Personality, Character Strengths and Cultural Intelligence: "Extraversion" or "Openness" as Further Factors Associated to the Cultural Skills

Personalidad, fortalezas del carácter e inteligencia cultural: "extraversión" o "apertura" como factores en mayor medida asociados a las habilidades culturales

Personalidade, fortalezas do carácter e inteligência cultural: "extraversão" ou "abertura" como fatores em maior medida associados às habilidades culturais

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Abstract

At present the development and operation of cultural intelligence is studied in terms of their associations with certain aspects of personality. However, it is claimed that these studies on expatriates have not yet found the predictive power of personality traits on these cultural skills. The study discusses the results of three investigations in which a sample of military students was analyzed to explore the associations between the factors of the big five model personality, the variable cultural intelligence, and the character strength. The research hypothesis is that the personality factor Openness is much more associated to cultural intelligence than to Extraversion factor. Moreover, the strength of character called social intelligence, predicts the level of cultural intelligence of the military students. The results indicated that Openness is a positive predictor of general cultural intelligence of students, and the character strength of social intelligence positively predicts the cultural intelligence much more than other predictors that were part of the analized model.

Keywords: cultural intelligence; openness; extraversion; character strengths.

Resumen

En la actualidad, el desarrollo y funcionamiento de la inteligencia cultural se estudia en función de sus asociaciones con determinados aspectos de la personalidad. Sin embargo, es sabido que los estudios acerca de los expatriados aún no han hallado el poder predictivo de

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los rasgos de la personalidad sobre las mencionadas habilidades culturales. El presente estudio aborda los resultados de tres investigaciones en las que se analizaron asociaciones entre el modelo de los Cinco Grandes factores de la personalidad, la variable inteligencia cultural y las fortalezas del carácter. La hipótesis de la investigación es que el factor de la personalidad *apertura* se asocia en mayor medida a la inteligencia cultural que el factor *extraversión*. Además, la fortaleza del carácter, denominada *inteligencia social*, predice el nivel de inteligencia cultural de los estudiantes militares. Los resultados indicaron que la *apertura* constituye un predictor positivo de la inteligencia cultural general de los estudiantes, y la fortaleza del carácter *inteligencia social* predice positivamente la inteligencia cultural en mayor medida que otros predictores que fueron parte del modelo analizado.

Palabras clave: inteligencia cultural; apertura; extraversión; fortalezas del carácter.

Resumo

Na atualidade, o desenvolvimento e funcionamento da inteligência cultural se estuda em função de suas associações com determinados aspetos da personalidade. No entanto, é sabido que os estudos realizados sobre expatriados ainda não têm encontrado o poder preditivo dos rasgos da personalidade sobre as mencionadas habilidades culturais. O presente estudo aborda os resultados de três pesquisas nas que se analisaram associações entre o modelo dos Cinco Grandes fatores da personalidade, a variável de inteligência cultural e as fortalezas de carácter. A hipótese da pesquisa é que o fator da personalidade Abertura se associa em maior medida à inteligência cultural que o fator Extraversão. Além disso, a fortaleza do carácter denominada inteligência social, prediz o nível de inteligência cultural dos estudantes militares. Os resultados indicaram que a Abertura constitui um preditor positivo da inteligência cultural geral dos estudantes, e a fortaleza do carácter inteligência social prediz positivamente a inteligência cultural em maior medida que outros preditores que foram parte do modelo analisado.

Palavras-chave: inteligência cultural; abertura; extraversão; fortalezas do carácter.

At present the phenomenon of cultural diversity demands the possession of specific cultural skills or cultural intelligence (Ang et al., 2007; Earley & Ang, 2003; Thomas et al., 2008) that facilitates the adaptation to different cultural environments and it also deploys beliefs, behaviours, metacognitions and cultural motivations (Depaula, 2010).

In the eighties the model of the *Big Five* factors empirically established that all personality traits could be explained by five dimensions. These dimensions gather and systematize through a lexical approach. They allow people to predict the psychopathology, the juvenile delinquency, the school, the job performance, the risk factors associated with normal physical health and longevity among others (Castro Solano, 2005; Depaula & Azzollini, 2013; Eysenck, 2009; Fierro, 1996; McCrae & Costa, 1985, 1999).

From the psychopathological point of view a recent study on a sample taken to 215 young trainees of different careers of public and private universities in the city of Córdoba (Argentina) showed, on one hand, significant correlations between Extraversion factor and disorders such as schizoid, histrionic and narcissistic. On the other hand, the Opening factor showed no strong associations with any disorder (Cupani, Sanchez, Gross, Chiepa, & Dean, 2013).

An investigation developed by Maltby (1999) who evaluated 213 students at Sheffield Hallam University in England and 172 students at the University of Ulster in Northern Ireland provided results that the intrinsic orientation toward religion is linked to religious personal aspects, meanwhile the extrinsic orientation reflects external aspects and social aspects towards religion. However, this study reported no significant correlations between religiosity and Extraversion. But it has indicated a negative association between intrinsic orientation and psychotism.

Lee, Dean, and Jung (2008) deal with the concept of social connectedness as a self-system that results from the association between Extraversion and well-being. The concept is defined as the subjective consciousness in relation to the social world. As other authors claim, the social connectedness is associated, among others, to the following factors: the interpersonal trust, the self attachment, the social competence, the identification with social groups, the emotional balance, the self-esteem, the low anxiety and depressive symptoms, the religious affiliation and social networks. Likewise, this construct would be similar to Extraversion in the sense that both lead the social experiences of the individuals. However according to Lee et al. (2008) there are conceptual differences since the social connectedness of Extraversion operates monitoring between the individual and the people of his community and the social environment. It mediates between Extraversion and subjective well-being. The Extraversion would lead people to express trust in favour of affiliation and social opportunities to establish good relations which regulates their own emotional and interpersonal needs. It also establishes their satisfaction with life in general, that is, in non-social situations and in novel social setting.

The study carried out by Lee et al. (2008) administrated to a sample of 295 undergraduate psychology students at Midwestern public university, concluded that there is a strong positive correlation between Extraversion and social connectedness. The students were grouped according to their races and ethnic groups who were given the Extraversion Scale (EXT) loaded with the International Personality Item Pool (Goldberg, 1999; Goldberg et al., 2006) derived from the Big Five Factor (BFI), the Social Connectedness Scale-Revised (SCS; Lee, Draper, & Lee, 2001) and the Satisfaction with Life Scale (SWLS; Pavot & Diener, 1993). The latter works as a mediator of the given association between Extraversion and subjective well-being that it is considered by the authors mentioned before as an environmentally determined variable that could begin to decline over time.

According to Farkas and Orosz (2013) flexibility of personality is given by the levels of ego-control and ego-resiliency (Block, 2002; Block & Kremen, 1996). The first refers to the individual's ability to control one's impulses in front of specific situations (delay gratification, aggression expression, spontaneity and inhibition of behaviour) while the second refers to the dynamic ability to change the ego-control to optimize the personality system that is aimed at environmental context that allow temporal changes in function to provide different degrees of control. The authors noted that the self-resilient in individuals become more flexible and it might be easily adapted to new situations. So individuals can behave differently facing new events and also they can provide a variety of responses to personality inventory (e.g., BFI). On the contrary the non-resilient individuals, who are effective in stable environments, show difficulties in managing anxiety and stress. It has been observed that this event occurs particularly in front of higher levels of uncertainty or environmental instability.

In a recent study that explores the effects of situational factors on the temporal stability of personality (Farkas & Orosz, 2013), students of psychology and Caucasians Hungarian University of Szeged responded to the Iowa Gambling Task (IGT; Bechara, Damasio, Damasio, & Anderson, 1994), the Game of Dice Tasks (GDT; Brand et al., 2005) (at randomization) the Big Five Inventory (BFI, John & Srivastava, 1999) and the Ego-Resiliency Scale (ER; Block & Kremen, 1996; Letzring, Block, & Funder, 2005) pre and post-task, claimed results by indicating that subjects after less than an hour of the evaluation pre-task have described themselves as less extroverted after solving each of the tasks compared to their pre-task reports. However, authors remark the importance of dependence situation. So in situations in which there are highly social contents, individuals will

tend to modify their behaviour depending on the requirements of the environment. Therefore, individuals are described as more outgoing after responding to non-social task (such as the IGT and GDT). They also change over time their behaviour to more adaptive responses that in general must take into account the new context.

If we configure a different approach by dealing with the individual traits, that is, the emergence of positive psychology at the end of Twentieth Century it is an exploration area of character and personality that lead to investigate the phenomena associated with certain "good" aspects of people's life such as positive emotions, positive traits and positive institutions. We do not concentrate the focus on the classifications of mental disorders or other negative experiences of life (Cosentino, 2010; Seligman & Csikszentmihalyi, 2000).

If we consider Peterson and Seligman's (2004) arguments about the possible association between character strengths and factors of the big five model personality, we should consider Cosentino and Castro Solano (2008, 2012) who have conducted a research in the general population in which they have evaluated the character strengths and virtues by using (1) the SCI (IVyF in Spanish; Cosentino & Castro Solano, 2008), and (2) the personality factors by using the BFI (Castro Solano & Casullo, 2001; John, 1990). In relation to personality factors, which is relevant in this work, Cosentino and Castro Solano's (2008, 2012) study provided results that indicated positive associations between the factor Openness to experience and the character strengths creativity, love for learning and appreciation of beauty and excellence. Meanwhile the character strengths of social intelligence character, humour and courage showed positive associations with Extraversion factor.

Following the same line, Cosentino and Castro Solano (2012) conducted another study which aimed to analyze the strengths of character that were present in the Argentinian military students who were in the last year of their study. In this case the sample was 295 in which 186 belonged to first year and 109 to fourth year, i.e. the last year of the military career. The character strengths were evaluated through the SCI (IVyF in Spanish; Cosentino, & Castro Solano, 2008). The results of a multivariate MANCOVA test indicated that cadets of fourth differed from cadets of first in the character strengths kindness and teamwork. They obtained lower scores in relation to the first. Likewise, cadets of fourth year achieved higher scores in the character strength of forgiveness compared to first-year cadets. Later, a discriminate analysis showed that kindness and teamwork effectively represented the character strengths that contribute to a greater extent to differentiate both groups

If we take into account previous studies that indicated the relationships between personality factors, character strengths, and certain psychological variables related to social relations, the following research question arises: Does the strength of character predict the levels of general cultural intelligence?

In this regard, the research problem contributes to the relative knowledge about the cultural diversity (Depaula, 2015) which currently represents an area of great interest in the research of Social Sciences and in specific professional areas (i.e., management, business, military, etc.). It also emphasizes the way in which an outgoing personality opened to experience could result a predictor of levels of cultural intelligence. In this sense, the study provides substantial new evidence for the understanding of these psychological and multicultural events.

Three studies were analyzed to explore the associations between the factors of the big five model personality. A cultural intelligence variable was presented (Depaula & Azzollini, 2011; Depaula & Azzollini, 2013) to examine the predictive level of the age, the year at university and the students' character strengths related to general cultural intelligence. So the aim of this paper is to show according to the results collected in the first study,

if individual characteristics of Extraversion and Openness to experience are explanatory elements of the development and function of cultural intelligence that in certain aspects determines which of the two factors of personality show the weightiest statistical association. The second study taken by the end of 2013 tries to determine in which way the character strengths can predict the cultural abilities of the cadets.

Hypotheses

H1: The personality factor *Openness to experience* is associated to cultural intelligence rather than the *Extraversion* factor and it is a significant predictor of cultural intelligence.

Cultural Intelligence is largely associated to a personality open to experience that carries the non-conventional values and it is highly sensible and emotive (it expresses both positive and negative emotions). Besides it is a bit conservative but it manifests clear preference for variety which is opposite to an extroverted personality. In other words, sociable people who are active and strong people in their opinions and energetic and optimistic also show excitement and cheerful disposition. These people also prefer to be part of large groups (Castro Solano, 2005).

H2: The character strength of social intelligence is a positive predictor of the general cultural intelligence.

Social intelligence defines the virtue of Humanity and represents the capacity to reason about the internal or external emotional information (i.e., motivations, or feelings) deployed in relationships with others (Cosentino, 2009).

Method

Participants

In the Study 1 the participants were 400 Argentinean military students of the Military Academy. They were chosen according to their year of study, that is, 100 cadets that belonged to each of the fourth year of the career. They were divided in group of 100 cadets, that is, 100 that belonged to each of the four year of the career. It is also important to highlight that 94.3% (n=377) of the cadets were male and 5.8% (n=23) were female. The average age was 21.71 years (SD=2.37 years). 98.2% of students (n=393) were from various geographic regions in Argentina while 1.8% (n=7) were born outside the country. At the time of the study all participants resided in the province of Buenos Aires where the military institution is located.

The number of participants for Study 2 was 296. They were Argentinean military students of the Military Academy that were studying in one of the courses of the four levels of the career. In this case a homogeneous number of cases were selected of each year, that is, 91.6% (n=271) of the cadets were male and 8.4% (n=25) were female. The average age was 22.56 years (SD=2.664 years). At the time of the study all participants resided in the province of Buenos Aires due to the same reasons considered in the studies 1 and 2.

Measures

Prior to obtain the authorization of the head of military institute, a battery of psychometric tests preceded by a sociodemographic survey was administered. Participants took part voluntarily in the test and they had the freedom to leave the research at any stage. The administered questionnaires had to be completed in pen and paper for about an hour. Questionnaires were as follows:

Sociodemographic Survey (Depaula, 2010). Survey of the demographical data included age, sex, year in the degree course and previous cross-cultural stages (e.g., travel, sporting events, student exchanges and other experiences of cultural contact).

Cultural Intelligence Scale (CQS; Ang et al., 2007; adaptation by Depaula, 2010). We worked

with the Likert scale of 20 items with seven options to answer. The scale evaluates the four dimensions of cultural intelligence (Earley & Ang, 2003): meta-cognitive, cognitive, motivational and behavioural. In order to reduce administration time of the test, five options to response were provided under the following categories: Strongly disagree / Partly Disagree / Neither agree nor disagree / Partly agree / Strongly agree.

Depaula (2010) translated into Spanish the items proposed by Ang et al. (2007) that were administered to military students. He examined the validity of the test through various principal components analysis with Promax rotation in which he obtained definite factorial solution. The test was made up of three-factors that explain the 50.936 % of the variance (Test final factor solution Bartlett sphericity=2284.104; p<.01) (Kaiser-Meyer-Olkin Index=.842).

Three of the original items were removed from this analysis: in a first analysis with Promax rotation items number 13 and 5, of the original scale, were eliminated due to the fact that the reliability factor which is only integrated by both items become significantly lower (α=.277); then an analysis of the same type (which led to the final adaptation of the instrument) determined the elimination of item number 15 of the original scale due to the fact that it showed factor loadings in more than one factor.

It was also found high levels of reliability (α=.814; M=3.117; SD=.559, for the Study 1-a and b-); the analysis was carried out by using the model of two halves that showed acceptable levels of reliability (α value for part 1=.777; α value for part 2=.711; Depaula, 2010).

To sum up, Study 1 (a and b) CQS dimensions reached high levels of reliability: *reflective-motivational* (α=.772; M=3.940; SD=.648), *cognitive* (α=.789; M=2.90; SD =.829), and *behavioral-linguistic* (α=.793; M=2.510; SD =.884). On the other hand, in Study 2, CQS also reached high levels of reliability for both general cultural intelligence (α=.826; M=3.14; SD=.591) and as well as to its dimensions: *reflective-motivational* (α=.740; M=4.04; SD=.616), *cognitive* (α=.804; M=2.90; SD=.851), and *behavioral-linguistic* (α=.800; M=2.48; SD =.927).

The three dimensions of this scale (Ang et al., 2007; Depaula 2010) are conceptually defined as:

Cultural intelligence reflective-motivational. It reflects the mental processes that individuals use to acquire cultural knowledge and understanding. It includes control of knowledge and thoughts of a culture; it operates as a control agent affects, cognitions and behaviours that facilitate the achievement of objectives. Those who score high on this dimension recognize their preferences about other cultures before and during the interactions that have been established. They have been based on intrinsic interest and self-confidence.

Cognitive cultural intelligence. It reflects the knowledge of rules, practices and conventions which has been acquired in different as a result of education and personal experiences. Those who obtained high scores in cognitive cultural intelligence properly understand the differences and similarities that emerge from the diversity and cultural entanglement.

Cultural intelligence behavioural-linguistic. It reflects the ability to properly display verbal actions (language) and nonverbal interacting with people from different cultures through cultural values of scenarios or contexts. It also includes a vast repertoire of behaviours. Those who obtain high values in this dimension exhibit appropriate behaviours to each cultural situation. They are based on a wide range of verbal and non-verbal capabilities such as words, tones, idioms, gestures and facial expressions capabilities.

Big Five Inventory (Castro Solano & Casullo, 2001; John, 1990). The inventory evaluates the theoretical model of the big five factors of personality: *Extraversion, Responsibility or Conscientiousness, Neuroticism, Agreeableness* and *Openness to experience.* It has a Likert format of 5 options to response which consists of 44 items. They answe-

red the following categories: Strongly disagree / Partly disagree / Neither agree nor disagree / Partly agree / Strongly agree.

Castro Solano and Casullo (2001) validated the BFI in Argentina in samples taken to civilians and military college students. They obtain Cronbach's alpha coefficients for military students (*n*=360), Extraversion: .71; Agreeableness: .55; Responsibility or Conscientiousness: .69; Neuroticism: .73; Openness to experience: .69. And civilian students (*n*=276), Extraversion: .68, Agreeableness: .66; Responsibility or Conscientiousness: .70; Neuroticism: .74; Openness to experience: .77.

Finally, researchers factorially analyzed items through the Varimax method that showed 45% of the variance of scores. That is to say that the BFI items for both civilians and Argentine military were grouped according to the big five model (Castro Solano, 2005).

In the present study (Study 1 -a and b-), the five BFI factors reached high levels of realiability in the following levels: *Extraversion* (α=.796; *M*=3.675; *SD*=.670); *Agreeableness* (α=.741; *M*=3.885; *SD*=.573); *Responsibility or Conscientiousness* (α=.763; *M*=3.890; *SD*=.570); *Neuroticism* (α=.718; *M*=2.369; *SD*=.625), and *Openness to experience* (α=.767; *M*=3.872; *SD*=.534).

What follows is the conceptual definitions of these five dimensions of this scale (Castro Solano, 2005):

Neuroticism. This factor displays a general tendency to express fear, sadness, revenge, anger, guilt and disgust. People who obtain a high score on this factor are more vulnerable to the impact of life events. In general the Neuroticism factor indicates a willingness to experiment negative emotions and psychological predisposition to certain disorders. In contrast, people who obtain low score in neuroticism are, in general, emotionally stable.

Extraversion. Extrovert people are sociable and they prefer participating in large groups. They are active and firm in their opinions as well as energetic and optimistic. They also present a high level of psychological well-being. In general, they like the excitement and show a cheerful disposition. In contrast, introverts subjects are more reserved and unfriendly people. Although they do not suffer from social anxiety, they prefer to be alone.

Openness to experience. This factor is composed of the imagination, aesthetic sensibility, the preference for variety and intellectual curiosity. Those subjects who obtain high score in Openness to experience have unconventional values and they are open to the data of experience (both internal and external). They also show a tendency to experience both negative and positive emotions. In general, this factor is related to the divergent thinking and creativity. In contrast, lower scores indicate conventional and conservative people who prefer the familiar to the new with few interests.

Agreeableness. It corresponds to a dimension related to the interpersonal relationships. Those who present high scores on Agreeableness are generally unselfish. They are able to help others and have a trend toward complacency and conformism. Low scores on Agreeableness are associated with antisocial behaviour and paranoid traits whereas high scores indicate dependent behaviours.

Conscientiousness. They are conscientious, tidy and have a strong will and determination. Also they are punctual and reliable individuals. A high score on Conscientiousness is associated with academic and professional achievements. If the Conscientiousness factor is very high, subjects have traits of being irritable, overly neat and workaholic while subjects who recorded low score on such factor are generally less demanding to achieve their goals and more hedonistic.

Strengths of Character Inventory (Cosentino & Castro Solano, 2008). The SCI IV & F is a direct auto scoring overall instrument which is used to assess the character strengths according to Peterson and Seligman's scale (2004). This measuring instrument has an acceptable test-retest reliability with *rs* within the range of 72-92 (*M*=.80).

Cronbach's alpha scores calculated on the 24 individual items was α=.85 (Cosentino, 2009). This alpha is considered to be an indicator of the degree of intercorrelation, i.e. co-variation, of participants' responses to the items (Helms, Henze, Sass, & Mifsud, 2006).

Associations with sizes effect higher than medium were found between the character strength autoscoring that are measured by the SCI and score performed by an external observer (Cosentino & Castro Solano, in press).

The character strengths measured by SCI are associated in the way expected according to the variables that are part of its conceptual network such as life satisfaction, social desirability and personality factors of Big Five personality traits.

In this sample (particularly in Study 2), the SCI reliability analysis reported high levels (α=.826; *M*=3.895). The means and standard deviations for each of the 24 items (strengths) that are part of the general scale, are the following: Perspective (*M*=4.00; *SD*=.741), Creativity (*M*=3.74; *SD*=.876), Open-mindedness (*M*=4.04; *SD*=.858), Love of learning (*M*=3.33; *SD*=.981), Curiosity (*M*=3.99; *SD*=.897), Fairness (*M*=3.94; *SD*=.993), Leadership (*M*=4.13; *SD*=.799), Teamwork (*M*=3.70; *SD*=.892), Kindness (*M*=4.16; *SD* =.805), Love (*M*=3.72; *SD*=1.029), Social Intelligence (*M*=4.07; *SD*=.937), Spirituality (*M*=3.80; *SD*=.991), Gratitude (*M*=4.29; *SD*=.846), Hope (*M*=4.01; *SD*=.881), Humor (*M*=3.71; *SD*=1.005), Appreciation (*M*=3.58; *SD*=.823), Forgiveness (*M*=3.68; *SD*=.882), Self-regulation (*M*=3.51; *SD*=1.023), Prudence*:* (*M*=3.93; *SD*=.890), Humility (*M*=3.73; *SD*=1.009), Bravery (*M*=3.86; *SD*=.962), Honesty (*M*=4.36; *SD*=.781), Persistence (*M*=4.01; *SD*=.954), and Zest (*M*=3.98; *SD*=.839).

The 24 character strengths that are part of this scale are conceptually defined in the following way (Cosentino & Castro Solano, 2013; Peterson & Seligman, 2004):

Perspective: having a deep judgment on life.

Creativity: having original and useful ideas.

Open-mindedness: considering pros-and-cons of diverse point of views.

Love of learning: searching and finding more and better knowledge.

Curiosity: having a strong desire to know and learn.

Fairness: making equitable social judgments.

Leadership: leading people in harmony to success.

Teamwork: engaging in collaborative work with one's own social group.

Kindness: helping people without utilitarian motives.

Love: being close to people that one has affective bonds.

Social Intelligence: knowing what people wish and seek.

Spirituality: considering that life has a meaning beyond oneself.

Gratitude: feeling and expressing thankfulness.

Hope: being convinced that everything will be fine.

Humor: having a cheerful and serene view of life.

Appreciation: noticing and appreciating the sublime.

Forgiveness: becoming benevolent toward the offender.

Self-regulation: controlling one's own reactions to stimuli.

Prudence: making careful decisions.

Humility: letting one's achievements speak for themselves.

Bravery: doing the right thing despite risks.

Honesty: practicing what one preaches.

Persistence: completing tasks despite obstacles.

Zest: feel alive and activated.

Study 1a

Design

A correlational research has been developed to identify the main cultural intelligence and personality variables (Depaula & Azzollini, 2011).

Procedure

Participants (arranged in a comfortable room equipped with individual tables and chairs) responded to a socio-demographic survey and psychological tests given. They completed the paper format by using pencil in no more than thirty minutes or so.

Subsequently, the information collected in the instruments was entered in a data matrix drawn up in the SPSS 11.0 software (Spanish version) for statistical analysis.

The *r* Pearson coefficient was calculated to analyze the degree of association between the dimensions of cultural intelligence and the big five factors of personality.

Data analysis

Data were analyzed using SPSS 11.0; $p<.05$ accepted error.

Results

First of all to verify if the samples were responding to a normal distribution, the Kolmogorov-Smirnov test was developed. The test indicated that cultural intelligence and personality variables (big five factors) responded to such distribution ($p>.05$). Therefore parametric statistical analyzes were performed.

Analysis of r Pearson showed results in which the cultural intelligence (general) was positively correlated with the personality factor of Openness to experience ($r=.348$; $p=.000$) and to a lesser extent with the factor of Extraversion ($r=.251$; $p=.000$).

From a dimensional point of view, the reflective-motivational facet of cultural intelligence (mental processes of acquisition, understanding and linking knowledge and cultural skills; Thomas et al., 2008) correlated positively with the Openness to experience factor ($r=.487$; $p=.000$); by obtaining these results the authors inferred that students deployed their imagination, aesthetic sensitivity, preference for variety and intellectual curiosity when they think about different cultural backgrounds. It is then supposed that there is a tendency on them to build relationships with people from other cultures. Thus, the most creative and open to information from experience (both internal and external) the more the tendency to experience both positive and negative emotions are (Castro Solano, 2005) better to operate in different cultural environments (Depaula & Azzollini, 2011; Earley & Ang, 2003).

Similarly, reflexive-motivational cultural intelligence is correlated to a lesser extent with the factor of Extraversion ($r=.401$; $p=.000$) which is linked to the psychological well-being.

Finally, the authors found that the possession of cultural knowledge (i.e., the cognitive cultural intelligence) is positively associated with Openness to experience ($r=.313$; $p=.000$) and it indicates the following: the more students know about other cultures the more interest they display in cultural diversity (Depaula & Azzollini, 2011). On the other hand a significant association (to a lesser extent) between the mentioned dimension of cultural intelligence and the Extraversion factor ($r=.227$, $p<.01$), that is, highly social subjects, who prefer the participation in large groups, have a large amount of cultural knowledge.

Study 1b

Design

A retrospective study a simple group with the use of surveys (Depaula & Azzollini, 2013) was performed.

Procedure

The information collected in the psychological tests (see 3.4.a) and the information of the SPSS 11.0 data matrix (Spanish version) was used for subsequent statistical analysis. The aim was to test

Table 1
Relations between cultural intelligence and the big five model of personality

		Cultural intelligence reflective-motivational	Cultural intelligence cognitive	Cultural intelligence behavioral-linguistic	Cultural intelligence (general)
Extraversion	Pearson Correlation	.401**	.227**	-.032	.251**
	Sig. (bilateral)	.000	.000	.526	.000
	N	400	400	400	400
Agreeableness	Pearson Correlation	.413**	.179**	-.145**	.172**
	Sig. (bilateral)	.000	.000	.004	.001
	N	400	400	400	400
Conscientiousness	Pearson Correlation	.391**	.211**	-.160**	.171**
	Sig. (bilateral)	.000	.000	.001	.001
	N	400	400	400	400
Neuroticism	Pearson Correlation	-.310**	-.202**	.078	-.179**
	Sig. (bilateral)	.000	.000	.120	.000
	N	400	400	400	400
Openness	Pearson Correlation	.487**	.313**	.010	.348**
	Sig. (bilateral)	.000	.000	.845	.000
	N	400	400	400	400

** Correlation is significant at .01 (bilateral).

the hypothesis that claimed the character predictor Openness to experience factor over the levels of cultural intelligence.

In order to reveal whether the components of the big five model of personality have proved predictors of general cultural intelligence. In the results obtained, a stepwise regression analysis was carried out. The dependent variable was general cultural intelligence and the independent variables were the age, sex, the previous cross-cultural experiences and the five factors of personality.

Data analysis

Data were statistically analyzed using the software package SPSS 11.0. It has been accepted an error of $p<.05$ to determine statistical significance.

Results

In order to see if the samples were responding to a normal distribution, the Kolmogorov-Smirnov test was conducted. The test indicated that the variables of age, sex, cultural intelligence and personality (big five factors) responded to that type of distribution ($p>.05$).

The results of this study (Depaula & Azzollini, 2013) ratified the high level of statistical significance that was observed in Study 1 on the Openness to the experience factor and the cultural intelligence. It becomes this second study as a dimension of personality positively predictive of cultural intelligence generally present in students ($B=.334$; $\beta=.319$; $p<.000$). The researchers also found that previous cross-cultural experiences proved positive

predictors of higher levels of general cultural intelligence (B=.043; β=.143; p=.002). The value of the corrected R^2=.142 (p=.000) indicates that 14.2% of the variability in cultural intelligence is predicted by the Openness to the experience factor and previous cross-cultural experiences.

Finally, in this latter study the Extraversion personality factor has no predictor that significantly explains the behaviour of the general cultural intelligence variable. In certain way it downplays the positive associations found in Study 1 between Extraversion and some components of cultural intelligence.

Table 2
Big five model of personality as a predictor of cultural intelligence

Model Summary

					Statistical rate				
Model	R	R squared	R squared corrected	Standard error of estimate	Change in R square	Change in F	df1	df2	Significance of the change in F
1	.121	.015	.012	.55571	.015	5.922	1	398	.015
2	.151	.023	.018	.55415	.008	3.251	1	397	.072
3	.230	.053	.046	.54626	.030	12.548	1	396	.000
4	.389	.151	.142	.51778	.098	45.759	1	395	.000

a. Predictors variable: (Constant), age.
b. Predictors variable: (Constant), age, sex.
c. Predictors variable: (Constant), age, sex, total time in days for stays.
d. Predictors variable: (Constant), age, sex, total time in days for stays, Openness.

Coefficients (a)

		Unstandardized coefficients		Standardized coefficients			Correlations			Collinearity statistics	
Model		B	Standard error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.498	.256		9.752	.000					
	age	.029	.012	.121	2.434	.015	.121	.121	.121	1.000	1.000
2	(Constant)	2.766	.295		9.360	.000					
	age	.027	.012	.113	2.274	.024	.121	.113	.113	.992	1.008
	sex	-.215	.119	-.090	-1.803	.072	-.100	-.090	-.089	.992	1.008
3	(Constant)	2.661	.293		9.089	.000					
	age	.027	.012	.113	2.295	.022	.121	.115	.112	.992	1.008
	sex	-.178	.118	-.074	-1.502	.134	-.100	-.075	-.073	.984	1.016
	total time in days for stays	.052	.015	.174	3.542	.000	.182	.175	.173	.992	1.008
4	(Constant)	1.495	.327		4.578	.000					
	age	.018	.011	.077	1.643	.101	.121	.082	.076	.980	1.021
	sex	-.113	.113	-.047	-1.001	.318	-.100	-.050	-.046	.977	1.023
	total time in days for stays	.043	.014	.143	3.047	.002	.182	.152	.141	.982	1.018
	Openness	.334	.049	.319	6.765	.000	.348	.322	.314	.967	1.034

a. Dependent variable: cultural intelligence (general).

Study 2

Design

A retrospective study, a simple group with the use of surveys, was performed.

Procedure

Subjects responded to a socio-demographic survey and the pencil and paper psychological tests. The time for their completion was between thirty minutes and an hour. Participants responded to the tests in a room equipped with individual tables and chairs.

Then, the collected information was entered in a data matrix that uses the Statistics 18 PASW software package (Spanish version). The information collected has been used for subsequent statistical analyzes.

In order to reveal whether the character strengths proved predictors of general cultural intelligence in the results obtained in the Argentinean military students, a stepwise regression analysis was carried out. The dependent variable was general cultural intelligence and the independent variables were the age, the year of the career and the 24 character strengths evaluated by the use of SCI (IV y F in Spanish).

Data analysis

Data were statistically analyzed by the use of software package PASW Statistics 18. An error of $p<.05$ has been accepted to determine statistical significance.

Results

In order to see if the samples were responding to a normal distribution, the Kolmogorov-Smirnov test was conducted. The test indicated that the variables of year of career, cultural intelligence and character strengths responded to such distribution ($p>.05$).

According to the H2, the results of Study 3 let us probe that the character strength called *social intelligence,* the virtue of humanity, is the positive significant predictor of more general cultural intelligence ($B=.123$; $\beta=.182$; $p=.002$). It also indicates that subjects, who have a high ability to reason about the internal or external emotional information, tend to favour their relationships with other people from different cultures. They have the ability to adjust themselves by understanding and the use of accurate assessment of motivations besides their feelings that empathizing with others who are culturally diverse.

The regression model showed other strengths of character that in a minor statistical measure predicts the general cultural intelligence. Those students who have a low level character strength of *gratitude*, which determines the character of virtue called transcendence, have reached low levels of cultural intelligence ($B=-.127$; $\beta=-.177$; $p=.002$). It also shows some shortage of gratitude and joy which are the result of the lack of knowledge of the benefit of interacting with people from other cultures. The character strengths *love of learning and perspective* (both determinants virtue of wisdom and knowledge) positively predict the general cultural intelligence. The first character strength ($B=.102$; $\beta=.169$; $p=.003$) implies a strong relationship of people with certain skills, new information and specific content (e.g. cultural domains). It also shows to be cognitively active, curious and interested in learning (formally or self-taught) the newly aspects of cultural diversity. The character strength *perspective* ($B=.127$; $\beta=.158$; $p=.007$) allows subjects to achieve hierarchical knowledge and judgments about the development and meaning of life, cultures, promoting personal well-being and the others in the context of multicultural relations.

The year submitted in the university career positively predicts the level of cultural intelligence

(B=.079; β=.148; p=.008); students who are in the final stages of undergraduate education would carry higher levels of cultural intelligence.

Finally, the value of the corrected R^2=.117 (p=.002) indicates that 11.7% of the variability in cultural intelligence is predicted by the character strengths of social intelligence, gratitude, love of learning and perspective, and by the previous cross-cultural experiences.

Conclusions

This study had as general objective the aim to explore whether cultural intelligence displayed

Table 3
Character strengths and year of the university career as predictors of cultural intelligence
Model Summary

					Statistical rate				
Model	R	R squared	R squared corrected	Standard error of estimate	Change in R square	Change in F	df1	df2	Significance of the change in F
1	.125a	.016	.012	.595	.016	4.685	1	294	.031
2	.245b	.060	.053	.582	.044	13.783	1	293	.000
3	.294c	.086	.077	.575	.026	8.464	1	292	.004
4	.322d	.104	.092	.571	.018	5.704	1	291	.018
5	.363e	.132	.117	.562	.028	9.408	1	290	.002

a. Predictors variable: (Constant), year career.

b. Predictors variable: (Constant), year career, character strength perspective.

c. Predictors variable: (Constant), year career, character strength perspective, character strength love of learning.

d. Predictors variable: (Constant), year career, character strength perspective, character strength love of learning, character strength gratitude.

e. Predictors variable: (Constant), year career, character strength perspective, character strength love of learning, character strength gratitude, character strength social intelligence.

Coefficients (a)

		Unstandardized coefficients		Standardized coefficients			Correlations			Collinearity statistics	
Model		B	Standard error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constante)	2.981	.084		35.345	.000					
	year career	.067	.031	.125	2.164	.031	.125	.125	.125	1.000	1.000
2	(Constante)	2.296	.202		11.362	.000					
	year career	.071	.030	.132	2.325	.021	.125	.135	.132	.999	1.001
	character strength perspective	.169	.046	.210	3.713	.000	.206	.212	.210	.999	1.001
3	(Constante)	2.042	.218		9.377	.000					
	year career	.077	.030	.144	2.571	.011	.125	.149	.144	.993	1.007
	character strength perspective	.145	.046	.180	3.166	.002	.206	.182	.177	.966	1.035
	character strength love of learning	.100	.035	.166	2.909	.004	.188	.168	.163	.960	1.041

Continue

		Unstandardized coefficients		Standardized coefficients			Correlations			Collinearity statistics	
Model		B	Standard error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
4	(Constante)	2.389	.260		9.178	.000					
	year career	.071	.030	.132	2.356	.019	.125	.137	.131	.984	1.016
	character strength perspective	.164	.046	.204	3.558	.000	.206	.204	.197	.937	1.068
	character strength love of learning	.103	.034	.171	3.013	.003	.188	.174	.167	.959	1.043
	character strength gratitude	–.097	.041	-.136	-2.388	.018	-.099	-.139	-.133	.956	1.046
5	(Constante)	2.142	.269		7.963	.000					
	year career	.079	.030	.148	2.674	.008	.125	.155	.146	.975	1.025
	character strength perspective	.127	.047	.158	2.697	.007	.206	.156	.148	.875	1.143
	character strength love of learning	.102	.034	.169	3.021	.003	.188	.175	.165	.959	1.043
	character strength gratitude	–.127	.041	-.177	-3.079	.002	-.099	-.178	-.168	.902	1.108
	character strength social intelligence	.123	.040	.182	3.067	.002	.175	.177	.168	.847	1.181

a. Dependent variable: cultural intelligence (general).

through knowledge and behaviors in new social events are characteristics of cultural diversity and whether is associated and influenced by the factors related to personality and character that establish *social or interpersonal relations*, that is to say, the Extraversion factor or the Openness to the experience factor. By analyzing the studies developed by Depaula and Azzollini (2011, 2013) it is possible to claim that the big five factor model, which in certain way explains the beliefs and cultural intelligent motivations, is the Openness to experience.

So far researches have focused on studying the "Extraversion factor" more than "the Openness to experience factor." For example, Lajunen (2004) discusses two investigations (Lynn & Hampson , 1975; Lester, 2000 as cited in Lajunen , 2004) in which he analyzes the relationship between Extraversion and Neuroticism and certain social indicators of personality (e.g., chronic psychosis, intake calorie, coronary heart disease, suicide, homicide, crime, accidents, divorce, illegitimacy, caffeine, alcohol or cigarette consumption, etc.). In his research he concludes that such studies should be conducted under the form of cross-cultural in order to consider national differences in certain personality traits. So the author also remarks that "since social indicators are not measured with personality questionnaires, translation problems and issues related to cultural adaptation do not bias the measurements" (Lajunen , 2004; p. 1544); for example the Eysenck Personality Questionnaire (EPQ, Eysenck & Eysenck, 1975) is a test that would present problems such as certain inadequacy of their low reliability items that would contribute to inflate the scalar correlations of social indicators that have been already mentioned. These observations seem to star to remark the social and cultural differences that can be perceived in extraverted subjects.

Okun, Pugliese, and Rook (2007) who used a structural equation modeling analyzed the relationship between Extraversion and volunteering throughout life by examining the social capital of 888 older adults. The results indicated that Extraversion (measured in terms of gregariousness, interpersonal warmth, and assertiveness) exerts a direct effect on contact with friendships, the church attendance to both sexes and only women for clubs and organizations (implying in the last case characteristics of kindness in the course of their relationships). They have noted that Extraversion has no direct effect on volunteering. This result explains the distinction between going to church and participate in other organizations that would represent spaces or different levels of volunteering. In both cases people act voluntarily expanding its capital through "humanitarian values" that they have (Okun et al., 2007, p. 1475). To this respect, a study carried out by Depaula and Azzollini (2012) showed that the general cultural intelligence of military students is more associated to human values than the value of Tradition (valoric conservation goal), Universalism, Benevolence values (valoric goal of self-transcendence) and the Stimulation value that are the creative and original resolution of new experiences or uncertain situations (valoric goal of openness to change). According to the theory of universal human values proposed by Schwartz (1994) and Schwartz et al. (2001), the goals of value-based, self-transcendence and openness to change seem to represent psychosocial aspects that would modulate the relations given between the personality factor "Openness to experience and cultural intelligence."

A study on a sample taken to 1006 non-psychology students (Aluja, García, & García, 2003) examined the relationship between Extraversion and Openness to experience. They were measured through the instrument NEO-PI-R (240 items assessing the Big Five personality factors; Costa & McCrae, 1992) and the *sensation seeking* construct (measured by the Sensation Seeking Scale form V (SSS-V; Zuckerman, Eynseck, & Eynseck, 1978). The study showed that Extraversion and Openness correlate positively with the sensation seeking. The latter is understood as a personality trait that involves the need to make contact with sensations and experiences which are varied, new and complex. It also shows the willingness to take physical and social risks after experiencing such experiences (Zuckerman, 1979 as cited in Aluja et al., 2003). The authors by conducting a correlation and factor analysis found that Extraversion and Openness to experience show a strong mutual association as it has been found by other authors (Costa & McCrae, 1992). They particularly found that the search of excitement (excitement-seeking) which results in the facet of extroversion is further related to Openness while the facet of Openness, which is called *feelings,* has showed a greater association towards Extraversion rather than Openness. The excitement seeking may be manifested by both sociable and non-sociable. The authors claim that the characteristics of subjects who achieve high scores on sensation seeking and Openness are similar in relation to their interests in the search for the newness, music, art, travel around the world or through dissatisfaction with society or establishing relationships with unconventional groups like artists, hippies or homosexuals (Costa & McCrae, 1992; Zuckerman, 1994 as cited in Aluja et al., 2003).

These results coincide with the findings of this study since the Openness to experience shows a strong link with those situations or newly social events where the paramount genuine expression of emotions prevailed on other social and cultural actors. In other words, it seems that the factor of Openness to experience focus on elements of the environment rather than the subject itself, people, the new relationships, experiences and cultures. For example, through the cheerful disposition, firmness and own subjective optimism of those subjects who are highly extraverted regardless of the unique features of the environment. In this aspect and if we go back to the study of Farkas and Orosz (2013),

we can state that the subjects evaluate themselves as more outgoing and they tend to bring about a change in their behavior according to environmental demands that arise from instability or the newness of the environment. This would mean that the diverse environment somehow determines the capabilities of ego-control and ego-resiliency on personality traits. In this sense the Openness to experience would be a highly flexible and permeable factor facilitating adaptation to the demands of the environment much more than Extraversion.

In study of repeated measures multivariate analysis of covariance (Şahin, Gurbuz, & Köksal, 2014) showed that individuals who are high on Extraversion improved their metacognitive and behavioral cultural intelligence more than did individuals who are low on Extraversion. Similarly, individuals who are high on Openness to experience improved their motivational cultural intelligence. These recent findings are consistent with those given high correlations between reflective-motivational cultural intelligence and both factors of personality, found in the Study 1.a. Hypothetically, one might think that both Extraversion as Openness to experience are factors widely associated personality cognition and analysis of situational cues and personal interactions, reflecting at every moment about their own interests, expectations and needs cultural exchange, being in the service of these psychological processes and attitudes imagination (through Openness to experience), and an active role embodied, for example, in the firmness of opinions related to the phenomenon of cultural diversity (through Extraversion).

To sum up, *self-promotion* would be associated to extroverted subjects in which high levels of anxiety and stress are emerged during new situations (Farkas & Orosz, 2013). So Extraversion is much more associated with the psychological well-being and self-perceived while self-transcendence and openness to change would be expected in a more open personality to the experience which is able to adapt to environmental instability resiliently. In this respect, Fowers and Davidov (2006) introduced the concept of *openness to the other*. This concept is considered as strength of character that allows multicultural pursues goals and achieves them successfully. As this aspect is a cultural competence it allows interaction through sensitivity to cultural differences. The second aspect could be associated to the importance of achieving sensitivity and preference for variety (e.g., cultural diversity) that show the subject with an open personality to the experience.

As it has been mentioned before, Lee et al. (2008) stated that social connectedness is a self-system that is the result of the association between Extraversion and well-being. The study also claims that the social connectedness is an environmentally determined variable that could begin to decline over time.

Perhaps the decline in social connectedness could show changes and uncertainty from the environment (e.g. the phenomenon of globalization, crises, political, social and economic life, crises faced teenagers and adults, successive duels, etc.) and produce an imbalance in this area. So if Lee et al. (2008) consider social connectedness as a determined environmentally variable, it could be inferred that Openness to experience would operate as a mediating function between the environment and social connectedness and Extraversion.

Mainly, the first study presented in this article (Depaula & Azzollini, 2011, 2013) is more consistent with Ang, Van Dyne and Koh study's (2006). These researchers analyzed a sample taken to 338 students in a public University in Singapore (characterized by the multiculturalism of its students); they obtained results that indicated that the factor Openness to experience was associated positively with all dimensions of cultural intelligence and to a greater extent the metacognitive dimension and motivational. These findings coincide with the results of Study 1b. (Depaula & Azzollini, 2013) while Ang et al. (2006) also highlighted the relationship between factor Conscientiousness and

metacognitive dimension of cultural intelligence as it is supported by Depaula and Azzollini (2011, 2013); such processes of metacognitive monitoring could be associated with the processes of ego-control and ego-resiliency posed by Farkas and Orosz (2013).

Castro Solano (2005) states that reflection is not generally observed in subjects with high levels of Extraversion but in those who are highly Openness to experience are more reflexive. Therefore, a higher correlation between reflective-motivational cultural intelligence and Openness to experience factor with Extraversion has been observed in Study 1.a. although statistically significant differences were observed due to lower dimension of cultural intelligence. This difference was strongly associated with both factors of personality. However, Study 1b. confirmed the hypothesis of this study since it shows that Openness to experience is the only personality factor that explains the higher percentage of variance of the general cultural intelligence. On the contrary the Extraversion is a factor which is not a predictor of this complex ability to adapt to cultural diversity.

In relation to the results obtained in Study 2, it is expected that the character strength of social intelligence is associated with a theoretical construct based on certain skills for the achievement of cultural adaptation. That is to say that the cultural intelligence contributes to set on different social situations (Cosentino, 2009). However, we consider the totality of the predictive model of the general cultural intelligence. We have found some inconsistencies between Study 1b. and 2 compared to the findings of the research of Castro Solano and Cosentino (2008, 2012). In the last study the authors found positive associations between the factor Openness to experience (assessed by the BFI; Castro Solano & Casullo, 2001; John, 1990) and the character strength love for learning while the character strength social intelligence, among others, has been positively associated with the Extraversion factor. In this regard if our Study 1b. had found that the Extraversion factor is not a significant predictor of overall cultural intelligence of military students and on the contrary it had been the factor "Openness to experience" perhaps it would have been more probable then that the character strength of social intelligence would correlates significantly with the Big Five factor model as both operate as predictors of cultural intelligence. In order to provide an answer to these questions, it is necessary that further studies should conduct a new linear regression analysis that should consider the dependent variable of cultural intelligence and besides it should include in the model the factors of personality and character strengths.

However and despite the fact of possible inconsistencies discussed in the previous paragraph that Okun et al. (2007) has already predicted, Extraversion does not exert a direct effect on volunteering. This social phenomenon is expressed by different levels (i.e. church attendance or active participation in other institutions) which could be understood as scenarios or different cultural environments where religious issues create relationships with cultural diversity and other institutions that differ particularly in their *organizational culture* (Schein, 1988). Under this scenario the voluntarism represents, according to the authors, a conscious action of people who look to expand their social capital through their own *humanitarian values*. In our opinion, when these actions involve contexts of cultural diversity (rather than organizational culture) do not directly dependent on an extroverted personality. Humanitarian values could be in agreement with the character strengths that determine the virtue of humanity such as social intelligence (Study 2) and kindness (Cosentino & Castro Solano, 2008, 2012). The one we have observed make students differ according to the stage of the academic training degree they are at the moment. However the virtue of humanity is a relevant aspect of the character for the professional development of the militaries at present. It implies character strengths that are designed to mechanize certain community

actions that are taken by peacekeepers who voluntarily participate in peace missions under the United Nations mandate. These personnel are deployed in different countries which provided different cultural patterns such as Haiti, Cyprus and in individual post in Middle East (Conoir, 2008; Depaula, 2015; Azzollini, Depaula & Torres, 2013; Frank, Curry, Wheaton, Hill, & Abbott, 2011).

Finally, one might wonders to what extent cultural intelligence, which is the factor Openness to experience and the predictive character strengths of the first, is related to the concept of openness to other (Fowers & Davidov, 2006).

Implications and limitations of the findings

The study shows a significant obstacle represented by samples whose participants were only military students. Future studies should replicate the research described in civilian students so as to achieve heterogeneous levels in relation to personality factors and general and dimensional ratings of cultural intelligence. A further research will even improve the criteria of validity and reliability of psychometric tests.

Regarding to Study 2, it would be interesting that new researches check possible associations between character strengths and the different dimensions that integrate cultural intelligence (reflexive-motivational, behavioural and cognitive-linguistic; Depaula, 2010). On one hand, the concept arises due to the hypothesis that the character strength of social intelligence might be related to the reflexive-motivational cultural intelligence in relation to the capabilities of reasoning and conscious monitoring of feelings and motivations. On the other hand, the character strength determinants of virtue of wisdom and knowledge such as the love of learning and perspective could be more related to cognitive cultural intelligence on the possession of specific knowledge and cultural domains that can be applied in solving complex problems or tasks and decision making in front of diverse cultural environments (Azzollini, Depaula, Piñeyro, & Torres, 2012; Depaula, 2015).

But despite the limitations, the study of personality and cultural skills on military students is strongly related to the personality factors of Openness to experience and Extraversion. The finding would constitute an optimal resource for military students after the scheduled deployment of diverse experiences and cultural relations and it would help to make more flexible the levels that in some cases are expressed through the Consciousness of the personality factor (Ang et al., 2006; Depaula & Azzollini, 2011). This could contrast in contexts of uniqueness of a messy, ambiguous, uncertain environment, preventing a posteriori in the exercise of professional role obstacles in their actions aimed at a change and innovation related to Openness to experience (Johnson & Hill, 2009).

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