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Assessing cultural intelligence, personality and identity amongst young white Afrikaans-speaking students: A preliminary study

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Orientation: Cultural intelligence (CQ) is a relatively new construct to academia that has recently gained increasing attention. Its relevance in a multicultural context like South Africa is apparent since cultural interaction between different ethnic groups is unavoidable.

Research purpose: The objective of this research is to determine the relationship between personality, identity and CQ amongst young Afrikaans-speaking South Africans.

Research approach, design and method: A quantitative research design was used in this study. This study was cross-sectional in nature. For the purpose of this study, a sample of young South African university students (N = 252) was used. The personal identity subscale from the Erickson Psychosocial Stage Inventory, the Multi-Ethnic Identity Measure, the Religious Identity Short Scale, the South African Personality Inventory questionnaire and the Four Factor Model of Cultural Intelligence Scale were applied as the measuring instruments.

Main findings: Religious identity and ethnic identity have a relationship with cognitive CQ. Soft-heartedness and conscientiousness have a relationship with behavioural CQ. Also, soft-heartedness, facilitating, extroversion and religious identity have a relationship with motivational CQ.

Practical/managerial implications: Organisations within South Africa will gain a better understanding of CQ and the benefits of having a culturally intelligent workforce as a strengths-based approach. Culturally intelligent employees will be able to adjust to working with co-workers from another culture, not feel threatened when interacting with co-workers and clients and be able to transfer knowledge from one culture to another, which will aid the organisation in completing overseas assignments, cross-cultural decision-making, leadership in multicultural environments and managing international careers.

Contribution/value-add: CQ is a relatively new concept and empirical research on positive subjects is still very limited. Research on personality, identity and CQ within the South African context is still very limited. Therefore, this study will contribute to literature on positive psychology and cultural intelligence.

Introduction

South Africa as a complex and diverse society is comprised of individuals representing at least 14 different ethnocultural groups and 11 official languages (StatsSA, 2014). This cultural diversity impacts almost every aspect of daily life for South Africans. Relationships and interactions with colleagues, friends and even strangers are perceptibly with individuals from different cultures backgrounds (Ang & Van Dyne, 2008; Booysen & Nkomo, 2014). Individuals are defining themselves constantly by drawing from and interacting in various settings and situations, namely family, work, friends, religious groups and leisure activities (Adams & Crafford, 2012). Therefore, these cross-cultural interactions require individuals who may have different expectations and assumptions about how to approach cultures other than their own and how to make decisions based on their own cultural backgrounds (Maznevski & DiStefano, 2000; Nkomo & Kriek, 2011).

As diversity is one of South Africa's greatest assets, the failure to adjust to and understand similarities and differences across cultures often results in inappropriate language and behaviour. This may come across as insensitivity to individuals from different groups and may negatively impact relationship building across different cultures (Naughton, 2010). Such a diverse society poses various challenges and threats to individuals who are not aware of the information in embedded cues in cultures different from their own (Thomas & Inkson, 2003). The result is that individuals are divided into two opposing camps: firstly, those who welcome the new challenges

and strive to master the new social field and, secondly, those who resist the change and stick to their established values (Booysen & Nkomo, 2014).

Of the more than 52 million people who inhabit South Africa, over five million are young South Africans (StatsSA, 2014). The 2014 mid-year population estimates by population group indicate that 86% of youth is African, 12% mixed race, 2.08% Indian or Asian and 5.94% white (Kaus, 2014; StatsSA, 2014). The diversity that South African youth are faced with in society is reflected at many South African universities (Kaus, 2014; StatsSA, 2014). According to Makalela and McCabe (2013), Afrikaans-speaking students are still in the majority over non-Afrikaans language speakers in South African universities, even after 20 years of democracy. Makalela and McCabe mention that language policies pertaining to diversity at universities are still in their early years and will take a while to rectify. Young Afrikaans-speaking South Africans must overcome various barriers (selective perception, social categorisation, stereotyping, attribution, identity developing; Dolby, 2001; Thomas & Inkson, 2003), realistic threats (the fear of harm or a decline in one's quality of life) and symbolic threats (the fear that one's cultural group or its place in society is threatened; Harrison & Peacock, 2010) when they perform in a diverse context. Since diversity is a reality in South Africa, it therefore becomes pertinent to aid students to function effectively in a diverse society (Bikson & Law, 1994).

In this microcosm, representative of the society in which universities exist, interpretation of cultural information is often in accordance with an individual's own preconceived framework (Ng & Early, 2006). It serves as the foundation of an individual's cultural intelligence (CQ) and forms the basis for comprehending and decoding the behaviour of oneself and others (Thomas *et al.*, 2008). Research indicates that certain abilities and attributes allow some individuals to be more effective during cross-cultural communications and allow them to become more aware of misunderstandings and miscommunications (Ang & Van Dyne, 2008). It is argued that successful cross-cultural relationships are developed by individuals who are more culturally intelligent (Ang & Van Dyne, 2008).

Thus, CQ is an individual's ability to adapt, detect, understand, reason and act on cultural cues appropriately across cultural contexts (Ng & Early, 2006; Van Dyne *et al.*, 2012). The question, however, is what aspects of a person makes them more prone to exhibit CQ? Theoretically, it is evident that a set of diverse individual differences could relate to CQ (Ang *et al.*, 2006; Ang & Van Dyne, 2008). According to Ang and Van Dyne (2008), individual differences could be distinguished between trait-like and state-like constructs. Trait-like constructs can be defined as individual differences not specific to a certain situation or task and stable over time, for example personality characteristics (Chen, Gully, Whiteman & Kilcullen, 2000). In comparison, state-like constructs are individual differences specific to a certain situation or task and tend to be compliant over time, for

example anxiety (Chen *et al.*, 2000). Furthermore, Early and Ang (2003) conceptualise personality characteristics and identity as antecedents or causal agents of CQ. Identity is a main force when structuring political, social and national relations (Negus, 2002). It serves as a mean of internalising cultural meanings and identities to make sense of the world and to locate ourselves within it (Dolby, 2001). Identity surrounds us, influencing the way one maps out realities, possibilities and relations with others (Dolby, 2001). It is valuable for oneself and others to be aware of one's own CQ. Having CQ can assist in cross-cultural interactions, creating opportunities for young Afrikaans-speaking South Africans students to develop skills and competencies needed to function effectively in a diverse society (Mahembe & Engelbrecht, 2014).

Research purpose and objectives

From the above it is evident that CQ can assist in cross-cultural interactions, creating opportunities for young Afrikaans-speaking South African students to develop skills and competencies needed to function effectively in a diverse society (Hurtado, Dey, Gurin & Gurin, 2003). Furthermore, an individual being culturally intelligent increases the prospective for successful interactions and relationship building when interacting with individuals from cultural groups other than their own, which enhances intellectual and personal development and promotes more openness to diversity (Ang & Van Dyne, 2008; Early & Ang 2003). Studies on the factors that determine the cultural intelligence of youths are relatively sparse; hence, the present study intends to fill this gap by studying the relationship between personality, identity dimensions and CQ.

The general objective of this research is to determine the relationship between identity dimensions, personality and cultural intelligence. More specifically, we are interested in how different identity dimensions (personal, ethnic and religious; Adams, Van de Vijver & De Bruin, 2012) as well as personality factors (as identified by the South African Personality Inventory; Nel *et al.*, 2012) is associated with CQ.

Identity is defined as a personality construct relating to an individual's understanding of who they are, having personal values and goals and knowing what they want to achieve in life (Shaffer, 2010). Personality refers to an individual's organised patterns of thought, feelings and behaviour (Meyer, Moore & Viljoen, 2008).

Since the concept of CQ is relatively new, also in the South African context, limited empirical research on the concept is available; this scarcity and the diverse composition of South Africans in a culturally, ethnicity and religious diverse environment fuelled the current study. We would argue that the new knowledge pertaining to the relationship between personality, identity and CQ in South Africa will contribute to the broader field of positive psychology by providing answers on how South Africans can function effectively,

adapt and learn skills across cultural settings (Sheldon & King, 2001). Also, CQ will contribute to positive psychology to urge a more open perspective towards the ability to function across cultures by successfully applying developed adaptations and learned skills.

We continue this section by introducing CQ and discussing its relationship with personality and identity.

Literature review
Cultural intelligence outwardly

CQ is defined as the natural ability of an individual to interpret and understand behaviour, emotions and motivations of individuals from cultures different from their own (Early & Mosakowski, 2004). It is the ability to function, adapt and manage effectively in a diverse cultural setting (Ang *et al.*, 2006). It considers not only an individual's ability to interact with others, but also their knowledge of themselves, their own culture and other cultures, as well as relations and perception skills associated with cross-cultural interaction (Thomas *et al.*, 2008). CQ is grounded in the traditional stream of multiple intelligence, which is included in different perspectives of intelligence and comprises four main dimensions: cognitive CQ, motivational CQ, behavioural CQ and metacognitive CQ (Sternberg & Detterman, 1986).

Dimension 1, *cognitive CQ*, is an individual's knowledge of the norms, conventions and practices in different cultures, acquired from educational and personal experiences (Koh *et al.*, 2009). It includes knowledge of legal, political, economic and social systems of different cultures and basic principles of cultural values (Hofstede, 2001). Thus, those with high cognitive CQ are individuals who recognise the similarities and differences across cultures. This enables them to interact with individuals who are culturally different and assists them in making informed cultural judgments and decisions (Ward, Fischer, Lam & Hall, 2009).

Dimension 2, *motivational CQ*, is an individual's ability to direct attention and energy towards learning about and functioning and adapting in new intercultural situations and surroundings (Ang *et al.*, 2006; Koh *et al.*, 2009). Those with high motivational CQ are high in intercultural self-efficacy and intrinsic motivation to engage in cross-cultural experiences and master their nuances because of high levels of confidence and interests in experiencing novel cultural settings (Early & Ang, 2003).

Dimension 3, *behavioural CQ*, is an individual's ability to demonstrate suitable verbal and non-verbal actions during intercultural interactions (Koh *et al.*, 2009). Furthermore, those with high levels of behavioural CQ possess a broad and flexible range of behaviours and are able to demonstrate suitable behaviours based on the specifics of the situation (Koh *et al.*, 2009). Those with high behavioural CQ will be able to culturally adapt to and fit in certain situations and be able to vary their behaviour (Ang *et al.*, 2006).

Dimension 4, *metacognitive CQ*, is an individual's entire cultural consciousness and awareness during intercultural interactions (Koh, Joseph & Ang, 2009). The metacognitive factor of CQ focuses on higher order cognitive processes. It involves the ability to plan, monitor and revise mental models of cultural norms. Those with high levels of metacognitive CQ will continuously engage in active thinking about people and situations when cultural backgrounds differ. These individuals will be critical about their own habits, assumptions and culturally bound thinking. They will also assess and adjust their mental map, which allows them to increase their probability for understanding individuals from other cultural groups and to reflect on the knowledge and preconceptions of that individual (Van Dyne, Ang & Koh, 2009).

Regarding measurement of CQ, the Cultural Intelligence Scale (CQS) was developed by reviewing existing intelligence and intercultural competency literature (Koh *et al.*, 2009) and conducting interviews with eight executives with broad global experience (Ang *et al.*, 2006). Undergraduates in Singapore were used for the initial factor structure validity, retaining the best 20 items with the strongest psychometrical properties (Koh *et al.*, 2009; Van Dyne *et al.*, 2009). Furthermore, cross-validation of the CQS demonstrated a strong relationship between the items and each subscale, supporting internal consistency with reliabilities greater than 0.70 (Mahembe & Engelbrecht, 2014; Van Dyne *et al.*, 2009). In addition, the CQS provided results that supported that CQ could be generalised across time and countries, thus providing support for item intercept invariance and invariance in factor loadings and factor covariance (Ang *et al.*, 2006).

Other research has correlated the basic personality traits of the Big Five factor model with an individual's CQ (Ryder, Alden & Paulhus, 2000). In accordance with these findings, Clancy and Dollinger (1993) report a relationship between identity and the five factors of personality. In the sections that follow, we discuss the various dimensions of identity (personal and social) and personality and their respective relationships with CQ. The premise of our argument is that there is a relationship between identity, personality and CQ, with identity and personality expected to act as antecedents or casual agents of CQ (Early & Ang, 2003).

Personality: General definition and relation with Cultural intelligence

Preceding research has identified individual-level factors, like personality, as predictors of cross-cultural adjustment (Caligiuri, 2000). Personality can be defined as the organisation of physical, psychological and spiritual characteristics of an individual which direct their behaviour in interaction within the context in which the individual finds themselves (Meyer, Moore & Viljoen, 2008). Identity represents the individualism of an individual's life which produces different behaviours across different social settings (McFerran, Aquino & Duffy, 2010).

Working with individuals who are culturally different might be difficult for some individuals, because of misunderstandings influencing the value of effective cross-cultural interactions (Lievens, Harris, Van Keer & Bisqueret, 2003). For this reason, it is important to understand why some individuals are more effective than others in dealing with culturally diverse situations. Personality may also be considered an important contributor to understanding cross-cultural effectiveness and hence CQ, as individuals would be able to create new mental maps of other peoples' personality and cultural background to assist individuals to react suitably to them (Thomas, 2006).

Previous research has indicated that the Big Five strongly predict behaviour across time, contexts and cultures. The Big Five Model consists of the five trait domains, as defined by Goldberg's (1990) taxonomy: extraversion (or surgency), agreeableness, conscientiousness, neuroticism (vs emotional stability), and openness to experience (or intellect and culture; Simms, 2006). Caligiuri (2000) emphasises the use of the Big Five taxonomy in classifying personality traits, due to the representation being a universal adaptive mechanism, allowing individuals to deal with and meet the demands of physical, social and cultural environments. The Big Five serve as adaptive mechanisms that influence individuals to behave in certain ways to accomplish goals, given particular situations (Buss, 1991). Thus, individuals with certain personality traits suited for a given social environment will adapt more effectively than those who do not have the appropriate traits or personality characteristics for that same role (Ang, Van Dyne & Koh, 2006).

Research done by Ang et al. (2006) showed that certain personality traits were associated with CQ. Individuals who are high on the conscientiousness domain value and devote time and thought to planning, order, innovative problem-solving and are methodical during cross-cultural situations; thus, conscientiousness related positively to metacognitive CQ (Ang et al., 2006). High Agreeableness relates positively to behavioural CQ, indicating that individuals who are agreeable are easy-going in their social behaviours and more flexible in their verbal and non-verbal behaviours in a cultural intelligent manner during cross-cultural interactions.

Highly extroverted individuals have high levels of cognitive CQ, motivational CQ and behavioural CQ. These individuals tend to be self-confident and sociably seek to interact in different cultural settings as they learn about the different cultures in the process and are not restrained to exhibit flexible behaviour (Ang et al., 2006). In addition, extroverted individuals will be more likely able to deal with unfamiliar cross-cultural interactions than introverts. Openness to experience (including curiosity, broad-mindedness and imagination) related to all four factors of CQ. Individuals who are open to change will be more willing to experience and enjoy new and unfamiliar situations and environments (Pulakos, Arad, Donovan & Plamondon, 2000).

Thomas and Inkson (2003) state that inquisitiveness (openness) provides individuals with opportunities to develop CQ through interacting across different cultural settings as they tend to be curious to investigate and pursue different knowledge. In addition, Thomas and Inkson indicate that the possession of hardiness as a personality characteristic to cope with stress, recover from shock and perceive stressful events, is supportive of the attainment of CQ. Interacting with people from different cultures involves ambiguity, tension and emotion. Thus it is valuable to develop hardiness to develop CQ.

The South African Personality Inventory (SAPI) will be used to measure the construct of personality (Nel et al., 2012; Valchev et al., 2013). The theoretical objective of SAPI was to add insights to the general concept of the universality and cultural specificity of personality (Van de Vijver, Meiring, Rothmann, De Bruin & Foxcroft, 2006). Furthermore, the practical objective was to develop a psychometrical instrument that complies with the present legislation in South Africa (Van de Vijver et al., 2006). Everyday conceptualisation of personalities founded within the South African context in all the official language groups were used to develop the SAPI (Meiring, 2005). Furthermore, SAPI aimed to assess the construct equivalence, reliability, validity and bias of the personality questionnaire for all 11 official languages in South Africa. The purpose was to determine the degree of applicability of the personality structure founded in Western studies and in the diverse South African groups. SAPI was expected to find unique personality factors (Meiring, 2005).

The present study will focus on the following SAPI constructs, as these may be best associated with CQ: conscientiousness, extraversion, openness, soft-heartedness, relationship harmony, intellect, integrity and facilitating. Conscientiousness is the achievement of goals through immense effort or inner drive, behaviour influenced by certain social standards, attitudes and practices and precision and thoroughness in a neat and tidy manner or in a habitual sequence (Nel et al., 2012). Extraversion is described as the act, state or habit of being mainly concerned with, and obtaining satisfaction from, what is outside the self, having the power or right to give orders or make decisions, being open to share or speak with other people, being energetic and optimistic and having the tendency or character to be sociable or to associate with one's fellows (Nel et al., 2012).

Soft-heartedness represents the quality of being pleasant and kind and concerned with the welfare of others, having appreciation and gratitude towards others, taking other individuals' needs and feeling into consideration and having humanity and compassion towards others (Nel et al., 2012). Relationship harmony represents characteristics and behaviour such as believing in maintaining good relationships, by being forgiving, calm, tolerant, under-standing and cooperative (Nel et al., 2012). Openness is described as 'being receptive to new and different ideas or things or to the opinions of others; it refers to a person who is

open or receptive to others or ideas and a person who wants to learn new things' (Nel *et al.*, 2012).

Intellect is described as the ability to think and obtain knowledge, having a natural ability or aptitude, being knowledgeable, socially skilful and attentive of external and internal things and having insight into the emotions and internal conflict of other individuals (Nel *et al.*, 2012). Integrity is described as an individual's moral consciousness, characterised by truthfulness, devotion and trustworthiness (Nel *et al.*, 2012). Facilitating is described as the ability to direct and lead people according to one's own experiences, through example and advice, and proactively encouraging people through one's own behaviour (Nel *et al.*, 2012).

Identity: General definition and relation with Cultural intelligence

Identity is how the individual defines themselves (Adams *et al.*, 2012). It encompasses those personal and social aspects that enable the individual to make sense of their world and to locate themselves in it (Dolby, 2001). Identity can be defined as the bridging conception between the individual agency, choice and the creation of self, on the one hand, and history, culture and social roles on the other (Watson, 2008). Furthermore, identities are cognitive aspects of an individual and are internalised role expectations attached to social relationships (Stryker, 2007). Accordingly, it is the result of a dynamic, conscious and continuous struggle for an individual to develop an answer to the question of 'who am I?' caused by the need to be a part of something greater than themselves (Kreiner, Hollensbe & Sheep, 2006; Sveningsson & Alvesson, 2003).

Cultural studies mainly focus on social and political issues of identity in South Africa, because of intensified feelings of cohesion and ethnic identity separating South African society (Swartz, 2008). It is thus important to understand the identities of each ethnocultural group (Mattes, 2004). Research has shown that identity has an important influence on how individuals map their realities, possibilities and relationships with others, yet this has not been discussed in psychological terms or on an individual level (Dolby, 2001; Swartz, 2008). Identity is distinguished by two dimensions: personal identity and social identities.

Personal identity can be defined as the 'me' component of the self-concept. It stems from Erikson's (1968) seminal work on the developmental trajectory of individuals into adulthood and reflects the interpersonal differentiation that derives from intra-individualistic characteristics, for example traits, beliefs and skills (Onorato & Turner, 2004). Thus, it is the individual's own conception of who and what they are, focusing on the multiple qualities in which the individuals is unique and different from other individuals (Garcia-Prieto, Bellard & Schneider, 2003).

Social identity, which stems from Social Identity Theory (SIT; Tajfel & Turner, 1986) and Self-Categorization Theory (SCT; Turner, 1999), refers to an individual's group membership. This is their knowledge that they belong to a social group (Hitlin, 2003; Hogg & Abrams, 1993; Onorato & Turner, 2004). Social identity emphasises commonality and cohesion with a significant social group, for example 'I am a South African' (Garcia-Prieto *et al.*, 2003). It is extremely dynamic and can vary in terms both type and content as a function of inter-group relations and other immediate contextual factors; having a particular social identity means being in harmony with a particular group, defined by members who are similar to you, and behaving in a manner that is congruent with the group's values and perspectives (Stets & Burke, 2000). Culture as a social aspect of identity may encompass both ethnicity and religion and plays an important role in shaping an individual's sense and identity and influencing an individual's behaviour and the way they act (Ryder *et al.*, 2000).

Personal and social identity influences an individual's behavioural choices as identity is negotiated between intra-individual aspects and the social context (Garcia-Prieto *et al.*, 2003; Verkuyten, 2005). Research done by Thomas and Inkson (2003) indicates that a well-developed self-concept and understanding of an individual's own belief system motivates behaviour. Individuals with an honest and clear understanding of themselves are not threatened by views and behaviours of individuals that differ from their own; furthermore, they are better able to understand and explain their own social experiences (Markus & Sentis, 1982). Hence, these thoughts about oneself influences behaviours towards and interactions with others.

We would argue that an individual with a coherent sense of identity would be more culturally intelligent. A clear sense of identity is characterised in some part by the ability to handle the outcomes of negative cross-cultural interactions (Chen, Lin & Sawangpattanakul, 2011). If an individual's identity is not well developed it presents a potential obstacle and threat during cross-cultural interactions, which influences an overall CQ and day-to-day cross-cultural interactions (Imai & Gelfand, 2010). CQ thus provides an innovative framework for understanding an individual's social and personal identity (Early & Ang, 2003).

The present study

Empirical studies and literature confirmed the capability of CQ to predict behavioural outcomes such as cultural adaptation, cultural judgement, decision-making and successful completion of overseas assignments (Ang *et al.*, 2006). Previous research primarily focused on personality factors (the Big Five personality dimensions) and not identity, leading to the hypothesis that personality characteristics (trait-like individual differences) are predictors of CQ (state-like individual differences) (Ang *et al.*, 2006; Early & Ang, 2003). Thoughts about oneself influence behaviour and interactions with others (Early & Ang, 2003). Also, literature suggests that personality characteristics are significant predictors for success in cross-cultural settings; for this reason, the importance of personality correlating with CQ

is emphasised. Identity and personality form the basis and anchor the individuals during cross-cultural interactions (Early & Ang, 2003). Thus, high CQ is associated with identity and personality since understanding new cultures may involve the discarding of pre-existing conceptualisations about cross-cultural interactions.

This study will thus emphasise the importance of a young Afrikaans-speaking South Africans' identity and personality characteristics in forming an individuals' general levels of CQ.

Research design

Research approach

The study was a quantitative study. According to Struwig and Stead (2007), research that is quantitative in nature is a form of conclusive research involving large representative samples and data collection procedures that that are comparatively structured. A cross-sectional survey was used to collect the data and to achieve the research objectives. During a cross-sectional design several groups of people are examined at one point in a time (Salkind, 2009). The advantage of using this approach for the study was that it was less expensive and time consuming.

Research method

Research participants

For the purpose of this study, a sample of young South African university students ($N = 252$) were used. The sampling methods were convenience and quota sampling. According to Struwig and Stead (2007), a convenience sample is chosen based on its availability and with quota sampling the respondents are selected according to their characteristics. The participants were young white, Afrikaans-speaking South African students from a university based in North West. In this study, the majority of participants were female (63.90%) and 19 years of age (51.60%). Almost all of the participants were Christian (90.10%). Furthermore, the majority of participants were students in their first year (72.20%) and had a good English reading ability (61.90%).

Measuring instruments

Biographical questionnaire: A biographical questionnaire was used to measure age, gender, religion, English reading ability and level of education.

Cultural intelligence: CQ was measured with the 20-item, self-reported Four Factor Model of Cultural Intelligence Scale developed and validated by Ang *et al.* (2006). The scale included four items for metacognitive CQ, six for cognitive CQ, five for motivational CQ and five for behavioural CQ. Sample items included 'I am conscious of the cultural knowledge I apply to cross cultural interaction' for metacognitive CQ, 'I know the rules for expressing non-verbal behaviors in other cultures' for cognitive CQ, 'I enjoy interacting with people from different cultures' for motivational CQ and 'I change my verbal behaviour when

a cross-cultural interactions requires it' for behavioural CQ. Respondents were asked to use a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree) to indicate the extent to which each item described them. Cronbach's alphas in the present study showed high reliability ($\alpha = 0.92$) overall, along with high reliability for the four dimensional subscales: metacognitive CQ ($\alpha = 0.90$), cognitive CQ ($\alpha = 0.91$), motivational CQ ($\alpha = 0.89$) and behavioural CQ ($\alpha = 0.90$) (Imai & Gelfand, 2010). A recent South African preliminary validation study by Mahembe and Engelbrecht (2014) amongst young adult South Africans found the following alpha coefficients: metacognitive CQ ($\alpha = 0.79$), cognitive CQ ($\alpha = 0.81$), motivational CQ ($\alpha = 0.83$) and behavioural CQ ($\alpha = 0.84$).

Personality measure: Personality was measured by items from the SAPI scale (Hill *et al.*, 2013). We selected 99 items from the pool to represent the nine clusters: soft-heartedness (21 items), relationship harmony (14 items), Openness (9 items), extroversion (13 items), emotional stability (14 items), integrity (9 items), intellect (6 items), facilitating (3 items) and conscientiousness (11 items). Respondents were asked to use a seven-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) to indicate the extent to which each item described their personalities. The scale has the following reliability (Cronbach's alpha) values: soft-heartedness ($\alpha = 0.85$), relationship harmony ($\alpha = 0.86$), openness ($\alpha = 0.83$), extroversion ($\alpha = 0.78$), emotional stability ($\alpha = 0.82$), integrity ($\alpha = 0.86$), intellect ($\alpha = 0.76$), facilitating ($\alpha = 0.81$) and conscientiousness ($\alpha = 0.85$). All the clusters of the SAPI were included in a shortened version. Included items did well in the pilot and validation study (Hill *et al.*, 2013).

Identity: Personal and social identity were measured by three scales.

Personal identity was measured with the 12-item subscale of the Erikson Psycho Social Inventory (EPSI) developed by Rosenthal, Gurney and Moore (1981). This measure was adapted and validated for the South African context by Adams *et al.* (in process). A sample item is 'I change my opinion of myself a lot'. Respondents were asked to use a five-point Likert-type scale ranging from 1 (not applicable to me) to 5 (always applicable to me) to indicate the extent to how they feel about themselves. The scale has a reliability (Cronbach's alpha) value of 0.71.

The Religious Identity Short Scale (RISS) was used by Adams *et al.* (inprocess) in an international study on adolescents' identity and well-being. It is a unidimensional scale with six items rated on a five-point Likert scale ranging from 1 (not applicable to me) to 5 (always applicable to me). The six items measure how individuals may feel about their religious views. Items include 'I perceive myself as a member of my religious community' and 'My religious beliefs will remain stable'. The scale has a reliability (Cronbach's alpha) value of between 0.77 and 0.91 (Adams *et al.*, in process).

The Multi-Ethnic Identity Measure (MEIM) was used to measure ethnic identity exploration and belonging (Phinney, 1992). The measure consisted of 12 items. A sample item is 'I have spent time trying to find out more about my ethnic group, such as its history, traditions and customs'. Respondents were asked to use a four-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree) to indicate the extent to which they would describe their feelings about their ethnic group. The scale has a reliability (Cronbach's alpha) value of between 0.81 and 0.89 across ethnic groups (Phinney, 1992).

Research procedure and ethical considerations

Booklets, containing all the questionnaires, were compiled after permission was gained from the Ethical Committee from a tertiary institution based in North West and ethical clearance was given. The time required to complete the questionnaire was about 90 minutes. The participants completed the questionnaire during class and were given two hours to complete the questionnaires. Participants were reminded of completion a week before the questionnaires were collected, after which the data collection process ended and the data analysis was performed. Participation in the study was voluntary and the confidentiality and anonymity of participants were emphasised. The participants were informed about the purpose and aim of the study.

Statistical analysis

The statistical analysis was carried out using IBM SPSS (Pallant, 2013) and Mplus 7.11 (Muthén & Muthén, 2013). SPSS was used to calculate descriptive statistics (means and standard deviations) and Cronbach's alpha coefficients were used to determine the reliability of the constructs that were measured.

Further analysis was conducted with Mplus. Regretfully, normal structural equation modelling methods were not possible due to the number of parameters that had to be estimated in comparison to the sample size. Therefore, the factors were created with sum scores from the items to lessen the number of parameters; ultimately, multiple regression methods was the only viable option. All of the regressions were specified in the same analysis (multiple regression) and the maximum-likelihood estimator (robust version) was chosen for the analysis. This specific estimator is advantageous as it is robust against the possibility of non-normality in the data and presents more accurate standard errors.

Product-moment correlation coefficients were used to specify the relationships between the variables and regression analysis to determine which dimensions of personality and identity predicted CQ. Effect sizes were used to determine the practical significance of the results. Cut-off points of 0.30 (medium effect) and 0.50 (large effect) were set for the practical significance of the correlation coefficients (Cohen, 1988).

Results

The results section consists of five tables encompassing the statistical outcomes from the collected data, followed by a short report. Table 1 includes the descriptive statistics and Cronbach's alpha coefficients. Table 2 presents the correlations between variables. Tables 3–6 show the results of the regression analysis with personality and identity as independent variables and CQ as the dependent variable.

The assessment of Table 1 shows that acceptable Cronbach's alpha coefficients were obtained, ranging from 0.63 to 0.91. Eight scales, namely emotional stability, extraversion, facilitating, integrity, intellect, openness, relationship harmony and personal identity, showed an alpha coefficient lower than the guideline cut-off of 0.70 (Nunnally & Bernstein, 1994). However, according to Black and Porter (1996), an alpha coefficient of 0.60 and higher should still be considered adequate in research where relatively new concepts are studied, as is the case in this study. The scores

TABLE 1: Descriptive statistics and Cronbach's alpha coefficients of the measuring instruments.

Variable	Mean	Standard deviation	Skewness	Kurtosis	Chronbach's alpha
Cognitive CQ	3.96	1.27	-0.01	-0.38	0.84
Metacognitive CQ	4.69	1.12	-0.01	0.03	0.88
Motivational CQ	4.56	1.15	-0.22	-0.23	0.82
Behavioural CQ	4.06	1.31	-0.03	-0.30	0.91
Conscientiousness	5.64	0.96	-0.79	0.47	0.72
Emotional stability	4.67	0.63	0.31	0.19	0.69
Extraversion	5.36	1.06	-0.72	0.49	0.67
Facilitating	5.42	0.82	-0.43	0.23	0.68
Integrity	5.03	0.63	-0.62	2.11	0.67
Intellect	5.47	0.81	-0.59	0.57	0.63
Openness	5.52	0.94	-0.74	0.61	0.63
Relationship harmony	3.80	1.25	0.04	-0.44	0.68
Soft-heartedness	2.95	1.48	0.66	-0.41	0.79
Personal identity	4.17	0.67	-0.89	0.90	0.67
Ethnic identity	3.14	0.55	-0.56	0.67	0.85
Religious identity	3.92	0.75	-0.66	0.55	0.80

CQ, Cultural intelligence.

TABLE 2: Correlation coefficients between cultural intelligence, personality and identity.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Cognitive CQ	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Metacognitive CQ	0.42†	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Motivational CQ	0.48†	0.54‡	1.00	-	-	-	-	-	-	-	-	-	-	-	-
4. Behavioural CQ	0.52‡	0.55‡	0.58‡	1.00	-	-	-	-	-	-	-	-	-	-	-
5. Conscientiousness	1.13	0.33†	0.25	0.31†	1.00	-	-	-	-	-	-	-	-	-	-
6. Emotional stability	0.28	1.30†	0.26	0.34†	0.35†	1.00	-	-	-	-	-	-	-	-	-
7. Extroversion	0.24	0.31†	1.21	0.31†	0.51†	0.57†	1.00	-	-	-	-	-	-	-	-
8. Facilitating	0.13	0.40†	0.30†	0.26	0.45†	0.39†	0.49†	1.00	-	-	-	-	-	-	-
9. Integrity	0.15	0.22	0.16	0.20	0.38†	0.47†	0.57†	0.38†	1.00	-	-	-	-	-	-
10. Intellect	0.18	0.47†	0.34†	0.33†	0.66‡	0.40†	0.60‡	0.61†	0.40†	1.00	-	-	-	-	-
11. Openness	0.19	0.42†	0.31†	0.32†	0.67‡	0.40†	0.63†	0.64†	0.46†	0.82†	1.00	-	-	-	-
12. Relationship harmony	0.29	0.25	0.27	0.34†	0.17	0.58†	0.56†	0.33†	0.40†	0.42†	0.40†	1.00	-	-	-
13. Soft-heartedness	0.29	0.17	0.23	0.35†	-0.01	0.56†	0.42†	0.08‡	0.30†	0.16	0.11	0.79†	1.00	-	-
14. Personal identity	-0.11	0.10	0.03	0.01	0.45†	-0.23	0.10	0.20	0.01	0.40†	0.39†	-0.19	0.38†	1.00	-
15. Ethnic identity	-0.06	0.06	-0.01	0.09	0.35†	0.18	0.22	0.29	0.18	0.28	0.40†	0.06	0.03	0.30†	1.00
16. Religious identity	0.16	0.23	0.07	0.20	0.27	0.22	0.26	0.30†	0.26	0.29	0.38†	0.12	0.01	0.14	0.32†

CQ, Cultural intelligence.
†, Correlation is significant at the 0.01 level.
‡, Correlation is practically significant $r \geq 0.30$ (medium effect).

on the SAPI, CQS, EPSI and MEIM questionnaires are normally distributed.

As can be seen in Table 2, cognitive CQ correlates practically and statistically significantly with metacognitive CQ (medium effect; $r = 0.42$), motivational CQ (medium effect; $r = 0.48$) and behavioural CQ (large effect; $r = 0.52$). Metacognitive CQ correlates practically and statistically significantly with motivational CQ (large effect; $r = 0.54$), behavioural CQ (large effect; $r = 0.55$), conscientiousness (medium effect; $r = 0.33$), emotional stability (medium effect; $r = 0.30$), extroversion (medium effect; $r = 0.31$), facilitating (medium effect; $r = 0.40$), intellect (medium effect; $r = 0.47$) and openness (medium effect; $r = 0.42$). Motivational CQ correlates practically and significantly with behavioural CQ (large effect; $r = 0.58$) and correlates practically and statistically significantly with facilitating (medium effect; $r = 0.30$), intellect (medium effect; $r = 0.34$) and openness (medium effect; $r = 0.31$). Behavioural CQ correlates practically and statistically significantly with conscientiousness (medium effect; $r = 0.31$), emotional stability (medium effect; $r = 0.34$), extroversion (medium effect; $r = 0.31$), intellect (medium effect; $r = 0.33$), openness (medium effect, $r = 32$), relationship harmony (medium effect; $r = 0.34$) and soft-heartedness (medium effect; $r = 0.35$).

The following tables include the results of the regression analysis.

Table 3 summarises the regression analysis with personality and identity as predictors of cognitive CQ. More specifically, religious identity ($\beta = -0.17$; $p \leq 0.05$) and ethnic identity ($\beta = 0.15$; $p \leq 0.05$) predict cognitive CQ.

Table 4 summarises the regression analysis with personality and identity as predictors of metacognitive CQ. More specifically, intellect ($\beta = 0.29$; $p \leq 0.05$), facilitating ($\beta = 0.19$; $p \leq 0.05$) and ethnic identity ($\beta = 0.11$; $p \leq 0.05$) predict metacognition CQ.

TABLE 3: Multiple regression analysis with cognitive cultural intelligence as dependent variable.

Model	Standardised beta	Standard error	*p*-value
Conscientious	0.08	0.09	0.404
Emotional stability	0.08	0.10	0.436
Extraversion	0.02	0.10	0.857
Facilitating	-0.02	0.13	0.881
Integrity	-0.05	0.06	0.380
Intellect	0.00	0.12	1.996
Openness	0.06	0.16	0.312
Relationship harmony	-0.01	0.11	0.942
Soft-heartedness	0.22	0.14	0.126
Personal identity:	-0.07	0.08	0.347
Ethnic identity	0.15†	0.07	0.048
Religious identity	-0.17†	0.06	0.003

†, Significant result.

TABLE 4: Multiple regression analysis with metacognitive cultural intelligence as dependent variable.

Model	Beta	Standard error	*p*-value
Conscientious	0.06	0.09	0.469
Emotional stability	0.07	0.09	0.401
Extraversion	-0.08	0.09	0.395
Facilitating	0.19†	0.08	0.018
Integrity	-0.03	0.07	0.632
Intellect	0.29†	0.10	0.003
Openness	0.13	0.12	0.285
Relationship harmony	-0.14	0.12	0.245
Soft-heartedness	0.19	0.11	0.078
Personal identity	-0.03	0.07	0.732
Ethnic identity	0.11	0.06	0.062
Religious identity	-0.15†	0.06	0.016

†, Significant result.

Table 5 summarises the regression analysis with personality and identity as predictors of motivational CQ. More specifically, soft-heartedness ($\beta = 0.29$; $p \leq 0.05$), facilitating ($\beta = 0.18$; $p \leq 0.05$) extroversion ($\beta = -0.18$; $p \leq 0.05$) and religious identity ($\beta = -0.16$; $p \leq 0.05$) predict motivational CQ.

Table 6 summarises the regression analysis with personality and identity as predictors of behavioural CQ. More

TABLE 5: Multiple regression analysis with motivational cultural intelligence as dependent variable.

Model	Beta	Standard error	*p*-value
Conscientious	0.11	0.10	0.269
Emotional stability	0.06	0.09	0.535
Extraversion	-0.18	0.09	0.051
Facilitating	0.18†	0.09	0.039
Integrity	-0.04	0.07	0.592
Intellect	0.13	0.12	0.280
Openness	0.20	0.13	0.115
Relationship harmony	-0.08	0.11	0.455
Soft-heartedness	0.29†	0.11	0.007
Personal identity	0.00	0.08	0.961
Ethnic identity	-0.02	0.08	0.843
Religious identity	-0.16†	0.07	0.019

†, Significant result.

TABLE 6: Multiple regression analysis with behavioural cultural intelligence as dependent variable.

Model	Beta	Standard error	*p*-value
Conscientious	0.23†	0.08	0.004
Emotional stability	0.04	0.09	0.651
Extraversion	-0.05	0.09	0.550
Facilitating	0.08	0.08	0.312
Integrity	-0.07	0.08	0.357
Intellect	0.04	0.11	0.701
Openness	0.11	0.12	0.387
Relationship harmony	-0.09	0.10	0.394
Soft-heartedness	0.41†	0.11	0.000
Personal identity	-0.01	0.08	0.913
Ethnic identity	0.13	0.07	0.060
Religious identity	-0.07	0.06	0.266

†, Significant result.

specifically, soft-heartedness ($\beta = 0.41$; $p \leq 0.05$) and conscientiousness ($\beta = 0.23$; $p \leq 0.05$) predict behavioural CQ.

Discussion

Outline of results

The results will be discussed and further evaluated in this section. First of all, the relationships between the constructs will be discussed and evaluated. The discussion will then be followed by evaluating the personality and identity aspects that predict CQ outcomes.

The specific objective was to determine the relationship between aspects of CQ and aspects of personality and identity amongst Afrikaans-speaking South African youth. It is evident that metacognitive CQ is related practically and statistically significantly to conscientiousness, emotional stability, extroversion, facilitating, intellect and openness. Some of these findings are consistent with Ang *et al.* (2006). Individuals will find it easier to be culturally intelligent if they value planning and order, possess effective emotional skills and creativity, are encouraging and open towards others and eager to learn new things. Thus, Afrikaans-speaking South African youth with these personality characteristics have the ability to develop higher levels of metacognitive CQ.

Motivational CQ related practically and statistically significantly with facilitating, intellect and openness. Individuals who tend to guide and encourage others, have high levels of social intellect and skilfulness and are open to change will be more likely to be able to direct their energy towards cultural differences. Thus, Afrikaans-speaking South African youth with these personality characteristics have the ability to develop higher levels of motivational CQ. Behavioural CQ correlated practically and statistically significantly with conscientiousness, emotional stability, extroversion, intellect, relationship harmony and soft-heartedness. Individuals who value order and planning, together with a strong ego and emotional sensitivity, a tendency to be open, social intellect and skilfulness, approachability and interpersonal relatedness and demonstrate empathy and gratitude will be able to demonstrate suitable verbal and non-verbal actions during cross-cultural interactions and settings. Thus, Afrikaans-speaking South African youth with these personality characteristics have the ability to develop higher levels of behavioural CQ (Ang *et al.*, 2006).

Cognitive CQ and behavioural CQ were not statistically significant related to openness in this study. This finding is in contrast to that of Ng and Early (2006) and implies that openness is a critical personality trait and relevant to the diverse environment. Also, the relationships between openness and relationship harmony (0.82) and soft-heartedness and relationship harmony (0.79) are high, thus indicating that the SAPI-questionnaire items might measure the same construct.

In addition, the results in general supported the theoretically based predictions and demonstrated that CQ is associated with personality and identity as the second specific objective. Those Afrikaans-speaking South African youths with a well-developed ethnic identity have knowledge of norms, practices and conventions of their own cultural settings, thus building a foundation for decision-making and performance across cultural settings. Ethnic identity was thus positively related to cognitive CQ. This is in line with research done by Early and Ang (2003). Regarding the negative aspect of cognitive CQ, the regression analysis showed that religious identity contributes strongly negatively to cognitive CQ. Thus, individuals with no religious identity will not be able to interact with people from culturally different environments due to their lack of a formed basic framework of cultural values.

Furthermore, intellect, facilitating and ethnic identity were positive predictors of metacognitive CQ. This makes sense because a person with high levels of intellect tends to be more willing to learn new things and to pursue new knowledge, increasing the accuracy of their understanding (Ang *et al.*, 2006; Thomas & Inkson, 2003). Additionally, someone who has high levels of facilitating has the ability to guide, motivate and encourage other individuals to realise their potential. This is a critical component of metacognitive CQ because it promotes active thinking about people and situations when their cultural backgrounds differ.

Soft-heartedness, facilitating, extroversion and religious identity were positive predictors for motivational CQ. This is consistent with research done by Ang *et al.* (2006), which indicated that highly extroverted individuals will be more self-confident and will sociably seek interactions in different intercultural settings. Furthermore, an understanding of an individual's own belief system will motivate behaviour influencing the ideal outcomes and ways of behaving (Fiske & Taylor, 1984; Thomas & Inkson, 2003). Also, individuals with high levels of soft-heartedness and facilitating are usually concerned with the welfare of their peers and the broader community, as well as with guiding, motivating and encouraging other individuals. This makes sense, because these individuals will function more effectively in cross-cultural situations through sociocultural adaption and social empathy (Ward *et al.*, 2009).

Furthermore, soft-heartedness and conscientiousness were positive predictors of behavioural CQ. An individual with high levels of soft-heartedness and conscientiousness has the ability to demonstrate concern for others and to be sensitive towards others, as well as the ability to comply with the social norm (Koh *et al.*, 2009). This is a critical component of behavioural CQ because it allows an individual to demonstrate suitable behaviour based on the specific intercultural situation. Thus, in our diverse culture having these personality traits will allow individuals to demonstrate appropriate verbal and non-verbal actions during cross-cultural interactions and situations, in other words will show ubuntu (Nel *et al.*, 2012).

The present findings failed to support Ang *et al.*'s (2006) findings that openness to experience (including curiosity, broad-mindedness and imagination) predicts all four factors of CQ. An individual with high levels of openness tends to be more willing to learn and experience new things. Also, extroversion did not predict cognitive CQ and behavioural CQ. Ang *et al.* state that extroverted individuals tend to seek interactions in different cultural settings and are not restrained in exhibiting flexible behaviour. The explanation for this inconsistency might be that that openness to change and an extroverted personalities within a diverse South Africa are to some extent unknown for our society. Thus, on the one hand is the Afrikaans-speaking South African youth who welcome new challenges and master the diversity of the new social field and on the other those who resist change and hold on to their fixed values (Vestergaard, 2001). Another unanticipated result was personal identity (self-concept) not predicting all four factors of CQ. This is inconsistent with Markus and Sentis (1982), who argue that an individual with a clear understanding of themselves would not be threatened by intercultural situations. However this could be supported with the notion that Afrikaans-speaking South African youths are faced with difficulty in forming their identities (Dolby, 2001; Thomas & Inkson, 2003).

Practical implications

Research has been done on CQ and various external behavioural outcomes; however, the present findings open

a new window to the investigation of personality, identity and CQ within the South African context. Although CQ has been proven to be important, literature has highlighted it as an underexplored research issue. For that reason, this study makes a contribution to accumulating literature on positive psychology and CQ. Students within South Africa will gain a better understanding of CQ and the benefits of having CQ in a diverse context will attribute to a better strengths-based approach. Culturally intelligent students will enable the university to create a cross-cultural inclusive environment in which students can adjust to working with students from other cultures, transfer knowledge of one culture to another, complete assignments successfully, not feel threatened when interacting with members from other cultural groups, improve cross-cultural decision-making, exhibit leadership in multicultural environments and improve working relationships in their future careers.

Research on CQ is still new in South Africa. A recent study by Mahembe and Engelbrecht (2014) explored the construct validity amongst a South African sample, whilst previous research focused more on managers and leadership behaviour with CQ (De Vos, 2012; Du Plessis, 2011). The concept of CQ is unique in South Africa since the country has various indigenous cultural groups that are obligated to work together in a multicultural environment. Therefore, it is important to build on theory for this concept in the South African context, especially in cross-cultural studies. Each cultural group is unique in terms of their history, social standing and educational scope in South Africa. To explore the phenomena adequately in South Africa, an emic-etic approach (Goldberg, 1990) will suffice in order to tap deeper into what CQ entails in a multicultural South Africa. Furthermore, the inclusion of personality and identity in this study means that it provides valued findings in terms of individual differences and the effect thereof on a person's CQ.

Limitations and recommendations

The study described in this article had several limitations. Firstly, the participants in the study consisted only of young Afrikaans-speaking South Africans from a higher education institution. More research is needed into identity, personality and CQ from other language and cultural groups in South Africa as well as from different universities. Secondly, the sample size was considered relatively small ($N = 252$), which had an impact on statistical power. Additionally, we would not advise generalisation to other populations from the current study. Lastly, some of the Cronbach's alpha coefficients of the SAPI questionnaire did not meet the requirement of Nunnally and Bernstein (1994) that the alpha value be above 0.70. However, because this is an exploratory study, alpha coefficients of 0.60 or higher are deemed acceptable (Black & Porter, 1996).

The current study only focused on young Afrikaans-speaking South Africans from a higher education institution; additional studies should be carried out in other South

African universities, as well as other language groups. The results obtained in such studies could then be compared with those obtained in the present study, promoting an in-depth investigation of CQ across cultures in South Africa. Future studies should also use larger samples to increase the confidence that study findings would be consistent across other similar groups.

Conclusion

The current study provided insights into the relationship between specific aspects of personality, identity and CQ. The four dimensions of CQ were practically and statistically significantly related to each one of the CQ dimensions, consistent with the results of Ang *et al.* (2006). In fact, an individual with metacognition, cognition (mental intelligence), motivational and behavioural intelligence will be able to interact across various cultural settings and situations. It was also evident that various personality aspects predicted most aspects of CQ, religious identity was found to be the most profound predictor of CQ elements, whilst ethnic identity did predict some elements of CQ. With personality it was not surprising when reviewing the results since similar findings were found in a previous study by Ang *et al.* (2006). However, a unique finding from this study was the inclusion of identity with CQ. Religious and ethnic identity (as social identity elements; Landman, 2013) predicted some of the aspects of CQ. It seems that social identity is an important aspect amongst the Afrikaans youth and it influences the way they conduct themselves in multicultural settings.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

N.N. (North-West University) was the first author and this publication originated from her master's dissertation. J.A.N. (North-West University) acted as the first author's supervisor and gave important direction and conceptual inputs. B.G.A. (Tilburg University) provided input, guidance and reviews during the write-up. L.T.d.B. (North-West University) acted as corresponding author, performed the statistical analysis and also wrote that section of the article.

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