Conscientiousness and everyday creativity among Chinese undergraduate students

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A R T I C L E   I N F O

Article history:
Received 30 April 2016
Received in revised form 24 June 2016
Accepted 25 June 2016
Available online 2 July 2016

Keywords:
Personality traits
Chinese university students
Conscientiousness
Everyday creativity

A B S T R A C T

This study examined how Conscientiousness was related to everyday creativity among 202 Chinese university students. Participants in the study completed measures of personality and everyday creativity. Structural equation modeling revealed that, as predicted, Conscientiousness had a medium effect on everyday creativity. It also showed that Openness and Extraversion were positively related to everyday creativity. Implications of the present findings are discussed.

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1. Introduction

Recently there has been an increasing interest in understanding what creative people are like in Western settings. There is an extensive literature on personality and creativity (e.g., Feist, 2010; Jonason, Richardson, & Potter, 2015; Silvia, Kaufman, Reiter-Palmon, & Wigert, 2011). Openness has been seen as the trait most central to creativity. Openness, which is conceptually related to creativity, is characterized by intellectual curiosity and aesthetic sensitivity, and it is closely related to a flexible cognitive processing when solving problems (McCrae, 1987). Empirical research has provided consistent support for the link between Openness and creativity (Feist, 1998; Furnham, Zhang, & Chamorro-Premuzic, 2005; Soldz & Vaillant, 1999). Aside from Openness, Extraversion, characterized as active and passionate, is also related to creativity (McCrae & Costa, 1990). A large and convergent body of literature generally indicates that Extraversion is positively associated with creativity (Feist, 1998; King, Walker, & Broyles, 1996; Wolfram & Pretz, 2001).

Although strong evidence exists for relationships between both Openness and creativity and Extraversion and creativity, findings about the relationships between each of the other personality traits and creativity are not clear and consistent. One such trait is Conscientiousness. Conscientiousness refers to individual differences in impulse control, organization, conformity, persistence, hard work, and responsibility (Costa & McCrae, 1992; Goldberg, 1992; Hogan & Ones, 1997; Lee & Ashton, 2004). Although much research has been conducted on the relationship between Conscientiousness and creativity, the findings are less uniform. For example, in a sample of German college students from a variety of major fields of study, high creativity scores, rated by written stories, were predicted by low levels of conscientiousness (Wolfram & Pretz, 2001). Based on assessing 48 American subjects’ autobiographies, researchers found that creative achievers were rated significantly lower on conscientiousness (Walker, Koestner, & Hum, 1995). However, other empirical evidence showed that Conscientiousness was not related to creativity (measured by, for example, Torrance Tests of Creative Thinking, Divergent Thinking Tests, or self-report scales) among American university students enrolled in psychology courses (King et al., 1996; Silvia et al., 2011) or among American adults in a community sample (McCrae, 1987).

Given that the aforementioned inconsistent findings were demonstrated in Western settings, the question about how Conscientiousness and creativity are related to each other in a different culture, such as in China, is unanswered. The aim of the present study is to examine how Conscientiousness is related to creativity among Chinese undergraduate students.

As Thomas Edison said, “Genius is one percent inspiration, ninety-nine percent perspiration.” (quoted in Miner & Rawson, 2006). The common stereotype of creative people suggests that creative individuals should be conscientious. They should possess the traits for diligence, organization, prudence, and hard work, in order to promote creative productivity (Cropley, 1990; Runco, 2002). However, this gives rise to the question of why Conscientiousness was weakly or negatively related to creativity in previous studies. A possible explanation for these results is the nature of the creativity measures used. Furnham et al. (2005)
argued that Conscientiousness might not be applicable to actual creativity assessed by psychometric creativity tests (e.g., Divergent Thinking Tests used by McCrae, 1987). The creativity tests may be important, however, it should be acknowledged that they are restricted in artificial measurement situations designed to elicit creative behaviors (Richards, 2007; Richards, Kinney, Benet, & Merzal, 1988). As stated by Richards, everyday creativity is operationally defined using two widely used criteria, originality and meaningfulness, across all domains of activities of everyday life (Richards, 2010; Richards et al., 1988). From this perspective, the creative behaviors of average individuals that we encounter in our daily life at work and leisure are important for understanding human nature. Therefore, some researchers have suggested that, in examining the association between personality and creativity, more useful information may be ascertained by including measurements of creativity in everyday life, which use a self-rating scale (Furnham et al., 2005; Wolfardt & Pretz, 2001). In one of the few published studies, researchers found that Conscientiousness was negatively related to creativity measured by Barron Welsh Art Scale, but positively related to self-estimates of ability for creative activities among a sample of British undergraduates (Furnham et al., 2005). It suggests that, for most average people, Conscientiousness is necessary for everyday creativity.

Another possible explanation for these inconsistent results found in Western settings is the social context. The relationship between Conscientiousness and creative behavior may depend on situational and environmental factors (Furnham et al., 2005; George & Zhou, 2001). For example, social attitudes toward how creativity or accomplishment are achieved (e.g. “One way to produce creatively is through hard work”) may affect creativity. Conscientiousness will result in creativity under some sociocultural environments in which hard work is emphasized and encouraged.

Previous research has shown that Chinese people had higher scores in Conscientiousness than their American counterparts, especially in academic areas (Bond, 1991; Chang et al., 2011; Li, 2003). Chinese people are socially encouraged to attribute achievement and success to hard work, and persistence, as implied in an ancient proverb “if you work at it hard enough, you can grind an iron rod into a needle.” (Xu & Ying, 1994). For American people, achievement and success are more likely to be attributed to interest and adventure (Li, 2003). In socializing their children, Chinese parents are more likely to expect their children to be conscientious (Zhang, Kohnstamm, Slotboom, Elphick, & Cheung, 2002).

In addition, the literature also indicated that culture influenced creativity (Lubart, 2010; Ng, 2001). For example, different cultural values may influence the educational systems (reflected in teaching instructions) of China and America, which consequently result in different creative expressions of undergraduates in the two countries (Niu & Sternberg, 2001, 2003). For another example, Chinese teachers valued some attributes as positively associated with creativity (such as eagerness to learn), which were not found to be valued in Western cultures (Chan & Chan, 1999). Based on the literature reviewed above, therefore, in Chinese society, in order to be creative one must be able to invest more effort and persistence into pursuing creative activities.

Given the above background, I tested the associations between personality and everyday creativity in a sample of Chinese college students. Using structural equation modeling (SEM), the analyses relied both on the overall model fitness statistics and significance tests of specific paths, in order to examine the associations between personality traits and everyday creativity. I also used two scales (The Biographical Inventory of Creative Behaviors and The Revised Creativity Domain Questionnaire) to measure the everyday creativity construct, in order to provide more rigorous multi-indicator measurement within the SEM framework. Based on the research reviewed above, it was hypothesized that Openness and Extraversion would be positively related to everyday creativity. It was further hypothesized that Conscientiousness would be positively related to everyday creativity.

2. Method

2.1. Participants and procedure

A sample of Chinese undergraduate students was recruited from a university located in the Eastern region of Mainland China. Two hundred and two Chinese undergraduates (118 males, 84 females; mean age = 19.97 years, SD = 1.10) voluntarily took part in the study. Participants were asked to complete self-report scales. They were assured of their confidentiality and anonymity.

2.2. Measures

2.2.1. The HEXACO-60

Personality was assessed with the HEXACO-60 (Ashton & Lee, 2009). This scale consists of six traits including Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. Each trait is measured with 10 items. Participants were asked to respond to these items using a five-point Likert scale (1 = “strongly disagree” to 5 = “strongly agree”). Higher scores indicated higher levels of tendency toward these traits.

2.2.2. The biographical inventory of creative behaviors

The Biographical Inventory of Creative Behaviors (BICB; Batey & Furnham, 2008) was used to measure everyday creative activities that participants have engaged in within the last year. It consists of 34 items (e.g. write a short story and compose a piece of music). Participants were asked to respond to each item using a binary Yes/No format. It demonstrated satisfactory reliability, validity, and convergence in previous studies (Silvia, Wigert, Reiter-Palmon, & Kaufman, 2012). The Chinese adaptation of the scale was done by Chen (2016). The Chinese version of the scale proved reliable (Cronbach’s alpha was 0.94). The score measured by the BICB was correlated with creative self-concept and Openness to Experience, indicating that the Chinese version of the scale has satisfactory convergent validity in a Chinese sample (Chen, 2016). Cronbach’s alpha was 0.94 in the current study.

2.2.3. The revised creativity domain questionnaire

The Revised Creativity Domain Questionnaire (CDQ-R; Kaufman et al., 2010) measures self-assessed everyday creativity in diverse domains. It consists of 21 items (e.g. algebra, literature, leadership, and painting). Participants were asked to rate their level of creative ability on a six-point scale (1 = “Not at all creative” to 6 = “Extremely creative”). It demonstrated satisfactory reliability, validity, and convergence in previous studies in Western societies (Silvia et al., 2012) and Chinese societies (Werner, Tang, Kruse, Kaufman, & Spörle, 2014). Cronbach’s alpha was 0.86 in the current study.

3. Results

3.1. Descriptive analyses

Descriptive statistics and correlations among observed variables are provided in Table 1. Some personality traits were correlated with each other. Also Openness, Extraversion and Conscientiousness were positively related to everyday creativity. Finally, two measures of everyday creativity were correlated with each other.

3.2. Main analyses

SEM was used to test the relationships among variables. SEM is different from traditional regression analysis because SEM is a multivariate
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