Cultural Differences in Creativity: The Role of Immigration

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Abstract

This study analyses the relationship between creativity and personality in two cultural contexts, London, England and the Greater Region of Luxembourg. A multivariate approach to creativity implies that personal and contextual characteristics influence creative performance. Is the relationship between creativity and personality the same in different cultural contexts? Within education the cultural factor might have more impact than in other environments because of the assimilation of migrant students. This study is carried out in London, England and the Greater Region of Luxembourg. The sample consists of 243 participants (199 women, 44 men, M_{Age} = 20.35, *SD* = 1.56, age range: 18-32 years). Whereas the correlation between creativity and openness is positive for non-immigrants (European), it is negative for immigrants (non-European). This highly surprising exploratory result can be related to migration. A possible mediator between creativity and openness might be individual differences linked to migration, i.e. uncertainty avoidance. Implications of results will be discussed.

***Keywords*:** Creativity; immigration; cultural differences; uncertainty avoidance.

Introduction

In today's society immigration is at an all-time high of 232 million worldwide and still growing. Representing almost 10% of the world population (United Nations-Population Division, 2014), the relationship between culture and creativity becomes increasingly important to understand. With immigration, societies consist of people with different cultural backgrounds. Societies consisting of people from different cultural backgrounds can be defined as multicultural.

Research suggests that multiculturalism increases creativity: "There is evidence that multicultural experience can enhance cognitive processes underlying creative performance beyond the effect of bilingualism" (Kharkurin, 2012, p. 94). One explanation of a cognitive process is that with bi- or multiculturalism, "novel conceptual combination" results in creative conceptual expansion (Hampton, 1997; Simonton, 2000; Wan & Chiu, 2002). Some argue however that culture impedes creativity (Ward, Patterson, Sifonis, Dodds, & Saunders, 2002). Relatively little research has been carried out in this domain. One reason might be the methodological difficulties of measuring the concept of a multicultural environment and the effects thereof. Today there is an ongoing debate on the concept of multiculturalism itself, especially within political theory. The meaning of the concept varies depending on the meaning of culture as well. In this study culture is defined as: "The collective programming of the mind that distinguishes the members of one group or category from people from others" (Hofstede, 2005, p.4).

Interculturality can then be described as: "An increased consciousness of the constraints of our mental programs versus those of others" (Hofstede, 2005, p. 365). There are different perspectives on 'interculturality', 'cross-culturality', or 'transculturality'. Where positivist theories (Kharkurin, 2012) focus more on facts as length and age of arrival in another culture, and the measuring of individual values, within social constructivist theories the dynamics of interactions are investigated (Bhatti, 2014; Byram, 2012).

A cultural environment represents only one example of context. Apart from context, according to Sternberg and Lubart's (1991) multivariate theory, creativity is influenced by personality (together

with other conative, cognitive, and emotional factors). Creativity is most significantly related to the personality trait "openness to experience" amongst the Big Five traits (Batey & Furnham, 2006; McCrae 1987; Dollinger, Urban, & James 2004).

This study searches for possible relations between personality and creativity in different cultural contexts. Little is known about the differential influence of personality in diverse cultural contexts.

Creativity and openness to experience

Studies on the relation of personality and creative performance, show that openness is repeatedly associated with creativity on a theoretical and empirical base (Batey & Furnham, 2006; Dollinger & Clancy, 1993; Dollinger & Clancy Dollinger, 1997; Dollinger, Leong, & Ulcini, 1996; Dollinger, Preston, O'Brien, & DiLalla, 1996; Dollinger et al., 2004; Johnson, 1994; McCrae & Costa, 1997; Ostendorf & Angleiter, 1994; Urban, 1990; Urban, 1995; Urban & Jellen, 1996). Openness can be defined as: sensitivity towards fantasy, feelings, aesthetics, ideas, actions and values (McCrae, 1987).

In a description of facets of the openness to experience trait, Eldesouky (2012) notes that all facets have in common the involvement or engagement in novelty and complexity. Involvement and engagement concerns the (inner and outer) environment or context.

In Dollinger et al. (2004), openness not only correlated with almost every measure of creativity but also revealed to be the only significant predictor of criterion measures of creativity, by controlling for other creative personality measures from the Adjective Check List (ACL; Gough & Heilbrun, 1965, 1983). A meta-analytic review confirmed the predominant role of openness for creativity (Feist, 1998). Openness to experience is supposed to be the determinant feature in Urban's componential model of creativity (Urban, 1990; Urban, 1995; Urban & Jellen, 1996). Urban states that openness together with uncertainty avoidance best predicts creativity.

How does a creative person then engage with a multicultural environment, and how is this process for students? Interesting in this respect is Edward Taylor's (2012) theory on "transformative learning". He states that:

> "… social change may need to precede individual change, and in another context, individual transformation drives social transformation and so forth. The outcome is the same or similar – a deep shift in perspective, leading to more open, more permeable, and better justified meaning perspectives (Mezirow, 1978) – but the ways of getting there can differ depending on the person or people or context or situation." (Taylor & Cranton 2012, p. 3)

For Taylor and Mezirov, multiculturality should ultimately lead to more openness of individuals. What is the relationship between creativity and openness, as engagement with an environment, in different cultural contexts?

Creativity and culture

When analysing the relationship between personality and creativity in different cultural contexts, the definition of culture needs to be narrowed down. In the Encyclopaedia of Creativity (1999) it is stated that: "Original ideas, processes, and products can be accepted and promoted more easily when they are placed within the framework of the values of the sociocultural system" (p. 456). In the edition of 2011 this idea is taken out. It would be interesting to know the reason behind this decision. Do we understand the dynamics of culture in relation to personality and creativity? Until now, empirical research on cultural differences in creativity mainly focused on group or cultural differences, as expressed in values. Group differences in creative performance are explained according to diverse values. Examples are the Western-Eastern difference of Independence-Dependence (Niu & Sternberg, 2001), the American-Chinese difference of Individualism-Collectivism (Zha, Walczyk, Griffith-Ross, Tobacyk, & Walczyk, 2006). The

Russian, United States (U.S.A.), and Iran differences in creative performance are not related to differences in values but to differences in the Educational system (Kharkurin & Motalleebi, 2008). Iran shows a larger difference in creative performance compared to Russia and the U.S.A. Iran also scores relatively high on the cultural value of uncertainty avoidance (Hofstede, 2001). So it might be interesting to consider the factor of uncertainty avoidance when analysing these differences as well. Uncertainty avoidant cultures can be described as less "open". In more uncertainty avoidant cultures the idea prevails that "What is different is dangerous" instead of "What is different is curious" (Hofstede 2001).

Uncertainty avoidance as cultural value has rarely been examined in relation to cultural differences in creativity, despite the fact that research indicates that uncertainty avoidance as personal attitude is related to creativity. Maybe one reason is explained by the following research: Steel, Rinne, and Fairweather (2011) explain why they do not find a relationship between innovation and uncertainty avoidance on a national level.

Uncertainty avoiding countries may be better at developing innovative ideas into new products and services as implementation requires attention to detail and punctuality. Uncertainty accepting countries, however, may be better at coming up with innovative ideas and with basic innovations. In either case, uncertainty avoiding and accepting, innovation does take place. It is the form of innovation that changes. (Steel et al., p. 14)

The fact that no correlation is found between uncertainty avoidance as cultural value and innovation on a national level does not mean that there is no relationship at all. There are few studies on how uncertainty avoidance as cultural value relates to creativity.

There is even less evidence on how openness to experience, as engagement and involvement, interacts with cultural values in high or low uncertainty avoidant cultures. How does this interaction contribute to creativity? Acculturation as the process of immigration is commonly reduced to global indicators or proxies. These proxies are for example 'length', 'from what age on', and 'languages spoken at home' in a new cultural context. With 'length' and 'from what age on', the 'cultural exposure coefficient' can be calculated.

It appears that only the length someone lives in a foreign country is related to increased creativity (Kharkhurin, 2012). With global indicators, no psychological processes related to interfering personality traits and attitudes are studied. As a first step in unraveling the relationship between personality and creative performance in different cultural environments, two different cultural groups are studied.

Methodology

Participants

Data collection is realized in 2013 at the University of Luxembourg (UL) and University College London (UCL). The sample consists of 243 participants (199 women, 44 men, M_{Age} = 18.89, *SD* = 13.41, age range: 18-32 years). The cultural groups represent a practical choice. Concerning cultural background, only broad answer categories are used. Categories consist of European, Asian, African, North American, and other. No differentiation is made concerning different European backgrounds. Based on this fact, in the present study non-Europeans are considered as immigrants and Europeans as non-immigrants.

Instruments

For measuring *creative potential* we resort to the Test of Creative Thinking Drawing Production TCT-DP. It differs from common divergent thinking tests by incorporating a more convergent-integrative (Lubart, Pacteau, Jacquet, & Caroff, 2010) or holistic and gestalt-oriented (Urban, 2005) approach to creativity. It has been validated and normed across different countries (Lubart et al., 2010) and across a broad spectrum of age and ability groups. It has been generally acknowledged as culturally fair (Urban, 2005).

Traditionally, the TCT-DP is scored according to 14 categories: continuations; completion; new elements; connections with a line; connections made to produce a theme; boundary braking that is fragment-dependent; boundary braking that is fragment independent; perspective; humor and affectivity; four kinds of unconventionality; and speed. According to the "Gestalt" approach a creation exceeds the sum of its parts (Urban, 2005). Hence, only the total score meaningfully represents creativity. An inter-rater reliability of α = .85 is established for this scoring system. This first scoring system allows establishing two factor scores: originality factor FO and adaptation factor FA.

Statistical Originality SO is a second scoring system of the TCT-DP. It is calculated by the statistical frequency of a given idea within the respective sample. An originality score is computed through the sum of FO and SO.

Personality is assessed through a 10-item short version of the Big Five Inventory (BFI-10) (Rammstedt & John, 2007). It consists of 10 short phrase statements, using a five-point scale (1 = "disagree strongly" to 5 = "agree strongly").

Each Big Five dimension consists of two core items. They are chosen according to several criteria: (1) the opposing poles of every dimension are meaningfully represented, (2) without being redundant, both items measure fundamental aspects of the respective dimension, (3) cross-cultural use gets enabled through the choice of identical German and English items, (4) remaining choice is based on item analysis and factor analysis. Convergent validity, as well as reliability, is assured (mean α = .75) (Rammstedt & John, 2007).

Results

Descriptive statistics

Table 1: Means and standard deviations for creativity and personality variables.

Variables	*M*	*SD*
TCT-DP Creativity[a]	26.71	6.55
FO Originality Factor[b]	17.09	6.08
SO Statistical Originality[c]	3.55	2.26
Originality[d]	20.64	6.93
FA Adaptation Factor[e]	9.61	2.04
Openness[f]	20.05	6.46
Extraversion[g]	28.08	6.85
Agreeableness[h]	17.28	5.55
Conscientiousness[i]	32.15	6.42
Neuroticism[j]	23.95	8.12

***Note*:** [a]Theoretical range = +10 to +46; [b]theoretical range = +2 to +30; [c]theoretical range = 0 to +10; [d]theoretical range = 5 to +39; [e]theoretical range = +6 to +18; [f]theoretical range = +4 to +34; [g]theoretical range = 10 to +48; [h]theoretical range = +4 to +35; [i]theoretical range = +15 to +46 [j]theoretical range = +4 to +45.

Table 2: Correlation matrix of creativity and personality variables in the total sample.

Variables	1	2	3	4	5	6	7	8	9	10
1. TCT-DP	1	.95**	.34**	.94**	.66**	.24**	.03	.07	-.12*	.10
2. FO		1	.28**	.97**	.38**	.22**	.00	.10	-.09	.05
3. SO			1	.51**	.32**	.12*	.02	.05	-.10	.03
4. Originality				1	.42**	.23**	.01	.10	-.11*	.05
5. FA					1	.15**	.08	-.04	-.12*	.16**
6. Openness						1	.02	.36**	-.02	-.04
7. Extraversion							1	.21**	.04	-.36**
8. Agreeableness								1	.11	-.03
9. Conscientiousness									1	-.03
10. Neuroticism										1

Note: * p< .05 level; ** p< .01 level. TCT-DP: Test for Creative Thinking-Drawing Production; CAT: Consensual Assessment

Table 3: Correlation matrix of creativity and personality variables in non-immigrants (European).

Variables	1	2	3	4	5	6	7	8	9	10
1. TCT-DP	1	.94**	.36**	.94**	.68**	.26**	.02	.01	-.12	.09
2. FO		1	.28**	.98**	.40**	.28**	.00	.07	-.10	.04
3. SO			1	.49**	.36**	.15*	.00	.02	-.12	-.01
4. Originality				1	.45**	.29**	.00	.07	-.11	.03
5. FA					1	.11	.06	-.11	-.11	.15*
6. Openness						1	.05	.33**	.02	-.09
7. Extraversion							1	.25**	.03	-.35**
8. Agreeableness								1	-.05	-.11
9. Conscientiousness									1	.04
10. Neuroticism										1

Note: * $p < .05$ level; ** $p < .01$ level. TCT-DP: Test for Creative Thinking-Drawing Production; CAT: Consensual Assessment

Table 4: Correlation matrix of creativity and personality variables in immigrants (non-European).

Variables	1	2	3	4	5	6	7	8	9	10
1. TCT-DP	1	.98**	.32**	.94**	.29*	-.30**	.07	.17	.00	.05
2. FO		1	.30*	.95**	.11	-.32**	.02	.17	-.02	.04
3. SO			1	.58**	.22*	.00	.07	.13	-.02	.19
4. Originality				1	.16	-.27*	.04	.19	-.02	.09
5. FA					1	.02	.25*	.02	.07	.08
6. Openness						1	-.20	-.10	.01	-.17
7. Extraversion							1	-.18	.20	-.40**
8. Agreeableness								1	-.25*	.34**
9. Conscientiousness									1	-.37**
10. Neuroticism										1

Note: * $p < .05$ level; ** $p < .01$ level. TCT-DP: Test for Creative Thinking-Drawing Production; CAT: Consensual Assessment

Discussion

The surprising inversion of the positive correlation between creativity and openness can be related to migration and the process of acculturation. Uncertainty avoidance as personal attitude is proposed as a possible mediator between openness and creativity, in the sense that people higher on openness automatically become less tolerant to uncertainty during the acculturation process. The heightened uncertainty avoidance then diminishes creativity.

The proposed process will be elaborated. In the introduction the individual and then culture were focused on. The following paragraphs offer two explanations of interaction between the individual and the culture. The first explanation corresponds to the empirical (quantitative) research tradition. The second one refers to the socio-cultural tradition (qualitative) and offers a new perspective on the dynamics of the culture and the individual.

Acculturation and creativity

The first explanation refers to acculturation theories. Classic acculturation theory (Berry, 1997) distinguishes 4 processes: assimilation, integration, separation, and marginalization. To distinguish more psychological processes during acculturation, a multidimensional concept differentiates between (1) behavioral, (2) identity, and (3) value-based acculturation (Schwartz, Kim, Whitbourne, Zamboanga, Weisskirch, Forthun, & Luyckx, 2013). These represent three domains that can all be related to creativity. Behavioral acculturation is concerned with language and customs (Kharkurin, 2010; Leung & Chiu, 2010; Maddux & Galinsky, 2009). Identity-based acculturation research shows that identity-integration increases creativity (Viki & Williams, 2014). Biculturalism as identity blending, predicts domain-general creativity, but only in bicultural and not in mono-cultural contexts (Saad, Damian, Benet-Martínez, Moons, & Robins, 2013). Different mindsets together with higher

levels of perceived cultural distance are related to more adaptiveness in creative insight tasks (Cheng & Leung, 2012).

Value acculturation and creativity is sometimes related to identity. For Schwartz (1994) however, value acculturation is a distinct process from identity acculturation. This perspective allows focusing on other psychological processes of acculturation in relation to creativity. Research on value acculturation shows, for example, that values of Chinese adolescents in the U.S.A. and in Australia change with acculturation. There is also a difference between first and second generation migrants in rate and extend of change of values, depending on the respective values. The value of 'tradition' changed rapidly (Feldman, 2010). Portuguese mother-daughter dyads living in Luxemburg showed that first and second generation migrants still rated 'conservation' values higher than Luxemburgish participants (Albert, Ferring, & Michels, 2013). Schwartz (1994) value of 'self-transcendence' ('universalism'/'benevolence') appears to be related to self-rated multiculturalism (Murdock & Ferring, 2013). 'Self-transcendence' is related to openness to experience. Murdoch and Ferring's study further also demonstrated that changes concerning conformity values are part of the acculturation process

In an overview of the facets of the openness to experience trait, Eldesouky (2012) mentions that all facets have in common the involvement or engagement in novelty and complexity. Engagement refers to the environment or broader context.

A recent study on uncertainty avoidance showed that migrant students in a primary school, regardless of their cultural background, scored significantly higher on uncertainty avoidance as personal attitude, than their non-immigrant peers (de Vries, 2012). How does a change in uncertainty avoidance influence the engagement with the environment? A study on acculturation (Levinson & Rodebaugh, 2013) found that anxiety went up with discrepancies between the ought-self and the actual-self. This results in a focus on prevention strategies during acculturation. Prevention was explained as avoiding uncertainty. Thus, self-discrepancy leads to uncertainty avoidance. With higher openness to experience the self-discrepancy and accompanying anxiety increases. The more open a person is, the more they realize their incompatibility to the environment. This will be further enhanced in an assimilative environment, finally resulting in heightened uncertainty avoidance.

Those students who experience higher discrepancies have the more creative personalities. So the most creative personalities are least creative as immigrants. Hofstede and McCrae (2004) suggest that:

> Immigrants that are highly open to experience are likely to seek integration, because they can appreciate the values and perspectives of both the original and the acquired culture. But if the nation they find themselves in is high on uncertainty avoidance and deviations from the prescribed norm are perceived as threatening, then they may be forced to assimilate or face marginalization. (2004, p.81)

Phinney, Horenczyk, Liebkind, & Vedder (2001) assume that schools are rather assimilationist. The pressure to assimilate on immigrant students would be higher in schools than in other social contexts. In summary, the results of this study suggest the following. Due to assimilation, immigrant students experience a larger ought-self discrepancy that heightens anxiety and causes avoidance strategies. Thus the students that are scoring highest on openness to experience are more uncertainty avoidant and their creativity therefore diminishes.

Cultural environment and creativity

The second explanation refers to theories of cultural dynamics, where two approaches coexist. Present-day theories that investigate the interaction of the individual and the culture can be divided into sociocultural (qualitative) and empirical (quantitative) research. In both research traditions, the aim is to understand the interaction between the individual and the culture. The concept of uncertainty, in a scientific sense, may again be applicable. It does not correspond to a cultural value or

personal attitude. Individual, environment, and interaction between both, cannot be measured at the same time. Heisenbergs' (1930) famous principle of uncertainty states that the more precise one property is known, the less precise the other will be.

In socio-cultural research the focus is the interaction between the individual and the environment. However, it seems that the concepts of the individual and the environment merge and dissolve, theoretically speaking. On the other hand, if research focuses on the individual and the environment as distinct concepts, it seems difficult to conceptualize interactions. Additionally, there is danger of the ecological fallacy. Hence, either the interaction or separately, the individual and the environment can be measured. As a result, still little is known on the interaction between the environment and the individual. This also applies to creativity.

The chapter on the relationship between environment and creativity in 'Defying the Crowd' describes literature in this domain. A recurrent theme is that opposing viewpoints exist. For example, if task constraints and competitiveness of the environment, enhance creativity, the effects of the environment and the situation determine if creativity is fostered or not (Lubart & Sternberg, 1995).

According to Simmel "A condition for the existence of any aspect of life is the coexistence of a diametrically opposed element "(Levine, 1985, p. 9).

> For Simmel, conformity, individuation, antagonism and solidarity, compliance and rebelliousness, freedom and constraint, publicity and privacy, as so many sociological dualisms are compresent in social interactions and constitutive of various social relationships. These dualisms, he held, are inherent in social forms both because of man's ambivalent instinctual dispositions and because society needs to have some ratio of discordant to harmonious tendencies in order to attain a determinate shape. (Levine, 1985, p. 9)

In reference to the present research, both extremes exist within one culture (value) and within one person (personal attitude). This implies that for any cultural value and personal attitude, both extremes exist simultaneously. In the empirical tradition of research on cultural differences this is rarely taken into account. For example, in a predominantly individualistic culture, the collectivistic opposite will coexist. Moreover, depending on the situation, an extremely individualistic person can fall in the opposite extreme. The same principle applies to uncertainty avoidance. Although this paper focuses on uncertainty avoidance as personal attitude, this example could also be made for uncertainty avoidance as cultural value.

An individual's "ambivalent instinctual dispositions" interact and engage with the cultural environment. Triandis (2007) suggested that behavior is determined by two cognitions that interact: one derived from personality shaped by the culture and the other reflecting the situation. He distinguished between idiocentrics and allocentrics as individuals who behave and feel like most people in individualistic and collectivistic societies respectively. Yamada and Singelis (1999) showed that allocentrics who spent several years in an individualist culture had both high levels of allocentrism and idiocentrism. This finding illustrates the interaction between the individual and the environment. With interaction is meant the dynamism and not a statistical interaction. Referring this finding to Simmel's theory, in a new cultural environment for a specific individual, the "ratio of discordant to harmonious tendencies" might change.

In the present case, we assume that there is a change in uncertainty avoidance of migrant students that together with openness provokes the interaction between individual and culture to result in a loss of expression of creative potential. This means that migrant students high in openness to experience cannot express their creativity anymore. Immigrant students that score high on openness and on uncertainty avoidance might be more sensitive to change in the opposing dynamics of a culture and as a result, if assimilation is required, the dynamic stagnates. This results in a static situation and not a dynamic one.

Specific measuring biases need to be considered in cross-cultural research. These include for example, specific answer tendencies in self-reports. Scoring is influenced by the reference group the respondent has in mind (Morren, Gelissen, & Vermunt, 2012; Poortinga & Vijver, 1987; Minkov, 2012). This might have influenced the findings in the present study. Another problem is that respondents in masculine countries tend to rate themselves more open to experience (Hofstede & McCrae, 2004). However, both the Greater Region of Luxembourg and London, England score relatively high on masculinity, so it cannot influence the results.

Future research should be conducted in the form of longitudinal studies, assessing personal characteristics before and after immigration. They should include personality, attitudes, and cultural values in the prediction of creativity. It might for example be interesting to include the Myers–Briggs Type Indicator (MBTI) assessment together with the Big Five. Currently, little is known about the stability of creativity before and after the immigration process. Instead of enhancing creativity, migration seems to diminish creativity. Hence, the question remains if multiculturalism is beneficial to creativity. Moreover, the interaction between uncertainty avoidance as personal attitude and as cultural value should be investigated during the process of acculturation. In summary, the perspective of Simmel's theory, acculturation, and creativity may give new insights in how personality and context interact during the creative process.

Conclusion

This study aimed to find a relationship between personality and creativity in two different cultural environments: London, England and 'The Greater Region of Luxembourg'. Results show that there is a change in the correlation between openness to experience and creativity. Exploratory research reveals a difference between migrant (non-European) and non-migrant (European) students. For the migrant students there is an inversion of the relationship between openness to experience and creativity. The more the students are open to experience, the less creative they are. To explain these findings, the influence of uncertainty avoidance as personal attitude is proposed.

The first explanation refers to the theory on self-discrepancy during the acculturation process that might explain avoidant behaviour. According to the second explanation, openness to experience as engagement with the environment, might explain a stagnation of the interaction process between the individual and the culture. This influences creativity negatively. Although in general, the idea of multiculturalism seems to enhance creativity, this study does not confirm this for immigrant students. The findings show that creative personalities, when migrants, might counteract their creativity through heightened uncertainty avoidance.

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