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ON THE FACTORS INFLUENCING EFL STUDENTS' INTERCULTURAL COMPETENCE

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ABSTRACT

Cultural intelligence (CQ) as a micro-level construct describing intercultural competence has garnered growing attention in academic literature recently, resulting in an increase in research. This paper reports on the empirical research which, using as a survey instrument the Cultural Intelligence Scale (CQS) developed by Earley and Ang (2003), examined intercultural competencies of Polish EFL students at the tertiary education, measured by the level of CQ. In addition, the investigation aimed to analyze whether individual difference variables such as gender, educational level, linguistic proficiency, multilingualism, motivation to study English, and study abroad experience are significant predictors of students' level of CQ. The results show that the respondents' intercultural competence has been developed only to a small degree. Further, CQ is positively related to gender, educational level, foreign language proficiency, the number of foreign languages known, motivation to study English, and study abroad experience. Some practical applications of the study findings for the Polish tertiary education have been presented.

Keywords: Cultural intelligence; intercultural competence; individual differences.

1. Introduction

For years, researchers have studied certain attributes that allow some individuals to understand unfamiliar cultures better, adjust their behaviors more easily to rise to the challenges of cross-cultural encounters, and communicate more appropriately and effectively than others in today's global world (Cushner & Brislin 1996; Ting-Toomey 1999). This article presents quantitative research investigating students' intercultural competence (ICC), namely their abilities "to interact effectively with people of cultures other than one's own" (Byram

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2000: 297) and "to explain the world around them and to solve their problems" (DeCapua & Wintergerst 2007: 12). In other words, the author seeks to assess students' intercultural knowledge, their awareness of different values and behaviors, and the shared beliefs and norms of culturally diverse others, as well as students' attitudes and skills in dealing with people from different cultures in a non-judgmental way. In addition, the study will examine the factors which might contribute to enhancing an individual's ICC.

Taking into consideration the current speed of globalization in almost every sphere of life and the increased internationalization of both tertiary level education and workplaces, ICC appears to be requisite for young people. Consequently, there is a considerable need to emphasize in the curriculum of higher education, EFL programs included, not only the development of ICC, but also, to some extent, students' intercultural engagement. This development seems to be a prerequisite for preparing them to face the challenges of diverse cultural settings, i.e., to study with international students at their home universities, to attend lectures and seminars run by professors from different cultures, to communicate with foreigners while traveling, and to study abroad. Since little research has been carried out in this area in the Polish context, the current study appears to bridge this gap and is thus timely.

2. Cultural intelligence – literature review

Among a range of available tools for assessing intercultural competence, the Cultural Intelligence Scale (CQS), developed and validated by Earley and Ang (Ang et al. 2007), seeks to address intercultural competence directly. This quadripartite measurement scale, which allows for investigating the multidimensional nature of intercultural capabilities, stems from the concept of cultural intelligence (CQ). Since the research carried out by the author and discussed in the subsequent sections of this article applies Earley and Ang's (2003) work on CQ as a theoretical framework, it is discussed briefly below.

CQ is another conceptualization of ICC, which has been depicted in literature in a threefold way; first, as individual traits, such as curiosity, respectfulness, open-mindedness or cognitive complexity allowing for displaying appropriate communication behaviors and responsible for an individual's effective functioning in other cultures and facilitating his/ her intercultural effectiveness (Hammer, Gudykunst & Wiseman 1978). Second, ICC is viewed as intercultural attitudes, perspectives, and worldviews which help individuals transcend cultural biases and ethnocentrism. For example, Bennett (1993) described individuals' reactions to intercultural differences, placing them on the continuum ranging from the ethnocentric to the ethnorelative stage. Finally, ICC is perceived as a set of capabilities (e.g., knowledge, skills, and positive attitudes toward cultural

diversity and culturally different others) which enable individuals to become global-minded, more inclusive toward the otherness and help develop a sense of intercultural citizenship, clearing the way for effective interactions in culturally diverse contexts (Byram 1997; Deardorff 2006). CQ fits into the third tradition and is different from the individual difference approach and the attitudinal perspective.

Trying to isolate competencies that allow some people to be more effective than others in culturally specific situations, Earley and Ang coined the concept of cultural intelligence and defined it as " a person's capability for successful adaptation to new cultural settings, that is, for unfamiliar settings attributable to cultural context" (2003: 9). The researchers proposed a set of capabilities that help individuals "to look beyond their own cultural lens" (Earley 2002: 285), interpret unfamiliar cultural cues, and focus specifically on resolving cross-cultural problems whenever they appear. In addition, they thoroughly described the characteristics of people who thrive in a culturally diverse environment. In the researchers' view, each individual possesses sui generis CQ, based on his or her unique experiences. People who are culturally intelligent, when confronted with cultural diversity, can fix all their attention on aspects of culture that are different from their native one, activate critical thinking, think outside of their own cultural frameworks, and manage intercultural encounters appropriately.

Earley and Ang's innovative research integrating intelligence and culture offered a novel conceptual model for analyzing intercultural competencies. CQ refers to what a person can do to effectively navigate through new culture scenarios. It has been found to be associated with greater intercultural adjustment, i.e., the extent of an individual's comfort and proficiency when confronted with the behaviors and values of people from a different culture (Black & Mendenhall 1990), larger interest in going abroad and an increased effort to seek out cultural experiences while abroad (Racicot & Ferry 2016). CQ is distinct from stable personality traits, which describe what a person typically does across time and in a range of situations, yet it interacts with personality dimensions to modify individuals' performance (Crowne 2013). For example, since temperament influences the choice of behaviors, some personality traits, such as openness to new experience, creativity, imaginativeness, and adventurousness mitigate the negative effects of interaction with people from diverse cultures, and were found to be antecedents of all CQ dimensions (Ang et al. 2007; Fischer 2011).

CQ as an individual-level construct is consistent with general intelligence, perceived as "the ability to grasp and reason correctly with abstractions (concepts) and solve problems" (Schmidt & Hunter 2000: 3). Likewise, it is explicitly grounded in the theory of multiple intelligences that focuses on specific content domains and is both similar and different from other forms of intelligence. It is analogous, because it is a set of an individual's abilities, which

allow for grasping and reasoning correctly in cultural diversity settings, but it differs in the nature of those capabilities. For example, emotional intelligence (EI), focusing on the general ability to comprehend and control individuals' emotions, does not take into consideration his/her cultural background. Since the norms for emotional expression are formed and conveyed within a particular culture, the ability to show and interpret emotions in the home culture does not automatically translate into effective adjustment and interaction in a new cultural scenario. Thus, a person with high EI in one cultural context may not be emotionally intelligent in another (Raver & Van Dyne 2017). In contrast, CQ is culture-free and transcends cultural boundaries; i.e., it "is not specific to any particular culture and refers to a general set of capabilities relevant to situations characterized by cultural diversity" (Ang et al. 2007: 339). It is a complementary form of intelligence "that can explain variability in coping with diversity and functioning in new cultural settings" (Ang & Van Dyne 2008: 4). In addition, it is "a malleable state construct that can be developed over time" through training, travel, and exposure to different cultural contexts (Ng, Van Dyne & Ang 2012: 34). Research by Fang, Schei and Selart (2018) revealed that the three main effects of developed CQ are better adjustment, performance, and interpersonal effectiveness in culturally different settings.

Earley and Ang (2003) presented CQ as a construct composed of four qualitatively different domains: metacognitive, cognitive, motivational, and behavioral. Metacognitive CQ (control of cognition or "thinking about thinking") refers to individuals' awareness of higher order mental processes that are applied to acquiring or learning about different cultures and understanding them. It involves questioning one's own cultural premises and expectations about different cultures, reflecting during interactions, and utilizing cultural knowledge in new cultural environments. It enables individuals to search for explanations of unexpected responses or weird and incomprehensible behaviors of culturally diverse others. Metacognitive CQ helps people make sense of their intercultural experiences and is connected to developing individualized cognitive strategies helpful in acquiring new cultures and surviving in unfamiliar situations. By triggering critical thinking about culturally different people and situations, metacognitive domain increases an individual's awareness of diversity among cultures, and allows for challenging rigid reliance on the native culture assumptions, making him or her plan, monitor, and revise cultural norms suitable in a particular cultural context. It also helps suspend judgment based on deeply ingrained stereotypes and look for additional cues when necessary. In addition, metacognitive CQ drives individuals to be flexible and prompts them to adopt multiple perspectives, allowing for transcending cultural differences and adapting behavior accordingly so as to act in a more appropriate way and thus achieve the desired outcome(s). Metacognitive CQ comprises an individual's foreknowledge, onsite adaptation, and post-

assessment of an interaction with culturally diverse others. Experience and learning from one's mistakes seem to be essential for its fostering (Triandis 2006; Ang & Van Dyne 2008; Raver & Van Dyne 2017).

Cognitive CQ, reflecting the capability to make a strenuous effort to think/learn about other cultures and to search for explanations of any ambiguities in the behavior of culturally diverse individuals, helps people to successfully engage in intercultural interactions. It concerns knowledge of both cultural universals and cultural differences, i.e., prevailing norms, practices, and conventions in different cultures, which facilitates navigating culturally diverse situations. Such knowledge (both declarative and procedural) of values, customs, practices, and patterns of social interaction and communication (verbal and nonverbal) is obtained through education and personal experience, and allows for understanding similarities and differences across cultures, contributes to lowering adverse effects of cultural shock, and is requisite for effective decision-making in intercultural contexts (Ang et al. 2007). The more an individual knows about foreigners (culturally diverse others) and the assumptions which shape their values, practices, and specific patterns of interaction, the better he or she is able to interpret and comprehend their behaviors, and ultimately handle the complexities of intercultural communication. Knowledge about cultures and the awareness of cultural differences help challenge and remove prejudices and stereotypes about unfamiliar environments and their inhabitants, and, in the long run, overcome barriers which hinder mutual understanding.

Motivational CQ refers to an individual's inner drive first to direct, and then sustain considerable attention toward learning about cultural differences and experiencing other cultures, and putting in the effort to implement them into interactions with cultural others. It arouses and enhances curiosity and interest in culturally unfamiliar backgrounds, helps control negative affect and behaviors which may often impede intercultural encounters, increases the level of receptivity to feedback received from foreigners, and thus seems to be indispensable for successful adaptation to new, culturally different settings. Individuals with high motivational CQ have intrinsic interest in novel cultural experiences and enjoy engaging in interactions with culturally different others. They have a sense of confidence and trust that they can function effectively and survive in culturally diverse settings. Since motivational CQ triggers attention, effort, and control, it is critical in facilitating an individual's cognitive and metacognitive CQ growth.

Behavioral domain is accountable for effective execution of CQ, namely appropriate and effective verbal and nonverbal actions in intercultural interactions. People with high behavioral CQ are equipped with a wide repertoire of verbal and non-verbal behaviors and abilities which help them control unfamiliar situations. They are flexible in adapting their demeanors to the requirements of a particular socio-cultural situation, and, in encounters with culturally dissimilar people, do

their best to utilize culturally appropriate words, pronouncing them with a suitable tone and speed, exhibit proper gestures and facial expressions, follow the rules of etiquette, and put on acceptable attire (Ang et al. 2007). The utmost importance of the behavioral subscale of CQ has been noticed by Earley and Mosakowski (2004: 141), who wrote: "you will not disarm your foreign hosts, guests, or colleagues simply by showing you understand their culture; your actions and demeanor must prove that you have already to some extent entered their world".

The four dimensions of CQ highlight different types of capabilities that, taken together, "form an integrative framework allowing for synthesizing the utterly disparate intercultural competences" (Ng, Van Dyne & Ang 2012: 34). Developed metacognitive and cognitive intelligence contributes to forming appropriate cultural judgments and making effective decisions in culturally diverse settings, whereas high motivational and behavioral intelligence are reliable antecedents of cultural adaptation. In a similar vein, each of the four CQs positively relates to task performance (Ang et al., 2007). CQ is not a sum of its constituent elements, but a uniform, interdependent structure, whose four quadrants constantly interface and interact with each other. Together, they prepare individuals to initiate intercultural contacts, to begin expressing themselves, to listen to their culturally different interlocutors and to analyze the feedback from them so as to be able to react appropriately.

3. An overview of research on individual differences in CQ

Researchers have tried to identify a range of factors which seem to contribute to increased CQ. The findings of their studies, however, were often conflicting, contradictory, and inconsistent. Earley (2002) argued that there was a positive correlation between an aptitude for acquiring languages and a level of CQ. Research on language proficiency in multinational corporations demonstrated that employees with limited linguistic resources (both comprehension and fluency) may suffer from a sense of remoteness and disconnectedness, which constitutes a serious impediment to mutual understanding (Marschan-Piekkari, Welch & Welch 1999a, 1999b). Shannon and Begley's research (2008) proved that language skills were positively related to the cognitive facet of CQ. Since language conveys many subtleties of a culture (e.g., norms, conventions, and differences in thought patterns) and reflects its core values, it transmits cultural knowledge. Therefore, those with higher abilities in foreign languages have a tool that allows for accessing knowledge and the core values of different cultures. They are also better at validating assumptions about behaviors that reflect cultural practices of culturally diverse others. Consequently, they are well equipped to use language to advance in intercultural development.

Travels abroad seem to be another significant predictor of CQ. Lave and Wenger (1991) suggested that international experiences provided individuals with the social contexts and authentic activities to learn how to manage cross-cultural differences. Research has supported a positive link between intercultural experience and CQ (Shannon & Begley 2008; Harrison 2012; Moon, Choi & Jung 2012; Pekerti & Arli 2017). For example, Kurpis and Hunter (2017) found that international work experience gained through work or travel abroad positively related to all subscales of CQ. The researchers concluded that people with such experience were more eager to work with culturally diverse others and, in situations characterized by cultural diversity, were more prone to explore different cultures and traditions. Tarique and Takeuchi (2008) demonstrated that there was a statistically significant relationship between the amount of intercultural exposure and the development of CQ. This finding was confirmed by MacNab, Brislin, and Worthley (2012). In addition, Tarique and Takeuchi's (2008) research results and Moon, Choi and Jung' study (2012) showed that the increase in the number of international non-work (the former research) and work experiences (the latter study) could predict higher scores on metacognitive and cognitive subscales of CQ. However, results from other available studies revealed that the relationship between international experience and CQ was not so straightforward. For example, in MacNab and Worthley's study (2012), prior international experience was unrelated to all CQ indicators. This outcome was corroborated in the research by Gupta et al. (2013). It is noteworthy that although the quantity of international experience was important for CQ development, there is little research on the quality of the experience, which could be as relevant, if not even more critical, than quantity for CQ growth (Ng, Van Dyne & Ang 2012).

CQ appears to be a function of study abroad. For example, Engle and Crowne (2014) reported that all CQ dimensions increased significantly after the visit abroad experience. However, in Varela and Gatlin-Watts' study (2014), only cognitive and metacognitive CQ increased, whereas motivational and behavioral CQ did not. Likewise, Wood and St. Peters (2014) documented an increase in cognitive, metacognitive, and motivational CQ among their sample (behavioral CQ did not change). However, Schwarzenthal et al. (2017) failed to find any correlation between travel abroad and CQ among adolescents.

In Banning' s research (2010) on the role of a short study abroad, gender was found to be a significant antecedent of the CQ level. Likewise, Báez's study (2012) revealed there was a significant change in the motivational dimension of CQ between female and male students following attendance in a Spanish course at the university; the female subpopulation's mean scores were higher. Banning's study also demonstrated that graduate students scored higher than undergraduates on the cultural intelligence scale (CQS), hence degree level was a significant predictor of all four components of CQ (Cui 2016).

4. Research study

4.1. The rationale and aim

The impulse for the study came from the author's interest in intercultural FL education. Poland, where the author is based, is a homogeneous country; thus students go through a largely mono-cultural socialization, and are taught English by Polish graduates of FL departments; consequently, they have very limited intercultural input and access only to their own worldviews. Likewise, the level of internationalization of Polish universities is very low. Although Polish students travel for holidays abroad, use the Internet and other media, and know people who take part in economic migration, it is difficult to determine the quality of such contact, to what extent students experience the difference between their own perception of reality and that of people who are culturally different, and whether students reflect on their contact with representatives of diverse cultures. This makes intercultural teaching/learning extremely necessary, and, because of the aforementioned cultural homogeneity of Poland, difficult.

The author wanted to examine empirically intercultural competence of Polish students at the tertiary education level, which led to the formulation of two research questions:

1. What is the level of Polish university students' intercultural competencies, as measured by their CQ results?
2. What are the differences in the level of intercultural competence, as measured by a CQ test, between the following groups of Polish university students:
   a) male and female students
   b) undergraduate and graduate students
   c) students with low and high proficiency in English
   d) students who speak only English and students who speak another foreign language/other foreign languages in addition to English
   e) students with high or low motivation to learn English
   f) students with or without study abroad experience?

4.2. Methodology, measurement instrument and data collection

To elicit the data, a non-interventional approach was adopted, and a delayed retrospective method of data collection was employed. The study was of a quantitative nature and applied estimation theory. A questionnaire consisting of two parts was used as a survey instrument. The first part, developed by the author, collected information about the respondents, which helped differentiate them according to a range of demographic and socio-cultural variables such as gender,

the degree program they were enrolled in, their level of English proficiency, the number of foreign languages known, motivation to learn English, and international study experience. The second part, the cultural intelligence scale (CQS), which was developed and validated by Ang et al. (2007), assessed the respondents' level of CQ. This 20-item instrument "assesses multiple aspects of intercultural competence in a single instrument, based on a theoretically grounded, comprehensive and coherent framework" (Ang & Van Dyne 2008: 10). The CQS measured both the internal and external outcomes of intercultural exposure. The respondents' CQ was measured as an integrated construct and, in addition, each of the four CQ dimensions was measured separately. Regarding cross-validation of the instrument, its internal consistency was confirmed (corrected item-to-total correlations for each subscale varied between 0.46 and 0.66 and demonstrated strong relationships between items and their scales), and its aggregated reliability surpasses 0.70 (Ang et al. 2007: 345).

The questionnaire was available in a paper version and online. Both versions were accompanied by a message from the researcher inviting students to participate in the study, explaining its purpose and indicating that responses would be treated anonymously. Since the respondents were assumed to be fluent in English, they were given an original version of CQS, i.e., in English. The first part of the questionnaire contained 8 closed questions, and the other consisted of 20 items covering four subscales: metacognitive (items 1–4), cognitive (items 5–10), motivational (items 11–15) and behavioral (items 16–20) (see Appendix). The students were asked to mark to what extent they agreed with the questionnaire statements using a 7-point Likert scale, where responses ranged from "strongly disagree" (1) to "strongly agree" (7). Thus, the range of scores was from 20 to 140.

A pilot test was administered to a sample of 10 students to check the clarity of the instructions and item clarity (part I), overall time taken to complete the questionnaire, and balanced keying to see if the respondents avoided using extreme response categories (part II). This resulted in a few changes in the wording of the first part of the questionnaire to resolve the ambiguities reported by the students. A relatively equal number of extremely positive (7) and negative (1) sentences in the sample proved that the scale had been chosen correctly. The time needed to complete the questionnaire ranged from 15 to 20 minutes.

4.3. Procedures, participants and data analysis

The research was conducted in the spring of 2016 among students of two flagship public universities, one large and one middle-sized, located in a large city with a half million inhabitants, in Central-Western Poland. The student body at both universities is very homogeneous, consisting of a very low number of international students (2,05% and 3,69%, respectively). A paper and pencil

questionnaire in English was handed out to 124 randomly chosen students of management, and its online version was sent simultaneously to all 337 students of business and finance in the Erasmus+ database at both universities. The choice of business students resulted from the fact that the field of business has globalized and many graduates will find employment in multinational companies either in Poland or abroad, where they will have to work and interact regularly with people from different cultural backgrounds. Thus, intercultural competencies seem to be essential capabilities for them to perform well in such cross-cultural workplaces.

Overall, 461 students received the questionnaire in either form. Participation was voluntary and the students were informed they would not receive any compensation for their participation in the study; thus, the return rate of 30.15% was relatively low. Data from the final sample of 139 subjects who completed and returned the questionnaire was analyzed, using a standard set of psychometric procedures. Participants' identities were kept anonymous, and their responses confidential.

The age of the students ranged from 20 to 25. More female respondents answered the questionnaire (66% female versus 34% male). This unevenly split distribution reflects university reality in Poland. 46% of the respondents were undergraduate students, whereas 54% were enrolled in graduate programs. They majored, as previously mentioned, in business, management, or finance. The majority (95%) declared high proficiency in English (B1 and more according to Common European Framework of Reference for Languages). 55% of the respondents stated they knew other foreign language/s in addition to English. The majority of the sample (68%) declared strong motivation to continue learning English. The minority (28%) participated in the Erasmus+ program, and thus had experience of studying abroad for a minimum of one semester.

In order to analyze the results, Excel was used to compute descriptive statistics. The CQS scores in the sample had good internal-consistency reliability (α=.82). The 5% level of significance was set for all the results (p=.05).

5. Results and discussion

The analysis of the questionnaire data is presented according to the two research questions identified at the data analysis stage discussed earlier.

5.1. Intercultural competence of Polish students by their CQ results

The applied methods of descriptive statistics helped assess the respondents' CQ level (Table 1).

Table 1. Parameters of a distribution of the respondents' CQ and its constituent elements

Subscales of cultural intelligence	M	SD	CV	Mode
Metacognitive	4.87	1.34	27.52	5
Cognitive	4.19	1.30	31.08	5
Motivational	4.92	1.54	31.34	5
Behavioral	4.33	1.46	33.65	4
Total	4.54	1.45	31.89	5
N	139			

The results reveal that the respondents' level of CQ, namely 4.54, is relatively low, which means that their intercultural competence is developed only to a small degree and is somewhat satisfactory (research question 1, table 1). This raises a range of questions concerning what impediments this may constitute to students' potential cross-cultural encounters. Since CQ is an important facilitator in intercultural interactions, it can be assumed that the students may have problems in predicting culturally new situations, reducing distance between them and people from different cultures, and thus may feel uncertainty. In a similar vein, the subjects may be unable to tolerate ambiguity when faced with intercultural situations and may tend to form early judgments. In addition, a relatively low CQ indicates that the students may feel intimidated and show a high level of anxiety when confronted with people from diverse cultures, which may bias their perception, make them frozen with inertia, thus impeding and harming cross-cultural interactions. The respondents may fear the unknown and be unable or unwilling to step out of their own cultural frames of reference. They may also fail to anticipate diverse perceptions, different from the ones previously taken for granted, which is relevant to behaving appropriately in an unfamiliar context. Consequently, they will either have problems managing intercultural interactions effectively or will avoid them.

The participants' mean score for all four CQ subscales exceeded 4.0, considered as a neutral point. Standard deviation was relatively low for all four domains, and so was dispersion, measured by the coefficient of variation, which was below or around 30%. This indicates that the results are very close to the mean and the majority of the respondents' answers were relatively unanimous. The mode is 5, with the exception of 4 for the behavioral subscale. The least developed was the cognitive domain (4.19). This outcome reflects the fact that the students lack knowledge and skills which help in dealing with problems in ambiguous, intercultural environments, overcoming communication and cultural barriers, and adjusting appropriately. The most developed subscale was the motivational one (4.87), which functions as a driver to continue and sustain communication in cross-cultural contacts. Such a high outcome in the

motivational domain may result from the respondents' awareness that they would work in multinational companies. This finding justifies an assumption that they may be able to put extra effort and energy into learning about cultural differences, thereby increasing communication effectiveness in culturally diverse settings.

5.2. Intercultural competence of Polish students by the four CQ dimensions

The mean scores for individual items on the CQS ranged from 3.93 (item 5 "I know the legal and economic systems of other cultures" to 5.65 (item 11 "I enjoy interacting with people from different cultures"). Only two mean scores out of 20 were below 4.0. Furthermore, the mode in the sample was 4 for 8 questionnaire items, while 11 items scored 5 and one as much as 7 (Tables 2–5).

Table 2. Parameters of a distribution of the respondents' metacognitive subscale of CQ

Parameter	Item 1	Item 2	Item 3	Item 4	Total
Mean	4.99	4.92	4.86	4.68	4.87
Standard deviation	1.31	1.34	1.30	1.39	1.34
Coefficient of variance (%)	26.15	27.15	26.82	29.65	27.52
Mode	5	5	5	5	5

Table 3. Parameters of a distribution of the respondents' cognitive subscale of CQ

Parameter	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Total
Mean	3.93	4.13	4.66	4.16	3.96	4.29	4.19
Standard deviation	1.31	1.46	1.19	1.22	1.33	1.13	1.30
Coefficient of variance (%)	33.40	35.44	25.54	29.45	33.48	26.27	31.08
Mode	4	5	5	4	4	4	5

Table 4. Parameters of a distribution of the respondents' motivational subscale of CQ

Parameter	Item 11	Item 12	Item 13	Item 14	Item 15	Total
Mean	5.65	4.94	4.82	4.38	4.82	4.92
Standard deviation	1.49	1.54	1.45	1.57	1.37	1.54
Coefficient of variance (%)	26.43	31.24	30.10	35.84	28.40	31.34
Mode	7	5	5	5	5	5

Table 5. Parameters of a distribution of the respondents' behavioral subscale of CQ

Parameter	Item 16	Item 17	Item 18	Item 19	Item 20	Total
Mean	4.50	4.19	4.33	4.40	4.22	4.33
Standard deviation	1.64	1.38	1.32	1.48	1.42	1.46
Coefficient of variance (%)	36.42	32.97	30.39	33.60	33.76	33.65
Mode	4	4	4	5	4	4

A possible explanation for the relatively low average CQ results of the sample and their constituencies is that not enough emphasis is given to the intercultural dimension in EFL classes in Poland at all levels of education. In addition, students do not have enough exposure to intercultural situations outside the classroom and in their private lives or that the quality of such encounters is relatively poor, i.e., they are not meaningful.

5.3. Intercultural competence of Polish students by six differentiating factors

To obtain the answer to the research question 2, the next step in the study was to investigate what factors, if any, determine an individual student's CQ results. The following six factors were hypothesized to differentiate the questionnaire results: gender, degree level (enrollment in an undergraduate versus a graduate program), language proficiency, multilingualism, motivation to learn English, and experience of travel abroad. To determine if differences in CQ means between the two subpopulations created for the research purpose are significantly different, tests of significance for differences in means between two populations were applied. Since in the majority of calculations, two random samples which were compared were larger than 30, the Mann-Whitney U tests were run and a normal distribution used N (0,1) (with the exception of table 8, where one subpopulation was smaller than 30, and Student t-tests were utilized). Although a lot of researchers use Student t-tests no matter how large the samples are,

statistical limit theory recommends applying U statistics and a normal distribution (Aczel & Sounderpandian 1993: 199, 353). This recommendation was followed in the current study.

Significant differences in the participants' CQ total results were found on all six measures analyzed. Tables 6–12 presented on the successive pages of the article show the results (asterisks indicate significant differences, the critical values being 1.64 and -1.64 respectively).

Table 6. Parameters of a distribution of the respondents'cultural intelligence by gender

Subscales of cultural intelligence	Female students				Male students				U statistics
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	4.93	1.27	25.69	5	4.73	1.47	31.00	4	1.5745
Cognitive	4.15	1.22	29.33	4	4.27	1.46	34.10	5	-1.1978
Motivational	5.01	1.49	29.76	4	4.75	1.64	34.42	5	1.9892*
Behavioral	4.41	1.38	31.27	4	4.16	1.59	38.15	4	2.0438*
Total	4.59	1.39	30.27	5	4.46	1.56	34.95	5	2.1411*
N	92				47				

The mean CQ score for female subjects was higher by 0.13 than that of male respondents (research question 2a, table 6). Female respondents' results were also higher on three CQ individual subscales, although only two differences, i.e., motivational and behavioral subscales, were significant at the level assumed for the study, i.e. $p = .05$. This result is partially congruent with the outcome of Báez's study, indicating that female respondents achieved higher scores for the motivational dimension of CQ (Báez 2012). The remaining two results would have been significant with a larger error rate, respectively $p>0.58$ for the metacognitive domain, and $p > 0.12$ for the cognitive one. Both subpopulations had a mode at the level of 5. This finding shows that gender is a significant predictor of the CQ levels, namely that the female students are slightly better equipped with knowledge and skills to behave appropriately and communicate effectively, and thus perform better in intercultural settings.

Table 7. Parameters of a distribution of the respondents' cultural intelligence by the educational level

Subscales of cultural intelligence	Undergraduate students				Graduate students				U statistics
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	4.59	1.34	29.29	5	5.10	1.29	25.33	4	-4.6057*
Cognitive	4.10	1.38	33.78	4	4.27	1.23	28.72	5	-1.8377*
Motivational	4.68	1.60	34.19	5	5.13	1.46	28.55	5	-3.8422*
Behavioral	4.10	1.51	36.81	4	4.52	1.38	30.62	4	-3.7454*
Total	4.34	1.49	34.26	4	4.71	1.39	29.55	5	-6.7284*
N	64				75				

Another factor which was found to positively relate to CQ outcomes was the educational level the individuals were at; the graduate students' overall mean CQ score was 0.37 higher than that of the undergraduates (research question 2b, table 7). The former subpopulation scored higher on all four subscales of CQ. Furthermore, in their answers the mode at the level of 5 predominated, whereas the undergraduate students' answers were scattered around 4. Dispersion was lower for the subpopulation of the graduates, which shows that they were more homogeneous concerning their CQ outcomes. This finding depicts that education may enhance the development of students' intercultural competence. We can assume the respondents were exposed to intercultural contacts through lectures delivered by visiting professors from abroad, or/ and encountered international students both in the university classes and on campus. Since graduate students study longer, their exposure was presumably higher, hence their higher CQ results.

Table 8. Parameters of a distribution of the respondents' cultural intelligence by English proficiency

Subscales of cultural intelligence	Students with low proficiency (A1+A2)				Students with high proficiency (B1-C2)				Student's t-test
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	3.93	1.46	37.26	3	4.91	1.32	26.78	4	-3,8001*
Cognitive	3.52	1.38	39.26	4	4.22	1.29	30.53	5	-3,4105*
Motivational	4.17	1.72	41.31	4	4.96	1.52	30.73	5	-2,9711*
Behavioral	3.49	1.40	40.19	3	4.37	1.45	33.11	4	-3,4998*
Total	3.76	1.51	40.11	3	4.58	1.43	31.28	5	-6,5903*
N	7				132				

The study revealed that language proficiency contributed to the respondents' higher CQ results; the subjects who declared more advanced English proficiency scored

higher by 0.82 than their counterparts with lower self-reported competencies in English (4.58 versus 3.76 respectively) (research question 2c, Table 8). The results of the former subpopulation were considerably higher on all four subscales of CQ. In addition, the mode in this subpopulation was 5, in contrast to 3 for the respondents who declared lower language proficiency (Table 8). It can be deduced that the richer linguistic resources and higher capabilities allowed the subjects to learn more about foreign cultures, to presumably become more mindful of cultural differences and more reflective in the intercultural contexts (their metacognitive CQ result was higher by 0.98 and they scored 0.88 more on the motivational scale, enabling them to navigate their intercultural experiences better). Further, they were driven to develop strategies helpful in coping with problems in unfamiliar contexts. These findings partially echo the results of the previous studies, e.g., Shannon and Begley (2008), who demonstrated that the developed cognitive facet of CQ aided the participants of their research in enhancing their ICC.

Table 9. Parameters of a distribution of the respondents' cultural intelligence by the number of FLs known (1)

Subscales of cultural intelligence	Students who speak only English				Students who speak English and other FLs				U statistics
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	4.48	1.33	29.68	5	5.18	1.27	24.48	5	-6.3286*
Cognitive	3.88	1.33	34.28	4	4.44	1.23	27.65	5	-6.2046*
Motivational	4.47	1.47	32.89	5	5.28	1.51	28.53	7	-7.1000*
Behavioral	4.00	1.49	37.20	3	4.59	1.38	30.02	4	-5.3700*
Total	4.18	1.43	34.25	4	4.83	1.40	28.86	5	-12.1500*
N	62				77				

Table 10. Parameters of a distribution of the respondents' cultural intelligence by the number of FLs known (2)

Subscales of cultural intelligence	Students who speak one more FL in addition to English				Students who speak two / more FLs in addition to English				U statistics
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	5.22	1.23	23.51	5	5.41	0.97	17.84	5	-1.2694
Cognitive	4.25	1.23	28.92	5	4.92	1.01	20.56	5	-5.2557*
Motivational	5.24	1.48	28.34	5	5.56	1.27	22.77	7	-1.9100*
Behavioral	4.50	1.33	29.59	4	4.67	1.30	27.91	6	-1.0300
Total	4.75	1.39	29.27	5	5.12	1.20	23.43	6	-4.4900*
N	40				37				

Another significant antecedent of the respondents' CQ outcomes was the number of FLs known; those who declared they spoke English and other foreign languages gained a higher CQ mean, i.e., 5.12 versus 4.75, respectively. The CQ results of the subpopulation who spoke one more foreign language in addition to English was higher by 0.65 than those who spoke only English, whereas the CQ outcomes of those who spoke two or more foreign languages in addition to English was higher by 0.37 (research question 2d, tables 9 and 10). Their scores were higher on all four subscales of CQS. Furthermore, the mode of those who knew two or more FLs in addition to English was respectively 5 and 6, whereas the mode of the subpopulation of the students speaking only English was 4. In addition, the CQ score of the former "multilingual" subpopulation was higher than the average CQ results of the whole sample surveyed (respectively by 0.29 in the case of trilingual respondents and by 0.58 in the case of the multilingual students) (tables 1, 9, and 10). This finding suggests that language proficiency shapes individuals' experiences and is a catalyst for intercultural competence growth. Linguistically proficient people have resources to talk to locals while they are abroad or to foreigners in their own country; they do not need to resort to any translator to access culturally different others, since there are no language barriers for them, making them more willing to get involved in meaningful intercultural interactions and more sensitive in using English as a tool to obtain intercultural knowledge, hence, they function better in culturally diverse settings. This outcome concurs with Harrison's study (2012), where language ability was found to be positively related to overall CQ.

Table 11. Parameters of a distribution of the respondents' cultural intelligence by motivation to learn English

Subscales of cultural intelligence	Students with weak motivation				Students with strong motivation				U statistics
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	4.14	1.25	30.19	4	5.21	1.24	23.80	4	-9.5038*
Cognitive	3.52	1.28	36.20	4	4.51	1.19	26.42	5	-10.6778*
Motivational	4.21	1.61	38.12	5	5.26	1.39	26.46	6	-8.3800*
Behavioral	3.68	1.42	38.41	4	4.63	1.38	29.68	4	-8.3500*
Total	3.86	1.42	36.90	4	4.87	1.34	27.57	5	-17.8200*
N	45				94				

There was a statistically significant difference between the respondents' overall CQ results and their motivation to learn English; the results obtained from the students who declared a high level of motivation was 1.01 higher than the CQ score of those whose motivation was lower (research question 2e, table 11). The results of the

former subpopulation were higher on all four CQ subscales and the mode was one point higher (5 versus 4). This finding depicted that highly motivated students presumably searched for more exposure to the foreign language and simultaneously to foreign culture/s, which may have led to an increase in their CQ.

Table 12. Parameters of a distribution of the respondents' cultural intelligence by experience of studying abroad

Subscales of cultural intelligence	Students who did not study abroad				Students who studied abroad				U statistics
	M	SD	CV	Mode	M	SD	CV	Mode	
Metacognitive	4.59	1.32	28.79	5	5.58	1.11	19.83	6	-9.0349*
Cognitive	4.03	1.36	33.68	4	4.61	1.05	22.71	5	-6.6575*
Motivational	4.58	1.53	33.50	5	5.80	1.18	20.31	7	-11.2400*
Behavioral	4.08	1.43	35.08	4	4.95	1.33	26.89	5	-7.5300*
Total	4.29	1.44	33.52	4	5.19	1.26	24.37	5	-16.1600*
N	100				39				

The data obtained revealed that international experience positively relates to CQ scores; the respondents who studied abroad scored considerably higher on all four variables of CQ scales. Their scores were higher by 0.9 than those who did not study abroad and exceeded by 0.65 the average CQ results for the surveyed sample (research question 2f, table 12 and table 1). The mode for the results of this subpopulation was higher by one point (5 versus 4). This finding confirms the common wisdom that exposure to cultural diversity and opportunities to interact with culturally different others, which travel seems to stimulate, result in the development of travellers' CQ. It also corroborates the previous studies fully, e.g., Engle and Crowne (2014) or partially (Varela & Gatlin-Watt 2014; Wood & St. Peters 2014).

Among the six factors analyzed in this study, travel seems to influence the participants' CQ results most significantly. The absolute value of U statistics, i.e., -16.1600 and +16.1600 respectively, is the highest (table 12), which in consequence results in the least p, thus reveals the smallest error in drawing conclusions. Although the obtained results demonstrate that study abroad is a predictor of the enhanced intercultural competence, for practical application of this finding, a few questions have to be addressed. It must be noted that the quality of the experience was not assessed in the current study, which is a serious limitation, because the quality of experience could be important, if not more critical than the mere fact of studying abroad. Individual differences are also likely to affect how travel abroad translates into CQ results, which was also beyond the scope of this research, yet deserves further attention. Since CQ is a function of specific

experiences, and in the current study the CQ of the travellers was measured only after their study abroad, a longitudinal study, measuring the difference in CQ before and after the travel, would help systematically track and analyze the development of CQ over time and learn about the nature of any changes. In addition, pre- and post- tests administered to the participants of the study would allow for assessing whether the participants' higher results in CQ resulted from the study abroad or from other factors, e.g., maturation or the opportunity to study away from home, and would help identify the well-travelled individuals with immense cross-cultural experience prior to the journey. In addition, more research on the duration of study abroad effects and their rate of fading would be useful (it is uncertain whether gains in CQ tied to travel are maintained over time).

6. Conclusions and practical implications

The study revealed that Polish students at the tertiary education level have a relatively low level of CQ, which indicates a small degree of their intercultural growth. Since intercultural competence helps individuals get a grip on and rise to the challenges of complex cross-cultural situations by equipping them with the knowledge and skills to behave appropriately and stimulating their understanding of cultural differences, much needs to be done in Poland to implement multi-dimensional intercultural teaching/learning at all educational levels. The findings of the research also demonstrated that individual difference variables such as gender, educational level, linguistic proficiency, the number of foreign languages known, motivation to learn English, and study abroad experience influenced individuals' CQ and were significant antecedents of their level of intercultural competence, as measured by the CQS inventory. The research concurs with the results of many other studies conducted over the years alluding to the idea that certain attributes allow some individuals to better adjust to unfamiliar cultural contexts and be more effective in cross-cultural communication than others.

The current study has practical and pedagogical implications for university authorities and FL course designers. Since the findings confirmed that proficiency in foreign languages proves to be positively associated with CQ, courses of other foreign languages, in addition to English, should be offered at the university and some subjects should be offered in English (or other foreign languages) in order to first promote foreign language/s learning/teaching, and, second, to increase students' proficiency. In addition, students should be afforded opportunities to study abroad and encouraged to participate in exchange programs, such as Erasmus+. With regard to the finding which implies that study abroad results in an increase in CQ, on a practical front, education authorities should implement at least one semester of studies abroad as mandatory. In addition, to further assist students in developing their intercultural competence, a

cross-cultural training module should be obligatorily incorporated into FL classes offered at the university. This would expose students to foreign culture(s), engage them in a range of projects aimed at exploring and comparing cultures and solving cultural problems, thus contributing significantly to the development of their intercultural competence.

7. Limitations of the study and implications for future research

Some limitations of the present study provide an agenda for future research. First, the research was carried out on a relatively small sample, the members of which self-elected to participate and probably were eager to report positively, and was not truly representative; thus, the findings have to be considered as preliminary and tentative, and cannot be generalized beyond the study group and applied to the whole population of students in Poland. Consequently, the research should be considered as a pilot study and another replication investigation with larger samples, truly representative of Polish EFL students at the tertiary level, should be conducted in the future. Second, the study did not measure the strength of each of the six parameters influencing CQ results. Third, since the sample was homogenous, i.e., only students majoring in management were examined, in the future students of other majors need further attention, as graduates of other departments are also likely to function in cross-cultural workplaces. Fourth, the quantitative investigation has its limitations, namely the subjectivity of the questionnaire answers or "socially desirable" responses (Kealey 2015). Having interpreted the purpose of the study, participants may try to give "the right answers" rather than the one that truly reflects their real competence and attitude. There are also doubts concerning objectivity of self-assessment measures used in the current study. Adopting multiple assessment methods to measure cultural knowledge and skills, such as situational judgment tests and computer simulations providing participants with hypothetical intercultural situations and a set of possible responses, would help overcome this problem.

Furthermore, the present retrospective research needs to be complemented by a separate qualitative one, i.e., interviews with students, their field observations or a comprehensive analysis of their diaries, journals, logs, and e-portfolios. Such rich data would provide new insights into how the process of CQ development proceeds across individuals. In addition, a range of questions still has to be answered, e.g., whether CQ increases linearly or its growth involves a learning curve, how many stages people go through while they foster their CQ or which facet of CQ should be developed first to facilitate the others (Fang et al. 2018). We should also try to focus on the culture-specific aspects of CQ and the negative effects of CQ (the dominant "halo effect" in the available research on CQ, which automatically associates it with successful results), e.g., how people with higher

CQ take advantage of culturally diverse others. This would help validate the obtained data, and thereby eventually increase the reliability and credibility of the interpretation. Only triangulation of methods and sources will help us further pursue and investigate the matter thoroughly, eventually providing valid answers to the research questions.

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Appendix – the Cultural Intelligence Scale (CQS)

Read each statement below and **circle** the response that best describes your capabilities (you can choose one number from 1 = strongly disagree to 7 = strongly agree)

Metacognitive CQ

1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.

Cognitive CQ

5. I know the legal and economic systems of other cultures.
6. I know the rules (e.g. vocabulary, grammar) of other languages.
7. I know the cultural values and religious beliefs of other cultures.
8. I know the marriage systems of other cultures.
9. I know the arts and crafts of other cultures.
10. I know the rules for expressing non-verbal behaviors in other cultures.

Motivational CQ

11. I enjoy interacting with people from different cultures.
12. I am confident that I can socialize with locals in a culture that is unfamiliar to me.
13. I am sure I can deal with the stresses of adjusting to a culture that is new to me.
14. I enjoy living in cultures that are unfamiliar to me.
15. I am confident that I can get accustomed to the shopping conditions in a different culture.

Behavioral CQ

16. I change my verbal behavior (e.g. accent, tone) when a cross-cultural interaction requires it.
17. I use pause and silence differently to suit different cross-cultural situations.
18. I vary the rate of my speaking when a cross-cultural situation requires it.
19. I change my non-verbal behavior when a cross-cultural situation requires it.
20. I alter my facial expressions when a cross-cultural interaction requires it.