

INTERNATIONAL STUDY MOBILITY PROGRAMS AND CULTURAL INTELLIGENCE: AN EXPLORATIVE COMPARATIVE STUDY ON GERMAN AND ITALIAN STUDENTS

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Abstract

Our study aims to better understand the evolution of cultural intelligence (CQ) during an international student mobility program. CQ refers to the ability to function effectively in culturally diverse settings and is measured by using the multidimensional construct of Ang et al. (2007). We selected two comparable samples of students in Erasmus mobility programs from an Italian and from a German university (58 Italian and 48 German students). Data were collected in two phases of the program: before departure and at re-entry. We look in our paper at the quantitative evolution of CQ in both phases as well as at qualitative cross-cultural student 'critical incident' reports. We analyze these reports by using coding categories associated with the 4 dimensions of CQ. Findings show significant increases of cognitive CQ for the German subgroup and of cognitive, behavioral and motivational CQ for the Italian subgroup. Looking at 'critical incident' reports, we also observed a stronger percentage of cognitive related experiences within the German subgroup.

Mots-clefs: International Mobility; CQ; intercultural competence; students; erasmus

Introduction

In the last decades, organizations have been affected by an increasing internationalisation and globalization of markets (Knight, 2004, Cazal, Davoine, Louart, Chevalier, 2011). As a consequence, organizations need employees able to work in different cultural contexts (Bartel-Radic, 2004; Early, 2006; Hermans, 2007; Ledwith & Seymour, 2001), for shorter and longer term international assignments (Cerdin, 2011; Desmarais, Ghislieri, & Wodociag, 2012; Pate & Scullion, 2016) or for multicultural team projects (Crossman & Clarke, 2010; Chevrier et Segal 2011). The Organizations need competent leaders and employees able to manage the complexity of diverse multinational contexts and multicultural dynamics (Caligiuri & Tarique, 2012).

Employee performance will therefore depend increasingly on cross-cultural intelligence (CQ), individuals ability to effectively converse in culturally diverse contexts (Ang, Van Dyne & Koh, 2006), also associated in the literature with the notions of cross-cultural competence (CCC) or cross-cultural interaction competence (Bartel-Radic & Giannelloni, 2017; Spencer-Oatey & Franklin, 2009). Developing CQ or CCC at individual level has become a major challenge for organizations but also for universities and higher education institutions worldwide to enhance graduate employability (Amendola & Restaino, 2017; Crossman & Clarke, 2010).

Internationalization in higher education has been promoted through different Study abroad programmes worldwide. UMAP (University Mobility in Asia and the Pacific) was launched in Australia in the 1990s (Crossman & Clarke, 2010), IMPs (International Mobility Programs) in Canada include student exchanges, international study agreements and internships abroad (Marcotte, Desroches & Poupart, 2007). In Europe, one of the oldest and most important measures promoted by Union Europe is the ERASMUS (European Region Action Scheme for the Mobility of University Students) program, which was launched in 1987 (Teichler & Jahr, 2001). There have been already many studies about Erasmus student experiences and the development of competencies during Erasmus mobility programs. The academic discussion (Holtbrügge & Engelhard, 2016; Valera, 2017) brings contradictory empirical results: some scholar claim that international programs have a relevant impact on learning outcomes, others observe only marginal effect. Furthermore, Valera's meta-analysis (2017) addresses the problem of the diversity of learning outcomes taken into account.

Our study therefore seeks to explore mobility programs considering a specific outcome: CQ and its four dimensions (cognitive, metacognitive, behavioural, motivational). Specifically, a few quantitative studies use CQ or CCC concepts and show limited impacts (Berg, Paige & Lou, 2012; Harrison, 2012; Holtbrügge & Engelhard, 2016). Some qualitative studies look at critical incidents or interaction experiences reported (Colvin, Volet & Fozdar, 2014; Vianden & Yakaboski, 2017). In our study, we try to link both CQ concept and experience reports to explore how CQ is developing during study abroad programs. By using a binational comparative perspective, with two subgroups of Italian and German students from two universities with strong Erasmus exchange programs, we also focus on national differences in the development process of CQ.

Developing CQ and CCC during Erasmus programs

By the end of the academic year 2013/2014, the Erasmus program has supported 3.3 million Erasmus students; considering the 2013-14 academic year, more than 200.000 students went to

another European country (34 country members) for studies or for company internships, which is significantly more than the 3.244 students from 11 countries in the first year 1987/88¹. Thanks Erasmus programs, the possibilities to international mobility have been significantly improved within academic institutions (Nilsson, 2013). Study abroad programs, and the Erasmus program in particular, follow several goals: improving foreign language competences of students, stimulating their personal development, giving opportunities to learn from other institutions with different expertise, developing soft skills and social network; promoting international career mobility and enhancing the ability to look for a job in a foreign country (Thuran, 2016; Juvan & Lesjak, 2011; Crossman & Clarke, 2010; Marcotte et al., 2007; Parey & Waldinger, 2011). An Erasmus impact study (2014) highlighted the contribution of international mobility on the students' employability: unemployment rate of Erasmus students was 23% lower than the rate of sedentary students one (5 years after the graduation); 64% of employers expressed considering explicitly international assignment as an important criterion for recruitment and career evolution.

One of the major expectations addressed to study abroad programs is to prepare students to move across different cultural settings (Bryla, 2015, Volet & Ang, 2012), developing CCC or IC. Cross-cultural competence could be defined and interpreted in different ways; the complexity of the definition lies in its continue evolution (Bartel-Radic, 2004, Deardoff 2006). Concerning the IC definition issue, Deardoff's study (2006), that have involved a sample of administrators and a panel of internationally known intercultural scholars, proposed an interesting pyramid model that moves from attitude level (respect, openness, curiosity and discovery) to interpersonal/interactive level (knowledge and comprehension, adaptability, flexibility, ethno relative view, empathy, and finally interests in behaving and communicating effectively and appropriately). Managers use different terms as synonyms to refer to intercultural competence: cross-cultural competence, global competency, intercultural competency or global mindset, and it is difficult to catch the differences (Deardoff, 2006).

As suggested by various researchers (Bryla, 2015), one of the antecedents of intercultural competence is the international experience. Bennett (1986) conceptualized intercultural competency as development process of intercultural sensitivity boosted by active experimentation of the cultural differences (Spitzberg & Changnon, 2009). Intercultural sensitivity refers to the complexity of cultural differences perception: a level of high individual sensitivity corresponds to a better perception and recognition of these cultural differences. Competence is finalized, contextualized, specific and contingent (Wittorski, 1998). CCC or IC is a combination of different skills and knowledges in a specific context (Barmeyer & Davoine, 2012). Intercultural competence corresponds to the ability to act and communicate effectively and appropriately in cross-cultural situations (Deardorff, 2006). It is the ability to function effectively and manage different cultural situations (Earley & Ang, 2003): CCC is therefore a crucial issue for organizations because they refer to a process, which generates performance (Andresen & Bergdolt, 2017).

Cultural intelligence (CQ) is a specific psychological construct (Thomas et al. 2008), its complexity lies partially in coexistence of other measures of cross-cultural assessment such as: cross-cultural adaptability (CCAI), cross-cultural sensitivity scale (CCSS), intercultural sensitivity scale (ISS), intercultural adjustment potential scale (ICAPS), intercultural communication competence (ICC), IBA, intercultural development inventory (IDI), multicultural personality traits (MPQ), intercultural sensitivity inventory (Matsumoto & Hwang, 2013) (their definitions are reported in a table in the appendix). Matsumoto & Hwang (2013) in their meta-analysis have

¹https://data.europa.eu/euodp/repository/ec/dg-eac/erasmus-data-2013-2014/erasmus-fft-brochure_online_en_FINAL.pdf

selected ten tests including also the cultural intelligence scale (CQS) and have highlighted in their conclusion that CQS, ICAPS and MPQ are the most capable to assess cross-cultural competence. The choice to focus on CQ rather than on other scales, is justified by its psychometric properties, more adequate than those of others measures, in spite of its limits (Bücker, Furrer, & Lin, 2015). Furthermore, CQS allows to respond to Varela considerations (2017), who suggested to investigate learning outcomes on cognitive, affective and behavioural results.

CQ can be generally defined as “an individual’s capability to function and manage effectively in culturally diverse settings” (Ang et al., 2007, p. 337); it transcends cultural boundaries; it is related to acquisition of cultural general capability applicable to whatever culture (Ng, Van Dyne, & Ang, 2012). CQ is a multidimensional construct, applying Sternberg multiple-loci of intelligence framework (1986). It consists of four different dimensions: cognitive, metacognitive, motivational, and behavioural (Ang et al., 2007; Ng et al., 2012). The cognitive dimension refers to knowledge about legal norms, conventions, and awareness of social practices, economic rules present in other cultures acquired from education and personal experiences. People with high level of cognitive CQ are able to gather similarity and differences across countries also in terms of value systems.

Secondly, the metacognitive dimension is related to awareness of mental processes used to move in culturally diverse settings. High level of metacognitive CQ allows modifying appropriately mental models and interaction strategies considering different cultural norms and assumptions that they have acquired. Metacognitive CQ reflects the ability to have acquired and understood cultural knowledge, as well as cultural awareness of appropriate behaviours and interpersonal interactions (Ang et al., 2007).

Thirdly, motivational dimension reflects the desire to learn something and to act in a different culture making friends with people from different countries. This dimension may be seen as an energy that leads toward the knowledge about something that is culturally different from us, based on high level of self-efficacy in cross-cultural competence (Ang et al., 2007, Bandura, 2002; Ng et al., 2012).

Finally, the behavioural dimension concerns the use of appropriate verbal and non-verbal actions, language, tone, posture and facial expressions in order to act in a different cultural setting (Ang et al., 2007; Ng et al., 2012).

Recently scholars have increasingly paid attention to CQ and to its antecedents and consequences (Ang, Soon, Van Dyne, Koh, Ng, Templer, Tay, Chandrasekar, Ng et al., 2012). The purpose of our study is to explore the impact on abroad experience on Italian and German student CQ by testing the variance of CQ before abroad experience and after it. CQ scale (CQS) by Ang and colleagues (2007) is the validated tool used to monitor the change over time. This measure is not exempt from limits, as pointed out by the critical approach of Bücker, Furrer, & Lin (2015). Taking into account this limits, CQS was tested with exploratory factor analysis. Moreover, we also analysed key experiences reported by students related to CQ.

Methodology

Data collection

The present study is part of a research conducted in Italy and in Germany. A total of 103 students, involved in the 2016/2017 academic year in ERASMUS programme for study (19.4% male and 80.6% female), took part to this research, completing two questionnaires: one before departure and another one at re-entry.

The Italian subgroup included 58 outgoing Erasmus students from a North-Western Italian University (77.6% female; $M_{age} = 22.05$, $SD = 1.36$). Italian subgroup spent on average 6.78 months abroad ($SD = 2.09$) and obtained 33.25 ECTS ($SD = 13.89$).

The second one consisted of 45 outgoing Erasmus students from a German University (84.4% female; $M_{age} = 22.49$, $SD = 2.14$). German subsample reported to have spent on average 4.64 months abroad ($SD = .93$) and obtained 21.02 ECTS ($SD = 6.95$).

Among Italians 36.2% was enrolled in humanities studies, 17.2% in political sciences and law, 15.5% in economic sciences, 15.5% in psychological, anthropological and educational sciences, 5.2% in historical studies, 3.4% in sport sciences and 6.9% in another field of study (51.7% bachelor degree, 39.7% master degree, 8.6% Unique cycle). Among Germans, the 84.4% of students was enrolled in SES field of study (International Cultural and Business Studies; Media and Communication, Business and administration, Economic computer sciences), the 8.9% was enrolled in law studies and the 2.2% in literature (4.4 were missing data).

The first destination is Spain for Italian students (37.9%) and France for German students (22.2%), the second one is respectively France (13.8%) for Italian subsample and Spain (20%) for German subsample, the third and fourth destinations respectively are UK (8.6%) and Germany (8.6%) for Italian students and UK (17.8%) and Portugal, Ireland and Italy (all chosen in 6.7% of cases) for German students.

55.2% and 60% respectively of Italian and German students reported to have spent a previous abroad experience (Italy: $M_{months} = 4.56$ $SD = 3.68$; Germany: $M_{months} = 6.22$ $SD = 4.68$). Considering exposition to a multicultural setting (scale: 1 - not at all; 5 – completely) Italian and German students reported respectively the following average values regarding private life $M = 3.32$, $SD = 1.05$ and $M = 3.31$, $SD = 1.10$; and considering exposition during training $M = 3.40$, $SD = 1.01$ and $M = 3.41$, $SD = 1.06$.

Participants completed two online self-report questionnaires (one before departure and another one at re-entry) on Lime-Survey Platform. The voluntary and not paid participation to the research, and the anonymity and confidentiality of the data were emphasized. We obtained informed consent by participants.

For this study, quantitative and qualitative data were collected simultaneously using a survey with Likert-type questions and open-ended questions for qualitative data.

Cultural Intelligence: was measured using 15 items adapted from CQS (Ang et al., 2007). Italian and German adaptations of the scale have been used. Both the adaptations were tested with exploratory factor analysis (EFA).

Respondents were asked to indicate how each statement described their capabilities by means of a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). In line with the original scale, construct consist of 4 dimensions: meta-cognitive, cognitive, behavioural and motivational subscales. Considering the critical approach to CQ proposed by Bücker and colleagues (2015), and the possibility of multicollinearity between the dimensions, some items of scales was slightly modified (some was deleted and other was added to the original scale) (see appendix).

In particular, 3 items measured the metacognitive CQ subscale (e.g. “I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds”) (Cronbach Alpha was for Italian subgroup .79 and .77 respectively at T1 and T2 and for German subgroup equal to .82 at T1 and .73 at T2).

As regard second dimension, 5 items were referred to the cognitive CQ subscale (e.g. “I know the legal and economic systems of other cultures”) (Cronbach Alpha was .88 for Italian subgroup both at T1 and T2 and for German subgroup equal to .75 at T1 and .81 at T2).

Motivational CQ subscale was detached using 3 items (e.g. “I am confident that I can socialize with locals in a culture that is unfamiliar to me.”) (Cronbach Alpha was for Italian subgroup .88 and .86 respectively at T1 and T2 and for German subgroup .72 and .66 respectively at T1 and T2). Finally, behavioural CQ subscale was assessed with 4 items (e.g. “I use pause and silence differently to suit different cross-cultural situations.”) (Cronbach Alpha was for Italian subgroup .82 and .75 respectively at T1 and T2 and for German subgroup .81 and .77 respectively at T1 and T2).

Qualitative data was also collected by using an open field in which was asked to tell a surprising intercultural experience (positive or negative) from their Erasmus stay. 31/58 Italians students and 23/45 German students answered to the open-ended question. Some of them gave more than one answer, so we collected 33 cases for Italy and 30 cases for Germany.

Data Analysis

To analyse qualitative and quantitative data in order to explore CQ dimensions, we apply a mixed-methods approach. Descriptive and quantitative content analysis was used to analyse the data.

As regard quantitative data, in order to assess the factorial validity of the Italian and German CQS, an exploratory factor analysis (EFA) was performed using SPSS 24 on pre-departure questionnaire on both subsamples. To explore data, the exploratory factor analysis was first conducted using Principal Component (PC) extraction, with Promax rotation. Moreover, the reliability of the CQ was calculated by examining the internal consistencies of the subscales for each group (SPSS 24) at T1 and at T2.

The analysis of variance (*t*-test for paired samples) was used to examine differences in the variables means within groups over time. Furthermore, the analysis of variance (*t*-test for independent samples) was performed to examine possible differences before the departure between groups (German and Italian subsamples) in terms of all CQ dimensions.

To explore qualitative data, content analysis was applied to explore the questionnaire open fields. The answers have been categorized according to the four CQ dimensions: metacognitive, cognitive, behavioural and motivational. Each case was categorized according to one or more CQ dimensions. Two researchers did the analysis separately with an inter-coder rate higher than 80%, and then discussed until they could agree on all case attributions. After both types of quantitative and qualitative data were analyzed separately, we confronted both.

Results

As shown by table 1 and 2, descriptive and internal consistency of the measures was performed. Analysis of variance (*t*-test for paired samples) between T1 (pre-departure phase) and T2 (re-entry phase) showed a significant difference for cognitive, metacognitive and behavioural

dimensions for the Italian subgroup (see table 1) and only for the cognitive dimension for the German subgroup (see table 2).

Looking specifically at every dimension, Italian students perceived a significantly higher level of cognitive CQ at T2 ($M = 18.91$; $SD = 5.49$) than at T1 ($M = 18.91$; $SD = 5.49$) [$t(57) = -2.99$, $p < .01$]. A significant variance has also been observed for German students who reported lower level of cognitive CQ at T1 ($M = 19.67$; $SD = 4.49$) than at T2 (20.80 ; $SD = 4.59$) [$t(44) = -2.06$, $p < .05$]. Italian students reported also a significant variance for metacognitive CQ, which is higher at T2 ($M = 15.79$; $SD = 3.28$) than at T1 ($M = 14.76$; $SD = 3.03$) [$t(57) = -2.55$, $p < .05$] and for behavioural CQ, which is lower at T1 ($M = 12.98$; $SD = 3.74$) than at T2 ($M = 14.12$; $SD = 3.93$) [$t(57) = -2.44$, $p < .05$]. The measurement of motivational dimension of CQ did not show any significant difference between T1 and T2 neither for the Italian subgroup nor for the German one.

Furthermore, analysis of variance (t -test for independent samples) did not give evidence of any significant difference regarding all CQ dimensions between German and Italian subgroups before departure.

Table 1: Means, standard deviations, Cronbach's alphas, t-test for paired samples for T1 and T2 in the Italian subgroup

	T1			T2					
	M	SD	α	M	SD	A	t	df	p
1. Cognitive	18.91	5.49	.88	21.10	5.45	.88	-2.99	57	.004
2. Metacognitive	14.76	3.03	.79	15.79	3.28	.77	-2.55	57	.013
3. Behavioural	12.98	3.74	.82	14.12	3.93	.75	-2.44	57	.018
4. Motivational	21.53	4.50	.88	22.09	4.26	.86	-.84	57	.405

Table 2: Means, standard deviations, Cronbach's alphas, t-test for paired samples for T1 and T2 in the German subgroup

	T1			T2					
	M	SD	α	M	SD	A	t	df	p
1. Cognitive	19.67	4.49	.75	20.80	4.59	.81	-2.06	44	.045
2. Metacognitive	15.51	3.28	.82	16.47	2.75	.73	-1.76	44	.085

3. Behavioural	14.38	3.62	.81	14.84	3.66	.77	-.94	44	.351
4. Motivational	22.38	3.63	.72	22.91	2.97	.66	-1.11	44	.273

As far as the content analysis of the open-ended question is concerned, we found out interesting differences.

Findings (see table 3) show that a major part of Italian answers have at least one element of content related to the cognitive dimension of CQ (45%), which refers to knowledge about: academic practice in another culture (e.g. *"I was positively surprised by informal relationship between lecturers and students"*) social practices (e.g. *"...most of the time, and especially during the summer, inhabitants of Madrid of all ages and of all social origins like to be on the street to speak, play, drink a beer, hang around..."*), interaction rules between women and men, "legal" norms and procedure, economic conditions (e.g. *"Paying only 7 euros to have a dental record on CD and paying nothing for dental abscess incision was surprising"*; *"...In Barcelona the accommodation request is higher than the offer..."*).

35% of the answers have a content related to motivational dimension, with content, which is related to the pleasure to stay with people from other cultures (e.g. *"being able to interact and make friend with people from different countries"*).

There is a metacognitive content in 16% of the answers with reference to the modification of interaction strategies or mental adaptation to the other culture (e.g. *"falling in love with a boy from another culture and thus adapting my culture to his culture"*). Finally in the 13% of cases there is a content related to behavioural dimension, in particular with answers related to use of an appropriate verbal language (*"...the problem was that nobody spoke English but only Hungarian and we had to find ways to explain the situation"*).

Table 3: Coding grid for Italian answers(n=34, for each answer more than one category possible)

	%	Example
Cognitive	45	<i>"The similarity between host university and our high schools: homework, sharing in class of twenty students, students' attitude not so mature, familiarity with lecturers".</i> <i>"I was positively surprised by informal relationships between students and lecturers".</i>
Metacognitive	16	<i>"To fall in love with a boy from another culture and thus adapt in a positive way my culture to his culture".</i>
Behavioural	13	<i>"... The problem was that nobody spoke English but only Hungarian and we had to find ways to explain the situation..."</i>
Motivational	35	<i>"A surprising experience that I lived during my mobility period was to meet people from different cultures and countries far from me and to make friends"</i>

		<p><i>as we were a family, deleting distances and differences.”</i></p> <p><i>“To have demonstrated to be able to interact and make friend with people from different countries”</i></p>
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Considering German students, 78% of the answers had a content related to the cognitive dimension, which mainly refer to knowledge about: academic practice in another culture (e.g. *“The lecturing style in France, mostly frontal lessons without interaction with the students”*), cultural differences (e.g. *“The cultural differences between Italians from the North and from the South”*), social characteristics (e.g. *“It is always said that the Swedes are at first somewhat reserved - but at least I cannot confirm this with the locals I was dealing with”*), social practices (e.g. *“One could mention the way of life in France: they take time for their lunch breaks and are generally taking much time for social interactions [...]”*).

17% of the answers are related to the motivational dimension with reference to desire to stay with people from other countries (e.g. *“(we) showed great interest in each other's culture. There have been many close friendships between different countries, despite the actual language barrier.”*). Only the 4% of answers had a content related to the behavioral dimension(e.g *“One of my roommates came from Pakistan. It became clear that women were less respected in his culture, and so he never talked to me. Even if I addressed him directly, I got no answer.”*). No answer has been found with a content related to metacognitive dimension.

Table 4: Coding grid for German answers (n=30, for each answer more than one category possible)

	%	Example
Cognitive	78	<p><i>I was positively surprised that the relationship between the students and the lecturers was much easygoing than in Germany”.</i></p> <p><i>“One could mention the way of life in France: they take time for their lunch breaks and are exceedingly socially, i. you do a lot in a group.”</i></p>
Metacognitive	0	
Behavioural	4	<i>“One of my roommates came from Pakistan. It became clear that women were less respected in his culture, and so he never talked to me. Even if I addressed him directly, I got no answer.”</i>
Motivational	17	<i>“There are many close friendships between different countries, despite the actual language barrier”</i>

Discussion and conclusion

The study intended to understand better the relation between the exposition to international mobility programme during academy and the increase of CQ levels in two countries: German and Italy. The merge between quantitative and qualitative results has highlighted some differences between and within groups.

In particular quantitative and qualitative data suggest Italian students report an increase in terms of CQ level on more dimensions than German students. Indeed considering quantitative data, Italian students report a positive increase between T1 and T2 on metacognitive, cognitive, and behavioural dimensions; German subgroup report a growth in cognitive dimension but not in the others. Qualitative results are in line with quantitative ones: contents related cognitive dimension, in particular acquisition of knowledge about social and academic practices, interaction rules between women and men, legal norms, procedures, are the most reported for both the subgroups. It confirms the international mobility expectations formalized in the Bologna 2020 process (article 18 and 19): cultural awareness, respect for the diversity and ability to apprehend from different cultures. For Italian subsample there is also in some cases a content reference to behavioural (e.g. use of an appropriate verbal language) and metacognitive dimension (modification of interaction strategies considering different practices); on the contrary for German one, the references to these two dimensions are much less present. The lower level of behavioural and metacognitive dimension for German students is surprising considering the full immersion of students for several months. It questions one of the main objectives of students' international assignment, i.e. the awareness of cultural differences and the behavioural adaptation in order to success the intercultural interaction (Breton, 2016). Finally regarding motivational dimension quantitative data did not shown an increase over time in neither case, however, the second content more traced is related to motivational dimension; one possible explanation of absence of any significant difference between T1 and T2 on motivational subscale is that the level of motivational level is pretty high already before departure.

For further research to understand better the antecedents of the different impact of Erasmus programmes among countries could be useful taken into account the cultural distance and the type of immersion that could moderate the learning outcomes (Varela, 2017). Furthermore, the study of international learning outcomes implies to consider the "learning style" acquired in the course of a long socialization process, affected by school, family, universities, work, and thus, at least partially dependent on the culture (Barmeyer, 2004). In this regard Barmeyer's study (2004), starting from the Kolb's theory of experiential learning (1984), found some differences in terms of learning style between French, German and Quebecois students. In particular French and Quebecois students reported a significant higher level of "Concrete Experience Feeling" than the German ones, on the contrary, Germans seem to have a higher level of "Abstract Conceptualization thinking" than their French and Quebecois colleagues, this last result may suggest a preference for theoretical stimuli and an emphasis on logic orientation (Barmeyer, 2004). Different learning styles may explain the differences between countries in terms of impact that an intercultural programme could have.

Furthermore, this work points in the direction suggested by the panel of intercultural scholars that participated to Deardoff's study (2006) who recommend to assess intercultural competencies through a mix of qualitative and quantitative measures. Furthermore, the use of open-ended questions, in addition to reinforce the value of the research project, could have practical implications (Spencer-Oatey, 2013). The analyse of specific experience, that it is possible to define as "critical incidents", could help to rework attitudes and feelings towards the whole experience (e.g respect for diversity), behaviour patterns anchored in a different cultural setting; knowledge and skills learned; coping strategy found to solve specific intercultural situations (Spencer-Oatey, 2013).

The use of this “critical incidents” (such as the memory of emblematic episodes) could be applied intercultural development tool (Spencer-Oatey, 2013).

Despite the implications, this study has some limitations. First the two subgroups are not representative. Secondly, the study measured single-source self-report data, which means the possibility of common method bias. It could have been helpful to combine the use of performance-based methodology (Goldenberg, Matheson, Mantler, 2006). Furthermore CQS, although its good psychometric properties (content, construct and ecological validity confirmed by Matsumoto and colleagues’ meta-analysis), is not free of limits as suggested by the critical approach of Bückner and colleagues (2015) who have pointed out the possible risk of multicollinearity between the dimensions. Furthermore, the nature of CQS could be affected by “Dunning-Kruger effect” (Kruger & Dunning, 1999), by a cognitive bias of people with low levels of competence overestimate their skills. Despite this limit is partially overcome by qualitative data that complement self-report answers, one important limitation is the number of answers given by participants (only 50-60% of the whole sample, the range vary according to what subsample is considered).

Thirdly, it would be necessary to evaluate the impact of international mobility on CQ including a control group, in this way it could be explored also the role played by motivational CQ dimension. A control group could be useful to also explore the reasons and the possible barriers for the absence of participation to ERASMUS programme (Souto-Otero, Huisman, Beerkens, de Wit, Vujic, 2013).

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Appendix

The definitions and classification are being echoed by Matsumoto and colleagues (2013)

Authors	Definition
CCAI Kelley & Meyers (1995)	Cross-cultural adaptability is defined as one's readiness to interact with people who are different from oneself or adapt to living in another culture.
ICSI Bhawuk & Brislin (1992)	Intercultural sensitivity is defined as sensitivity to the importance of cultural differences and to the points of view of people of other cultures.
IDI Hammer, Bennett, Wiseman (2003)	Intercultural sensitivity inventory is based on Bennett's development model intercultural sensitivity (DMIS), This model consists of six steps that are ideally set up across a continuum from ethnocentrism to ethnorelativism. The ethnocentric phases defined by three stages: denial, defence and minimization of cultural differences. The ethnorelative orientation by: Acceptance, adaptation and finally integration of cultural differences into identity
CCCS Pruegger & Rogers, (1993)	Cross-cultural sensitivity scale was created with the intent to measure the degree of sensitivity to cultural differences and of comprehension of cultural differences (with a specific reference to the Canadian context)
IBA/ BASIC Ruben 1976	This measure is focus on behavior and on the gap between what people know and what they act.
ICAPS Matsumoto et al. (2001)	The scale measures the potential for intercultural adjustment as a function of the psychological skills that individuals possess (emotion regulation, critical thinking, openness, flexibility, interpersonal security, emotional commitment to traditional ways of thinking, tolerance for ambiguity, and empathy).
ICC (Arasaratnam & Doerfel, 2005)	Intercultural communication competence results in five characteristics associated to it: empathy, intercultural experience and training, motivation, global attitude, and ability to listen well in conversation
ISS Chen & Starosta (2000)	Intercultural sensitivity is defined by authors as a mindset that helps individuals distinguish their counterparts differ in behavior, perception or feelings in the process of intercultural communication
MPQ Van der Zee et Van Oudenhoven (2000)	Multicultural personality questionnaire is defined by the following scales: Cultural Empathy, Openmindedness, Emotional Stability, Orientation to Action, Adventurousness/Curiosity, Flexibility, and Extraversion. It tests the ability to stay in a cultural environment, the interest to interact with people from different countries and the degree of psychological well-being when people act in this multicultural environment.

English items	Italian translations	German translation
Metacognitive	<i>Metacognitiva</i>	<i>Metakognitiv</i>
1 I am conscious of the cultural knowledge I use when interacting with people with different cultural	<i>Sono consapevole delle conoscenze culturali che uso quando interagisco con persone con diversi background</i>	<i>Ich bin mir des kulturellen Wissens (cultural knowledge) bewusst, das ich bei der Interaktion mit Personen</i>

	backgrounds.	culturali.	unterschiedlichen kulturellen Ursprungs nutze.
2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	<i>Sono consapevole delle conoscenze culturali che utilizzo nelle interazioni cross-culturali.</i>	<i>Ich bin mir meines kulturelles Wissens bewusst, das ich im Rahmen interkultureller Interaktionen zum Einsatz bringe.</i>
3	I check the accuracy of my cultural knowledge as I interact with people from different cultures.	<i>Controllo l'esattezza delle mie conoscenze culturali quando interagisco con persone di culture diverse.</i>	<i>Ich überprüfe die Richtigkeit meiner kulturellen Kenntnisse, wenn ich mit Personen aus anderen Kulturen interagiere.</i>
	Cognitive	Cognitiva	Kognitiv
1	I know the legal and economic systems of other cultures.	<i>Conosco i sistemi giuridici ed economici di altre culture.</i>	<i>Ich kenne die Rechts- und Wirtschaftssysteme anderer Kulturen.</i>
2	I know the cultural values and religious beliefs of other cultures.	<i>Conosco i valori culturali e le credenze religiose di altre culture.</i>	<i>Ich kenne die kulturellen Werte und religiösen Überzeugungen anderer Kulturen.</i>
3	I know the marriage systems of other cultures.	<i>Conosco il sistema di matrimonio di altre culture.</i>	<i>Ich kenne das Hochzeitssystem anderer Kulturen.</i>
4	I know the customs of other cultures. (new)	<i>Conosco i riti di altre culture.</i>	<i>Ich kenne die Riten anderer Kulturen.</i>
5	I know the interaction rules between women and men from other cultures. (new)	<i>Conosco le regole di interazione tra donne e uomini proprie di altre culture</i>	<i>Ich kenne die in anderen Kulturen gültigen Interaktionsregeln zwischen Männern und Frauen.</i>
	Motivational	Motivazionale	Motivationell
1	I am confident that I can socialize with locals in a culture that is unfamiliar to me.	<i>Sono fiducioso di poter socializzare con la gente del posto in una cultura che per me è sconosciuta.</i>	<i>Ich bin überzeugt, dass ich mit der lokalen Bevölkerung einer mir unbekannten Kultur Kontakte knüpfen kann.</i>
2	I enjoy living in cultures that are unfamiliar to me.	<i>Mi piace vivere in culture che non sono familiari per me.</i>	<i>Mir gefällt es, in mir unbekannten Kulturen zu leben.</i>
3	I am confident that I can get accustomed to the shopping conditions in a different culture.	<i>Sono sicuro che posso abituarmi alle condizioni economiche in una cultura diversa.</i>	<i>Ich bin überzeugt davon, dass ich mich an die Einkaufsbedingungen in einer anderen Kultur gewöhnen kann.</i>
	Behavioural	Comportamentale	Verhaltensorientiert
1	I use pause and silence differently to suit different cross-cultural situations.	<i>Uso pause e silenzi in modo diverso in base alle diverse situazioni interculturali.</i>	<i>In Abhängigkeit von bestimmten interkulturellen Situationen nutze ich Sprechpausen und</i>

Stille unterschiedlich.

- | | | | |
|---|--|--|--|
| 2 | I change my nonverbal behavior when a cross-cultural situation requires it. | <i>Cambio il mio comportamento non-verbale quando una situazione interculturale lo richiede.</i> | <i>Ich passe mein non-verbales Verhalten an, wenn es eine interkulturelle Situation erfordert.</i> |
| 3 | I alter my facial expressions when a cross-cultural interaction requires it. | <i>Modifico le mie espressioni facciali quando una interazione culturale lo richiede.</i> | <i>Ich passe meine Mimik an, wenn es eine interkulturelle Situation erfordert.</i> |

Likert frequency scale from 1 – *Strongly disagree* to 7 – *Strongly agree*

Scala di risposta Likert da 1 – *Fortemente in disaccordo* a 7 – *Fortemente d'accordo*

Likert Frequenzskala von 1 - Stark abweichend von 7 - Stark zustimmen