How Do Management Students Perceive Their Cultural Intelligence?

Jak studenci zarządzania postrzegają swoją inteligencję kulturową?

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ABSTRACT

Objective: The ability to communicate remains one of the most sought-after qualities in university graduates. The globalisation and internationalisation of companies has increased the importance of capabilities allowing for effective cooperation in a culturally diverse environment. This study draws on the theoretical framework of cultural intelligence (cultural quotient – CQ) and utilises the Cultural Intelligence Scale (CQS) to examine the cultural intelligence of students at the Cracow University of Economics.

Research Design & Methods: The survey instrument consisted of two sections. The first describes the 20-statement Cultural Intelligence Scale presented by Ang *et al*. in 2007. A seven--point Likert scale (strongly disagree = 1, strongly agree = 7) was used to rate each statement. The second section presents demographic information and some aspects of the respondents' international experience (studying abroad and projects promoting international collaboration, for example).

Findings: The results show that, of all of the elements constituting CQ, students possess the lowest levels of cognitive CQ.

Implications/Recommendations: The literature review allows for a couple of conclusions. First, in order to enhance the CQ, particularly the cognitive component, international experience is crucial. The university should therefore encourage students to participate in exchange programmes and consider increasing the number of such programmes made available to students.
Contribution: This paper deepens the understanding of the CQ, especially the areas that should be prioritised for improvement by students who will soon start to work in a culturally diverse environment.
Article type: original article.
Keywords: cultural intelligence, cultural intelligence scale, intercultural communication, cross-cultural studies.
JEL Classification: J24.

STRESZCZENIE

Cel: Umiejętność komunikowania się stanowi jedną z najbardziej poszukiwanych cech u absolwentów szkół wyższych. Globalizacja i internacjonalizacja firm zwiększają znaczenie zdolności pozwalających na efektywną współpracę w zróżnicowanym kulturowo środowisku. W artykule oparto się na podstawach teoretycznych dotyczących inteligencji kulturowej (CQ) oraz wykorzystano skalę inteligencji kulturowej (CQS) do badania inteligencji kulturowej studentów Uniwersytetu Ekonomicznego w Krakowie.
Metodyka badań: W badaniu wykorzystano skalę inteligencji kulturowej, opracowaną przez S. Anga i współautorów w 2007 r., do zbadania inteligencji kulturowej studentów Wydziału Zarządzania Uniwersytetu Ekonomicznego w Krakowie. Narzędzie ankietowe składało się z dwóch części. Pierwsza część zawierała 20-elementową CQS. Respondenci musieli ocenić na siedmiopunktowej skali Likerta (zdecydowanie nie zgadzam się = 1, zdecydowanie zgadzam się = 7) własną inteligencję kulturową. Druga część ankiety zawierała pytania dotyczące demografii i pochodzenia uczestników, w tym przedmiotu studiów, płci, wieku oraz niektórych aspektów doświadczenia międzynarodowego (np. studia za granicą i projekty promujące współpracę międzynarodową).
Wyniki badań: Wyniki wskazują, że studenci posiadają najniższy poziom poznawczego aspektu inteligencji kulturowej spośród wszystkich innych jej aspektów.
Wnioski: Przegląd literatury pozwala stwierdzić, że w celu wzmocnienia inteligencji kulturowej, szczególnie jej aspektu poznawczego, kluczowe jest doświadczenie międzynarodowe, dlatego uczelnia powinna zachęcać studentów do udziału w programach wymiany i rozważyć zwiększenie liczby takich programów.
Wkład w rozwój dyscypliny: Artykuł wnosi wkład do literatury na temat inteligencji kulturowej, pozwalając lepiej ją rozumieć. Wskazuje także obszary, które powinny ulec poprawie, co związane jest przede wszystkim ze zmianami postaw studentów, którzy wkrótce zaczną pracować w środowisku zróżnicowanym kulturowo.
Typ artykułu: oryginalny artykuł naukowy.
Słowa kluczowe: inteligencja kulturowa, skala inteligencji kulturowej, komunikacja międzykulturowa, studia międzykulturowe.

1. Introduction

The ability to cooperate with people from different cultures has become fundamental at any workplace. The number of employees sent abroad to participate in meetings and negotiations and to carry out other job-related tasks is steadily increasing. This has brought about greater awareness of the concept of cultural intelligence (cultural quotient – CQ). Students who want to successfully perform in an international professional environment would be well-advised to develop their CQ before embarking on their careers.

This study examines the CQ of students in the Faculty of Management at the Cracow University of Economics using cultural intelligence as the theoretical framework. The focus on management students was deemed appropriate for two reasons. Firstly, the work environment that the graduates will be joining is becoming more culturally diverse as the world is increasingly globalised, migration continues apace and new technologies emerge. Secondly, in response to those changes, employers require that competences move seamlessly across cultural boundaries and that employees being able to cooperate effectively in an international environment.

The data for the study were gathered via Computer-Assisted Web Interview (CAWI) employing a Polish language version of the Cultural Intelligence Scale (CQS) created by Ang *et al*. (2007) in order to assess the students' self-reported CQ. The Polish language version was translated and validated by Barzykowski *et al*. (2019a, 2019b). The findings indicate that students have the lowest results in the cognitive component of CQ.

The paper is structured as follows: after this introductory part, the background to the research is presented, with a focus on cultural intelligence and a review of research on improving CQ. The research design and methods adopted for the present research are then discussed, followed by a section on findings, recommendations and a discussion of the contribution this research makes.

2. Literature Review

Change is inevitable in the world of work today. Well-developed CQ can not only attenuate the negative effects that cultural diversity may cause, but it can allow for more effective cooperation in multicultural environments (Kim, Kirkman & Chen 2008).

CQ: Concepts and Definitions

The concept of the cultural quotient, or CQ, was introduced by Earley and Ang (2003). CQ is defined as "an individual's capability to function effectively in situations characterised by cultural diversity (…) it is distinct from and has predictive validity over and above other forms of intelligence, demographic characteristics, and personality" (Ang & Van Dyne 2008c). The definition presented by Earley and

Ang is consistent with how Schmidt and Hunter (2017) describe general intelligence ("the ability to grasp and reason correctly with abstractions (concepts) and solve problems"). The authors of the concept propose that CQ should be perceived as a form of intelligence that is complementary and one that can "explain variability in coping with diversity and functioning in new cultural settings" (Ang & Van Dyne 2008c). Research has found that analysis of intelligence has to go beyond cognitive capability (Ackerman 1996).

While Earley and Ang are the seminal authors in the field of CQ, and they are frequently referenced, other influential definitions of CQ have emerged (Solomon & Steyn 2017). Thomas and Inkson (2005) proposed a descriptive definition of CQ: "being skilled and flexible about understanding a culture, learning increasingly more about it, and gradually shaping one's thinking to be more sympathetic to the culture and one's behaviour to be more fine-tuned and appropriate when interacting with others from the culture". In contrast with the concept Earley and Ang introduced, this latter definition does not include a metacognitive aspect of CQ. Elsewhere, Brislin, Worthley and MacNab (2006) emphasised that CQ is a set of abilities, defining CQ as "a set of skills, from basic to advanced, that allow an individual to become effective at eventually transferring social skills from one cultural context to another". While Earley and Ang argued that CQ consists of four dimensions (metacognitive, cognitive, motivational, and behavioural), Plum (2009) put forward an alternative concept limited to three dimensions: intercultural engagement, cultural understanding and intercultural communication. Finally, Solomon and Steyn, the authors of the literature review on CQ, proposed this definition: "a discrete intelligence type that embraces the ability (which may be enhanced, learned and developed) of individuals and organisations to adjust to and thus function effectively across all types and levels of culture and culturally diverse settings; that they may or may not have previously been exposed to, and which sprouts from the desire to acquire and embody the capacity to process culture-specific knowledge and is demonstrated through culturally appropriate behaviours" (Solomon & Steyn 2017).

The body of research on intelligence is constantly expanding. Firstly, the idea of multiple intelligences was first introduced into academia by Gardner (1983), who elucidated that intelligence was the ability to resolve problems or invent products that can be valued in one or more cultural contexts. He presented eight different intelligences including musical and bodily-kinesthetic intelligence. Other forms of intelligence are non-academic and include social, emotional and practical intelligence (Sternberg 1999). The most recent research pertains to digital (DQ) and artificial intelligence quotient (AIQ) (Park 2018, Polson & Scott 2018). Since cyber--related threats including cyber-bullying, technology addiction and identity theft are

on the rise, the DQ – "the abilities that enable individuals to face the challenges and adapt to the demands of digital life" – is gaining more attention (Cocorocchia 2018).

The four dimensions of CQ Earley and Ang (2003) identified are based on Sternberg's (1986) conceptualisation of individual-level intelligence. Here the metacognitive dimension of intelligence extends to knowledge and control of cognition (the processes in which people gain and understand knowledge); the cognitive dimension of intelligence encompasses individual knowledge and its structures; the motivational dimension of intelligence concerns cognition being motivated and the mental capacity to focus on solving certain problem; and the behavioural dimension intelligence concentrates on personal capabilities at the action level (behaviour).

Metacognitive CQ dictates to what degree a person is consciously aware of their surrounding during interaction with people from different cultures. Individuals with high metacognitive CQ are able to challenge their cultural assumptions and adapt their cultural knowledge as well as develop new rules and heuristics designed for cross-cultural interactions (Nelson 1996). People with high metacognitive CQ can be conscious of norms of various societies before and during the relevant experience. Additionally, they can critically assess their mental models after the interactions.

Cognitive CQ reflects the individual knowledge gained from personal experiences and education about practices and norms in different cultures. With the number of cultures in the world so vast, cognitive CQ refers to knowledge of cultural differences and cultural universals. Cultural universals can be understood as common features based on similar basic human needs, including technological innovations, acquiring food, economic activeness or social interactions. The knowledge of culture affects the way people think and behave – the better one understands the culture, the greater their appreciation for the system that creates patterns of interaction within a culture (Ang & Van Dyne 2008a).

Motivational CQ covers the ability to direct one's energy and attention towards studying cultural differences. Individuals with high motivational CQ do this because they are confident of their own cross-cultural effectiveness. They have an innate interest in it and therefore can successfully function in novel cultural settings.

Behavioural CQ reveals the capability of showing appropriate behaviours, both nonverbal and verbal, during cross-cultural interactions. Three notable differences in behavioural repertoires of cultures are: the specific range of behaviours enacted, the display of norms that regulate nonverbal expressions, and the interpretations of nonverbal expressions (Lustig & Koester 2006). The higher the behavioural CQ, the more adaptable approach person can display, adjusting their behaviours, exhibiting appropriate behaviour – the most salient feature of social interactions.

CQ should be considered to be grounded in the domain of individual differences (Ang & Van Dyne 2008a). From among three categories of individual differences

(abilities, personality, interests) CQ is defined as a set of abilities, and can evolve over time thanks to education, training and personal experiences.

CQ is different from general cognitive ability, social intelligence (SI) or emotional intelligence (EQ). At the same time, these four areas are related as they all somehow involve capabilities for successful social contact (Tharapos 2015). Unlike general cognitive intelligence, CQ is specific to the culturally diverse situation, and includes behavioural and motivational aspects of intelligence that general cognitive intelligence does not (Ackerman & Humphreys 1990). EQ, on the other hand, is focused on the general ability to perceive and manage emotions without taking into consideration the cultural context. An individual with a high EQ in their first culture may not be emotionally intelligent in a second (Ang & Van Dyne 2008a). Despite the differences, researchers investigating and developing both CQ and EQ have pointed out how important the intercultural aspect is in shaping them (Goleman 1997).
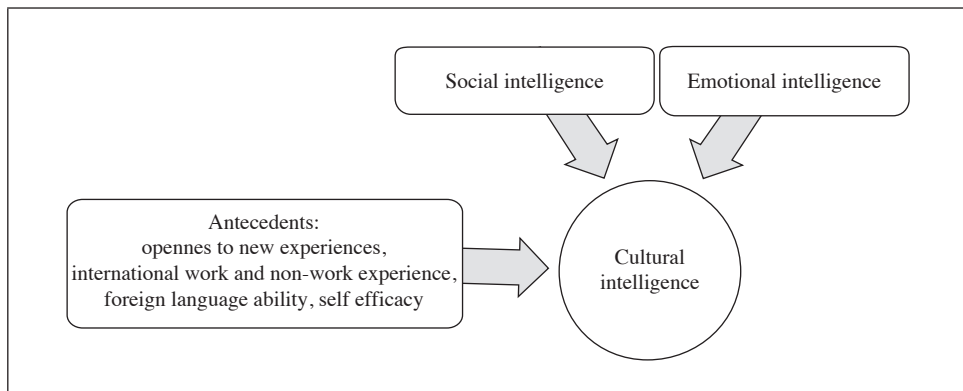

Fig. 1. CQ in Relation to Social and Emotional Intelligence
Source: the author, based on Tharapos (2015).

In their review of intercultural instruments that can be compared with CQS, Ang and Van Dyne (2008a) point out that none of the scales are based on the multidimensional theory of intelligence and that they tend to include personality characteristics and values besides cross-cultural capabilities. In contrast to those instruments that mix ability and non-ability characteristics, CQS focuses solely on a set of capabilities grounded in the multidimensional theory of intelligence, allowing one to predict effectiveness and adjustment outcomes in cross-cultural interactions.

Enhancing CQ: Cross-cultural Training

According to Ang *et al*. (2007), the discrepancies in achievements and in the process of adjusting among international managers is explained by the CQ, which

proved to be more important than cognitive capabilities or demographic characteristics. The CQ has its roots in research regarding various aspects of cross-cultural interactions, including intercultural communication (Ting-Toomey & Dorjee 2018), the cross-cultural training (Black & Mendenhall 1990) and cultural dimensions which show bias toward certain values or certain states of affairs (Hofstede, Hofstede & Minkov 2010). The proliferation of such research shows the importance of intercultural issues, but the uniqueness of CQ comes from the fact that none of the aforementioned research touches on the individual capabilities one needs to function effectively in a culturally diverse environment.

While research has confirmed that the CQS is a valid and reliable measure of CQ, some have pointed out that future research should encompass the nomological network of CQ (i.e., predictors, consequences, mediators, and moderators). Nonetheless, the CQS allows individuals to assess their own CQ, increasing self-awareness and thus setting them up to improve their cross-cultural effectiveness. It is also an excellent starting point for planning self-development as well as a tool for choosing the best suited employees for overseas assignments. Some researchers have also emphasised that it can help prepare training programmes or find employees who can mentor their colleagues.

To date in Poland, research on CQ has been limited: CQS was used only to assess the CQ of healthcare professionals and medical faculty students (Barzykowski *et al*. 2019b, Majda *et al*. 2021) while the Extended Cultural Intelligence Scale (ECSQ) was applied to Erasmus programme students visiting Poland – an E-CQS consisting of 37 questions was also designed by Van Dyne to measure the CQS (Simpson 2018). A Comparative study that would apply a corresponding approach (e.g., utilise a 20-item CQS, provided the results for each component of CQ separately, with Polish students as respondents) has yet to be done, so comparison with extant research is not possible.

Since CQ can be improved over time, its antecedents have also been studied. Research shows that language skills, openness to new experiences, diversity of social contact and international experience can predict one's CQ (Harrison 2012, Shannon & Begley 2008). International experience is defined as "exposure to a foreign country that also includes encounters with members of different cultures" (Michailova & Ott 2018). Most researchers that explored the CQ antecedents have focused either on business-related trips i.e., cross-cultural experience related to their job, or holidays, and travel for educational purposes. In their study, Tarique and Takeuchi focused on non-work international experiences (travelling or studying in abroad) showed that a high number of such experiences influence all four facets of CQ (the length of the experience did not have a significant effect on either the cognitive or behavioural aspect) (Tarique & Takeuchi 2008). Additionally, the more countries one visited for educational purposes, the higher the cognitive CQ

and behavioural CQ scores were. Meanwhile, a large number of holidays abroad increased motivational CQ (Crowne 2008). Short-term experience gained through a structured study abroad service programme, including modest pre-trip preparation, can positively influence all aspects of CQ (Engle & Crowne 2014). Finally, a study on language acquisition skills showed that language training can improve the student's cognitive CQ (Harrison 2012).

Knowledge of CQ can be utilised by HR professionals seeking the most culturally intelligent employees, individuals with language skills, diversified social contacts and international work experiences for cross-cultural interactions, overseas assignments or for work with international teams. These are areas students should be working on to increase their employability. Another reason to enhance one's CQ is to avoid potential reputation damage that can befall less competent employees.

However, Ott and Iskhakova (2019) point out that scientists do not agree on the most suitable terminology surrounding CQ, and due to the inconsistent terminology, the evidence is more suggestive than conclusive. Additionally, since students lack a professional background, especially an international one, with many yet to go abroad, some researchers have questioned the applicability of CQ to this group. Taking these objections into account, research in the education context has concentrated on longitudinal and comparative studies to decide if travelling abroad is indispensable in enhancing CQ and successfully utilising the theoretical framework of CQ.

Cross-cultural training can enhance CQ, allowing future managers working on overseas projects to avoid any number of costly mistakes. A literature review on the effectiveness of cross-cultural training conducted by Black and Mendenhall (1990) showed that there is a good deal of empirical evidence supporting the effectiveness of cross-cultural training. Cross-cultural training allows individuals to swiftly adjust to new culture as well as to develop the cross-cultural skills needed to foster relationships with natives, cognitive skills promoting the correct perception of the host environment and its socioeconomic systems and skills related to the maintenance of self (Black & Mendenhall 1990).

In the context of social learning theory (Bandura 1977), there are two critical aspects related to cross-cultural training. Firstly, novelty plays a much more crucial role in international training than domestic training (Black & Mendenhall 1990). Secondly, the attention and retention aspects of the social learning theory become much more important in the international context as well. This is because, given the generally higher level of behaviour novelty, where too little attention has been paid and retention has been insufficient, the trainee may be unable to reproduce the modelled behaviour in any fashion (Black & Mendenhall 1990).

Summing up, in order to help students enhance their CQ, especially the cognitive aspects of the quotient, increasing the exposure to international experiences is

key. It expands the ability to gather resources from various different cultures, thus allowing the individual to produce an appropriate response in a changing environment. However, it was also proved that exposure to diverse cultures can „increase intercultural uncertainty, leading to lower levels of cognitive flexibility and a higher reliance on abstract, decontextualised thinking" (Klafehn *et al*. 2008). If the multicultural experience is to be beneficial and enhance CQ, the individual must be open to experience. Openness here is defined as having imagination, being adventurous, inventive and open-minded (McCrae 1996). Open-minded people will be more flexible in cross-cultural interactions and thus develop at a higher level, especially of metacognitive CQ (Klafehn, Banerjee & Chiu 2008). Individuals with more international exposure have more complex cognition (Benet-Martínez, Lee & Leu 2006). Certain factors may decrease the individual's openness, e.g. completing task under time pressure or if a person encounters a lot of uncertainty in their life (Chiu *et al*. 2000). Additionally, people participating extensively in cross-cultural activities tend to be more creative than those with limited international experience. It is not only studying abroad, but also participating in groups with diversity improves creativity (Guimerà *et al*. 2005).

Plum (2009) proposes a number of measures for harnessing the benefits of intercultural experiences and increasing CQ. The first is to prepare a tailored checklist ahead of an intercultural encounter. This is intended to encourage introspection through questions (What is the motivation for participating in such encounter? What have previous encounters been like? What can be learned from my upcoming meeting?). Such reflections increase one's awareness and readiness for cross-cultural interactions and enable individuals to be more flexible. The meeting should be followed by reflections about the outcome. In addition to preparing ahead and reflecting afterwards, Plum suggests approaches focused on teamwork, starting with opening the cultural field by acknowledging that "different cultural codes and preferences will be at play" to avoid confusion during the collaboration (Plum 2009). The next important step is to establish common rules governing how to conduct negotiations – from expressing appreciation and disagreement to the degree of punctuality required.

Successful programmes focused on improving CQ have already been developed at various institutions, and could potentially be adapted at the Cracow University of Economics. One example is X-Culture, a programme designed for participants of International Business college courses which seeks to "provide students with an opportunity to experience the challenges of cross-cultural collaboration" (Poór *et al*. 2016). Another cross-cultural simulation game is Ecotonos, which has been shown to enhance students' CQ (Bücker & Korzilius 2015).

3. Materials and Methods

The survey instrument consisted of two sections. The first contained Ang *et al.*'s (2007) 20-statement Cultural Intelligence Scale. A seven-point Likert scale (strongly disagree = 1, strongly agree = 7) was used to rate each statement. The second section helped gather demographic information on the respondents together with some aspects of their international experience (e.g., studying abroad and projects promoting international collaboration). The entire student population in the Faculty of Management at Cracow University of Economics was invited to participate in the survey. As the studies at the university had gone fully remote in response to COVID-19 pandemic, the most suitable means of contacting potential respondents was an online survey. An invitation to participate and fill in the questionnaire were sent to potential respondents. Answers were provided by 81 first-year undergraduate students studying in one of the faculties of the Institute of Management of the CUE (respondents were 69% women, 30% men and 1% identifying as non-binary). The largest group of respondents comprised 18–21 year-olds (83%) and 77% of the respondents were full-time students.

Table 1. CQ Component Scores

Calculation Description	CQ Component	Mean (SD)
4 component average	Total CQ	5.09 (1.44)
4 item average	Metacognitive	5.47 (1.26)
6 item average	Cognitive	4.37 (1.41)
5 item average	Motivational	5.41 (1.45)
5 item average	Behavioural	5.08 (1.64)

Source: the author.

The students' mean CQ result is 5.09, with the highest results found for the metacognitive aspect (mean = 5.47), followed by the motivational aspect (mean = = 5.41), behavioural aspect (mean = 5.08) and cognitive aspect (mean = 4.37). That the best results were found for the metacognitive component suggests that respondents have confidence in their planning and analysis skills pertaining to international interactions.

The table shows that cognitive CQ recorded the lowest mean, indicating that students do not believe they have information on cultural standards, beliefs and habits. This is particularly concerning since cultural knowledge (cognitive CQ) allows one to choose appropriate strategies while contacting people from different cultures (metacognitive CQ). A low cognitive aspect can lead to the formation of prejudices, biases and generalisations. Moreover, cognitive CQ enables individuals to adapt verbal and non-verbal actions when interacting with people from different

cultures (behavioural CQ). Students therefore need to enhance their cognitive CQ to effectively navigate culturally diverse environments.

When considering the results of this study, the limited number of students who chose to complete the survey should be taken into account. The second issue is the use of a tool based on self-assessment that could induce respondents to give answers considered to be socially appealing (O'Connell & Geiger 2000), therefore potentially compelling them to exaggerate their aptitudes and capacities (Dunning Heath & Suls 2004). In developing the CQS, Ang & Van Dyne (2008b) found a positive and significant relationship between self-rated and peer-rated CQ proving that participants do not overestimate their own CQ.

This research should be continued for at least the next two academic years to confirm if the 1st year students who reported a certain level of CQ notice an improvement after completing their second and third academic years. This will help determine if the current programme at CUE is helping to improve students' CQ.

4. Discussion

Students have a bright future ahead, with many likely to work their way into important roles after graduation, making it crucial to equip them with the ability to reject biased and prejudiced views they will encounter in their professional lives. CUE must prepare them for a successful and productive existence that involves contributing constructively to culturally diversified communities. Damaging a company's reputation, having assignments shut down early, and failed negotiations are only a handful of the consequences of unsuccessful cross-cultural interactions high CQ can help avoid.

As research shows that the cognitive CQ is a problem area, it must be addressed. International experience enhances cognitive CQ, so the most important recommendation is to increase exposure to a variety of cultures, which can be achieved in many ways. Chief among them is to expand the number and accessibility of foreign exchange programmes. Exchange programmes provide an opportunity to immerse oneself in a different culture, try local dishes, admire art at art galleries, and learn a new language. In order to ensure that the programme has the best possible impact, it is recommended factors that may reduce students' openness be minimised, and proper preparation prior to the exchange be done. Methods for individual preparation as well as for reflecting constructively following meetings should be introduced. The university could introduce simulation games that have proved successful in developing CQ and increase the number of hours of language training. Finally, the university can encourage students to participate in international projects beyond academia.

The study contributes to identifying those aspect of CQ students need to improve while also suggesting solutions based on the literature review.

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