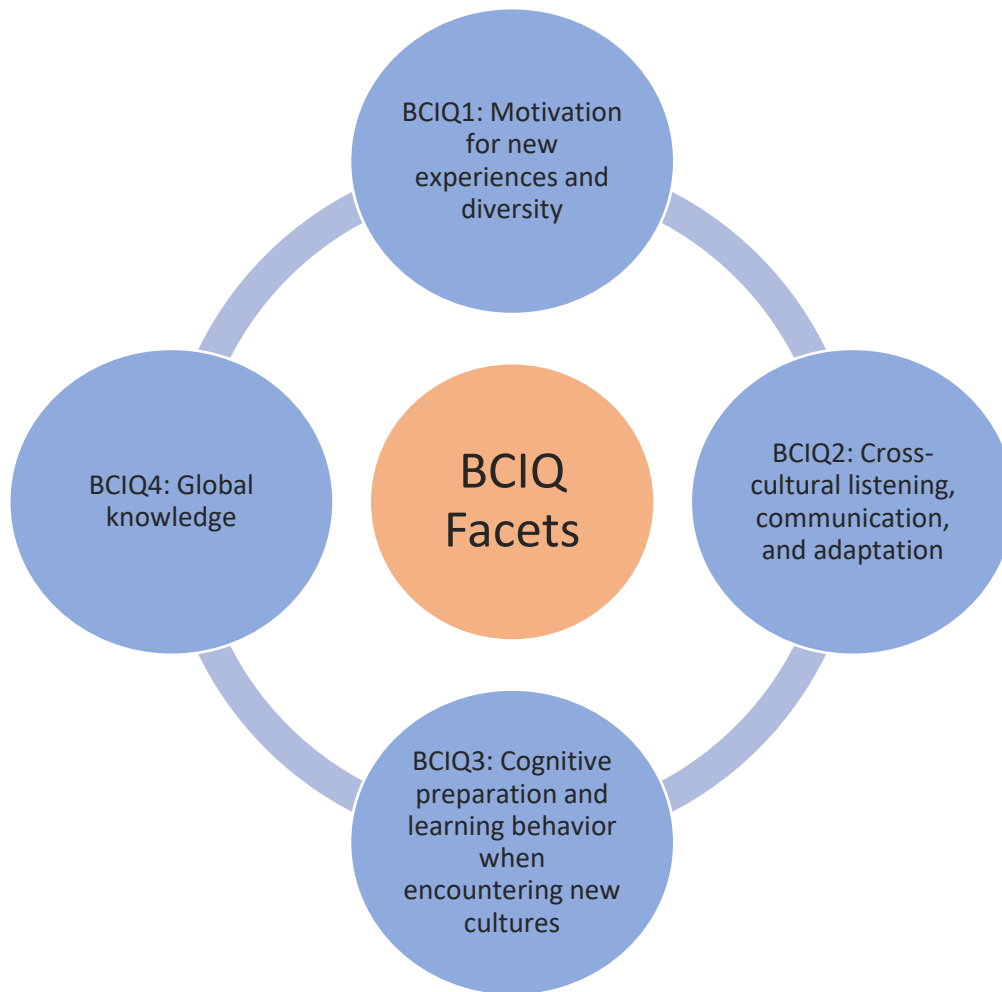
Cultural intelligence is a critical success factor in international business ([Velez-Calle et al., 2018](#)), as it is well-known in the CQ literature that CQ's positive outcomes extend to the managerial, leadership and business context when dealing with culturally different organizations and individuals ([Velez-Calle et al., 2018](#)). Even though cultural intelligence has usually been depicted at the interpersonal cross-cultural level with low ties to business settings ([Andresen & Bergdolt, 2017](#)), [Alon et al. \(2016\)](#) devised the way to connect the CQ construct to international business environments and demonstrated that BCIQ has a high validity and is appropriate to measure CQ of managers.

The BCIQ is a newly validated scale that aims to refine the CQ concept by applying it to the business setting ([Velez-Calle et al., 2018](#)). [Alon et al. \(2016\)](#) presented and validated this new way to measure cultural intelligence in business settings which has a good predictive power.

The BCIQ differs from the CQ scale ([Ang et al., 2007](#)) in that it has a refined factor structure, uses objective cultural knowledge measures, is applicable to business contexts, and has an improved reliability and validity ([Alon et al., 2016](#)). In addition, BCIQ differs from other CQ instruments because it gives a numerical value, making it easier for users to understand and compare it ([Alon et al., 2016](#); [Velez-Calle et al., 2018](#)).

The BCIQ's four facets are: motivation (internal force) when facing new settings; cross-cultural listening, communication, and adaptation; cognitive preparation and learning behavior when in contact with new cultural settings; and global knowledge about facts, values and practices of other cultures ([Alon et al., 2018](#); [Velez-Calle et al., 2018](#)). Some BCIQ dimensions are impacted by demographics, for example, it was found that global and national knowledge dimension is affected by the education level, cognitive preparation and learning behavior is influenced by age and gender ([Alon et al., 2016](#)). An overview of the four BCIQ facets is given in figure 1.

Figure 1 BCIQ Facets



Based on [Alon et al. \(2018\)](#)

BCIQ is based on [Ang and Van Dyne \(2008\)](#) four cultural intelligence dimensions ([Alon et al., 2016](#)). BCIQ has shown promising signs as an instrument to adequately assess cultural intelligence in employees that are seeking expatriate experiences abroad and among members in global virtual teams ([Alon et al., 2016](#)). [Velez-Calle et al. \(2018\)](#) give extra support to the BCIQ's construct validity, given its reliability as a cross-cultural instrument for measuring CQ within the business environment. In short, the BCIQ instrument fills the gap between CQ theory and actual CQ measurement as pointed out by [J. W. Berry and Ward \(2006\)](#).

## 2.4 Hypotheses and Conceptual Model

Given the literature review, we will in the following present our hypotheses as well as a conceptual model of the impact of cultural distance on BCIQ. Our overall research question can be summarized in the following: *The greater the cultural distance, the higher the BCIQ.*

In hypotheses 1a, 1b and 1c, we operationalize cultural distance in three different ways, and hypothesize the relationship with BCIQ.

We acknowledge that, given the current available literature and its lack of theoretical grounding linking CQ and international experience, we would not be able to predict the direction of the relationship between cultural distance and CQ ([Michailova & Ott, 2018](#)). However, theories, such as the Social Learning Theory, help to guide the hypothesis construction ([Michailova & Ott, 2018](#)).

Social Learning Theory states that we learn from each other by observing, modeling and imitating behaviors in a process-like way ([Bandura, 1971](#)). The processes of Social Learning Theory are attention, retention and interactive reproduction, and are affected by consequences, motivation and incentives ([Michailova & Ott, 2018](#)). These processes are inherent to any international experience and are vital to develop new behaviors that result in CQ development ([Michailova & Ott, 2018](#)).

Through attention, individuals decide what behaviors to observe and what to acquire from the new culture according to internal and external motivator factors ([Michailova & Ott, 2018](#)). Observed behaviors performed by locals in the host country are retained and processed by the individuals' higher cognitive functions ([Michailova & Ott, 2018](#)). Lastly, individuals' mental schemas are reproduced into appropriate culturally accepted behaviors that are constantly being redefined by the feedback that each encounter produces ([Michailova & Ott, 2018](#)). Consequently, Social Learning Theory is the tool that helps to explain the connection between international experience and CQ ([Michailova & Ott, 2018](#)).

[Davis and Luthans \(1980\)](#) have pointed to the importance of environmental, behavioral and cognitive determinants when developing new behaviors through the Social Learning Theory's processes. Especially, the environment and the individual mutually impact each other ([Ott & Michailova, 2018](#)). Therefore, using the Social Learning Theory, we elaborate as our general



hypothesis that cultural distance, an environmental determinant that measures how culturally distant from the birth country the international experience takes place, will develop BCIQ in a positive way (Tarique & Takeuchi, 2008). We split this main research question into three hypotheses in order to operationalize cultural distance in ways that relate to the Social Learning Theory's processes (Michailova & Ott, 2018). Additionally, given that we need all CQ facets to effectively interact cross-culturally (Michailova & Ott, 2018), we concentrate on the overall BCIQ score in order to understand how CQ is impacted by cultural distance. The three hypotheses are presented in table 3.

Table 3 Hypotheses Overview

Hypotheses	Cultural distance measures	Expected sign
1a	Multi-cultural background	Positive
1b	Mahalanobis distance	Positive
1c	GLOBE $\Delta$ Practices	Positive

The hypotheses are formulated as follows:

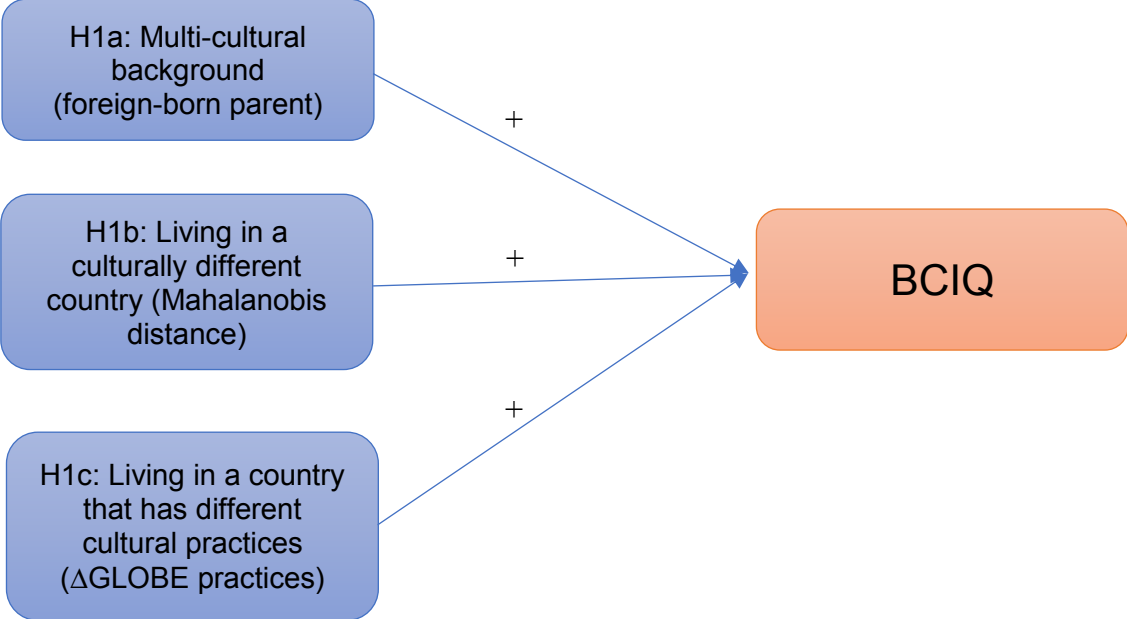
**H1a:** Having a multicultural background, as measured by having at least one foreign-born parent, has a positive impact on BCIQ.

**H1b:** Living in a country that is culturally different from your birth country, as measured by the Mahalanobis distance, has a positive impact on BCIQ.

**H1c:** Living in a country that has different cultural practices than your birth country, as measured by the change in residence and birth practices (GLOBE's "as is"), has a positive impact on BCIQ.

We hypothesize that all three independent variables affect BCIQ in a positive direction. This is visually depicted in figure 2.

Figure 2 Conceptual Research Model



## 3 Data

### 3.1 Utilization and Analysis of Secondary Data

The utilization of secondary data requires us to question whether the available data is suitable for our project ([Hox & Boeije, 2005](#)). Every research project has been developed with specific research questions in mind, and thus the data that comes out of such research will be influenced by what the researchers want to focus on ([Hox & Boeije, 2005](#)). Particularly, type of data, sampling method and purpose of the study will influence the data that is available as a secondary source and limit its applicability ([Hox & Boeije, 2005](#)). As a rule of thumb, [Hox and Boeije \(2005\)](#) argue that it is acceptable to use secondary data that limits the secondary researcher in a way that makes it challenging to test some of the hypotheses, but unacceptable if the research question has to be changed due to limitations in the secondary data.

The main advantages of using secondary data were described by ([Heaton, 2003](#)) which include efficiency in the data collection process, and the availability of datasets that contain larger and cross-national samples. Additionally, the utilization of secondary data builds on research that has been conducted previously, and the new research expands the knowledge that comes from the existing data ([Heaton, 2003](#)). However, equally as important as the advantages, is to be aware of the potential pitfalls that are associated with secondary data analysis. The primary concern is that the secondary researcher must be able to retrieve the data, and that the data is available in an appropriate format ([Heaton, 2003](#)). Accessibility of secondary data is viewed as the main obstacle for secondary researchers ([Hox & Boeije, 2005](#)).

### 3.2 Data Sources

Access to the 2014-2017 BCIQ database was generously granted to us by our supervisor and one of the researchers behind the original research, Professor Ilan Alon. In addition, Dr. Vas Taras shared his dataset from the X-Culture project which was used for robustness checks of our initial findings. The GLOBE, KOF and Polity IV data sets are available online on the respective projects' websites. In addition, we gathered information on gross domestic product per capita (GDP/cap) from the World Bank. In the following paragraphs, we will introduce the various datasets we have used in our analysis. In table 4, we present the two main datasets that we have used in our analysis.

Table 4 Overview of BCIQ and GLOBE Data

	BCIQ	GLOBE
<b>Reference</b>	Alon et al. (2016, 2018)	House et al. (2004)
<b>Mainly used in</b>	Management	Management
<b>Number of respondents</b>	5171	7794
<b>Sample</b>	Students Business professionals	Middle managers
<b>Countries covered</b>	56	58
<b>Years covered</b>	2014-2017	1995-1997
<b>Available individual raw data</b>	Yes	No
<b>Number of dimensions</b>	4 + 1 (5 + 1)	9 (measured twice)
<b>Nature of questions</b>	Scale 1-5	Scale 1-7
<b>Cultural dimensions / facets</b>	1 Motivation 2 Adaptive communication behavior 3 Cognitive preparation and learning 4 Active listening and perceptual sensitivity 5 Cognitive awareness 6 Global knowledge	1 Uncertainty avoidance 2 Future orientation 3 Power distance 4 Institutional collectivism 5 Humane orientation 6 Performance orientation 7 In-group collectivism 8 Gender egalitarianism 9 Assertiveness

Based on [Beugelsdijk, Ambos, et al. \(2018\)](#)

### 3.2.1 Business Cultural Intelligence Quotient Dataset

The data of the Business Cultural Intelligence Quotient instrument developed by [Alon et al. \(2016\)](#) was collected as convenience samples in various phases across several countries to reflect cultural diversity. The respondents who originally participated in the online BCIQ test consisted of mainly MBA students and business professionals around the world ([Alon et al., 2016](#)). The respondents of the BCIQ test started with reporting briefly on their demographics,

cultural exposure and experience abroad; subsequently, they answered the questionnaire in a five-point Likert Scale, and ended with a true/false section; this gave birth to the 4+1 factors that later was expanded into the 5+1 factors measure ([Alon et al., 2016](#)). Our dataset contains 5+1 factors, but in our analysis, we have focused on the overall BCIQ score, and this factor discrepancy should not impact our results. The BCIQ instrument not only contains a self-reported section with questions measuring frequency of thoughts and actions that reflect different cultural intelligence levels, but also an objective measure section with a set of true/false verifiable real-life questions; this ultimately leads to an overall score that allows for individual and country comparisons ([Alon et al., 2016](#)).

The BCIQ data we use is based on the BCIQ 50 items, 5+1 factors that includes: 1. Motivation, 2. Adaptive communication behavior, 3. Cognitive preparation and learning behavior 4. Active listening and perceptual sensitivity, 5. Cognitive awareness, and 6. Global knowledge. This data set has 5101 respondents (“raw data”) who took the survey in the period between 2014 and 2017. When we matched the BCIQ dataset with the country-level datasets GLOBE, KOF and Polity IV data, it resulted in valid 4403 observations, mainly due to GLOBE only covering 58 countries.

For our research project, the BCIQ dataset serves the intention of measuring differences in BCIQ, based on specific country-level characteristics. The database contains information on the respondents’ birth country and country of residence, which is at the core of what we are examining in this project. In addition, it contains demographic information that we can use as control variables. Given that we know the respondent’s birth country, residence country and BCIQ-score, we can add country-level characteristics as additional variables to the existing dataset, which expands the scope of the initial database and creates new research opportunities.

Specifically, we have added the scores for both birth and residence countries from Project GLOBE ([House et al., 2004](#)), the KOF Globalisation Index ([Gygli, Haelg, Potrafke, & Sturm, 2019](#)), Polity IV data on Regime Characteristics and Transitions datasets ([Marshall, 2018](#)) and Gross Domestic Product per capita (GDP/cap) in 1,000 USD from the [World Bank \(2019\)](#). We use GDP/cap in 1000 USD to reduce the number of decimals in our analysis. By placing the BCIQ dataset in the context of publicly available country-level datasets, we expand the applicability and relevance of the initial instrument. In table 5 we present our dependent and

independent variables, as well as our control variables. The data sources and measurement scale are also presented. We present a comprehensive descriptive statistics tables by birth and residence country in the appendix.

Table 5 Overview of the Data: Dependent, Independent and Control Variables

Variable	Measure	Previous research	Data source of secondary data	Scale	Expected sign
<b>Dependent</b>					
BCIQ	BCIQ score	Alon et al. (2016, 2018)	Alon et al. (2016)	Likert 1-5	
<b>Independent</b>					
H1a	Foreign parents		Alon et al. (2016)	Dichotomous, dummy variable	+
H1b	Mahalanobis distance	Berry et al. (2010)	House et al. (2004)	Likert, 1-7	+
H1c	Change in cultural practices	Chen et al. (2010)	House et al. (2004)	Likert, 1-7	+
<b>Control</b>					
<i>Demographics</i>					
Gender			Alon et al. (2016)		
Conversational languages			Alon et al. (2016)		+
Countries lived in			Alon et al. (2016)		+
<i>Institutional distance</i>					
KOF Globalization index			Gygli et al. (2019)	1-100	
Polity IV			Marshall et al. (2011)	-10 to +10	
GDP/cap in 1,000 USD			World Bank (2019)	In 1,000 USD	

### 3.2.2 GLOBE Dataset

The GLOBE data was collected using a stratified sampling design where four different levels of units were included – individuals, organizations, industries and societies ([House et al., 2004, p. 96](#)). The sample included 7,794 middle managers from 58 societies ([House et al., 2004](#)). On average, the number of respondents per country was 251, and 90 % of the societies had sample sizes greater than 75 respondents ([House et al., 2004](#)).

### 3.2.3 Control Variables Data

It is recommended to control for other variables, for example, for economic development, in order to increase the explanatory power of the cultural distance index ([Beugelsdijk, Ambos, et al., 2018](#)). Therefore, we start by controlling for individual level demographic variables that are known BCIQ antecedents such as number of countries lived in for more than six months and the number of languages spoken ([Alon et al., 2018](#); [Crowne, 2008](#)). We did not use education

level as a control variable due to item unreliability in the dataset. Lastly, we control for institutional distance and economic development.

#### *Demographic Variables*

The demographic variables we use are: Gender, number of conversation languages spoken, and the number of countries lived in for more than six months. All these variables come from the BCIQ dataset ([Alon et al., 2016](#)).

#### *Institutional Distance Variables*

We use two ways of measuring institutional distance. The first one comes from the KOF Globalisation Index dataset ([Dreher, 2006](#)) which measures the social, political and economic dimensions of globalization in 195 countries from 1970 until 2016 on a 1-100 scale ([Gygli et al., 2019](#)). Specifically, we use the overall KOF-score.

The second way to measure institutional distance comes from the Polity IV Project dataset ([Marshall, Jaggers, & Gurr, 2002](#)) which examines authority characteristics and regime changes in 167 independent states in the world from 1800 until 2017. Specifically, we use the overall Polity IV score which is a measure of a single regime score on a 21-point scale that goes from -10 (full autocratic, hereditary monarchy) to +10 (full consolidated democracy) and is the result of subtracting the countries assigned value for autocracy from the democracy score ([Marshall, Jaggers, & Gurr, 2007](#)).

#### *Economic Variable*

We use Gross Domestic Product per capita (GDP/cap) in 1,000 USD which is matched with the year that the respondent participated in the BCIQ survey. The data was collected from the [World Bank \(2019\)](#).

### 3.3 Demographics Analysis on BCIQ pre-cleaned Data

From the total sample, 20.89 % stated that they live abroad. Furthermore, it looks like the people living abroad has in average a higher BCIQ. However, in some cases, the BCIQ score is higher for the people who did not go abroad. Regarding gender, the distribution among men and women is almost equal, with 49.01 % of the respondents being female. The mean age is 24.65.

However, there are some unreliable answers, such as 82 respondents stating that their age is 1 and two respondents stating that their age is 100 years old.

The education variable showed some unreliability as well; even though almost 60 % of the respondents claim to have either some university education or a university/college degree. This could be an effect of the sampling strategy that was executed for this survey, as it targeted students and business professionals. Some very young respondents answered that they already completed a university or college degree. For example, four 16-year-olds claimed to have already completed their university degree. This makes us doubt the reliability of their responses in general. 84.5 % of the participants claim to have been born in the same country as both of their parents, this means that 15.5% of the people have at least a bicultural background.

68.1 % of the respondents speak one or more languages fluently besides their mother tongue. This number increases when asked about their ability to speak one or more languages at a conversational level other than their mother tongue (76.9 %). In addition, 75.1 % of respondents stated to have visited a country once or more for a period longer than two weeks. On the other hand, 45.1 % have lived in one or more countries for a period longer than six months.

### 3.4 BCIQ Normality and Validity test

To draw general conclusions, the data needs to be normally distributed. The pre-cleaned data had a BCIQ mean of 98.53, a standard deviation of 6.81 and a sample size of 4403. The normal curve plot of the histogram appears a bit leptokurtic (positive kurtosis), which means flatter tails than a normal distribution. We found a skewness of -10.027 and a kurtosis of 8.284. This means that the assumption of normality is rejected, as both skewness and kurtosis exceed a value of 2. The data is asymmetrical to the right, as the scores are concentrated to the right of the mean with most of the scores falling at the higher end of the BCIQ scale. The sample passes neither the Shapiro–Wilk test nor the Kolmogorov–Smirnov tests of normality. In conclusion, the pre-cleaned BCIQ sample is not normally distributed. Splitting the sample in US and non-US gives similar results, i.e. the sub-samples are not normally distributed. However, the non-US sample behaves more normal and passes the weaker normality test, the Kolmogorov–Smirnov test.



We tested the ability of BCIQ50 score to measure accurately the six dimensions by using Principal Component Analysis on question 12 to 61 from the BCIQ survey. Due to the dimensions being significantly correlated with each other, we used Direct Oblimin rotation. The correlation among the variables appear to be in the adequate ranges since it is not more than 0.80, meaning no multicollinearity. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is adequate at 0.944, which is more than 0.50, the greater the value the better. Furthermore, the Bartlett's Test of Sphericity is adequate and significant. Even though we were looking for 6 components, the results gave us 11. This result holds even when choosing Varimax rotation.

### 3.5 Cleaning the Dataset

Before conducting any analyses, we cleaned the BCIQ dataset by removing outliers and responses that were characterized as unreliable and inconsistent.

#### 3.5.1 Removing outliers

We used the Mahalanobis distance technique for multivariate analysis in order to remove outliers. First, with SPSS, we got the Mahalanobis distance by using the regression function and saving Mahalanobis for the six factors of the BCIQ. Then, we compared the Mahalanobis distance sorted by descending to a Chi-square distribution with the degree of freedom equaling the six predictors. Therefore, we computed a variable called probability Mahalanobis distance which is 1 minus the p-value of the right tail of the Mahalanobis distance variable, the cumulative distribution of the Chi-Square of the Mahalanobis distance with six degrees of freedom. If the probability is below 0.001, we can then consider the observation to be an outlier. We then computed a new variable named Outlier which takes our probability Mahalanobis distance variable and returns 1 if the specific probability is less than 0.001. As a result, we found 47 outliers of the 6 dimensions of the BCIQ out of the 4403 observations, which we proceeded to delete.

#### 3.5.2 Removing unreliable responses

When cleaning the data, we have also removed some unreliable responses. For instance, we have removed those who have responded “yes” to the question if they are living in their birth country, but have answered a different residence country than their birth country and those who have responded “no” to the question if they are living in their birth country but have responded

the same birth and residence country. This underlines the importance of having some overlap in the items in a questionnaire, as one question might pick up some internal inconsistencies among the other items. We also proceeded to delete 82 respondents who answered that they were 1 years old. As there could potentially be a misunderstanding of the questionnaire, we decided it was the safest to leave these internally invalid responses out for further analysis.

After cleaning the unreliable and outlier responses, we have 679 respondents who have moved abroad, and 3295 respondents who are still living in their birth countries, in total 3974.

## 4 Methodology

Our dependent variable, BCIQ 50 SCORE, is measured on a continuous scale, while our independent variables are measured using different scales, such as gender (nominal), residence country (nominal) and various distance measures. For example, the difference between “as is” from birth to residence country, is on a ratio scale. Then, we proceeded to create the BCIQ Index40 by birth and residence country. These indexes confirmed between-country variation; therefore, we could continue our analysis by adding contextual predictor variables to explain the BCIQ variance.

### 4.1 Analytical Models

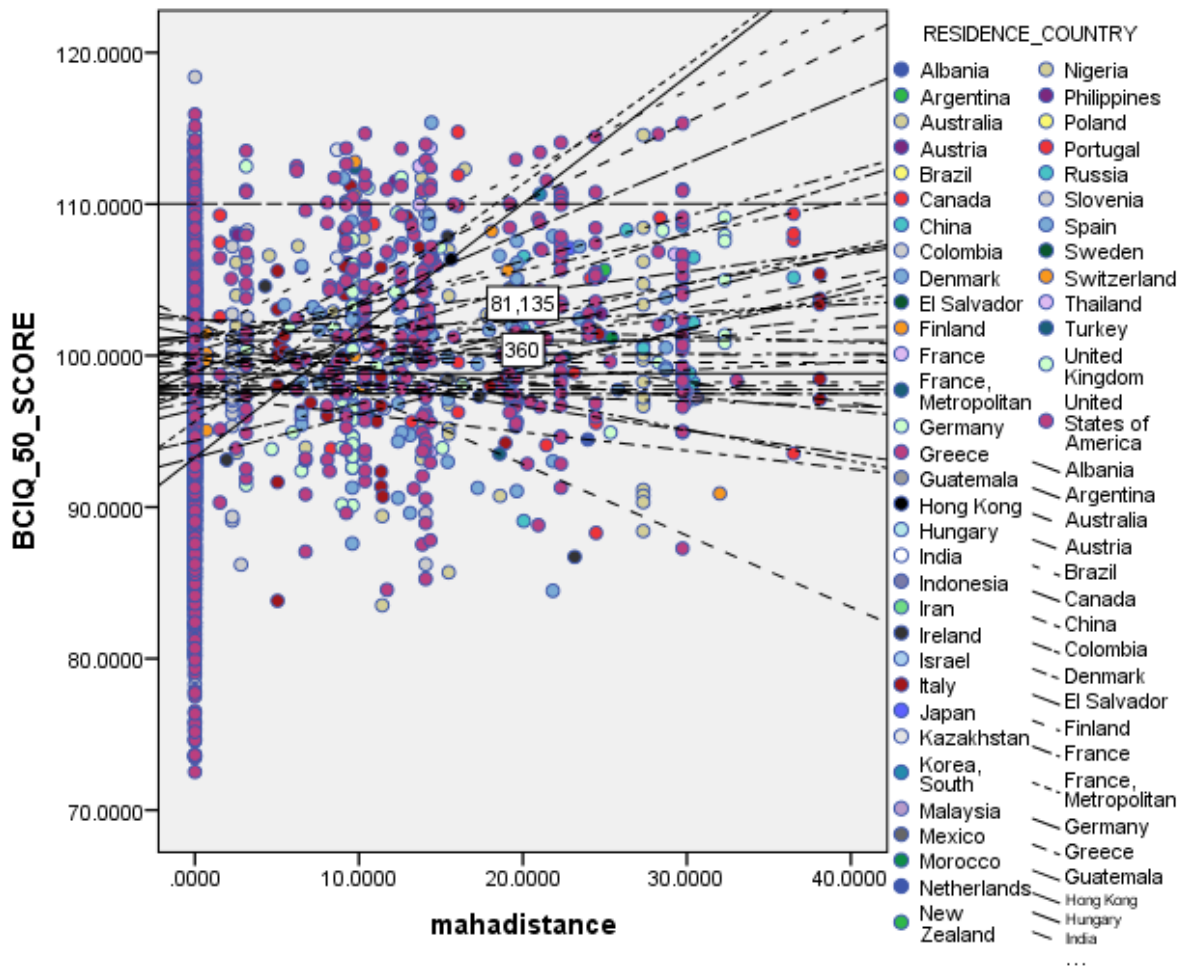
#### 4.1.1 BCIQ Index40 Creation

We selected the countries that had at least 40 observations. We did this by country of birth and of residence. Particularly, in SPSS, we created a split file of the dataset, where the individual cases were sorted based on birth and residence country. Then we analyzed the data using the descriptives technique to view the mean, minimum, maximum and standard deviation for each case. Descriptive statistics tables of the country-level BCIQ data are found in the appendix. We then ranked the countries of birth by BCIQ mean score. We present the two Index40 tables in the results section. As previously mentioned, given that the results showed between-country variation, we questioned why some countries rank higher than others, and continued with the analysis.

#### 4.1.2 Multilevel Hierarchical Linear Modeling (HLM) - Mixed Modeling

If we plot our BCIQ scores against our GLOBE Mahalanobis distance measure and cluster the observations by residence country, we get the figure below (figure 3). It is obvious that there is variation in intercepts and slopes across countries. Therefore, it does not make sense to carry out an Ordinary Least Square (OLS) regression analysis. A multilevel model is required.

Figure 3 Visualization of the Mahalanobis distance and BCIQ Score (SPSS output)



Given that we face two different levels of data to build our model (Cuypers et al., 2018), e.g. individual and country level, we run a multilevel regression analysis. By contrary, sticking to Ordinary Least Squares (OLS) would give us untrue significant results (Grieve, Nixon, Thompson, & Normand, 2005). For instance, cultural distance’s impact on entry mode gives mixed results due to measurement error in previous culture indices at national level to predict outcomes at the organizational (firm) level (Mezias et al., 2002). Therefore, it is of paramount importance to use different levels of analysis when crossing data to predict outcomes (Mezias et al., 2002). Consequently, we use Multilevel Hierarchical Linear Modeling (HLM) because our observations are nested in countries (Alon et al., 2018). GLOBE provides the clustering criteria at the country level, while our dependent variable, BCIQ score, is at the individual level. This way we can split the variance of the BCIQ into level 1 (individual) and level 2 (country) (Chen, Kirkman, Kim, Farh, & Tangirala, 2010). Table 6 gives an overview of the control and predictor variables at the two levels, individual and country level. The variables’ operationalization is explained in the next chapter, 4.2 Measures.

Table 6 Control and Predictor Variables at Individual and Country Level

Level / Type of variable	Control	Predictor
1 – Individual	Gender	
	Conversational languages	Foreign parents
	Countries lived in	
2 – Country	Polity IV	Mahalanobis distance
	KOF Globalisation Index	GLOBE delta practices for each of the nine dimensions
	GDP/cap in 1,000 USD	

## 4.2 Measures

### 4.2.1 Countries as Units of Analysis in Cultural Research

Despite the fact that globalization makes countries more similar, it is still meaningful to distinguish cultures based on national borders ([Beugelsdijk, Kostova, et al., 2018](#)). This is also supported by [Schwartz \(2006\)](#) who argue that countries are meaningful units of analysis when studying national culture, even though culture can transcend national borders, as societies are seldom culturally homogenous within their national borders. Country as a unit of analysis is relevant when discussing both geographical and psychic distance (the perceived cross-country distance), as it offers explanations of outcomes such as international trade or firm internationalization ([Beugelsdijk, Kostova, et al., 2018](#)). [Smith \(2006\)](#) also noted that the suitability of national-level analysis has been reinforced, following the GLOBE-Hofstede debate.

### 4.2.2 Business Cultural Intelligence Quotient

The cultural intelligence variable was measured using the BCIQ-score, our dependent variable. The Business Cultural Intelligence Quotient instrument was developed and validated by [Alon et al. \(2016\)](#) and used by [Alon et al. \(2018\)](#) in their empirical study.

### 4.2.3 Cultural Distance

We measure cultural distance using three variables, which are our three independent (predictor) variables.

### *1 Foreign Parents*

We created a dummy variable to account for the effect that having at least one foreign parent has on the BCIQ. We coded it as “0” to indicate “No foreign-born parents” and “1” to indicate that the respondent has “At least one foreign born parent”. Having at least one foreign parent is our operationalization of the respondents’ multicultural background.

### *2 Mahalanobis Distance*

Instead of using the by-default international-business cultural distance measure, e.g. the Kogut and Singh index (a modified Euclidean distance) ([Cuypers et al., 2018](#)), we use the Mahalanobis distance ([Mahalanobis, 1936](#)) because this measure does account for the correlation among cultural dimensions ([Cuypers et al., 2018](#)). Thus, the Mahalanobis distance measures cultural distance better than the Euclidean distance only when there is a mix of high and low correlation among the dimensions, as with the Schwartz, Hofstede and GLOBE’s dimensions ([Beugelsdijk, Ambos, et al., 2018](#)). On the other hand, when there is no correlation among the dimensions, using Euclidean distance metric gives the same results as the Mahalanobis distance ([Xiang, Nie, & Zhang, 2008](#)).

In this sense, given that culture is an intercorrelated multidimensional concept, we operationalized cultural distance through the Mahalanobis distance as proposed by [H. Berry et al. \(2010\)](#). [Beugelsdijk, Ambos, et al. \(2018\)](#) recommended to use all information available when constructing a multidimensional composite index; therefore, we use both values and practices from the GLOBE data when calculating the Mahalanobis distance.

### *Construction of the Mahalanobis Distance Variable*

As mentioned above, our proposed Mahalanobis distance measures the distance between the respondent’s birth country and residence country, based on the GLOBE scores for practices and values. Each respondent in the BCIQ survey provided their birth and residence country; with this information, we matched the respective GLOBE scores for values and practices to each birth and residence country. With these scores, we proceeded to calculate the Mahalanobis distance.

A high Mahalanobis distance indicates that a person has moved to a quite different cultural environment than his or her birth country. In our sample, the smallest cultural distance

measured with Mahalanobis distance is 0.7056, which represents the distance from Germany to Switzerland. This indicates that the Mahalanobis distance measures cultural distance in a logical way, as it would be meaningful to assume a closeness between Germany and Switzerland due to their geographical proximity, shared language and history.

Since the Mahalanobis distance is based on country-level factors, representativeness becomes less of an issue, as we now are measuring the distance between countries, and that the value is only attached to the respondent's birth and residence countries.

### *3 GLOBE Delta ( $\Delta$ ) Practices*

Cultural distance is often operationalized in international management research by using the cultural values' home-host average difference ([Chen et al., 2010](#)). Therefore, in order to compare the GLOBE practices scores, we have created a delta variable (GLOBE birth score minus GLOBE residence score) with each of the nine GLOBE dimensions for cultural practices. The general formula is  $\Delta_{XX\_practices} = B_{XXAsIs} - R_{XXAsIs}$ . For example, "Delta\_UA\_practices" is the difference between the GLOBE score "birth country, uncertainty avoidance, as is" and "residence country, uncertainty avoidance, as is."

## *4.3 Steps to Develop a Multilevel Model for Two Levels*

### *4.3.1 No predictors - null model*

To start with, we run the null model in SPSS mixed models and analyze the variance components of the BCIQ dependent variable at level 1 (individual) and level 2 (country of birth combined with the country of residence) in the estimate of covariance parameters. From there, we can verify if the variation at level 1 (within countries) and level 2 (between countries) is significant. When the estimates of covariance parameters of the residual (level 1) and intercept-subject (level 2)'s significance is less than 0.05, we have a significant variation at level 1 and level 2 that can be explained via adding predictor variables at those levels. The null hypothesis for each of the levels reads for this test: the variance of the respective level of the variance components is equal to zero.

Given that we get a significance level of 0.00 in variation at level 2 (intercepts across residence\* birth countries), we reject the null hypothesis which means that the variance (with an estimate of 3.35) is significantly different than zero. The ICC (Intraclass Correlation Coefficient) is

calculated as the intercept estimate of the covariance parameters divided by the sum of the residual and intercept estimates. This indicates enough variation at level 2 when it is equal to or greater than 5 %. In our case, the proportion of variation in BCIQ score that lies between birth\*residence country, e.g. the ICC, is 7.22 %. This ICC should decrease as we enter the predictor variables at each level.

The residence\*birth country residuals, which are the level 2 effects, display unobserved country characteristics affecting respondents' BCIQ levels. These unobserved contextual variables allow that outcomes from respondents within the same residence\*birth country group correlate between them. For example, our ICC of 7.22 % indicates significant clustering of the BCIQ individual level observations within level 2 (country). Therefore, we have good reasons to believe that we need to run a multilevel analysis to analyze our data. After adding our control variables at each level (model 1 and 2), we proceeded to add predictors to explain the variance at level 1 (model 3) and at level 2 (model 4 and 5). We begin with level 1 predictor Foreign parents.

#### 4.3.2 Predictor at level 1 - model 3

Foreign parents.

#### 4.3.3. Predictors at level 2 - model 4-5

Mahalanobis distance and GLOBE delta ( $\Delta$ ) practices.

### 4.4 Running the Mixed Model

We run the mixed models in SPSS and grouped the observations at level 2 by residence\*birth country. First, we introduced all level 1 control variables to account for gender, and individual-level known BCIQ antecedents such as the number of languages spoken conversationally, and countries lived in for more than six months.

Second, we added the level 2 control variables to account for institutional distance such as the KOF Globalisation Index and the Polity IV score in the birth and residence country, and economic development such as the GDP per capita (in 1,000 USD) in the residence country.

Next, we introduced the level 1 predictor variable, named "foreign parents". Then, we added the level 2 predictors starting with the Mahalanobis distance. Finally, we added the GLOBE delta ( $\Delta$ ) practices. We ended up with five models in total. Our Hierarchical Linear Model



(HLM) reflect a random-intercept constant-slopes model that generates intercepts depending on the country ([Alon et al., 2018](#)). Given the small sample size at level 2 for some country pairs, it makes sense to accept a significance level up to 0.10 to interpret the result presented in the next chapter ([Maas & Snijders, 2003](#)).

## 5 Results

In this result section, first we present our BCIQ Index<sub>40</sub>, which confirms between-country variations. Next, we present the correlation table of the main variables and the multilevel Hierarchical Linear Model regression table with the five models. At the end of this chapter, we present a robustness check by using the X-culture data set.

### 5.1 BCIQ Index

It has been suggested by [Thomas \(2006, p. 82\)](#) that it is possible to create a “cultural map” thanks to content knowledge provided by frameworks such as GLOBE, Schwartz or Hofstede as “*scales of reference*”. Since we have BCIQ data from many countries around the world, we can create a global “map” of BCIQ scores, in the form of an index. In order to create both indexes from the uncleaned data set, we selected the countries with at least 40 respondents. By birth country, the number of countries was reduced from 56 to only 16. By residence country, the number of countries is reduced from 48 to only 14. Below, the tables (7 and 8) with the indexes are presented, ranked in order of the highest BCIQ mean.

Table 7 BCIQ Index by Country of Birth

Country of birth	n	BCIQ mean
Russia	47	102.55
Canada	56	101.23
Brazil	96	101.22
Germany	197	100.17
United Kingdom	102	100.09
Spain	133	99.95
Mexico	126	99.54
India	217	99.07
France	124	98.91
China	181	98.82
Poland	44	98.69
Netherlands	45	98.49
Italy	130	98.19
Colombia	750	98.01
Greece	71	97.88
United States of America	1584	97.71
Total	3903	99.41

From table 7, we see that those who are born in Russia, Canada and Brazil, respectively, have the highest BCIQ-mean among the respondents in the dataset. The overall mean among the 3903 respondents is 99.41, and we see that India, France, China, Poland, Netherlands, Italy, Colombia, Greece and the United States of America, all have national means below the total mean. Meanwhile, Mexico, Spain, United Kingdom, Germany, Brazil, Canada and Russia, all have higher national means than the grand mean. The geographic dispersion of these countries and their respective BCIQ scores suggest that there might be some underlying factors that explain why people born in Russia score higher on this index, as opposed to a person born in the USA. However, it should be noted that two countries alone, Colombia and the US, account for almost 50 % of the total sample, which could influence these results.

Table 8 BCIQ Index by Country of Residence

Country of residence	n	BCIQ mean
Canada	74	101.42
Brazil	57	101.06
Australia	102	100.20
Germany	158	100.07
Spain	224	99.94
United Kingdom	96	99.11
Mexico	110	99.01
Italy	157	98.56
France	92	98.37
China	116	98.35
United States of America	1945	98.09
Colombia	744	97.86
India	155	97.56
Greece	72	97.53
Total	4102	99.08

From table 8, we can read the national BCIQ scores based on country of residence. Brazil and Canada are still on top of the list, while the sample of Russian residents was below 40 respondents, and thus omitted from this index. However, Australia is added to the list, with more than 100 respondents in our sample. Residents in Germany, Spain and United Kingdom still score relatively high, and above the overall mean of 99.08. We can also see that the BCIQ mean for those who reside in the United States of America, is 0.38 points greater than for those who are born in the USA. This could indicate that the US as a country has attracted people with relatively higher BCIQ, compared to those who were born there.

## 5.2 Correlation and Descriptives Tables and Hierarchical Linear Model (HLM)

We then performed a bivariate correlation analysis, which revealed that some of the variables are significantly correlated with our dependent variable, BCIQ score. In line with the findings of [Alon et al. \(2018\)](#), we find that individual-level antecedents such as the number of conversational languages and how many countries a person has lived in, correlate significantly ( $p < 0.01$ ) with BCIQ score. Additionally, and in line with [Chen et al. \(2010\)](#), cultural distance measured by Mahalanobis distance significantly ( $p < 0.01$ ) correlates with BCIQ score. Having a multicultural background, measured by the foreign parent variable correlates positively though weak ( $p < 0.05$ ) with BCIQ score.

Among the GLOBE variables, the degree of Uncertainty Avoidance (UA) in a person's residence country, Power Distance (PD) in birth country and In-group Collectivism (CII) in birth country positively and significantly ( $p < 0.01$ ) correlates with BCIQ score. Performance Orientation (PO) and Assertiveness (AS) in birth country correlates negatively and significantly ( $p < 0.01$ ) with BCIQ score. Indirectly, many of the variables that we have used in our study significantly correlates ( $p < 0.01$  and  $p < 0.05$ ) with previously studied individual-level antecedents to BCIQ. For example, Power Distance (PD) in birth country has a correlation coefficient of 0.34 with conversational languages ( $p < 0.01$ ) and In-group Collectivism (CII) has a correlation coefficient of 0.18 with number of countries lived in ( $p < 0.01$ ).

Some of the GLOBE scores are significant only for birth country, while others are only significant for residence country. Additionally, the correlation coefficients are different for the same GLOBE dimension, depending on whether we are looking at birth or residence countries. The correlation table is presented below in table 9.

Table 9 Correlation and Descriptives Table

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 BCIQ Score	98.54	6.75	–																							
2 Gender	0.49	0.50	–0.07**	–																						
3 Conversation languages	1.17	0.90	0.28**	–0.04*	–																					
4 Countries lived in	0.50	0.65	0.29**	0.05**	0.40**	–																				
5 Foreign Parents	0.16	0.36	0.04*	–0.01	0.09**	0.08**	–																			
6 Mahalanobis distance	2.56	6.62	0.17**	–0.02	0.24**	0.40**	0.02	–																		
7 Uncertainty Avoidance AsIs R	4.09	0.41	0.05**	–0.01	0.04*	0.15**	0.12**	0.16**	–																	
8 Future Orientation AsIs R	3.88	0.41	0.03	0.04**	–0.18**	–0.02	0.16**	0.10**	0.70**	–																
9 Power Distance AsIs R	5.14	0.32	–0.01	–0.00	0.26**	0.06**	–0.18**	–0.10**	–0.51**	–0.81**	–															
10 Institutional Collectivism AsIs	4.08	0.28	0.00	0.03	–0.15**	–0.01	0.09**	0.07**	0.51**	0.66**	–0.67**	–														
11 Humane Orientation AsIs R	3.97	0.35	–0.02	0.06**	–0.25**	–0.13**	0.06**	0.01	0.22**	0.63**	–0.61**	0.78**	–													
12 Performance Orientation AsIs	4.24	0.31	0.01	0.03	–0.29**	–0.07**	0.15**	0.07**	0.53**	0.82**	–0.78**	0.70**	0.68**	–												
13 In-group Collectivism AsIs R	4.80	0.70	–0.02	0.00	0.23**	0.01	–0.22**	–0.12**	–0.54**	–0.75**	0.84**	–0.36**	–0.30**	–0.64**	–											
14 Gender Egalitarianism AsIs R	3.38	0.23	–0.03	–0.05**	–0.04*	–0.02	–0.01	–0.13**	–0.42**	–0.41**	0.11**	–0.19**	–0.17**	–0.31**	0.13**	–										
15 Assertiveness AsIs R	4.36	0.26	0.01	–0.02	–0.24**	–0.09**	0.13**	0.04**	0.12**	0.40**	–0.46**	–0.15**	–0.07**	0.43**	–0.61**	–0.12**	–									
16 Uncertainty Avoidance AsIs B	4.09	0.45	0.02	–0.01	0.00	0.12**	0.12**	0.12**	0.78**	0.56**	–0.42**	0.42**	0.18**	0.43**	–0.43**	–0.38**	0.10**	–								
17 Future Orientation AsIs B	3.85	0.41	–0.01	0.03	–0.22**	–0.09**	0.17**	–0.05**	0.58**	0.84**	–0.69**	0.56**	0.54**	0.69**	–0.63**	–0.41**	0.34**	0.68**	–							
18 Power Distance AsIs B	5.17	0.32	0.05**	0.01	0.34**	0.18**	–0.20**	0.08**	–0.41**	–0.66**	0.82**	–0.54**	–0.46**	–0.63**	0.69**	0.14**	–0.41**	–0.48**	–0.75**	–						
19 Institutional Collectivism AsIs	4.10	0.31	0.01	–0.00	–0.12**	0.03	0.08**	0.23**	0.41**	0.53**	–0.55**	–0.77**	0.61**	0.57**	–0.31**	–0.22**	–0.07**	0.44**	0.56**	–0.57**	–					
20 Humane Orientation AsIs B	3.98	0.36	–0.02	0.03	–0.22**	–0.11**	0.06**	0.06**	0.17**	0.51**	–0.48**	0.62**	0.79**	0.55**	–0.24**	–0.21**	–0.04*	0.16**	0.55**	–0.48**	0.73**	–				
21 Performance Orientation AsIs	4.21	0.32	–0.05**	0.01	–0.34**	–0.17**	0.13**	–0.09**	0.42**	0.66**	–0.64**	0.58**	0.57**	0.81**	–0.53**	–0.27**	0.35**	0.53**	0.78**	–0.72**	0.59**	0.59**	–			
22 In-group Collectivism AsIs B	4.90	0.72	0.05**	0.01	0.31**	0.15**	–0.25**	0.18**	–0.43**	–0.58**	0.65**	–0.27**	–0.18**	–0.50**	0.78**	0.16**	–0.52**	–0.50**	–0.68**	0.79**	–0.20**	–0.09**	–0.55**	–		
23 Gender Egalitarianism AsIs B	3.39	0.26	–0.03	–0.05**	–0.03	–0.01	–0.00	–0.11**	–0.36**	–0.41**	0.17**	–0.23**	–0.26**	–0.29**	0.18**	0.75**	–0.06**	–0.42**	–0.45**	0.07**	–0.21**	–0.26**	–0.36**	0.07**	–	
24 Assertiveness AsIs B	4.32	0.29	–0.06**	–0.03	–0.31**	–0.22**	0.11**	–0.30**	0.06**	0.26**	–0.32**	–0.13**	–0.07**	0.29**	–0.43**	–0.04*	0.74**	0.08**	0.32**	–0.40**	–0.30**	–0.18**	0.36**	–0.58**	–0.04**	–

n = 3974

Note: GLOBE scores “R” (variables 7-15) indicate residence country, GLOBE scores “B” (variables 15-24) indicate birth country.

\*Significant at p = 0.05, two-tailed

\*\*Significant at p = 0.01, two-tailed

Table 10 HLM Mixed Model Regression

Results of Hierarchical Linear Modeling Analyses of Business Cultural Intelligence Quotient										
Variables	Business Cultural Intelligence Quotient									
	Model 1		Model 2		Model 3		Model 4		Model 5	
<i>Level 1 main effects</i>										
Gender	-0.97***	(0.20)	-0.87***	(0.24)	-0.86***	(0.24)	-0.86***	(0.24)	-0.88***	(0.25)
Conversation_languages	1.67***	(0.14)	1.46***	(0.16)	1.54***	(0.16)	1.53***	(0.16)	1.53***	(0.16)
Countries_lived_in	2.24***	(0.19)	2.37***	(0.22)	2.38***	(0.22)	2.30***	(0.22)	2.31***	(0.22)
Foreign_Parents					-1.07***	(0.36)	-1.06***	(0.36)	-1.09***	(0.36)
<i>Level 2 main effects</i>										
Δ KOF Globalisation Index			0.01	(0.03)	0.01	(0.03)	0.03	(0.03)	0.07	(0.05)
PolityIV Birth			0.03	(0.07)	0.04	(0.07)	0.06	(0.07)	-0.05	(0.09)
PolityIV Residence			0.03	(0.08)	0.04	(0.08)	0.04	(0.08)	0.18*	(0.10)
GDP/Capita in 1000USD Residence			0.02	(0.02)	0.02	(0.02)	0.02	(0.02)	0.02	(0.02)
Mahalanobis distance							0.05*	(0.03)	0.06**	(0.03)
Δ Uncertainty Avoidance									-2.01**	(0.78)
Δ Future Orientation									2.52*	(1.39)
Δ Power Distance									-1.36	(1.50)
Δ Institutional Collectivism									-1.99*	(1.20)
Δ Humane Orientation									-0.79	(1.11)
Δ Performance Orientation									0.55	(1.30)
Δ In-group Collectivism									0.64	(0.74)
Δ Gender Egalitarianism									0.01	(1.07)
Δ Assertiveness									-1.54	(1.19)
Intraclass Correlation Coefficient (ICC)	4.42 %		3.21 %		3.53 %		3.12 %		3.94 %	

n = 3974 participants (level 1) in 45 host/53 home countries (level 2). Unstandardized estimates (based on grand-mean centering) are reported, with standard error in parentheses.

\* p < .10, \*\* p < .05, \*\*\* p < .01. (two-tailed)

In the full model (model 5) in table 10, we can see that “Foreign parents” is still significant at the 0.01 level. Counterintuitively, we find the relation negative and not positive as expected. According to our results in the HLM (Table 10), having at least one foreign parent causes a decrease in the BCIQ mean estimate by 1.09 points. This means that having at least one foreign parent has a negative impact on BCIQ.

Mahalanobis distance, by contrary, does have a significant positive effect on BCIQ. This effect is more significant in the full model, with a  $p < 0.05$ . For each unit increase in Mahalanobis distance, the BCIQ mean for the specific pair of birth-residence country increases by the estimate of 0.06 points.

The GLOBE delta ( $\Delta$ ) practices gave mixed results, as only three  $\Delta$ -variables were found to significantly impact the BCIQ. Only  $\Delta$  Future Orientation has a significantly positive effect on BCIQ ( $p < 0.10$ ). For each unit increase in the  $\Delta$  Future Orientation, the BCIQ mean for the specific home-host country pair increases by the estimate of 2.52 points. On the other hand, two of the  $\Delta$ -variables have a negative significant impact on BCIQ:  $\Delta$  Uncertainty Avoidance ( $p < 0.05$ ) and  $\Delta$  Institutional Collectivism ( $p < 0.10$ ). For each unit increase in the  $\Delta$  Uncertainty Avoidance, the BCIQ mean for the specific home-host country-pair decreases by the estimate of 2.01 points. Additionally, for each unit increase in the  $\Delta$  Institutional Collectivism, the BCIQ mean for the specific home-host country-pair decreases by the estimate of 1.99 points.

### 5.3 Robustness Check

We have undertaken an extra step and run the same tests already described with another data set. This is done in order to validate the results already presented, to see if the results are consistent or whether some results provide some inconsistencies. This data set comes from the X-Culture project and had 1410 observations before cleaning for missing and biased responses, as well as residence country original data mismatch. After cleaning the data set following the same strategy as with the BCIQ dataset, we end up with 775 observations. From this, only 100 people live abroad. Moreover, only 120 out of the 775 have foreign parents. This data set is more limited than our initial BCIQ data set.

The X-Culture Project (<https://x-culture.org/>) is a rich source of unique cross-cultural data. The X-Culture Project gives the opportunity to thousands of students and business professionals,

residing in more than 40 countries, to work on an assigned business project as global virtual teams to learn and solve challenges within international business consulting. The X-Culture Project has been found not only useful as a research platform, but also as a practical tool for international management students' learning development due to its global virtual team-based projects ([Taras et al., 2013](#)). Particularly, [Zwerg-Villegas and Martinez-Diaz \(2016\)](#), based on data from the X-Culture project, found that undergoing such cultural projects is beneficial to students' intercultural effectiveness, suggesting CQ development. Table 11 and 12 present the correlation and HLM tables, respectively.



Table 11 Correlation and Descriptives Table - Robustness Check

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 BCIQ Score	99.98	6.40	-																							
2 Gender	0.46	0.50	-0.07*	-																						
3 Conversation languages	1.21	0.89	0.19**	-0.06	-																					
4 Countries lived in	0.38	0.57	0.14**	0.03	0.30**	-																				
5 Foreign Parents	0.15	0.36	-0.05	0.02	0.06	0.04	-																			
6 Mahalanobis distance	2.90	8.31	0.15**	-0.02	0.13**	0.38**	-0.01	-																		
7 Uncertainty Avoidance Asls R	4.01	0.41	0.08*	-0.03	-0.14**	-0.05	0.03	0.16**	-																	
8 Future Orientation Asls R	3.87	0.42	-0.14**	0.09*	-0.27**	-0.12**	0.12**	-0.04	0.67**	-																
9 Power Distance Asls R	5.09	0.24	0.02	-0.05	0.37**	0.06	-0.08*	-0.14**	-0.55**	-0.56**	-															
10 Institutional Collectivism Asls R	4.15	0.30	0.04	-0.06	-0.05	-0.05	-0.02	0.14**	0.36**	0.08*	-0.55**	-														
11 Humane Orientation Asls R	3.97	0.34	-0.09*	0.02	-0.27**	-0.15**	0.07	0.13**	0.57**	0.66**	-0.63**	0.57**	-													
12 Performance Orientation Asls R	4.24	0.33	-0.06	0.07*	-0.36**	-0.09*	0.10**	0.09**	0.76**	0.80**	-0.83**	0.40**	0.68**	-												
13 In-group Collectivism Asls R	4.77	0.62	0.02	-0.08*	0.38**	0.00	-0.12**	-0.22**	-0.58**	-0.59**	0.79**	-0.14**	-0.44**	-0.78**	-											
14 Gender Egalitarianism Asls R	3.40	0.27	0.10**	-0.04	0.12**	-0.01	-0.13**	-0.11**	-0.43**	-0.56**	0.01	0.32**	-0.20**	-0.40**	0.39**	-										
15 Assertiveness Asls R	4.33	0.29	-0.07*	0.08*	-0.35**	-0.17**	0.10**	-0.17**	0.06	0.46**	-0.30*	-0.42**	0.01	0.31**	-0.39**	-0.22**	-									
16 Uncertainty Avoidance Asls B	4.05	0.47	0.06	-0.06	-0.10**	0.03	0.08*	0.31**	0.84**	0.56**	-0.45**	0.29**	0.48**	0.59**	-0.47**	-0.39**	0.07	-								
17 Future Orientation Asls B	3.87	0.41	-0.13**	0.09*	-0.26**	-0.14**	0.14**	-0.02	0.66**	0.89**	-0.47**	0.09*	0.60**	0.72**	-0.55**	-0.56**	0.34**	0.63**	-							
18 Power Distance Asls B	5.13	0.25	0.10**	-0.01	0.42**	0.24**	-0.10**	0.14**	-0.42**	-0.44**	0.77**	-0.41**	-0.48**	-0.64**	0.60**	0.01	-0.26**	-0.42**	-0.49**	-						
19 Institutional Collectivism Asls B	4.18	0.33	0.10**	-0.08*	-0.03	0.00	-0.08*	0.31**	0.31**	0.06	-0.47**	0.79**	0.48**	0.29**	-0.14**	0.26**	-0.35**	0.28**	0.06	-0.42**	-					
20 Humane Orientation Asls B	3.97	0.37	-0.04	0.01	-0.23**	-0.11**	0.01	0.18**	0.51**	0.53**	-0.52**	0.48**	0.86**	0.55**	-0.38**	-0.17**	-0.06	0.41**	0.55**	-0.50**	0.58**	-				
21 Performance Orientation Asls B	4.23	0.32	-0.08*	0.05	-0.37**	-0.15**	0.11**	0.05	0.69**	0.71**	-0.71**	0.30**	0.59**	0.85**	-0.68**	-0.40**	0.28**	0.68**	0.79**	-0.77**	0.37**	0.58**	-			
22 In-group Collectivism Asls B	4.90	0.65	0.14**	-0.07	0.44**	0.24**	-0.22**	0.33**	-0.38**	-0.50**	0.54**	-0.03	-0.27**	-0.57**	0.70**	0.33**	-0.43**	-0.36**	-0.56**	0.69**	0.10**	-0.14**	-0.63**	-		
23 Gender Egalitarianism Asls B	3.38	0.30	0.04	-0.06	0.06	-0.08*	-0.10**	-0.30**	-0.42**	-0.50**	0.10**	0.21**	-0.22**	-0.40**	0.41**	0.85**	-0.16**	-0.44**	-0.55**	-0.08**	0.11**	-0.21**	-0.43**	0.21**	-	
24 Assertiveness Asls B	4.30	0.30	-0.12**	0.09*	-0.36**	-0.25**	0.13**	-0.32**	0.04	0.34**	-0.20**	-0.36**	-0.04	0.23**	-0.31**	-0.19**	0.82**	0.03	0.38**	-0.30**	-0.47**	-0.15**	0.28**	-0.55**	-0.10**	-

n = 775

Note: R indicates GLOBE score residence country, B indicates GLOBE score birth country.

\*Significant at p = 0.05, two-tailed

\*\*Significant at p = 0.01, two-tailed

Table 12 HLM Mixed Model Regression – Robustness Check

Results of Hierarchical Linear Modeling Analyses of Business Cultural Intelligence Quotient										
Variables	Business Cultural Intelligence Quotient									
	Model 1		Model 2		Model 3		Model 4		Model 5	
<i>Level 1 main effects</i>										
Gender	-0.52	(0.44)	-0.53	(0.44)	-0.53	(0.44)	-0.53	(0.44)	-0.55	(0.45)
Conversation_languages	1.22***	(0.30)	1.21***	(0.30)	1.24***	(0.31)	1.24***	(0.31)	1.24***	(0.31)
Countries_lived_in	0.90**	(0.44)	0.67	(0.45)	0.69	(0.45)	0.71	(0.46)	0.72	(0.46)
Foreign_Parents					-0.40	(0.63)	-0.39	(0.63)	-0.32	(0.64)
<i>Level 2 main effects</i>										
Δ KOF Globalisation Index			-0.16**	(0.07)	-0.15**	(0.07)	-0.16**	(0.07)	-0.20	(0.14)
PolityIV Birth			0.00	(0.12)	0.00	(0.12)	-0.02	(0.14)	-0.15	(0.22)
PolityIV Residence			-0.13	(0.26)	-0.12	(0.26)	-0.09	(0.28)	-0.02	(0.33)
GDP/Capita in 1000USD Residence			0.02	(0.03)	0.02	(0.03)	0.02	(0.03)	0.03	(0.03)
Mahalanobis distance							-0.01	(0.05)	-0.05	(0.07)
Δ Uncertainty Avoidance									-0.65	(2.12)
Δ Future Orientation									4.01	(2.59)
Δ Power Distance									1.70	(4.24)
Δ Institutional Collectivism									4.59*	(2.75)
Δ Humane Orientation									-0.50	(3.17)
Δ Performance Orientation									-5.07	(3.98)
Δ In-group Collectivism									-1.78	(1.54)
Δ Gender Egalitarianism									-0.63	(2.61)
Δ Assertiveness									1.30	(2.91)
Intraclass Correlation Coefficient (ICC)	12.85 %		10.52 %		10.32 %		10.71 %		10.48 %	

n = 775 participants (level 1) in 18 host/31 home countries (level 2). Unstandardized estimates (based on grand-mean centering) are reported, with standard error in parentheses.

\* p < .10, \*\* p < .05, \*\*\* p < .01. (two-tailed)

When conducting the robustness test, we also found that the significance and correlation coefficients differed somewhat between the main data set and the robustness check data set. For example, Future Orientation residence country went from 0.03 ( $p < 0.05$ ) to -0.14 ( $p < 0.01$ ). We attribute these discrepancies mainly due to sampling effects, as the dataset used for the robustness test ( $n=775$ ) contained some other countries than the main dataset ( $n=3974$ ). The correlation between Mahalanobis distance and BCIQ is consistent; with a correlation coefficient of 0.17 ( $p < 0.01$ ) for the main dataset ( $n=3974$ ) and 0.15 ( $p < 0.01$ ) for the robustness check dataset ( $n=775$ ). This suggest that it is mainly the change in cultures, and independent on what countries are included in the study (which are impacted by the static GLOBE cultural characteristics), that has a significantly positive impact on BCIQ. It is less culture itself as a static measurement, but rather the cultural difference between birth and residence country, as measured by Mahalanobis distance, that is more meaningful to look at when looking at country-level antecedents of BCIQ.

In the HLM table 12, in the full model (model 5), we can see that only Institutional Collectivism is significant ( $p < 0.10$ ) and positive predictor of BCIQ with an estimate of 4.59. Counterintuitively, we find the relationship positive with the X-culture dataset, as opposed to the negative finding in our main data set. Given that we have a smaller sample with different countries included, we get totally different results. Therefore, we use the BCIQ dataset as our main data set to be discussed in the next chapter.

## 6 Discussion

In this chapter we interpret and discuss the results. As we can see in the table 13 below, we got five significant results from the BCIQ data set. We discuss the findings following the order of the hypotheses.

Table 13 Summary of Significant Results

Hypothesis	Variable	BCIQ
H1a	Foreign Parents	–
H1b	Mahalanobis Distance	+
H1c	$\Delta$ GLOBE Practices	
	Uncertainty Avoidance	–
	Future Orientation	+
	Power Distance	
	Institutional Collectivism	–
	Humane Orientation	
	Performance Orientation	
	In-group Collectivism	
	Gender Egalitarianism	
	Assertiveness	

**Notes:** +/- indicates significant findings with  $p < 0.10$ .

After controlling for gender, languages spoken, countries lived in, PolityIV score, KOF Globalisation Index and GDP per capita.

The  $\Delta$  GLOBE values are calculated by subtracting the GLOBE “AsIs” Residence country score from the GLOBE “AsIs” Birth country score (Practices Birth country – Practices Residence country).

### 6.1. H1a: Foreign parents

Contrary to what we originally hypothesized, we found that having at least one foreign parent does have a significant negative impact on BCIQ scores. This is a counterintuitive finding. Why does this happen? This might be due to a lack of cultural awareness and / or cultural confusion that a multicultural upbringing could imply, as these respondents are used to shift between culturally different situations, unaware and constantly forming positive but also negative cross-cultural experiences. For instance, rejection sensitivity, to feel rejected as a result of one’s foreign characteristics, and self-fulfilling negative expectations increase cross-cultural anxiety, which end up shaping wrong implicit culture beliefs ([Chao et al., 2017](#)). Implicit culture beliefs

could be detrimental to CQ development; fortunately, implicit culture beliefs are susceptible to change via adequate cross-cultural training ([Chao et al., 2017](#)).

People with foreign parents might experience cultural confusion in their identity, which affects CQ in different ways. For example, [Y. T. Lee, Masuda, Fu, and Reiche \(2018\)](#) found that multicultural identity (home, host, and global) relate to cultural intelligence in two different ways. On one hand, when global identity is low, individuals with equal amounts of home and host identity show higher CQ and thus are perceived as leaders in multicultural teams ([Y. T. Lee et al., 2018](#)). On the other hand, when global identity is high, individuals with low home and host identity are perceived as leaders, regardless of CQ level ([Y. T. Lee et al., 2018](#)).

People with multicultural background might change between cultural environments unaware, which prevents them from developing their CQ. Mindfulness is a metacognitive strategy needed to extrapolate specific knowledge into general knowledge of cultural behaviors, in order to display the correct behavior, given internal and external motivation ([Thomas, 2006](#)). For example, [Lorenz, Ramsey, Tariq, and Morrell \(2017\)](#) found that when service employees perceive customers to be culturally different and with out-group status, they will willingly adapt their behavior based on their level of CQ. Moreover, given that mindfulness is the dimension of CQ that allows us to match the acquired cultural knowledge to the appropriate cultural behavior ([Tuleja, 2014](#)), people with multicultural background might be at risk of neglecting this CQ facet because they take cross-cultural interactions for granted. Metacognition not only helps to apply the CQ knowledge acquired in international experiences, but also provides the coping mechanisms to face new international experiences more effectively ([Ott & Michailova, 2018](#)).

Even though communicating and interacting with people with different cultural background could potentially help reduce inter-group conflicts that may arise on the basis of ethnocentric views ([Dong et al., 2008](#)), effective cross-country communication cannot be achieved without adequate levels of metacognitive CQ ([Chua, Morris, & Mor, 2012](#)). For example, while it has been found that higher levels of cross-cultural communication have an impact in reducing ethnocentrism among US college students ([Dong et al., 2008](#)), metacognitive strategies such as “cultural perspective taking” (the acknowledgement that a person’s cultural background affect

their behavior) boost metacognitive CQ leading to intercultural collaboration effectiveness ([Mor, W., & Joh, 2013](#)).

In addition, the impact of multicultural background on one's ability to speak other languages might decrease overtime, as found by [Lopez, Krogstad, and Flores \(2018\)](#). For example, the share of people with Hispanic background in the US who speak Spanish to their children, decreases by each generation ([Lopez et al., 2018](#)). Consequently, more people with Hispanic background speak English to their children. If second generation children, such as the ones in the US, are less exposed to other foreign languages, e.g. Spanish, the possible effect that individual-level antecedents have on CQ's development might be reduced. Thus, having foreign parents might not be a great, relative advantage in terms of cross-cultural communication effectiveness due to lower degree of foreign language fluency.

[Alba, Logan, Lutz, and Stults \(2002, p. 467\)](#) found that second- and third-generation immigrants in present-day USA are assimilating the English language ("*Anglicization*") at approximately the same rate as previous immigration groups in the US, in the mid 1900s. However, there exist some differences between groups, for example, while descendants of Asian and Cuban immigrants assimilate the English language in about the same rate as mid-1900 European immigrants, descendants of Mexican immigrants assimilate at a slower pace ([Alba et al., 2002](#)). This suggests that there exists some between-country variation on how likely immigrants are to pass on the mother tongue to their children.

On one hand, these results could be seen as discouraging to people with multicultural background. However, these results are excellent news to anyone who is interested in improving their cross-cultural skills, including the people with multicultural backgrounds. Why? Because this finding reinforces the established theory that cultural intelligence can be nurtured, as in the nurture-versus-nature debate ([Alon et al., 2016](#)). In other words, cultural intelligence is rather malleable ([Eisenberg et al., 2013](#)) and can be nurtured in order to increase existing CQ levels. For example, a balanced cultural identity (home and host) and a high global identity allow people to display high CQ ([Y. T. Lee et al., 2018](#)).

Having a multicultural background, as measured by having at least one foreign-born parent, appears to be not that great of an advantage in terms of BCIQ score development. This might

be due to cultural confusion, weaker foreign language skills and low metacognitive abilities when navigating between different cultural environments.

## 6.2 H1b: Mahalanobis distance

We found that the Mahalanobis distance has a significant positive effect on the BCIQ. Why is this the case? Even though, we found the Mahalanobis distance to be positive, it only adds to the BCIQ mean estimate home-host country-pairs 0.06 points. This could be due to the Mahalanobis distance and BCIQ's relationship not to be linear but as an inverted U relationship, e.g. the increase in the Mahalanobis distance will at some point result in a negative CQ development. For example, [Engle and Nash \(2015, p. 62\)](#) found a “*significant non-linear inverted “U” relationship between meta-cognitive and cognitive cultural intelligence, and some measures of cultural distance*”. In other words, they state that a quadratic function explains better these CQ dimensions than a linear function, which means that a moderate distance will exert a bigger impact on CQ levels than a too close or too far home-host cultural distance. [Shenkar \(2001\)](#) also views cultural distance as having non-linear properties. This can be related to cross-cultural stress levels and social difficulty that become unmanageable and lead to poor sociocultural adjustment ([Searle & Ward, 1990](#)).

Successful cultural adaptability has been linked to cultural intelligence ([Engle & Nash, 2015](#)); at the same time, CQ levels are impacted by international experience in a complex way ([Michailova & Ott, 2018](#)). In this sense, larger cultural distances would represent a disadvantage for people living abroad ([Searle & Ward, 1990](#)). For instance, [Searle and Ward \(1990, p. 459\)](#) found that “*the greater the degree of cultural distance, the more likely an individual is to experience sociocultural adjustment problems.*” Therefore, going to a moderately more similar country could be more beneficial to a person than going to a too distant one.

The psychic distance paradox depicts the counterintuitive finding that psychic distance is positively correlated to performance ([Magnusson, Schuster, & Taras, 2014](#)). Since job performance is correlated positively to CQ ([L.-Y. Lee & Sukoco, 2010](#)), our finding, a positive Mahalanobis distance-BCIQ relationship, could be translated into a “cultural distance paradox”. The original paradox has been empirically explained by using mediator and moderator variables, e.g. the expectations of challenges and efforts mediate the relationship between

psychic distance and performance, while motivational CQ moderates the relationship of the two mediator variables ([Magnusson et al., 2014](#)).

Our Mahalanobis distance construct might have the same non-linear properties described by [Shenkar \(2001\)](#) and [Engle and Nash \(2015\)](#). The effect of the Mahalanobis distance on BCIQ scores is not strong, suggesting that it might be better for BCIQ development to reside in a moderately distant country compared to the birth country.

### 6.3 H1c: GLOBE $\Delta$ (Delta) Practices

[Engle and Nash \(2015\)](#), in line with [Shenkar \(2012\)](#), found that the type of measures used to account for cultural distance when evaluating its impact on CQ matters. In other words, they imply that using aggregated constructs, such as the Mahalanobis distance composite index, will make it less obvious which cultural distance dimension has the biggest effect on CQ. In our case, we found that only three of the nine GLOBE ( $\Delta$ ) delta practices are significant predictors of BCIQ scores. However, only Future Orientation has a positive impact, which means that the more the future-oriented the birth country is, relative to the residence country (fixed), the higher the BCIQ. This might be the case since respondents from more future-oriented countries plan and invest for the future ([Javidan, Dorfman, et al., 2006](#)). In this way, they might exhibit a higher cognitive preparation and learning behavior when interacting in culturally different settings.

On the other hand, Uncertainty Avoidance and Institutional Collectivism have a significant negative impact on BCIQ. The negative impact of Uncertainty Avoidance on BCIQ means that a higher degree of Uncertainty Avoidance in the birth country relative to the residence country (fixed), the lower the BCIQ. This might be due to countries with a high degree of Uncertainty Avoidance emphasize consistency and are characterized by low openness to new experiences ([McCrae, Terracciano, Realo, & Allik, 2008](#)). A higher degree of Uncertainty Avoidance in birth country might prevent individuals to develop their BCIQ through lower motivational CQ. For example, the higher the cultural distance, the less impact motivational CQ has on increasing expatriate effectiveness ([Chen et al., 2010](#)). However, intercultural effectiveness was maintained at an optimal level due to factors beyond motivational CQ, such as cross-cultural knowledge and skills ([Chen et al., 2010](#)).



Furthermore, Institutional Collectivism has a negative impact on BCIQ, which means that the higher degree of Institutional Collectivism in the birth country relative to the residence country (fixed), the lower the BCIQ. This might be due to respondents from societies with high degree of institutional collectivism emphasize collective performance and reward ([Javidan, Dorfman, et al., 2006](#)). In that sense, being born in a culturally tighter society ([Gelfand, Nishii, & Raver, 2006](#)) might prevent the respondents from developing their adaptive communication behavior in their residence country, which manifests in a lower CQ.

#### 6.4 General Discussion of the Findings

Given that, intuitively, international experience has a positive relationship to CQ, empirical articles always hypothesize international experience as having a positive and significant effect on CQ; however, all previous empirical studies have given mixed and inconsistent significant findings ([Michailova & Ott, 2018](#)). For example, [Engle and Nash \(2015\)](#), [Li, Mobley, and Kelly \(2013\)](#) and [Chao et al. \(2017\)](#) found a positive and significant relationship; on the other hand, researchers such as [MacNab et al. \(2012\)](#) found the relationship insignificant ([Michailova & Ott, 2018](#)). This supports our mixed results discussed above.

These inconsistencies have to do with how international experience is measured, the type of research design, the type of international experience and the sample and data source ([Michailova & Ott, 2018](#)). For instance, [Eisenberg et al. \(2013\)](#) measured international experience by frequency and found it significant and positive to predict only metacognitive and motivational CQ, while [Engle and Nash \(2015\)](#) measured it by length and found it positively significant to predict cognitive CQ. Additionally, for example, when using a pre-test-post-test research design, some studies such as [Engle and Crowne \(2014\)](#) and [Chao et al. \(2017\)](#) found a positive significant relationship between international experience and CQ's four facets, while [Wood and St. Peters \(2014\)](#) found a positive significant relationship to all, except from behavioral CQ.

Moreover, the type of international experience plays an important role on CQ development, e.g. [Koo Moon, Kwon Choi, and Shik Jung \(2012\)](#) classified international experience into work and non-work-related and found that it was only non-work international experience which significantly affects CQ in a positive manner ([Michailova & Ott, 2018](#)). By contrary, [Li et al. \(2013\)](#) proved that work-related international experience positively affects CQ ([Michailova &](#)

[Ott, 2018](#)). Probably, another reason for these inconsistencies is the over-reliance on student samples and self-reported CQ data ([Michailova & Ott, 2018](#)).

Even when controlled by all this inconsistencies, mixed results still appear due to theory being used to anticipate outcomes instead of applying it to explain why or how people can develop CQ from international experiences ([Michailova & Ott, 2018](#)). However, by utilizing theories such as the Social Learning Theory, we can explain contradicting findings in the existing empirical studies ([Michailova & Ott, 2018](#)). It is not enough for an individual to live in a foreign country for he or she to develop CQ, such individual needs to interact with the natives of the host country and undergo the attention, retention and reproduction processes of the Social Learning Theory ([Michailova & Ott, 2018](#)). This retention implies rehearsing observed behaviors, reflecting on the international experience and questioning existing cultural schemes ([Michailova & Ott, 2018](#)).

## 7 Conclusions and Implications

To conclude our thesis, this chapter presents a summary of the findings, our conclusions, and the theoretical and managerial implications.

### 7.1 Summary of Findings

Table 14 summarizes the impact of the different cultural distance measures on BCIQ scores. We present the expected sign and the results produced with the Hierarchical Linear Modeling. Below table 14, we explain each of the hypotheses and indicate whether they are supported or not.

Table 14 Summary of Hypotheses and Findings

Hypotheses	Cultural distance measures	Expected sign	Result
Ia	Multi-cultural background	Positive	Negative
Ib	Mahalanobis distance	Positive	Supported
Ic	GLOBE $\Delta$ Practices	Positive	Partly supported

*H1a: Having a multicultural background, as measured by having at least one foreign-born parent, has a positive impact on BCIQ.*

Not supported, but it was found significant at the 0.01 level that the opposite is supported, i.e. having a multicultural background, as measured by having at least one foreign-born parent, has a negative impact on BCIQ.

*H1b: Living in a country that is culturally different from your birth country, as measured by the Mahalanobis distance, has a positive impact on BCIQ.*

Supported. The Mahalanobis distance has a significant positive impact on BCIQ ( $p < 0.05$  in the full model). However, the effect is weak.

*H1c: Living in a country that has different cultural practices than your birth country, as measured by the change in residence and birth practices (GLOBE's "as is"), has a positive impact on BCIQ.*

Partly supported. A change in one of the GLOBE cultural dimensions has a positive significant impact on BCIQ ( $p < 0.10$ ). Two other dimensions, Uncertainty Avoidance and Institutional Collectivism, have a significant negative impact on BCIQ ( $p < 0.05$  and  $p < 0.10$ , respectively).

## 7.2 Conclusions

In this thesis, we have examined the potential of cultural distance to explain BCIQ development, both as an individual and as a country level environmental antecedent. In general, we hypothesized that the greater the cultural distance, the higher the BCIQ. This was later analyzed in three sub-hypotheses. Specifically, through a multilevel Hierarchical Linear Model, we evaluated the ability of having a multicultural background, the Mahalanobis composite distance index and the relative change of each of GLOBE's static cultural dimensions to predict a significant positive BCIQ enhancement. This study is important because it links cultural distance to cultural intelligence through a solid theory, e.g. the Social Learning Theory. Additionally, it reveals high cross-country variation which points to the existence of cultural intelligence' contextual country level antecedents, such as cultural distance.

By analyzing the BCIQ mean of countries with more than 40 observations, our BCIQ Index<sub>40</sub>, we found high between-country variance. This indicates that some countries have environmental characteristics that not only promote CQ development but also attract people with higher BCIQ levels. By analyzing individual and country-level variables in a multilevel Hierarchical Linear Model, we found that cultural distance impacts BCIQ levels in discrepant ways, but in line with previous literature and empirical studies on this field.

Remarkably, contrary to what was hypothesized in H1a and what some empirical studies suggest, we found that having a multicultural background negatively impacts BCIQ scores. Furthermore, in support of hypothesis H1b, we found a weak, significant positive impact of the Mahalanobis distance composite index on BCIQ. Finally, of the nine GLOBE delta practices dimensions, only three have a significant impact on BCIQ. While the birth-residence change in cultural practices for the Uncertainty Avoidance and Institutional Collectivism dimensions have a negative effect on BCIQ, the birth-residence change in cultural practices for the Future Orientation dimension has a positive impact on BCIQ.

These mixed findings cannot be unraveled without the use of a solid theory. Therefore, we adhered to the Social Learning Theory which helped us explain the mechanism by which cultural distance impacts BCIQ development. For BCIQ to increase, individuals in the host country must observe the native's behaviors to acquire cultural knowledge ([Michailova & Ott, 2018](#)). Then, they must retain, retrieve and model this knowledge and behaviors through metacognition given specific outcomes ([Michailova & Ott, 2018](#)). Finally, individuals must reproduce the observed behaviors and acquired knowledge in concrete behaviors, according to the individual's inner and outer motivations in participative experiential settings where she or he can also receive feedback and improve ([Michailova & Ott, 2018](#)). In other words, even if culturally distant or close, people will successfully increase their BCIQ levels in the way that they follow each of the processes of the Social Learning Theory. To develop CQ, it must be nurtured ([Alon et al., 2016](#)); having a multicultural upbringing does not guarantee a naturally high BCIQ score.

However, the non-linear nature of cultural distance ([Engle & Nash, 2015](#); [Shenkar, 2001](#)) can also influence BCIQ development. This suggests that there exists an optimal combination of home-host country that maximizes BCIQ levels. Thus, living furthest away from one's birth country does not automatically translate into high BCIQ levels. By contrary, finding the most advantageous and balanced birth-residence country combination, given each country's contextual cultural characteristics, is key to develop high BCIQ levels.

Consequently, to deal with cultural differences, one must act proactively, be aware of cultural distance but most importantly mindfully bridge any difference so to achieve common objectives and success defined under common criteria ([Javidan et al., 2005](#)). Additionally, one must understand any latent cultural challenge and its implications ([Javidan et al., 2005](#)). As a conclusion, every cross-cultural encounter is an opportunity to improve the future ([Javidan et al., 2005](#)).

## 7.3 Implications

### 7.3.1 Theoretical Implications

Contrary to previous research, our study found that having a multicultural background does not impact BCIQ score in a positive direction. Perhaps the existing theoretical framework has overestimated the positive sides of having a multicultural background, for instance being multilingual.

Our research has filled the gap in explaining country-level antecedents to BCIQ. Previously, the focus has been mainly on individual-level antecedents. However, by looking at the between-country variation that exists, as exemplified by our BCIQ Index<sup>40</sup>, some of the variance in BCIQ means could potentially be attributed to country-specific characteristics. In addition, our research supports the assumption that BCIQ is something that can be nurtured and developed and is not solely based on genetic inheritance. This is especially evident as having a multicultural background does not translate directly into high BCIQ scores. Rather, quite the opposite was observed.

Furthermore, [T. Fang \(2005\)](#) proposes a new metaphor to understand culture in the era of globalization – *an ocean* – which is better suited to capture the dynamic characteristics of culture. In this thesis, we have tried to model a more dynamic approach, for this purpose we included three ways to measure cultural distance while controlling for globalization, political context, economic development, gender, and known individual level CQ predictors.

Moreover, it is important to apply a theory when linking cultural distance to CQ ([Michailova & Ott, 2018](#)). For example, the contact learning approach, which includes “head”, “heart” and “action”, relates to each of the CQ dimensions in the way individuals in the host country undergo an experiential training process that goes from awareness, experience, internalization, communication to social-sharing ([MacNab et al., 2012](#)). In our study, we appeal to the Social Learning Theory. Therefore, to develop CQ, more than just measuring how far away the individual’s International Experience takes place, e.g. cultural distance, it is important that the individual undergoes systematically each of the processes of the Social Learning Theory ([Michailova & Ott, 2018](#)). In other words, to increase BCIQ levels, the person needs to seek and exploit interactions with the locals in order to observe, reflect on and reproduce their behaviors ([Michailova & Ott, 2018](#)).

Although having a solid theory, such as the Social Learning Theory, is needed to connect cultural distance to CQ ([Michailova & Ott, 2018](#)), this theory is not enough to explain why some countries' BCIQ means are higher than others. This between-country variation in CQ terms was evidenced in our BCIQ Index40, which suggests the presence of contextual country specific characteristics such the cultural looseness-tightness described by [Gelfand et al. \(2006\)](#).

Correspondingly, the mixed results we obtained in our Multilevel Hierarchical Linear Model analysis might suggest that CQ relates most likely to cultural distance through a negative quadratic function, e.g. nonlinear inverted-U shaped relationship ([Engle & Nash, 2015](#); [Shenkar, 2001](#); [Wang & Schaan, 2008](#)). This means that, perhaps, it is possible to find the specific home-host country pairs, based on their country-level environmental characteristics, to maximize BCIQ development. Thus, finding this golden contextual cultural fit offers a promising future for understanding the potential of cultural distance as a country level antecedent of CQ development that goes beyond the international business field.

### 7.3.2 Managerial Implications

Nowadays, workers need to develop cross-cultural skills not only because of overseas assignments, but also due to the increasing national labor diversification and contact with a multicultural customers and supplier base ([Reichard et al., 2015](#)). For instance, the likelihood to accept a job offer in a country with a significantly different culture increases with higher cultural intelligence levels ([Engle et al., 2012](#)). In this regard, successful global managers learn and share cultural knowledge of the home and host countries; however, the biggest challenge lies in finding the way of how to bridge this culture gap ([Javidan, Dorfman, et al., 2006](#)). Cultural intelligence bridges these cultural differences, meaning that high CQ levels in employees represent a competitive advantage at the firm level ([Gertsen & S oderberg, 2010](#)). For example, [Imai and Gelfand \(2010\)](#) suggest CQ as a tool to screen for employees with high intercultural negotiation skills.

Furthermore, managers also need to learn how to develop current employee's CQ. When employees get cross-cultural training based on key CQ antecedents, their CQ goes up while their ethnocentric tendencies diminish ([Reichard et al., 2015](#)). In addition, it has been found that comprehensive pre-departure cross cultural training and previous international non-work experience show a positive effect on CQ, while CQ mediates cross-cultural adjustment ([Koo](#)

[Moon et al., 2012](#)). For example, one way to increase CQ is to let employees narrate their oversea assignments so to activate their metacognitive ability, given that this stimulates their cultural learning process ([Gertsen & Söderberg, 2010](#)).

GLOBE's cultural dimensions help to compare societies and, thus, bring key managerial consequences ([Javidan, House, et al., 2006](#)). However, it is important to remember that a national character does not reflect the full variety of personalities within a country, so individuals should avoid using them when interacting with people from a specific country ([Terracciano et al., 2005](#)). On the other hand, cultural intelligence increases the understanding among multicultural interactions, given that CQ provides capabilities to effectively adapt to new cultural settings ([Earley, 2002](#)). Consequently, the BCIQ is a vital useful tool, particularly, for HR departments when selecting personnel or preparing them for overseas tasks, given visible traits such as experience abroad, education level and languages spoken ([Alon et al., 2018](#)). Particularly, the BCIQ has the capacity to help HR leaders to identify and develop managers who can guide multicultural teams ([Velez-Calle et al., 2018](#)).

Given that business schools are responsible for developing future managers, our study has implications that extend to management and business educators. To meet current trends such as high labor force mobility and globalization, some business schools are already introducing cross-cultural management courses ([Eisenberg et al., 2013](#)). However, while students who take cross-cultural management courses experience an increase in their CQ levels, students who engage in mere multicultural situations do not experience a significant increase of CQ in the long term ([Eisenberg et al., 2013](#)). This means that CQ levels are not significantly increased by only being exposed to cultural differences but by systematically learning how to effectively cope with cultural distant societies. Therefore, preparing students in a social, mindful, psychological and cognitive way before sending them abroad reaps more benefits to their positive CQ development ([Reichard et al., 2015](#)).

Because exchange programs are a fundamental part to develop students' CQ ([Reichard et al., 2015](#)), we argue that universities such as University of Agder, specifically their business school, would benefit greatly if they implement cross-cultural management courses before students depart to their exchange semester. For example, given that individual and contextual CQ antecedents are key to develop CQ, it would be useful to create cross-cultural training programs



based on these two antecedents which link the cognitive dimension to the behavioral CQ in a process manner in order to develop CQ as a skill ([MacNab et al., 2012](#)).

Learning is not a short-term process but requires iterative attempts and reality simulation ([Reichard et al., 2015](#)). Therefore, to reap the benefits of CQ development from living abroad, managers should focus on making sure expatriates go through each stage of the Social Learning Theory. For example, they could encourage employees to reflect via journaling or in local training sessions, as well as to provide interaction with natives in order to help expatriates refine appropriate culturally accepted behaviors through locals' feedback ([Michailova & Ott, 2018](#)). Cross-cultural training must go beyond teaching cultural differences but should concentrate in developing the individual's multifaceted interpersonal skills by connecting knowledge to behavior ([Reichard et al., 2015](#)).

The implication for managers is that it is not enough to develop CQ by just exposing employees to cross-cultural experiences by sending people on overseas assignments or diversifying the workforce. Companies need to create targeted CQ development programs in order to increase each of the dimensions of the CQ ([Eisenberg et al., 2013](#)), particularly, metacognitive CQ.

## 8 Limitations and Future Research

In this section we present the limitations and suggest directions for further research.

### 8.1 Limitations

As with all research, our thesis faces some limitations as well. One of them is that we used secondary data which is based on a convenience sample administered in English only, which originally limits any generalizability of results, therefore, further testing is encouraged ([Alon et al., 2016](#)). Even though it has been noted that time spent abroad matters for developing CQ ([Engle & Nash, 2015](#)), we unfortunately did not include it in our analysis due to information limitations in the secondary data sources. The dataset is missing information regarding the length of stay at the different resident countries and information on what immigration generation the respondent belongs to.

Our research design limits us in a way that we do not know how much of the BCIQ increase can be attributed to living in a culturally different country. We have analyzed a dataset that contains the BCIQ score measured once. Further research with a pre-test post-test design could address this limitation by testing BCIQ scores before and after a person moves abroad.

The dataset is also missing information on what other countries a person has lived in prior to the current residence country. For example, if a person from Germany first moves to Austria, then to Switzerland and then to the Netherlands, he or she has resided in both geographical proximate countries, as well as culturally similar countries on several dimensions according to GLOBE. However, if another person from Germany first moves to the US, then to South Africa and now is residing in China, they have been exposed to far greater distances both geographically and culturally. Such effects are not captured with the dataset that we have used for our analysis, and are thus source of speculation, and induces a limitation to our study. However, this could potentially be researched in future studies.

Another limitation in the data set relates to what countries the parents were born in, and limits our capabilities to speculate further on the cultural distance between the parents' birth countries, and the respondent's birth and residence country. For our analysis, we have used old datasets (2013-2017), but this may not be a big limitation as culture is not fast evolving. However, it

could be interesting to use more recent data. GLOBE 2020 will be a welcomed addition to continue the research with.

We also acknowledge that our study is limited by usual assumptions researches of cultural distance need to accept, both for dimensions and measures, in order to simplify the empirical analysis ([Shenkar, 2001](#); [Tung & Verbeke, 2010](#)). For example, in our case, we had to assume that the cultural distance measures are symmetric between countries, that the cultural dimensions remain constant over time and that the relationship between cultural distance and BCIQ is linear. While geographic distance is symmetrical (going from A to B is the same as going from B to A), stable over time, and continuous, contextual distance could be asymmetric (especially, when two countries have different economic development), changeable over time (economic, institutional and cultural change every country undergoes), and non-continuous (due to border effects) ([Beugelsdijk, Ambos, et al., 2018](#)). When theorizing distance, we assumed our cultural distance measure to behave as geographic distance, because it is easier to model.

## 8.2 Future Research

Previous studies connecting International experience to cultural intelligence have shown a lack of theoretical grounding that resulted in mixed inconsistent findings and contradicting conclusions and recommendations ([Michailova & Ott, 2018](#)). Therefore, we suggest future researchers to provide a solid foundational theory, such as the Social Learning Theory, when explaining the effect of cultural distance on CQ development.

Additionally, given that a person can have opposing characteristics, and these characteristics can only be understood from a dynamic approach that takes into consideration the context ([T. Fang, 2005](#)), it is recommended to create new ways to dynamize our herein proposed model. For example, we recommend to measure in a fine-grained manner how individuals go through the Social Learning Theory's processes in the host country and how these processes influenced their experience of living abroad, particularly, measure how individuals give attention to locals, reflect on their experience of living abroad, and to which degree people reproduce the behaviors observed in the residence country ([Michailova & Ott, 2018](#)). Moreover, researchers could study which country characteristics and why the characteristics of particular host-home country-pairs result in a higher propensity for CQ development.

[Engle and Nash \(2015\)](#) suggests that the impact of cultural distance on CQ must be accounted by each of these two constructs' dimensions. In this thesis, we measured cultural distance both in an aggregated measure and by each of its dimensions. However, we did not examine the impact of cultural distance on each of the BCIQ dimensions. Thus, we encourage researchers to reveal which dimension of the BCIQ is affected the most by cultural distance. Moreover, we recommend using moderator variables such as the learning style to know which personal factors reinforce the increase of CQ in the host country ([Li et al., 2013](#)).

## Bibliography

- Alba, R., Logan, J., Lutz, A., & Stults, B. (2002). Only English by the Third Generation? Loss and Preservation of the Mother Tongue among the Grandchildren of Contemporary Immigrants. *Demography*, 39(3), 467-484.
- Alon, I., Boulanger, M., Elston, J., Galanaki, E., Martínez de Ibarreta, C., Meyers, J., . . . Vélez-Calle, A. (2018). Business Cultural Intelligence Quotient: A Five-Country Study. *Thunderbird International Business Review*, 60(3), 237-250.
- Alon, I., Boulanger, M., Meyers, J., & Taras, V. (2016). The Development and Validation of the Business Cultural Intelligence Quotient. *Cross Cultural & Strategic Management*, 23(1), 78-100.
- Alon, I., & Higgins, J. (2005). Global leadership success through emotional and cultural intelligences. *Business Horizons*, 48(6), 501-512.
- Andresen, M., & Bergdolt, F. (2017). A systematic literature review on the definitions of global mindset and cultural intelligence – merging two different research streams. *The International Journal of Human Resource Management*, 28(1), 170-195.
- Ang, S., & Van Dyne, L. (2008). Conceptualization of cultural intelligence: definition, distinctiveness, and nomological network. In S. Ang & L. Van Dyne (Eds.), *Handbook of Cultural Intelligence: Theory, Measurement, and Applications* (pp. 3-15). Armonk, NY: M. E. Sharpe.
- Ang, S., Van Dyne, L., Koh, C., Ng, K. Y., Templer, K., Tay, C., & Chandrasekar, N. A. (2007). Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance. *Management and Organization Review*, 3(3), 335-371.
- Bandura, A. (1971). *Social Learning Theory*. New York City: General Learning Press.
- Bernardo, A. B. I., & Presbitero, A. (2018). Cognitive flexibility and cultural intelligence: Exploring the cognitive aspects of effective functioning in culturally diverse contexts. *International Journal of Intercultural Relations*, 66, 12-21.
- Berry, H., Guillén, M. F., & Zhou, N. (2010). An institutional approach to cross-national distance. *Journal of International Business Studies*, 41(9), 1460-1480.
- Berry, J. W., & Ward, C. (2006). Commentary on “Redefining Interactions Across Cultures and Organizations”. *Group & Organization Management*, 31(1), 64-77.
- Beugelsdijk, S., Ambos, B., & Nell, P. C. (2018). Conceptualizing and measuring distance in international business research: Recurring questions and best practice guidelines. *Journal of International Business Studies*, 49(9), 1113-1137.
- Beugelsdijk, S., Kostova, T., Kunst, V. E., Spadafora, E., & van Essen, M. (2018). Cultural Distance and Firm Internationalization: A Meta-Analytical Review and Theoretical Implications. *Journal of Management*, 44(1), 89-130.
- Bücker, J. J. L. E., & Korzilius, H. (2015). Developing cultural intelligence: assessing the effect of the Ecotonos cultural simulation game for international business students. *The International Journal of Human Resource Management*, 26(15), 1995-2014.
- Chao, M. M., Takeuchi, R., & Farh, J.-L. (2017). Enhancing Cultural Intelligence: The Roles of Implicit Culture Beliefs and Adjustment. *Personnel Psychology*, 70(1), 257-292.

- Chen, G., Kirkman, B. L., Kim, K., Farh, C. I. C., & Tangirala, S. (2010). When Does Cross-Cultural Motivation Enhance Expatriate Effectiveness? A Multilevel Investigation of the Moderating Roles of Subsidiary Support and Cultural Distance. *Academy of Management Journal*, 53(5), 1110-1130.
- Chua, R. Y. J., Morris, M. W., & Mor, S. (2012). Collaborating across cultures: Cultural metacognition and affect-based trust in creative collaboration. *Organizational Behavior and Human Decision Processes*, 118(2), 116-131.
- Chua, R. Y. J., & Ng, K. Y. (2017). Not Just How Much You Know: Interactional Effect of Cultural Knowledge and Metacognition on Creativity in a Global Context. *Management and Organization Review*, 13(2), 281-300.
- Colvin, C., Volet, S., & Fozdar, F. (2014). Local university students and intercultural interactions: conceptualising culture, seeing diversity and experiencing interactions. *Higher Education Research & Development*, 33(3), 440-455.
- Crowne, K. A. (2008). What leads to cultural intelligence? *Business Horizons*, 51(5), 391-399.
- Cuypers, I. R. P., Ertug, G., Heugens, P. P. M. A. R., Kogut, B., & Zou, T. (2018). The making of a construct: Lessons from 30 years of the Kogut and Singh cultural distance index. *Journal of International Business Studies*, 49(9), 1138-1153.
- Davis, T. R. V., & Luthans, F. (1980). A Social Learning Approach to Organizational Behavior. *Academy of Management Review*, 5(2), 281-290.
- Dong, Q., Day, K., & Collaco, C. (2008). Overcoming ethnocentrism through developing intercultural communication sensitivity and multiculturalism. *Human Communication*, 11(1), 27-38.
- Dreher, A. (2006). Does globalization affect growth? Evidence from a new index of globalization. *Applied Economics*, 38(10), 1091-1110.
- Drogendijk, R., & Slangen, A. (2006). Hofstede, Schwartz, or managerial perceptions? The effects of different cultural distance measures on establishment mode choices by multinational enterprises. *International Business Review*, 15(4), 361-380.
- Earley, P. C. (2002). Redefining interactions across cultures and organizations: Moving forward with cultural intelligence. *Research in Organizational Behavior*, 24, 271-299.
- Earley, P. C., & Ang, S. (2003). *Cultural Intelligence: Individual Interactions Across Cultures*.
- Earley, P. C., & Mosakowski, E. (2004). Cultural Intelligence. *Harvard Business Review*. Retrieved from <https://hbr.org/2004/10/cultural-intelligence>.
- Eisenberg, J., Lee, H.-J., Brück, F., Brenner, B., Claes, M.-T., Jacek Mironski, J., & Bell, R. (2013). Can Business Schools Make Students Culturally Competent? Effects of Cross-Cultural Management Courses on Cultural Intelligence. *Academy of Management Learning & Education*, 12(4), 603-621.
- Engle, R. L., & Crowne, K. A. (2014). The impact of international experience on cultural intelligence: an application of contact theory in a structured short-term programme. *Human Resource Development International*, 17(1), 30-46.
- Engle, R. L., Dimitriadi, N., & Sadrieh, F. (2012). Cultural Intelligence: Antecedents and Propensity to Accept a Foreign-Based Job Assignment. *The Journal of Applied Management and Entrepreneurship*, 17(2), 63-79.

- Engle, R. L., & Nash, B. (2015). Does it matter if researchers use individual dimension constructs or only aggregated constructs of cultural distance and cultural intelligence? *Journal of International Business Research*, 14(2), 47-65.
- Fang, F., Schei, V., & Selart, M. (2018). Hype or hope? A new look at the research on cultural intelligence. *International Journal of Intercultural Relations*, 66, 148-171.
- Fang, T. (2003). A Critique of Hofstede's Fifth National Culture Dimension. *International Journal of Cross Cultural Management*, 3(3), 347-368.
- Fang, T. (2005). From "Onion" to "Ocean": Paradox and Change in National Cultures. *International Studies of Management & Organization*, 35(4), 71-90.
- Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and importance of cultural tightness-looseness. *J Appl Psychol*, 91(6), 1225-1244.
- Gertsen, M. C., & Söderberg, A.-M. (2010). Expatriate stories about cultural encounters—A narrative approach to cultural learning processes in multinational companies. *Scandinavian Journal of Management*, 26(3), 248-257.
- Ghemawat, P. (2001). Distance still matters. *Harvard Business Review*, 79(8), 137-147.
- Grieve, R., Nixon, R., Thompson, S. G., & Normand, C. (2005). Using multilevel models for assessing the variability of multinational resource use and cost data. *Health Econ*, 14(2), 185-196.
- Gygli, S., Haelg, F., Potrafke, N., & Sturm, J. (2019). The KOF Globalisation Index – revisited. *The Review of International Organizations*.
- Heaton, J. (2003). Secondary Data Analysis. In R. L. Miller & J. D. Brewer (Eds.), *The A-Z of Social Research* (pp. 285-288). London: SAGE Publications.
- Hofstede, G. (1980). Culture and Organizations. *International Studies of Management & Organization*, 10(4), 15-41..
- Hofstede, G. (2006). What did GLOBE really measure? Researchers' minds versus respondents' minds. *Journal of International Business Studies*, 37(6), 882-896.
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1).
- Holtbrügge, D., & Engelhard, F. (2016). Study Abroad Programs: Individual Motivations, Cultural Intelligence, and the Mediating Role of Cultural Boundary Spanning. *Academy of Management Learning & Education*, 15(3), 435-455.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, Leadership and Organizations: The GLOBE study of 62 societies*. Thousand Oaks: SAGE Publications, Inc.
- Hox, J., & Boeijs, H. (2005). Data collection, primary versus secondary. In K. Kempf-Leonard (Ed.), *Encyclopedia of Social Measurement*: Elsevier.
- Imai, L., & Gelfand, M. J. (2010). The culturally intelligent negotiator: The impact of cultural intelligence (CQ) on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes*, 112(2), 83-98.
- Javidan, M., Dorfman, P. W., Sully de Luque, M., & House, R. J. (2006). In the Eye of the Beholder: Cross Cultural Lessons in Leadership from Project GLOBE. *Academy of Management Perspectives*, 20(1), 67-90.

- Javidan, M., House, R. J., Dorfman, P. W., Hanges, P. J., & Sully de Luque, M. (2006). Conceptualizing and measuring cultures and their consequences: a comparative review of GLOBE's and Hofstede's approaches. *Journal of International Business Studies*, 37(6), 897-914.
- Javidan, M., Stahl, G. K., Brodbeck, F., & Wilderom, C. P. M. (2005). Cross-border transfer of knowledge: Cultural lessons from Project GLOBE. *Academy of Management Perspectives*, 19(2), 59-76.
- Johnson, J. P., Lenartowicz, T., & Apud, S. (2006). Cross-cultural competence in international business: toward a definition and a model. *Journal of International Business Studies*, 37(4), 525-543.
- Kirkman, B. L., Lowe, K. B., & Gibson, C. B. (2006). A quarter century of Culture's Consequences: a review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies*, 37(3), 285-320.
- Kirkman, B. L., Lowe, K. B., & Gibson, C. B. (2017). A retrospective on Culture's Consequences: The 35-year journey. *Journal of International Business Studies*, 48(1), 12-29.
- Kogut, B., & Singh, H. (1988). The Effect of National Culture on the Choice of Entry Mode. *Journal of International Business Studies*, 19(3), 411-432.
- Koo Moon, H., Kwon Choi, B., & Shik Jung, J. (2012). Previous international experience, cross-cultural training, and expatriates' cross-cultural adjustment: Effects of cultural intelligence and goal orientation. *Human Resource Development Quarterly*, 23(3), 285-330.
- Kostova, T. (1997). Country institutional profiles: Concept and measurement. *Academy of Management Proceedings*, 1997(1), 180-184.
- Lee, L.-Y., & Sukoco, B. M. (2010). The effects of cultural intelligence on expatriate performance: the moderating effects of international experience. *The International Journal of Human Resource Management*, 21(7), 963-981.
- Lee, Y. T., Masuda, A., Fu, X., & Reiche, S. B. (2018). Navigating between Home, Host, and Global: Consequences of Multicultural Team Members' Identity Configurations. *Academy of Management Discoveries*, 4(2), 180-201.
- Li, M., Mobley, W. H., & Kelly, A. (2013). When Do Global Leaders Learn Best to Develop Cultural Intelligence? An Investigation of the Moderating Role of Experiential Learning Style. *Academy of Management Learning & Education*, 12(1), 32-50.
- Lopez, M. H., Krogstad, J. M., & Flores, A. (2018). Most Hispanic parents speak Spanish to their children, but this is less the case in later immigrant generations. Retrieved from <https://www.pewresearch.org/fact-tank/2018/04/02/most-hispanic-parents-speak-spanish-to-their-children-but-this-is-less-the-case-in-later-immigrant-generations/>
- Lorenz, M. P., Ramsey, J. R., Tariq, A., & Morrell, D. L. (2017). Service excellence in the light of cultural diversity: the impact of metacognitive cultural intelligence. *Journal of Service Theory and Practice*, 27(2), 475-495.
- Maas, C., & Snijders, T. (2003). The Multilevel Approach to Repeated Measures for Complete and Incomplete Data. *Quality & Quantity*, 37(1), 71-89.



- MacNab, B., Brislin, R., & Worthley, R. (2012). Experiential cultural intelligence development: context and individual attributes. *The International Journal of Human Resource Management*, 23(7), 1320-1341.
- Magnusson, P., Schuster, A., & Taras, V. (2014). A Process-Based Explanation of the Psychic Distance Paradox: Evidence from Global Virtual Teams. *Management International Review*, 54(3), 283-306.
- Mahalanobis, P. C. (1936). On the Generalized Distance in Statistics. *Proceedings of the National Institute of Science of India*, 2, 49-55.
- Marshall, M. G. (2018). *Polity IV Project, Political Regime Characteristics and Transitions, 1800-2017*.
- Marshall, M. G., Jaggers, K., & Gurr, T. R. (2002). *Polity IV dataset. Computer file*.
- Marshall, M. G., Jaggers, K., & Gurr, T. R. (2007). *POLITY IV PROJECT - Political Regime Characteristics and Transitions, 1800-2006 - Dataset Users' Manual*.
- McCrae, R. R., Terracciano, A., Realo, A., & Allik, J. (2008). Interpreting GLOBE Societal Practices Scales. *Journal of Cross-Cultural Psychology*, 39(6), 805-810.
- Mezias, S. J., Chen, Y.-R., Murphy, P., Biaggio, A., Chuawanlee, W., Hui, H., . . . Starr, S. (2002). National cultural distance as liability of foreignness: the issue of level of analysis. *Journal of International Management*, 8(4), 407-421.
- Michailova, S., & Ott, D. L. (2018). Linking international experience and cultural intelligence development: The need for a theoretical foundation. *Journal of Global Mobility: The Home of Expatriate Management Research*, 6(1), 59-78.
- Mor, S., W., M. M., & Joh, J. (2013). Identifying and Training Adaptive Cross-Cultural Management Skills: The Crucial Role of Cultural Metacognition. *Academy of Management Learning & Education*, 12(3), 453-475.
- Nguyen, A.-M. D., Jefferies, J., & Rojas, B. (2018). Short term, big impact? Changes in self-efficacy and cultural intelligence, and the adjustment of multicultural and monocultural students abroad. *International Journal of Intercultural Relations*, 66, 119-129.
- Ott, D. L., & Michailova, S. (2018). Cultural Intelligence: A Review and New Research Avenues: Cultural Intelligence. *International Journal of Management Reviews*, 20(1), 99-119. doi:10.1111/ijmr.12118
- Ramsey, J., Abi Aad, A., Jiang, C., Barakat, L., & Drummond, V. (2016). Emergence of cultural intelligence and global mindset capital: a multilevel model. *Multinational Business Review*, 24(2), 106-122.
- Reichard, R. J., Serrano, S. A., Condren, M., Wilder, N., Dollwet, M., & Wang, W. (2015). Engagement in Cultural Trigger Events in the Development of Cultural Competence. *Academy of Management Learning & Education*, 14(4), 461-481.
- Schlägel, C., & Sarstedt, M. (2016). Assessing the measurement invariance of the four-dimensional cultural intelligence scale across countries: A composite model approach. *European Management Journal*, 34(6), 633-649.
- Schwartz, S. (2006). A Theory of Cultural Value Orientations: Explication and Applications. *Comparative Sociology*, 5(2-3), 137-182.
- Schwartz, S. (2012). An Overview of the Schwartz Theory of Basic Values. *Online Readings in Psychology and Culture*, 2(1).

- Searle, W., & Ward, C. (1990). The prediction of psychological and sociocultural adjustment during cross-cultural transitions. *International Journal of Intercultural Relations*, 14(4), 449-464.
- Shenkar, O. (2001). Cultural Distance Revisited: Towards a More Rigorous Conceptualization and Measurement of Cultural Differences. *Journal of International Business Studies*, 32(3), 519-535.
- Shenkar, O. (2012). Beyond cultural distance: Switching to a friction lens in the study of cultural differences. *Journal of International Business Studies*, 43(1), 12-17.
- Smith, P. B. (2006). When elephants fight, the grass gets trampled: the GLOBE and Hofstede projects. *Journal of International Business Studies*, 37(6), 915-921.
- Sternberg, R. J. (1985). Implicit theories of intelligence, creativity, and wisdom [American Psychological Association doi:10.1037/0022-3514.49.3.607].
- Tadmor, C. T., Satterstrom, P., Jang, S., & Polzer, J. T. (2012). Beyond Individual Creativity: The Superadditive Benefits of Multicultural Experience for Collective Creativity in Culturally Diverse Teams. *Journal of Cross-Cultural Psychology*, 43(3), 384-392. doi:10.1177/0022022111435259
- Taras, V., Caprar, D. V., Rottig, D., Sarala, R. M., Zakaria, N., Zhao, F., . . . Huang, V. Z. (2013). A Global Classroom? Evaluating the Effectiveness of Global Virtual Collaboration as a Teaching Tool in Management Education. *Academy of Management Learning & Education*, 12(3), 414-435.
- Tarique, I., & Takeuchi, R. (2008). Developing cultural intelligence: the roles of international nonwork experiences. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: theory, measurement and applications* (pp. 56-70). Armonk, NY: M.E. Sharpe.
- Terracciano, A., Abdel-Khalek, A. M., Adám, N., Adamovová, L., Ahn, C. k., Ahn, H. n., . . . McCrae, R. R. (2005). National character does not reflect mean personality trait levels in 49 cultures. *Science (New York, N.Y.)*, 310(5745), 96-100.
- Thomas, D. C. (2006). Domain and Development of Cultural Intelligence: The Importance of Mindfulness. *Group & Organization Management*, 31(1), 78-99.
- Thomas, D. C., Elron, E., Stahl, G. K., Ekelund, B. Z., Ravlin, E. C., Cerdin, J.-L., . . . Lazarova, M. B. (2008). Cultural Intelligence: Domain and Assessment. *International Journal of Cross Cultural Management*, 8(2), 123-143.
- Thomas, D. C., Liao, Y., Aycan, Z., Cerdin, J.-L., Pekerti, A. A., Ravlin, E. C., . . . van de Vijver, F. (2015). Cultural intelligence: A theory-based, short form measure. *Journal of International Business Studies*, 46(9), 1099-1118.
- Tuleja, E. A. (2014). Developing Cultural Intelligence for Global Leadership Through Mindfulness. *Journal of Teaching in International Business*, 25(1), 5-24.
- Tung, R. L., & Verbeke, A. (2010). Beyond Hofstede and GLOBE: Improving the quality of cross-cultural research. *Journal of International Business Studies*, 41(8), 1259-1274.
- Van Dyne, L., Ang, S., & Koh, C. (2008). Development and Validation of the CQS: The Cultural Intelligence Scale. In S. Ang & L. Van Dyne (Eds.), *Handbook of Cultural Intelligence - Theory, Measurement, and Applications* (pp. 23): Taylor & Francis.

- Velez-Calle, A., Roman-Calderon, J. P., & Robledo-Ardila, C. (2018). The cross-country measurement invariance of the Business Cultural Intelligence Quotient (BCIQ). *International Journal of Cross Cultural Management*, 18(1), 73-86.
- Volpone, S. D., Marquardt, D. J., Casper, W. J., & Avery, D. R. (2018). Minimizing cross-cultural maladaptation: How minority status facilitates change in international acculturation. *Journal of Applied Psychology*, 103(3), 249-269.
- Wang, H., & Schaan, J.-L. (2008). How much distance do we need? Revisiting the “National cultural distance paradox”. *Management International Review*, 48(3), 263-278.
- Warner-Søderholm, G. (2012). Was the grass trampled when the two elephants fought? Measuring societal cultures: project GLOBE vs. Hofstede. *Journal of International Doctoral Research*, 1(1), 74-96.
- Wood, E. D., & St. Peters, H. Y. Z. (2014). Short-term cross-cultural study tours: impact on cultural intelligence. *The International Journal of Human Resource Management*, 25(4), 558-570.
- World Bank. (2019). GDP per capita (current US\$). Retrieved from <https://data.worldbank.org/indicator/ny.gdp.pcap.cd>
- Xiang, S., Nie, F., & Zhang, C. (2008). Learning a Mahalanobis distance metric for data clustering and classification. *Pattern Recognition*, 41(12), 3600-3612.
- Xiumei, S., & Jinying, W. (2011). Cultural Distance between China and US across GLOBE Model and Hofstede Model. *International Business and Management*, 2(1), 11-17.
- Zwerg-Villegas, A. M., & Martinez-Diaz, J. H. (2016). Experiential Learning with Global Virtual Teams: Developing Intercultural and Virtual Competencies. *Revista Internacional de Investigacion en Educacion*, 9(18), 129-146.

## Appendix

### Descriptive Statistics Tables

#### BCIQ scores – Country of Birth

<b>Birth country</b>	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std. Deviation</b>
Albania	9	99.66	87.54	110.90	6.47
Argentina	28	97.15	66.26	108.62	8.40
Australia	29	102.76	93.66	109.13	4.19
Austria	33	100.30	84.54	110.97	5.23
Bolivia	1	99.65	99.65	99.65	.
Brazil	97	100.97	77.10	114.06	6.19
Canada	56	101.23	89.45	111.92	5.98
China	183	98.69	80.79	115.33	6.28
Colombia	759	97.90	75.78	118.39	6.10
Costa Rica	2	101.56	96.50	106.62	7.15
Denmark	14	101.97	90.72	108.24	5.19
Ecuador	13	101.49	87.49	108.26	6.00
Egypt	5	101.60	100.04	102.78	1.01
El Salvador	5	101.51	99.02	107.18	3.37
Finland	16	98.27	91.86	111.42	5.24
France	124	98.91	86.60	112.79	5.98
France, Metropolitan	12	95.38	84.27	106.52	6.30
Georgia	3	100.20	95.63	108.27	7.01
Germany	199	99.99	80.92	113.66	5.56
Greece	73	97.74	87.89	107.86	4.47
Guatemala	3	99.32	96.43	103.03	3.38
Hong Kong	13	97.38	83.52	110.45	7.79
Hungary	5	102.67	96.89	109.42	6.03
India	217	99.07	74.56	114.76	7.12
Indonesia	32	97.77	85.69	112.94	5.38
Iran	6	103.63	88.80	112.31	8.38
Ireland	12	101.49	95.88	107.95	4.35
Israel	2	100.03	99.20	100.85	1.17
Italy	130	98.19	82.79	110.33	5.43
Japan	18	99.90	89.61	110.05	5.26
Kazakhstan	4	100.81	93.50	108.68	7.95
Korea, South	14	102.00	94.47	113.42	5.52
Kuwait	1	98.87	98.87	98.87	.
Malaysia	11	101.53	94.45	105.62	3.23
Mexico	128	99.42	84.71	115.38	6.19

<b>Birth country</b>	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std. Deviation</b>
Morocco	7	104.10	94.94	109.99	5.08
Netherlands	45	98.49	89.24	113.29	5.17
New Zealand	2	106.41	99.60	113.22	9.63
Nigeria	15	99.29	86.72	111.55	6.98
Philippines	12	98.19	87.06	111.21	7.23
Poland	45	98.61	83.78	112.50	6.94
Portugal	10	100.54	92.89	109.00	6.21
Qatar	1	106.41	106.41	106.41	.
Russia	48	102.63	90.69	114.43	5.89
Singapore	8	98.80	89.04	111.52	7.77
Slovenia	3	100.59	95.96	106.85	5.62
Spain	134	99.92	83.78	114.77	5.77
Sweden	22	96.93	89.52	104.60	4.60
Switzerland	4	103.85	100.72	108.52	3.32
Taiwan	4	102.01	94.99	109.14	5.89
Thailand	15	98.21	90.13	107.63	5.79
Turkey	23	102.77	88.53	114.62	6.70
United Kingdom	102	100.09	86.43	114.71	5.93
United States of America	1609	97.54	66.26	115.93	7.73
Venezuela	35	99.33	89.10	108.87	4.62
Zimbabwe	2	104.77	97.79	111.75	9.87
<b>Total</b>	<b>4403</b>	<b>98.53</b>	<b>66.26</b>	<b>118.39</b>	<b>6.81</b>

BCIQ scores – Country of Residence

Residence country	N	Mean	Minimum	Maximum	Std. Deviation
Albania	1	104.98	104.98	104.98	.
Argentina	7	101.52	96.71	108.62	4.22
Australia	102	100.20	83.52	114.55	6.30
Austria	33	101.67	94.18	111.52	4.62
Brazil	57	101.06	77.10	112.71	5.81
Canada	74	101.42	88.30	114.76	6.25
China	116	98.35	81.43	110.97	6.30
Colombia	744	97.86	75.78	118.39	6.05
Denmark	12	101.43	90.72	108.24	5.30
Ecuador	2	95.99	87.49	104.49	12.02
El Salvador	2	100.51	99.02	101.99	2.10
Finland	13	98.47	91.86	111.42	5.46
France	92	98.37	86.60	113.71	5.63
France, Metropolitan	10	98.48	84.27	112.39	7.54
Georgia	1	96.69	96.69	96.69	.
Germany	158	100.07	84.01	111.76	5.37
Greece	72	97.53	87.89	106.69	4.19
Guatemala	3	99.74	96.43	103.03	3.30
Hong Kong	4	96.55	90.35	106.37	6.88
Hungary	2	99.28	97.13	101.43	3.04
India	155	97.56	74.56	114.66	7.02
Indonesia	5	97.74	90.55	104.52	5.99
Iran	2	105.56	103.40	107.71	3.05
Ireland	13	100.09	86.72	108.03	6.71
Israel	2	100.03	99.20	100.85	1.17
Italy	157	98.56	82.79	111.21	5.57
Japan	8	100.92	94.59	107.10	4.99
Kazakhstan	3	104.83	94.44	113.58	9.67
Korea, South	5	101.04	94.47	110.66	6.53
Malaysia	7	99.67	94.45	104.34	3.23
Mexico	110	99.01	84.71	112.17	5.90
Morocco	1	101.17	101.17	101.17	.
Netherlands	31	98.21	89.24	113.29	5.94
New Zealand	2	109.44	105.66	113.22	5.35
Nigeria	5	98.57	92.73	105.72	5.47
Philippines	2	100.12	97.44	102.80	3.79
Poland	34	97.90	83.78	110.96	6.27
Portugal	4	96.79	92.89	104.46	5.29
Russia	21	100.40	90.69	113.83	6.24
Singapore	6	101.28	89.04	104.55	6.06

<b>Residence country</b>	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std. Deviation</b>
Slovenia	2	97.46	95.96	98.96	2.12
Spain	224	99.94	83.78	115.38	5.69
Sweden	14	96.02	89.52	103.36	4.54
Switzerland	15	102.67	90.90	112.79	6.15
Thailand	13	101.11	90.13	112.50	6.72
Turkey	16	101.49	88.53	112.53	6.96
United Kingdom	96	99.11	86.43	114.71	5.95
United States of America	1945	98.09	66.26	115.93	7.65
<b>Total</b>	<b>4403</b>	<b>98.53</b>	<b>66.26</b>	<b>118.39</b>	<b>6.81</b>

## Reflection Notes

Reflection Note – Cecilie Larsen

### *Introduction*

By the request of School of Business and Law at University of Agder, we attach reflection notes to our master thesis. The purpose is to connect our thesis; its results, findings and implications, to broader topics related to international business; specifically, internationalization, innovation, and responsibility.

The process of writing this thesis has made me more aware of how circumstances and the cultural environment in which I live in, impact how effective I can be in cross-cultural settings. In particular, it has helped me to connect some of the experiences I have had, while traveling, living and studying abroad, with theoretical foundations.

In the following pages, I will first present a summary of our thesis on Cultural Distance and the Business Cultural Intelligence Quotient (BCIQ), and then connect these concepts and how they relate to internationalization, innovation and responsibility.

### *Summary of the Master Thesis*

Using multilevel Hierarchical Linear Modelling (HLM), we analyzed the impact of cultural distance between birth and residence country, on the individual's BCIQ score. There has been a research gap on country-level antecedents to BCIQ. Therefore, we assessed the cultural characteristics using the nine GLOBE dimensions in both birth and residence country, and the distance construct was measured by the Mahalanobis technique. In addition, we operationalized having at least one foreign-born parent, and living in a country with different cultural practices, as a type of cultural distance. Since cultural distance is a concept with non-linear properties, we expanded the construct to also having a multicultural background (foreign parents) and living in a country with different cultural practices than the home country.

As BCIQ is related to cross-cultural communication effectiveness, we hypothesized that people who live in countries that are culturally distant from their home country, would possess higher levels of BCIQ. To our surprise, we found that having a multicultural background impacts BCIQ negatively. Challenges of being multicultural could potentially explain this. Mahalanobis distance and a change in cultural practices do impact BCIQ in a positive manner, as



hypothesized. In conclusion, cultural distance does impact BCIQ, but further research is required to find possibly an optimized combination of birth and residence country to facilitate the necessary nurturing of the different BCIQ factors that will help enhance a person's overall BCIQ score. Consequently, this could improve their cross-cultural communication effectiveness.

#### *Cultural Distance, BCIQ and Internationalization*

Globalization has contributed to an international work environment, where people live and work in foreign countries and cultures. As businesses expand into new markets, they will increasingly rely on a labor force that is able to effectively adapt and communicate in culturally diverse settings.

On one hand, globalization means that the world “shrinks” due to increased international trade, communication and travel. Moreover, globalization exposes the differences that exist between countries, on political, economic and cultural levels. We travel, live, work and interact with people from all over the world and the job market has become a “melting pot” of different cultures. If we as future international business employees fail to effectively communicate in these multicultural environments, we will have a difficult time in almost any multinational corporation. Even domestic businesses face more international value chains, and need to effectively interact with both international suppliers, customers and competitors. We will have to strive in order to improve our cross-cultural communication effectiveness, and thus increase our BCIQ score. The result of our research suggest that we need to immerse ourselves, through spending extended periods in foreign cultures, in culturally distant environments, to improve our cross-cultural effectiveness. Having a multicultural background is not necessary an advantage, and thus BCIQ can be nurtured and improved among people of homogeneous cultural backgrounds as well.

Both international, as well as domestic companies will benefit from including culturally intelligent employees in their labor force, as people with high levels of BCIQ can be valuable assets when managing a culturally diverse value chain. If companies have local knowledge, or at least the ability to gain such knowledge in an efficient manner, the internationalization process might be more manageable even for smaller firms.

Cultural distance and internationalization have traditionally been researched from the perspective of foreign direct investments. We find that cultural distance can impact businesses in more ways than just the choice of entry mode. Cultural distance impacts how well people are able to adapt to a new situation, and BCIQ can be a valuable instrument to help bridge cultural distance, and ensure better internationalization processes for businesses, both domestic and foreign.

#### *Cultural Distance, BCIQ and Innovation*

People who live and work in culturally diverse environments, equipped with a high BCIQ score, could potentially be the source of great innovative initiatives. Related to the previous topic of internationalization, firms may benefit from having a culturally diverse workforce. However, managing and effectively communicating within such multicultural environments, requires both employees and management to possess higher levels of BCIQ. If people of diverse cultural backgrounds come together in one organization, their different perspective may boost innovation. People of different nationalities bring with them their cultural values and practices to the table when discussing new products, services or processes. Multicultural teams have been found to be more creative. This suggest that creating teams with a varied cultural background can help improve innovation in the firm. However, this cannot be accomplished solely based on the team members' cultural background, the firms also need to consider how effective the team members are in communicating in a multicultural setting, which might also include cultures that are quite the opposite from each other. BCIQ is therefore connected to and can impact a firm's innovation abilities.

By collaborating in multi-cultural teams, new ideas can emerge as a result of the team members' own experiences and point-of-views. Creativity and innovation are two related concepts, and by building a common understanding between the different cultural backgrounds in a multi-cultural team, international businesses can gain a competitive advantage by having multi-cultural teams in their organization.

However, as our research indicates, having a multi-cultural team is not enough, because of the effect of cultural distance. On paper, a team made up by Swedes, Danes and Norwegians might be described as multi-cultural (at least multi-national), but it is lacking cultural diversity as

these Nordic countries have been found to have similar cultural characteristics. It could be necessary to have a team made up by cultures that are relatively distant from each other.

A culturally diverse team that understands, respects and acknowledges cultural differences, while at the same time can work effectively together, could potentially be the source of sustained competitive advantages.

#### *Cultural Distance, BCIQ and Responsibility*

We argue that cultural intelligence can be nurtured, which is of course good news. We can develop it through training and exercises, and international experiences. Your BCIQ is not necessarily related to your genetic inheritance. However, for international businesses, it might be a pitfall to over-rely on the BCIQ measure, given the many positive outcomes of having employees with high BCIQ scores. BCIQ is not the sole indicator on whether a person will be effective in a given organization. It could potentially be a solid predictor but should be assessed in addition to other metrics to evaluate work applications, expatriate assignments, and other activities related to international business. Also, exogenous factors could impact the effectiveness of a person with high BCIQ in a given cultural context, such as our thesis suggests with different cultural characteristics of a country, and the cultural distance between a person's birth and residence country.

Since higher cultural intelligence has also been linked to lower levels of ethnocentrism in individuals, it is arguably in the interest of responsibility to discover what type of contexts help develop BCIQ levels, which indirectly could lower ethnocentric views in the population. As culturally intelligent people are less likely to engage in ethnocentric behavior, it is critical that we have a better understanding of how cultural intelligence is nurtured and developed.

Out of respect for other people, it is an individual's responsibility to act in a courteous manner when interacting cross-culturally. Without sufficient levels of cultural intelligence, this might be harder to achieve, and thus communications across cultures that occur among people with a weaker understanding for other people's cultural values, norms and practices, will limit mutual understanding and fuel conflicts among people.

*Summary of the Master Thesis*

The main themes in our thesis are Cultural Intelligence, i.e. the ability to effectively interact in cross-cultural situations, and Cultural Distance, i.e. the degree of differences between two cultures. Our master' thesis goal is to evaluate whether cultural distance predicts Business Cultural Intelligence Quotient levels. Given the International Business literature, we posited that cultural distance has a positive impact on CQ development; thereby, we subdivided this general proposition into three ways of cultural distance operationalization that consisted in a dummy variable for multicultural background, a continuous variable for the Mahalanobis cultural distance composite index, and a continuous variable for the change in birth – residence country scores of each of the nine GLOBE cultural practices dimensions which we called GLOBE delta practices per each of the dimensions. By using multilevel Hierarchical Linear Model analysis, we found that cultural distance significantly predicts BCIQ levels in counteractive ways. While having a multicultural background negatively impacts BCIQ, the Mahalanobis distance shows a positive and weak effect. Moreover, only the Uncertainty Avoidance, Institutional Collectivism and Future Orientation GLOBE delta practices dimensions influence BCIQ development; nevertheless, only Future Orientation has a positive effect. Our contribution to the International Business field is to provide a global cultural intelligence mapping with our BCIQ Index<sup>40</sup>, and to unravel potential contextual country level antecedents to Cultural Intelligence development. We concluded that our mixed results, which are in line with previous studies, cannot be explained without the help of a robust theory. In our case, we used the Social Learning Theory to enlighten the mechanisms of action by which living in a culturally different country relative to one's birth country could lead to cultural intelligence development. Likewise, there still exist environmental country level characteristics in each country that, along with the most likely non-linear quality of cultural distance, might make specific birth – residence country parings maximize cultural intelligence levels.

*Cultural Distance, BCIQ and Internationalization*

Currently, the world faces three main global trends that reshape the way we live, work and do business. Firstly, most countries experience a rapid population shift caused by increased migration; this phenomenon has caught many, particularly governments, off-guard. This means that, today, compared to half a century ago, more people live outside their birth country thanks to modern untroublesome mobility. However, many countries are not prepared for such a

demographic shift. Governments, principally, worry about cultures clashing. While some countries have been taking advantage of cultural diversity, e.g. Switzerland, others panic about cultural differences, e.g. the United Kingdom. Why do individuals from certain countries manage cultural distance better? Cultural intelligence, i.e. the ability to interact effectively across cultures, presents itself as a tool to bridge cultural differences. Therein, there exist an obvious need to find out how to develop individual's cultural intelligence and, hence, its antecedents. Previous studies have concentrated chiefly in individual CQ predictors; therefore, we saw a literature gap for contextual country level antecedents.

The second international force that redesigns the way we interact with people is the fast-paced advancements in information and communications technology that makes national borders imperceptible. These advancements have made Global Virtual Teams a cost-effective and convenient way for companies to generate competitive advantages; nevertheless, cultural differences, as a double-edged sword, bring both opportunities and challenges. It is only through incrementing our cultural intelligence levels that we can take hold of the opportunities and minimize the challenges offered by cultural dissimilarities.

The third global trend, which continuously frames our daily interactions and, in particular, the future of work, is the high-speed growth of developing economies. Emerging markets such as China and India attract thousands of foreign companies that, in order to internationalize successfully, will have to adapt to these emerging markets' cultures. Distinctly, international assignments' role of seizing synergies via cross-border knowledge transfer gets threaten by the inability of expatriates to adapt to the new host country's culture, and hence the importance of developing a highly culturally intelligent work force.

In overall, we found that cultural distance can predict cultural intelligence; however, the cultural distance effect on BCIQ acts in intricate ways. The reason of these mixed findings could reside in the underlying theory that links cultural distance to CQ, e.g. the Social Learning Theory, and the non-linear nature of cultural distance. In other words, to develop cultural intelligence, perhaps, individuals not only must follow the processes of learning theories, but also they must find the home-host country pairing, given each country's environmental characteristics, that maximizes their CQ development.

Since oftentimes individuals cannot deliberately choose their residence country, governments should make sure schools at all levels create CQ development programs for all students; additionally, governments should ensure that these programs are based on the processes of learning theories, such as the Social Learning Theory, in order to guarantee a long-lasting CQ improvement. According to our findings, having a multicultural background poses a drawback to cultural intelligence; thereby, governments should give a special emphasis to multicultural and migrant families when creating CQ development programs at schools; besides, a short host-country culture introductory course, along with the CQ enhancement training, should be offered to all people with foreign background who permanently move from their birth country. These actions will help decrease cultural frictions and increase cultural understanding, resulting in positive externalities to the whole society.

Likewise, given the above mention three main international trends, companies around the world would benefit from offering CQ development courses to every one of their employees. This allows companies to seize unrealized gains that have been hidden by cultural differences. We found that cultural distance, as a composite index, positively impact BCIQ but in a weak way. Consequently, before sending employees on international assignments, companies should bear in mind that adequately matching employee's birth country to the future residence country could maximize employees' possibilities to develop CQ.

#### *Cultural Distance, BCIQ and Innovation*

In order to find new antecedents, Cultural intelligence research needs to try unconventional ideas. Given the literature gap for contextual CQ antecedents, we aimed with this thesis to present cultural distance as an innovative environmental antecedent to BCIQ. Our findings support cultural distance as a predictor of BCIQ development. However, the cultural distance–BCIQ relationship is complex. This means that current CQ development courses, mainly based on individual level antecedents, should be updated. Therefore, CQ training programs around the world should take into consideration contextual factors, e.g. cultural distance, when designing such CQ development curricula.

Innovation paves the path to sustainable economic growth that ultimately leads countries to become developed. What do countries such as Switzerland, the USA and Singapore have in common? Apart from all of them scoring high in cultural diversity, they rank high among the

most innovative countries. These, as many other countries, have realized the benefits of having a culturally diverse population. As migration continues rising, countries need to learn how to turn an initially perceived threat into an asset; it is via the appropriate management of cultural diversity that countries become innovation leaders, which allows them to achieve sustainable economic development eventually. Countries can take advantage of increased cultural variation by promoting cultural intelligence development. Given that cultural distance impacts cultural intelligence, governments should develop national policies that emphasize CQ development based on the environmental characteristics of its resident's birth countries. Similarly, at the firm level, appropriately managed cultural differences, via cultural intelligence development, give employees the ability to create innovative solutions –a source of competitive advantage.

#### *Cultural Distance, BCIQ and Responsibility*

It is everybody's responsibility to become culturally intelligent enough to handle nowadays amplified cultural differences. However, governments have the duty to keep harmony in the society, promote economic development and provide for public goods. Responsible effective intercultural communication is a public good, which has the potential for reducing culture collisions while boosting innovation capabilities. Therein, developing a culturally intelligent society is in every government's best interests. Consequently, governments should support their people to increase their cultural intelligence through cutting-edge CQ development programs at schools. Moreover, immigration needs to be showcased to locals as an opportunity that allows them to interact cross-culturally and become more culturally intelligent by observing, retaining and practicing correct foreign cultural behaviors.

A big government and its usual inefficiencies are widespread concerns. A government that runs cultural intelligence programs might entail ethical issues. CQ research has been already accused of reflecting a westernized perspective. Thus, government-guided CQ programs could heighten present distrust, as CQ courses could easily become biased. To mitigate such ethical problems, governments could utilize CQ instruments and programs developed by impartial multicultural research teams and administered by private and objective companies. In this respect, governments can benefit greatly from establishing public–private partnership (PPP) to evaluate society's current CQ levels and design customized CQ programs. The synergies between the public and private sector would increase everybody's welfare at the individual, organizational and country level. Increased cross-cultural communication effectiveness and resource

optimization translate into innovation that, ultimately, leads to sustainable economic development.