Linking personality to cultural intelligence: An interactive effect of openness and agreeableness

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A R T I C L E   I N F O

Article history:
Received 23 April 2015
Received in revised form 16 September 2015
Accepted 29 September 2015
Available online 22 October 2015

Keywords:
Cultural intelligence
Personality
Openness
Agreeableness
Trait interactions

A B S T R A C T

The personality trait of openness is generally believed to influence an individual’s cultural intelligence, which is an ability to deal effectively with people from different cultural backgrounds. This study examines whether a relationship between the two depends on the individual’s degree of agreeableness, a personality trait important for building interpersonal relationships. Data collected from 244 international professionals shows that openness is positively related to three facets of cultural intelligence when agreeableness is high, but not when agreeableness is low. The findings suggest that research on personality and cultural intelligence would benefit from an interactive approach, and that assessment, selection and development of international talents should consider personality traits not in isolation, but in concert.

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1. Introduction

In today’s globalized world, individuals need to develop cultural intelligence (CQ) to adapt more effectively to a new cultural setting where people think and behave differently (Kim, Yamaguchi, Kim, & Miyahara, 2015; Ward, Wilson, & Fischer, 2011). CQ is conceptualized as a type of intelligence which reflects an individual’s ability to deal effectively with people from different cultural backgrounds (Earley & Ang, 2003). Construct validity and discriminative validity of CQ have been established in various cultural contexts (Ang et al., 2007; Sahin, Gurbuz, Koksal, & Ercan, 2013) and its antecedents and nomological network have been widely studied (e.g., Ang, Van Dyne, & Koh, 2006, Ang et al., 2007; Li, Mobley, & Kelly, 2013). Five factor personality traits are established as determinants of CQ (Ang et al., 2006). However, no attention has been paid to how personality traits interact to influence CQ. Without this knowledge, we do not fully understand the vital role of personality traits in culturally competent individuals to guide the assessment, selection and development of international talents. Therefore, departing from the dominant emphasis of previous studies on independent five factor personality traits and individual’s competencies to be effective in an international context, this study examined an interactive effect of openness and agreeableness personality traits on CQ.

While intelligence is commonly defined in terms of generalized adaptation to the environment (Sternberg, 1999), CQ is a unique intelligence for adaptation to cultural environment hence helps us understand why some individuals are more effective than others in culturally diverse situations (Thomas et al., 2015). Following Sternberg’s (1986) multiple-facets framework of intelligence, CQ is conceptualized as a multidimensional construct including metacognitive, cognitive, motivational and behavioral dimensions (Earley & Ang, 2003). Metacognitive CQ refers to the processes of ‘thinking about thinking’ that individuals use to acquire and understand cultural knowledge and make sense of intercultural experiences. Cognitive CQ is a person’s ability to understand both similarities and differences among cultures; and to do so requires general knowledge structures and mental maps about different cultures (Ang et al., 2006). Motivational CQ refers to a person’s interest in experiencing other cultures and a belief that they can function effectively in a different cultural environment (Ang et al., 2006). Behavioral CQ is a person’s ability to acquire or adapt behaviors appropriate for a new culture (Earley & Peterson, 2004). Despite the criticism about the multi-facets theory of intelligence (e.g., Gottfredson, 2003), a theory based CQ concept continues to develop (e.g., Thomas, 2006, Thomas et al., 2015). CQ measurements, by far predominantly self-report instruments similar to psychometric measurements of other types of intelligence, their validity and reliability continue to improve (e.g. Ang et al., 2007, Thomas et al., 2015). Hence research about CQ has generated ample evidence of the uniqueness of CQ construct and its outcomes. It has been found not to be correlated with general intelligence (IQ), but correlated with emotional

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http://dx.doi.org/10.1016/j.paid.2015.09.050
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intelligence (EQ) ([Moon, 2010; Rockstuhl, Seiler, Ang, Van Dyne, & Annen, 2011]), IQ and CQ are important for cross-cultural leadership while EQ and IQ are important for domestic leadership ([Rockstuhl et al., 2011]). CQ enhances learning from international experience ([Ng, Van Dyne, & Ang, 2009]), cultural judgment ([Ang et al., 2007]), and inter-cultural negotiation ([Imai & Gelfand, 2010]), and it enables managers to lead multicultural teams and organizational innovation more effectively ([Elenkov & Manev, 2009; Groves & Feyerherm, 2011]). It is crucial for global organizations to select and develop talents with higher levels of CQ or higher potential to develop CQ in order to remain competitive in an ever more challenging global environment ([Triandis, 2006]).

The five independent personality factors were found to correlate with CQ dimensions ([Ang et al., 2006]). More specifically, significant links were found between conscientiousness and metacognitive CQ; agreeableness and emotional stability with behavioral CQ; extraversion with cognitive, motivational, and behavioral CQ; and openness with all four factors of CQ ([Ang et al., 2006]). Although the five-factor model has come to be considered as the most frequent representation of personality trait structure ([Costa & McCrae, 1992a; Robert R McCrae & Costa, 1997; Robert R. McCrae & John, 1992]), personality traits do not exist in a vacuum, but co-exist within individuals along with other traits ([Merz & Roesch, 2011; Penney, David, & Witt, 2011]). The interactive effects of personality traits were found to predict job performance and behavior beyond the additive effect of the five factors individually ([Hofstee, Martin, Moor, & Pervin, 2012; King, George, & Hebl, 2005; Pease & Lewis, 2015; Witt, Burke, Barrick, & Mount, 2002]). This study examines the interactive effect of personality traits on CQ with a focus on openness and agreeableness based on social learning theory.

Social learning theory proposes that individuals develop through learning from people around them ([Bandura, 1971]) and CQ is developed from reacting to external cultural stimuli and learning from the people around them ([Triandis, 2006]). Hence agreeableness, a personality trait that relates to interpersonal competency ([Witt et al., 2002]), is vital for CQ. To date, the most critical personality trait that relates to CQ is deemed to be openness ([Ang et al., 2006; Triandis, 2006]). However, open individuals who are low on agreeableness are less likely to learn from culturally different others in comparison with open individuals who are high on agreeableness due to their lower level of interpersonal competencies. Agreeableness is also highly correlated with cultural empathy ([Leone, Van der Zee, van Oudenhoven, Perugini, & Ercolani, 2005]), which is the individual’s ability to empathize with the feelings, thoughts and behaviors of members from different cultural groups; so high agreeableness is important for not only behavioral CQ but also for metacognitive CQ and cognitive CQ. However, these relationships have not been established in previous research. The role of agreeableness on CQ may rest in interaction with openness personality trait. We anticipate that the positive relationship between openness and the four facets of CQ is stronger when agreeableness is high than when it is low.

2. Method

2.1. Participants

Participants involved two hundred and forty-four international professionals including international managers and international MBA students. All had exposure to different cultures through work, education or other international experiences. The average age was 32.2 years. Males accounted for 55% of the sample. Ninety-six percent of the sample held a bachelor or postgraduate degree. Participants represented multiple nationalities and were from various occupational functions and positions.

2.1.1. Cultural intelligence

The 20-item rated on a 7-point scale inventory developed by ([Ang et al., 2007]) was employed to measure CQ. The inventory contains five items for measuring Metacognitive CQ, six items for Cognitive CQ, five items for Motivational CQ and five items for Behavioral CQ. In this study, the internal consistency (α) values for the four facets of CQ are 0.75, 0.83, 0.76, and 0.74 respectively. We used confirmatory factor analysis to test the construct validity of the construct. The residual of the items for different targets was allowed to covary. The final model showed a good fit (CMIN = 319.048; df = 141; AGFI = .83; CFI = .90; RMSEA = .07).

2.1.2. Personality

The NEO Five Factor Inventory (NEO-FFI) published by Psychological Assessment Resources, Inc. was employed to assess the five factors of personality. In comparison with other instruments, the NEO-FFI personality inventory has the major advantage of providing a more precise assessment of the five-factor model domains and underlying facets. It contains 60 items which are rated on a 5-point scale. In this study, the scales show internal consistency values 0.82, 0.75, 0.63, 0.69 and 0.82 for emotional stability, extraversion, openness, agreeableness, and conscientiousness respectively.

2.1.3. Control variables

Following previous studies about CQ ([e.g. Ang et al., 2006; Li et al., 2013]), gender, age, educational background, country of birth, and length of overseas work experience were included as control variables in the analysis. Gender is coded as “0” for male and “1” for female. Education is measured by the level of education (1 — Did not complete high school, 2 — High school, 3 — Bachelor, 4 — Master Degree, 5 — PhD degree or equivalent level graduate degree). Country of birth is measured by clustering reported countries of birth that are represented in the sample to “0” if they are Western countries and “1” if they are Eastern countries. Length of overseas work experience is measured by months the participants had worked overseas.

3. Results

Means, standard deviations, and correlations are reported in Table 1. Gender and education were each correlated with three facets of CQ and age was not correlated with any facets of CQ. Length of overseas work experience was correlated with cognitive CQ and motivational CQ. Openness was positively correlated with all four facets of CQ and agreeableness was not correlated with any CQ facet.

We employed moderated multiple regression analysis ([Aiken & West, 1991]) using SPSS software. Firstly, we mean centered the variables associated with the interaction terms. Then we ran four independent moderated multiple regression analyses for each of the four CQ facets. The Variance Inflation Factor (VIF) and homoscedasticity of residuals were also examined. Three models were tested under each moderated multiple regression analysis: the first model consisted of only the control variables; the second model added five personality factors; and the third model added the two-way interaction term Agreeableness × Openness.

Table 2 contains a summary of the results of the moderated multiple regression analyses of the main effect of independent five personality traits and interaction effect of openness and agreeableness. The VIF values of the variables for all regression models were between 1.01 and 1.32, indicating that multicollinearity was not a concern. No heteroscedasticity was detected by graphical procedure. Models 3, 6 and 12 in Table 2 indicate that Openness × Agreeableness was positive and significant for Metacognitive CQ (r = 0.12, p < .05), Cognitive CQ (r = 0.12, p < .05) and Behavioral CQ (r = 0.17, p < .01). Effect sizes of Cohen’s 𝑓² are 0.017, 0.017 and 0.033 respectively for the three models in comparison with Models 2, 5 and 11 in Table 2. They are medium to large based on ([Kenny, 2015]) given that the average effect size is in the medium range in tests of moderation multiple regression analysis published in leading journals is only 0.009 to 0.017, and a median of 0.002 to 0.003 ([Aguinis, Beatty, Boik, & Pierce, 2005]). Furthermore, Model 9 in Table 2 indicates that Openness × Agreeableness was not significant for Motivational CQ.
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