Moderating effect of Zhong Yong on the relationship between creativity and innovation behaviour

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The present study examined the moderating effect of Zhong Yong on the relationship between perceived creativity and innovation behaviour in Chinese companies. A total of 273 paired questionnaires were collected with employee self-rated creativity and Zhong Yong and supervisor-rated innovation behaviour. The results show that for people higher on Zhong Yong, their creativity was not correlated with innovation behaviour; for people less immersed in Zhong Yong, this correlation is significant. This finding provides a new insight into the effects of Zhong Yong on the creativity-innovation behaviour transformation processes. The implications for future research are also discussed.

Key words: compromise, creativity, holistic cognitive orientation, innovation behaviour, Zhong Yong.

Introduction

Zhong Yong, the Confucian doctrine of the mean, emphasizes taking a holistic perspective on the entire situation before acting, rather than acting upon impulse. It encourages selecting a balanced and harmonized course of action, amidst conflicting forces within an interpersonal context (C. F. Yang & C. Y. Chiu, unpubl. data, 1997). Related research has shown that East Asians, especially Chinese, behave in ways compatible with this ‘Zhong Yong-oriented action model’ in their everyday lives. For example, Chinese have a relatively holistic cognitive orientation (Ji, Nisbett, & Peng, 2000), are less likely to take extreme perspectives (Lee, 2000), and are more likely to seek compromises both when encountering opposing ideas and when resolving conflicts (Cheung et al., 2003). Although previous research has shown that holism and dialectical thinking are not related to creativity (Paletz & Peng, 2009), Zhong Yong may moderate the transition of creative ideas into innovation behaviour. The present study tested this idea.

Transforming creativity into innovation behaviour

By definition, individual creativity and organizational innovation behaviours are related but different concepts. Individual creativity involves generation of novel and useful ideas, and occurs primarily at the early stages of the innovative process (Amabile, 1996); innovation behaviour includes turning these creative ideas into tangible products, including the processes of idea promotion and implementation (West & Farr, 1990; West, 2002). Thus, employees’ creativity is just the starting point for broader organizational innovation (Zhou, 2003). Transitioning from creative thinking into innovation effectively is crucial to producing innovative products.

A great deal of research has examined factors that influence the creativity-innovation transition. For example, teamwork is essential to the transformation of creative ideas into actual innovations (West, 2003). Additionally, innovation is thought to be enabled by an organizational environment that allows autonomy, tolerates ambiguity, accepts risk taking, reduces bureaucracy and supports communication and information flow (Glynn, 1996). In contrast, threat and uncertainty will hinder the process of converting creative ideas into innovations (West & Anderson, 1996). However, we are not aware of any research specifically addressing the role of national cultural values in impeding this transition. We argue that endorsement of Zhong Yong could be an impediment of the creativity-innovation transition process. Originating from Confucian philosophy, Zhong Yong strives for harmonious social interactions by emphasizing balance between extremes and seeing things holistically. For individuals, this holistic view also encourages exercising self-discipline, which, in turn, increases personal life satisfaction (C. F. Yang & C. Y. Chiu, unpubl. data, 1997). Although others have seen harmony as avoiding conflict (Chen & Chung, 1994) or tolerating the continuing coexistence of opposing traits, emotions, and attitudes (dialectical thinking; Spencer-Rodgers, Peng, Wang, & Hou, 2004), the harmony in Zhong Yong entails finding the middle position between two opposing ideas. Also, whereas dialectical thinking concerns people’s information processing style (i.e. how information is obtained, interpreted, and used) (Peng & Nisbett, 1999), Zhong Yong is a suggested mode of action to be applied in everyday interpersonal interactions. We propose that Zhong Yong can moderate the relationship between creativity and
innovation behaviour in two ways. First, since they seek compromise between extremes, highly Zhong Yong-oriented people will not seek to maximize their own interests, but rather try to select an optimal compromise before taking action (C. F. Yang & C. Y. Chiu, unpubl. data, 1997). Thus, they might easily abandon their own opinions in the face of opposition in an effort to find a solution broadly accepted by others, rather than standing by their own ideas as the creativity to innovation transition requires (Kaufmann, 2003). Second, due to the principle of holism, people with a Zhong Yong orientation will seek to maintain harmony in the communication process. This would make it difficult for them to advocate their own ideas in the midst of different views from others. As such, people with a Zhong Yong orientation may be reluctant to promote their ideas strongly in order to avoid conflicts, however, creative or useful their ideas may be.

In sum, to a large extent, the creativity-innovation transition requires advocating one’s own ideas persuasively, resisting opposition, and not capitulating to others easily. The endorsement of Zhong Yong may inhibit these tendencies. Therefore, we predicted that Zhong Yong would impede the process through which individuals transform their creative ideas into successful innovations.

**Research hypotheses**

In general, people with more creative ideas should exhibit more innovation behaviour than do their less creative counterparts, simply because they have a broader base from which to draw (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Therefore, the link between creativity and innovation behaviours should be positive. However, this link would be moderated by Zhong Yong such that the relationship is attenuated for people high in Zhong Yong, because people with creative ideas but high in Zhong Yong will not be able to advocate those ideas to facilitate innovation of their team.

A person can also be seen as innovative by acting on the ideas of others. Even though Zhong Yong might prevent individuals from promoting their own ideas, it could make them valuable team members if they help to realize other members’ ideas. Therefore, we do not have any strong prediction about the direct relationship between Zhong Yong and innovation behaviour. Likewise, because creativity is a mental ability and Zhong Yong is an orientation governing social interactions, we do not have strong predictions about their relationship as they belong to different domains.

**Method**

A sample of 360 Chinese employees from a diverse set of industries (e.g. information technology, real estate, and finance) was recruited with the assistance of the HR department of these companies. Each participant completed the measure of creativity and Zhong Yong. At the same time, we asked each participant’s supervisor to rate the participant’s innovation behaviour. Of the surveys distributed, a total of 273 paired questionnaires were returned, giving a response rate of 75.83%. The respondents had the following demographic characteristics: age: $M = 29.63$ (range = 21–58) years; gender: 55.7% male; education: 72.5% had a bachelor degree or higher; rank: 9.90% were line managers or senior managers; years of work experience: $M = 7.47$; and years with their current employer: $M = 3.44$.

Zhong Yong was measured with a 14-item ‘Assessment of Zhong Yong’ scale (Chiu, 2000). Each item contains a pair of opposite statements (e.g. ‘If one has a good reason, one should struggle for one’s own personal benefits as much as possible’ paired with ‘Everything has limitations, so it is not very good to exceed them’). Participants were asked to choose which statement they agreed with more and rate their agreement on a five-point Likert-type scale from 1 (never agree) to 5 (completely agree). We deleted one item to improve the Cronbach’s alpha score. The item was: ‘When interacting with others, you must not suffer losses, otherwise others will give an inch and take a foot’ paired with ‘You should learn to suffer losses for getting on well with others’. The alpha coefficient was 0.725 after this item was deleted. The endorsement of Zhong Yong was indexed by averaging participants’ ratings on the remaining 13 items such that the higher the score, the stronger the Zhong Yong endorsement.

Self-perceived creativity was measured with a four-item measure ($a = 0.827$; e.g. ‘I have a lot of creative ideas’) developed by Miron, Erez, and Naveh (2004). This is not an objective measure of creativity itself, but rather the employees’ subjective self-report rating. Participants rated their own creativity by rating on a seven-point Likert scale ($1$ = strongly disagree, $7$ = strongly agree). The higher the average score, the more creative the participants viewed themselves. Using subjective ratings to measure employee creativity is typical in the literature concerning workplace creativity (e.g. George & Zhou, 2001; Zhou, 2003), and previous literature has shown significant correlation between subjective rating and objective measure of creativity (e.g. patent disclosures) (e.g. Scott & Bruce, 1994; Tierney, Farmer, & Graen, 1999). We chose self-ratings over supervisor ratings, as innovation behaviour is supervisor-rated, and we wanted to avoid common method error.

Innovation behaviour was measured with six items ($a = 0.733$; e.g. ‘Can analyze problems from many different points of view’) selected from the Innovation Working Behaviour scale (Janssen, 2000) for idea promotion and idea realization. The supervisor of each participant was
asked to rate the participant on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). The higher the average score, the more innovative the supervisor evaluated the participant to be.

Both the creativity and innovation behaviour measures were originally written in English, and were translated into Chinese using standard back-translation procedures (Brislin, 1993).

Results

Table 1 presents means, standard deviations, and correlations for the variables investigated in this study. All correlations among the independent variables were smaller than 0.75. Additionally, all predictors were mean centred before computing the interaction term. Hence, multi-collinearity was not a concern in our analysis (Tsui, Ashford, Clair, & Xin, 1995). As predicted, the results indicate that self-perceived creativity scores were significantly correlated with supervisor-rated innovation behaviour ($r = 0.167, p < 0.01$). However, Zhong Yong was not significantly correlated with either creativity ($r = 0.083, p > 0.05$) or innovation behaviour ($r = -0.074, p > 0.05$).

A three-step hierarchical multiple regression analysis was carried out to test our prediction. In the first step, demographic variables were controlled, and then the main effect values of creativity and Zhong Yong were entered into the equation. A moderating effect was tested in the third step with the creativity–Zhong Yong interaction term. The overall equation was significant, $F(6, 266) = 7.52, p < 0.001$, overall $R^2 = 0.15$, as seen in Table 2. Results showed a significant interaction effect ($p < 0.05$) between creativity and Zhong Yong on innovation behaviour.

To illustrate the nature of the significant interaction effect, we followed the method described by Aiken and West (1991). Values of the predictor variables were chosen one standard deviation below and above the mean. Two simple regression lines were then generated by entering these values in the equation. Figure 1 is a graph of the interaction. The graphic form was consistent with our prediction; among people who were lower on Zhong Yong, we observed a significant positive relationship between creativity and innovation behaviour (simple slope $b = 0.41, t = 3.42, p < 0.01$), but among those higher on Zhong Yong, the relationship was not significant (simple slope $b = -0.09, t = -0.82, ns$).

Discussion

In the present study, we identified that a Zhong Yong orientation works as a moderator in the relationship between self-perceived creativity and supervisor-rated innovation behaviour. For people higher on Zhong Yong, their creativity may not correlate with innovation behaviour; for people less immersed in the Zhong Yong-oriented action model, this correlation is significant. In other words, a strong
endorsement of Zhong Yong may hinder the transformation of creative ideas into action and innovation behaviour.

Consistent with the previous research on creativity and innovation behaviour, we also found that creativity was positively linked to innovation behaviour (West & Farr, 1990; Scott & Bruce, 1994; Janssen, 2000; West, 2002). A key finding of the present research is that the Zhong Yong mode of orientation moderates the above relationship; people higher on Zhong Yong appear less likely to be able to turn their creative ideas into innovations. This makes sense in light of previous suggestions and empirical findings that a Zhong Yong orientation leads people to seek a middle point and to avoid extremes (Huang, 1996; Cheung et al., 2006). These features of Zhong Yong will guide employee behaviours in social interactions, and prevent them from promoting their own ideas or proposals.

An alternative explanation of our findings is that Zhong Yong may affect how people report their own creativity, such that people who are high on Zhong Yong may efface or derogate their own creativity. However, this explanation is not consistent with the present findings. First, Zhong Yong was not negatively correlated with self-reported creativity. Second, Zhong Yong is an ideal of the Confucian actor, and Confucianism emphasizes that one must constantly exercise moral vigilance (Cheung et al., 2006). Thus, the self-reported creativity might even be more accurate for people high on Zhong Yong. Third, the employees did not know their supervisors were going to appraise their innovation behaviours, making it unlikely that they would alter their answers on creativity. However, further studies are warranted to determine the exact cognitive mechanisms underlying this process.

Broadly speaking, the present study contributed to the East Asian social psychology literature in at least three ways. First, rather than using an etic variable, our research uses an emic variable, which has tended to be less common in the literature. This echoes the calls of other researchers for Asian social psychologists to pay more attention to unique Asian social issues (Chiu, 2007), and to apply these indigenous concepts to other topics in social psychology (Leung, 2007). Second, it sheds light on current arguments about whether Zhong Yong, as with other aspects of Confucianism, plays an important role in the lack of invention and creation in modern Chinese society. Finally, it suggests that people should consider and attempt to mitigate the potential negative impact of Zhong Yong when managing organizational innovation or even broader social changes.

There are three major limitations of the current study. First, we used self-reported methods to assess creativity. Although previous field research has typically used subjective measures of creativity, an objective measure of creativity will help us clarify the processes involved. Future research might assess creativity through some more objective measure, such as the ATTA (Abbreviated Torrance Test for Adults, Goff & Torrance, 2002). Also, future research should include some objective measure (e.g. patents) for innovation results. It is important for future research to collect both subjective ratings and objective measures of creativity and innovation behaviour and compare the findings to those we reported here. Second, the results we reported are cross-sectional correlations, which cannot draw causal relationships. Longitudinal research can build a stronger case for a causal relationship in the future. Third, research is needed to examine whether there are some organizational strategies or polices (such as encouraging public debate or setting incentive bonuses for innovation implementation of original ideas) for improving the transition from creativity to innovation behaviour for people high on Zhong Yong.

References


