

## Dynamic self-representation of interdependent Chinese: The effect of bicultural experience

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The process of globalisation has increased the opportunity for Chinese individuals to utilise influences from other cultures that differ from their own collectivistic culture. The explorations of the impact of acculturation on Chinese individuals' self-construals have become intriguing. Thus, we recruited German-Chinese ( $N = 192$ ) people who live in Germany and had direct bicultural experiences, as well as Mainland-Chinese ( $N = 192$ ) people who live in Mainland China and had internalised a second culture through more indirect means of exposure. We investigated their accessibility to both interdependent and independent cultural frameworks using temporal self-construal priming. The results showed that priming effects were observed in both cultural groups. However, the self-construals of the German-Chinese participants were more flexible than those of Mainland-Chinese under self-construal priming. Also, the results suggested that women were easier to be influenced by direct bicultural experiences, due to their private and collective self were different between the two cultures. These findings provide evidence regarding the opinion that individuals could use influences from more than one culture. More importantly, these results suggest that the acculturation induced by direct bicultural experiences facilitates cultural frame switching.

**Keywords:** Self-construal; Self-construal priming; Bicultural experience; Acculturation; Cultural frame switching.

With the acceleration of globalisation, China has become more internationalised. The Globalization and World Cities (GaWC) report 2012 showed that there were fourteen cities in Mainland China that have been included in the global city system. Conversely, according to the report by the Ministry of Education of the People's Republic China's (2016), there were more than 4 million people who chose to study abroad as of 2015. Currently, Chinese people can frequently experience more diverse cultures compared to the past. The exposure to other cultures may cause acculturation, which refers to the cultural and psychological changes induced by contact with new cultural groups and their individual members (Berry, 1997). For Chinese individuals who experience acculturation, their representation of culture is complex (instead of alone and unitary) through contact with foreign cultures.

### The dynamic self-representation

It is well known that long-term cultural experiences shape and guide the construction of the self-concept and determines, in part, how an individual arrives at his/her definition of self in relation to others and to the world (e.g., Markus & Kitayama, 1991). Markus and Kitayama (1991) suggest two major types of self-construals depending on how one views one's self in relation to others: the interdependent self-construal stresses social connectedness and group identity, which is relatively prevalent in the collectivistic culture of East Asia; conversely, the independent self-construal orients individuals to attend to self-focused information, which is relatively prevalent in the individualistic culture of the West. Specifically, Chinese culture had been characterised as a collectivistic

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culture (Markus & Kitayama, 1991; Oyserman, Coon, & Kemmelmeier, 2002).

However, as noted above, with globalisation, there have been an increasing number of individuals who have been exposed to other cultures. The explorations regarding the influence of the multicultural experience on the self-construals of Chinese individuals has become intriguing. How does one's own self change depending on the cultural frame one adopts? Although there were categorical assumptions in traditional cultural research studies, Morris, Chiu, and Liu (2015) have proposed a polyculturalism framework, which assumes that cultural influence on individuals is not categorical but partial and plural. This framework asserts that both the individuals' engagement with their primary culture and the culture's imprint on the individuals are partial. The partiality enables individual to incorporate influences from plural cultures. According to the polyculturalism framework, an individual's self is dynamically influenced by more than one culture.

Previous research provides evidence for this assumption. Hong, Morris, Chiu, and Benet-Martínez (2000) adopted pictures of American and Chinese icons to prime a different culture and found culture-congruent cognitions and behaviour, which indicated that the influences of culture are dynamic rather than static. The researchers put forward the dynamic constructivist theory of culture, which agrees with the view that an individual can hold more than one cultural meaning system (Hong et al., 2000). Moreover, the research asserts that individuals with multiple systems will be guided by whichever system is more accessible; this has been well proven by researches that successfully adapted culture priming to manipulate the accessibility of one particular cultural meaning system (Chiu, Malorie, Keh, & Law, 2009; Hong et al., 2000; Verkuyten & Pouliasi, 2002). Verkuyten and Pouliasi (2002) found that cultural priming could affect a bicultural individuals' attribution, as well as the level of connectedness at which they view themselves, their friends, and ethnic identity. Behavioural and neuroimaging studies used self-construal priming, which primed interdependent or independent self-construal by requesting participants to read essays that contained plural or singular pronouns ("we" or "I"). These behavioural and neuroimaging studies also found self-construal priming as a valid paradigm to prime different cultures (e.g., Sui, Hong, Liu, Humphreys, & Han, 2013). Sui et al. (2013) primed Chinese and British participants with interdependent and independent self-construals and then recorded the event-related potentials, whereas they judged the orientations of their own and a friend's faces after being primed. Although they did not observe independent self-construal priming effect in their behaviour data, they did indicate the significant impact of self-construal priming on culturally specific neural responses.

As noted, China has been classified as a collectivist culture, and Chinese people prefer interdependent self-construals (Markus & Kitayama, 1991). However, according to the polyculturalism framework and the dynamic constructivist theory, people can simultaneously hold more than one cultural meaning systems; in addition, whether a construct comes to the fore in one's mind depends on the extent to which the construct is highly accessible. Thus, we suggest that due to the acceleration of international communication and through the influence of acculturation, Chinese people may currently have both collectivistic and individualistic culture systems and their self-representation could be influenced by whichever culture system is more accessible (e.g., Sui et al., 2013).

*Hypothesis 1.* Self-construal priming changes Chinese individual's self-representation: interdependent self-construal priming induces a more interdependent self-construal orientation, whereas independent self-construal priming induces a more independent self-construal orientation.

### The importance of direct cultural exposure

Although short-term cultural priming could induce cultural frame switching, long-term cultural experiences are very important for acculturation. The self-construal of interdependent and independent biased individuals can be affected by life events and experiences (Triandis, 1994), thus individual's self-construal may be modified through the process of acculturation. In today's increasingly global world, on the one hand, the Chinese are participants in the general acculturative changes underway in their own culture caused by globalisation. Chinese people nowadays could be exposed to other cultures through more indirect means, such as through the media or the internet. On the other hand, the Chinese could be in contact with other cultures through direct means of exposure such as immigration, which is important for acculturation. Plenty of research have observed the influences of the direct means of exposure on an individual's self. Heine and Lehman (2004) examined how the acculturation period alters one's self and found that an individual self-assimilated to new cultural environments with exposure to that culture. More recently, a longitudinal study with recent Chinese immigrants has observed that participant's self-representation changed after exposure to Western culture for 6 months (Chen, Wagner, Kelley, & Heatherton, 2015). We argue that direct contact with a new cultural context may both strengthen the accessibility of cultural meaning systems and facilitate cultural frame switching.

*Hypothesis 2.* Chinese individuals who have direct contact with a new cultural context could be influenced by cultural

priming more than those who have contact with other cultures through more indirect means.

### Gender differences in self-construal

The results from psychological research indicate that men and women may differ in their self-construal orientation (refer to review by Cross & Madson, 1997). Specifically, men may have a more independent orientation, whereas women may have a more interdependent orientation. Additional research has extended the idea by including collective aspects of interdependence, which related to an individual's group memberships (Baumeister & Sommer, 1997; Gabriel & Gardner, 1999). Baumeister and Sommer (1997) proposed that men and women did not differ in their independent orientation but in their interdependent orientation. The researchers argued that although men and women have the same motivation for belonging, men may express that motivation by having a social group association instead of relating to certain others. Empirical evidence supported their assumption by finding that men have a more collective interdependent orientation, whereas women have a more relational interdependent orientation (Gabriel & Gardner, 1999). In sum, we expect men and women to have a similar independent self, whereas we expect men to show a more collective interdependent self and women to show a more relational interdependent self.

*Hypothesis 3.* Men show a greater level of collective interdependent self-construal orientation and a lower level of relational interdependent self-construal orientation than women, whereas they have a similar level of independent self-construal orientation.

### Current study

The purpose of this research was to explore the influence of bicultural experiences on the self-construals of Chinese individuals. More importantly, we intend to investigate the differentiated flexibility of self-construals in individuals who have been exposed to other cultures through direct means with those who were exposed through more indirect means. To test our hypothesis, we compared the self-construals of Westernized Chinese people who live in an individualistic cultural context (Germany) with that of Chinese people who live in Mainland China. The self-construal was represented by the proportion of three different cognitive representations of the self (Brewer & Gardner, 1996; Triandis, 1989): the private self (cognitions related to traits, states and behaviours), the relational self (cognitions related to one's relationships) and the collective self (cognitions related to one's group), which were affected by the social context in different

cultures. The relational self and the collective self have been emphasised in an interdependent self-construal, whereas, the private self has been stressed more in an independent self-construal (Brewer & Gardner, 1996; Triandis, 1989). Moreover, we used self-construal priming task to investigate whether a Chinese adult's self-construal could be affected by both collectivistic and individualistic cultures (Gardner, Gabriel, & Lee, 1999). We used a between-subject design, in which a participant needed to receive one type of self-construal priming (i.e., interdependent or independent priming). This design reduces the potential interference between each priming conditions, given that the participants do not need to repeatedly change their self-construals within the target experimental session.

## METHOD

### Participants

Three hundred eighty-four Chinese individuals participated in the experiment and received compensation. One hundred ninety-two (112 women;  $M_{\text{age}} = 28.39$ ,  $SD_{\text{age}} = 4.17$ ) of them were Chinese who live in Mainland China. The other 192 (96 women;  $M_{\text{age}} = 28.48$ ,  $SD_{\text{age}} = 4.20$ ) were German-Chinese who live in Germany for at least a year and had at least spent 1 year in China. Participants voluntarily signed up in return for a monetary payment; those from Mainland China were paid 10 CNY, and those from Germany were paid 5 EUR, which followed local convention. Participants from both cultural groups were randomly assigned to one of the three self-construal priming conditions ( $N = 64$ ). The participants were all right-handed, with normal or corrected-to-normal vision and none of them had participated in similar experiments before. All participants were provided informed consent prior to the study and completed the study within half an hour.

### Measures

#### *Self-construal priming task*

There were two self-construal priming conditions: an interdependent or independent priming condition, and a control condition (Gardner et al., 1999). In the interdependent priming condition, participants were required to read a story of a trip to countryside that contained interdependent pronouns (e.g., *we*, *ours*). Similarly, in the independent priming condition, participants were requested to read a story that contained independent pronouns (e.g., *I*, *mine*). Both stories were adopted from Sui and Han (2007). Additionally, in the control condition, participants were requested to read a story that contained no personal pronouns that was adopted from Sui et al. (2013). Each

paragraph was accompanied by a question (“How many pronouns are there in this paragraph?”) along with two response options to ensure participants really read the story.

### Twenty Statement Test

Self-perceptions were elicited through the Twenty Statement Test (TST; Kuhn & McPartland, 1954) in which participants repeatedly answer the question, “Who am I?”. The question was typically answered by completing 20 sentences beginning with “I am ...”. This test measured self-construal and was personalised to the respondents because the responses were spontaneous and self-directed. To avoid the independent self-construal priming from “I”, we used a modified version of the TST (Becker et al., 2012) in which the original question “who am I?” was replaced by “who are you?”. The instructions were as follows (Abdukeram, Mamat, Luo, & Wu, 2015; Becker et al., 2012):

In the numbered spaces below, please write down anything that can describe you. You can write your answers as they occur to you without worrying about the order; however, together they should summarize the image you have of who you are. Your answers might include social groups or categories you belong to, personal relationships with others, as well as characteristics of yourself as an individual. Some may be things that other people know about, others may be your private thoughts about yourself. Some things you may see as relatively important, and others less so. Some may be things you are relatively happy about, and others less so.

### Procedure

The experiment had a 3 (Self-construal priming: interdependent priming, independent priming, no priming)  $\times$  2 (Cultural group: Mainland-Chinese, German-Chinese) between-subject design. The independent variables are self-construal priming and cultural group, and the dependent variables are self-levels (private self, collective self, relational self). Participants were randomly assigned to one of three priming conditions. After finishing the self-construal priming task (Gardner et al., 1999; Sui & Han, 2007; Sui et al., 2013), they were required to complete the TST (Kuhn & McPartland, 1954), which was conducted at their university in a quiet room in groups of 5–10 participants. The participants were told not to communicate with each other through the experiment. The participants were informed that the goal of this study was to explore how they evaluate themselves. At the end of the experiment, participants received a debriefing interview procedure, which ensured that participants did not suspect the correlation between self-construal priming task and TST.

## RESULTS

### Preliminary analyses

The self-describing items generated by participants in the TST were first coded into one of three categories in accordance with the method described by Brewer and Gardner (1996). The categories were private self-statements (e.g., “I am clever,” “I am very optimistic”), relational self-statements (e.g., “I am a daughter,” “I am good at making friends”) and collective self-statements (e.g., “I am Chinese,” “I am a student”). Partial results (20%) were double coded by naive raters who did not know the experimental purposes. The agreement between the two coders was acceptable ( $k = .84$ ). Then the proportion of each category was calculated as a function of the total number of items generated by each participant, which were the dependent measures of this experiment. The total number of self-describing items generated by both groups did not show significant difference (Mainland-Chinese:  $M = 18.66$ ,  $SD = 3.31$ ; German-Chinese:  $M = 18.04$ ,  $SD = 3.55$ ).

### Existence of the priming effect

To test the hypothesis, we first conducted a 3 (Self-level: private self, collective self, relational self)  $\times$  3 (Self-construal priming: interdependent priming, independent priming, no priming)  $\times$  2 (Cultural group: Mainland-Chinese, German-Chinese)  $\times$  2 (Gender: men, women) multivariate analysis of variance (MANOVA) on the three self-levels. The results showed a significant main effect of self-level,  $F(2, 744) = 1185.722$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.76$ . Planned simple contrasts showed that the participants generated a higher proportion of private self-statements ( $M = 0.71$ ,  $SD = 0.19$ ) than that of relational self-statements ( $M = 0.19$ ,  $SD = 0.14$ ),  $F(1, 383) = 1142.97$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.75$ , and collective self-statements ( $M = 0.11$ ,  $SD = 0.13$ ),  $F(1, 383) = 1647.43$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.81$ . As we predicted, the interaction between self-level and self-construal priming was significant,  $F(4, 744) = 5.85$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.03$ , which indicate that self-construal priming could affect one’s self-representation (Hypothesis 1). A further simple main effect showed that the proportion of private self-statements differed across self-construal primings,  $F(2, 381) = 6.98$ ,  $p < 0.01$ ,  $\eta_p^2 = 0.04$ . *Post hoc* Bonferroni tests showed that the proportion of private self was significantly higher in the independent self-construal priming ( $M = 0.74$ ,  $SD = 0.17$ ) condition and the control condition ( $M = 0.72$ ,  $SD = 0.19$ ) than in the interdependent self-construal priming condition ( $M = 0.66$ ,  $SD = 0.19$ ;  $p < 0.01$  and  $p < 0.05$ ). Analyses of simple effects showed that the proportion of collective self-statements also differed across self-construal primings,  $F(2, 381) = 9.69$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.05$ , and the *Post*

**TABLE 1**  
Means and standard deviations of proportion of private, relational and collective self as a function of cultural group under different self-construal priming

Type of self-levels	Mainland-Chinese				German-Chinese			
	Self-construal priming			F value	Self-construal priming			F value
	Interdependent	No-priming	Independent		Interdependent	No-priming	Independent	
Private	0.69(0.16)	0.75(0.18)	0.72(0.19)	2.00	0.63(0.20) <sup>a</sup>	0.70(0.20) <sup>ab</sup>	0.76(0.15) <sup>b</sup>	7.95 <sup>***</sup>
Relational	0.18(0.14)	0.17(0.14)	0.20(0.14)	0.85	0.21(0.14) <sup>a</sup>	0.20(0.14) <sup>ab</sup>	0.17(0.12) <sup>b</sup>	2.05
Collective	0.13(0.14) <sup>a</sup>	0.08(0.10) <sup>b</sup>	0.08(0.11) <sup>b</sup>	3.56 <sup>*</sup>	0.16(0.15) <sup>a</sup>	0.11(0.14) <sup>ab</sup>	0.08(0.11) <sup>b</sup>	6.68 <sup>**</sup>

Note. Row means with different superscripts represent significant differences.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

*hoc* Bonferroni tests showed that the collective self was significantly higher in the interdependent self-construal priming condition ( $M = 0.15$ ,  $SD = 0.15$ ) than in the independent self-construal priming condition ( $M = 0.08$ ,  $SD = 0.11$ ) and the control condition ( $M = 0.09$ ,  $SD = 0.12$ ;  $p < 0.001$  and  $p < 0.01$ ). The simple effects did not show significant differences in the proportion of relational self-statements across self-construal primings ( $p = 0.66$ ).

### The priming effect in different groups

Of great importance was that the predicted three-way interaction between self-level, self-construal priming and cultural group was marginally significant,  $F(4, 744) = 2.08$ ,  $p = 0.08$ ,  $\eta_p^2 = 0.01$ . This suggests that for Chinese individuals with a distinct cultural background, the importance of each self-level varied across different self-construal primings (refer to Table 1; Hypothesis 2). To further test hypothesis 2, this three-way interaction was assessed using a further simple effect by follow-up 3 (Self-construal priming)  $\times$  3 (Self-level) MANOVA of the Mainland-Chinese and the German-Chinese cultural groups.

#### Mainland-Chinese

The results of Mainland-Chinese group showed a certain trend towards significant interaction between self-construal priming and self-level,  $F(4, 756) = 2.05$ ,  $p = 0.09$ ,  $\eta_p^2 = 0.01$ , which suggests that there were priming effects on Mainland-Chinese. Further analyses found a significant simple effect of self-construal priming in the collective self,  $F(2, 378) = 3.56$ ,  $p < 0.05$ ,  $\eta_p^2 = 0.02$ , whereas it was not significant in the private self and the relational self ( $p = 0.14$  and  $p = 0.43$ ). The follow-up *Post hoc* Bonferroni tests showed that the proportion of collective self was significantly higher in the interdependent self-construal priming condition ( $M = 0.13$ ,  $SD = 0.14$ ) than in the independent self-construal priming condition ( $M = 0.08$ ,  $SD = 0.11$ ) and the control condition ( $M = 0.08$ ,  $SD = 0.10$ ;  $ps < 0.05$ ). These results indicate that Mainland-Chinese

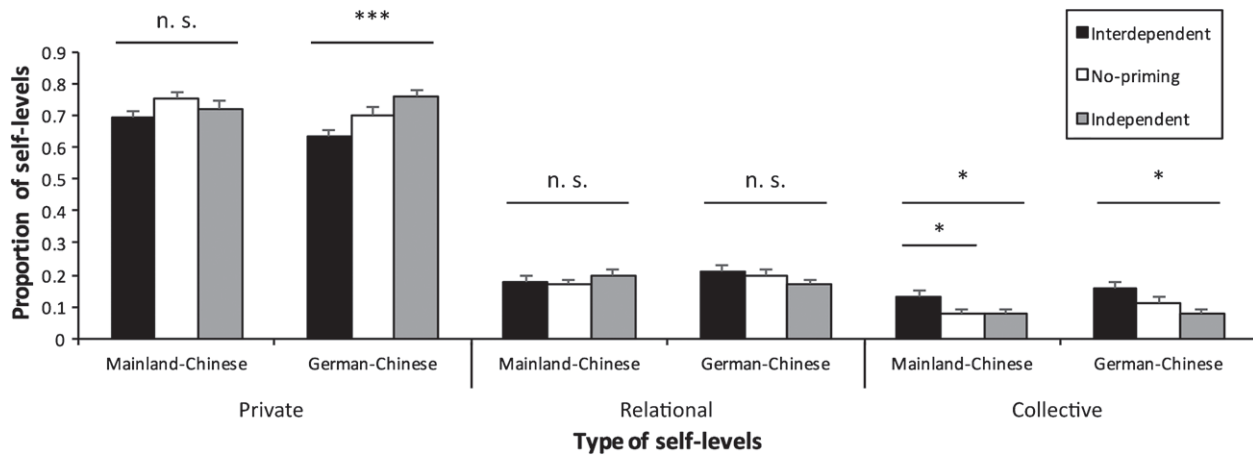
showed a more interdependent self-construal orientation after interdependent priming; however, there were no evidence that showed the independent priming effect on Mainland-Chinese (refer to Figure 1).

#### German-Chinese

The results of the German-Chinese group showed a significant interaction between self-construal priming and self-level,  $F(4, 756) = 6.03$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.03$ . Specifically, further analyses showed significant simple effects of self-construal priming in the private self,  $F(2, 378) = 7.95$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.04$  and the collective self,  $F(2, 378) = .68$ ,  $p < 0.01$ ,  $\eta_p^2 = 0.03$ , whereas they were not significant in the relational self ( $p = 0.13$ ). Next, we conducted a *Post hoc* Bonferroni test for the private self and the collective self. The proportion of private self was significantly higher in the independent self-construal priming condition ( $M = 0.76$ ,  $SD = 0.15$ ) than in the interdependent self-construal priming condition ( $M = 0.63$ ,  $SD = 0.20$ ;  $p < 0.001$ ). Conversely, the proportion of the collective self was significantly higher in the interdependent self-construal priming condition ( $M = 0.16$ ,  $SD = 0.15$ ) than in the independent self-construal priming condition ( $M = 0.08$ ,  $SD = 0.11$ ;  $p < 0.01$ ) and marginally significantly higher than in the control condition ( $M = 0.11$ ,  $SD = 0.14$ ;  $p = 0.08$ ). The findings suggested an important effect of priming on the German-Chinese individuals. The German-Chinese individuals showed a more interdependent self-construal orientation after interdependent priming and a more independent self-construal orientation after independent priming (refer to Figure 1).

#### Gender difference on self-level

As predicted, the two-way interaction between self-level and gender was significant,  $F(2, 744) = 4.79$ ,  $p < 0.01$ ,  $\eta_p^2 = 0.01$  (Hypothesis 3). Further cross-gender comparisons indicated no differences in the proportion of private self-statements ( $p = 0.39$ ), but the comparisons did indicate significant differences in the proportion of relational self-statements,  $F(1, 382) = 11.82$ ,



**Figure 1.** The effect of self-construal priming  $\times$  cultural group on the proportion of private, relational and collective self. Error bars represent one SE. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

$p < 0.01$ ,  $\eta_p^2 = 0.03$ , and collective self-statement,  $F(1, 382) = 5.50$ ,  $p < 0.05$ ,  $\eta_p^2 = 0.01$ . Women generated significantly more relational self-statements than men (men:  $M = 0.16$ ,  $SD = 0.13$ ; women:  $M = 0.21$ ,  $SD = 0.14$ ), whereas men generated significantly more collective self-statements than women (men:  $M = 0.12$ ,  $SD = 0.14$ ; women:  $M = 0.09$ ,  $SD = 0.12$ ).

However, this two-way interaction was qualified by an unexpected three-way interaction between self-level, cultural group and gender,  $F(2, 744) = 3.25$ ,  $p = 0.04$ ,  $\eta_p^2 = 0.01$ . The further simple effects were tested by follow-up 3 (Self-level)  $\times$  2 (cultural group) MANOVA of men and women. Whereas there was no significant interaction between self-level and cultural group in men ( $p = 0.64$ ), the significant interaction in women was not expected,  $F(2, 760) = 4.77$ ,  $p < 0.01$ ,  $\eta_p^2 = 0.01$ . Furthermore, the simple main effect showed no differences in the proportion of relational self-statements ( $p = 0.24$ ), but it showed a significant difference in the proportion of private self-statements,  $F(1, 380) = 6.19$ ,  $p < 0.05$ ,  $\eta_p^2 = 0.02$ , and collective self-statements,  $F(1, 380) = 5.54$ ,  $p < 0.05$ ,  $\eta_p^2 = 0.01$ . Mainland-Chinese women generated significantly more private self-statements (Mainland-Chinese women:  $M = 0.73$ ,  $SD = 0.17$ ; German-Chinese women:  $M = 0.67$ ,  $SD = 0.20$ ) and fewer collective self-statements (Mainland-Chinese women:  $M = 0.07$ ,  $SD = 0.10$ ; German-Chinese women:  $M = 0.11$ ,  $SD = 0.15$ ) than German-Chinese women (for raw data and code snippets used in the statistic analysis, see: <http://www.psy.pku.edu.cn/faculty.php?fid=12&pub>).

## DISCUSSION

In this study, our objective was to examine whether acculturation induced by indirect and direct bicultural

experiences affected the self-construal of Chinese individuals, as well as to understand the self-construal flexibility under different cultural priming. To meet this objective, we compared the self-construal of Mainland-Chinese individuals who had been exposed to Western cultures through more indirect means with those of German-Chinese individuals who had direct contact with the German cultural context. Then, we investigated their accessibility to both interdependent and independent cultural frameworks through temporal self-construal priming. As in previous studies (Abdulkaram et al., 2015; Hong, Ip, Chiu, Morris, & Menon, 2001), we have also observed the prominence of the private self in our study; the participants generated a higher proportion of private self-statements than relational self-statements and collective self-statements. Moreover, all three hypotheses were supported. These results indicate that an individual's self-representation could be modulated by self-construal priming. Participants showed interdependent orientations after interdependent self-construal priming by generating high proportions of collective self-statements and independent orientations after independent self-construal priming by generating high proportions of private self-statements. Of great importance, the priming effects differed between the two groups. The Mainland-Chinese individuals were solely affected by interdependent self-construal priming, whereas the German-Chinese individuals were affected by both interdependent and independent self-construal priming. In addition, the gender effect for individuals' self-construals were observed, showing different proportions of three self-levels. The results also showed cultural group differences within gender. In sum, the results of this study confirmed our hypothesis and suggested that individuals could be influenced by more than one culture, as well as that the direct bicultural experiences facilitate cultural frame switching.

This finding highlights the plural cultural influences on Chinese individuals. Although the impact of multicultural experiences on an individual's self-construal was considered an important topic, the main body of this research stresses biculturals (Hong et al., 2000). In this study, we simultaneously investigated Chinese individuals who internalised a second culture through direct means (German-Chinese) with those who did so through more indirect means (Mainland-Chinese). First, we found that the self-representation of Chinese individuals could be influenced by self-construal priming, which was supplementary for the dynamic constructive theory (Hong et al., 2000). Interestingly, the priming effects existed in both the Mainland-Chinese and the German-Chinese cultural groups, which imply a polycultural assumption of culture influences on individuals. As previously mentioned, polyculturalism considers the relationship between individuals and cultures as partial and plural (Morris et al., 2015). Based on this assumption, one's self-construal can incorporate influences from multiple cultures in any cultural context. Recent cultural studies also proposed that both interdependent and independent self-construals exist in all cultures (Oyserman et al., 2002), which may be induced by individuals who are participants in the general acculturative changes underway in their own culture caused by globalisation. In today's increasingly global world, increasingly more Western cultures have been imported into Chinese society. Those imports of Western culture may lead today's Chinese people to hold a self-construal that has merged a traditional interdependent self-construal and a Western independent self-construal. Our results provide further evidence for the polycultural assumption, which suggests that although Chinese individuals were traditionally considered as having interdependent self-construals due to the influence of the Chinese collectivism culture (Triandis, 1989), they could also show independent self-construal orientations with the process of acculturation.

More importantly, the efficiency of priming was different between the two cultural groups. Although both cultural groups are influenced by interdependent self-construal priming in previous study (Sui et al., 2013), only German-Chinese individuals were influenced by independent self-construal priming. In accordance with previous studies regarding bicultural individuals (Benet-Martínez, Leu, Lee, & Morris, 2002; Hong et al., 2000), our results showed a substantial effect of the direct exposure to other cultures. Direct exposure to German culture enables an individual to switch rapidly between German and Chinese modes of processing. The results of this study offered valuable evidence in favour of the polycultural assumption (Morris et al., 2015) by providing empirical evidence of plural culture influences on an individual. Moreover, previous studies found that bicultural experiences affect an individual's self-construal (Chen et al., 2015; Heine & Lehman, 2004). Our results refined

the researchers' finding and showed stronger priming effects on individuals with direct bicultural experiences compared to those with more indirect ones; this allowed a more profound understanding of how bicultural experiences affected individuals' self-construals and their accessibility to different cultural frames.

In addition, the predicted gender differences on individuals' self-construal were observed. However, the interaction of gender, cultural group and self-levels was also significant. Specifically, there was no significant difference between men in Mainland China and Germany, whereas women in Mainland China showed more private self-statements and less collective self-statements than women in Germany. These results might be induced by a different group context in the two cultural groups. A study on self-categorization has found that individuals' group categories were more salient in an intra-group context than in an inter-group context (Oakes, 1987); that is, group category relevant information should be more salient for individuals who attempt to live in a new cultural context than those who live in their own culture. Thus, the intra-group context may increase the importance of group membership for women, whereas it is always important for men (Baumeister & Sommer, 1997; Gabriel & Gardner, 1999). In this study, we controlled this variable by recruiting similar number of participants from each gender; however, future research could further investigate gender differences in acculturation. It also should be noted that although we observed general priming effects on Mainland-Chinese, the independent self-construal priming had no effect, which appears to be inconsistent with Sui et al.'s (2013) work. However, the researchers' behaviour data, similar to our self-describe data, did not show the priming effect. The distinct results from neural and behaviour data suggest that the effect of independent self-construal priming on Chinese people may be easier observed in a sensitive neural index rather than in behavioural expression. More research is needed to determine the underlying neural mechanism of self-construal priming.

### Limitations and directions for future research

Some limitations should be noted in our study. First, although we observed stronger priming effect for the German-Chinese than for the Mainland-Chinese, the mechanisms under this differences are waiting to be studied. In our study, we attempted to interpret these result by the amount German-Chinese individuals had exposed to German culture; however, it failed to show a significant effect (see Supplementary Materials). The reason for this result perhaps came from the differed age at which individuals moved to Germany, which could affect individual's acculturation progress (Minoura, 1992). Further strictly controlled research studies are needed to uncover this result.

Second, the priming effects in our research were not that strong; some could solely be observed when comparing the interdependent and independent self-construal priming condition with the other, but not with a non-priming condition. The weak priming effects may be induced by individual differences in the Bicultural Identity Integration (BII), which was not investigated in this study. Benet-Martínez et al. (2002) have found that individuals with a high BII exhibit culture-congruent cognitions after cultural priming, whereas individuals with a low BII exhibit a reverse priming effect. Based on the researchers' results, one possible reason for our results is the disturbance of an individual's level of BII that is highly related to the priming effect. Therefore, future researches should consider individual differences in BII. In addition, we choose the pronoun circling means of self-construal priming in our study, which reduces potential extraneous variables, given that the sole difference between the two priming conditions were the personal pronouns. However, the previous meta-analysis of the collectivism and individualism priming research has shown that the effect of the self-construal priming we used in our study is not very strong (Oyserman & Lee, 2008). Future research could use other priming methods (e.g., Sumerian warrior) to seek stronger priming effects. Moreover, a previous study has found that the acculturation processes were facilitated when the host country was a settler society with high immigration and encouraging policies (Berry, Phinney, Sam, & Vedder, 2006). Germany, which we choose as a host country for the direct exposure group in our study, is a former colonial society with less encouraging policies. It is interesting to further investigate the effect of acculturation in more plural societies.

## CONCLUSION

In summary, although the effect of globalisation on an individual's self-construal have been investigated by many studies, few have considered the influence of direct bicultural experiences on the flexibility of the dynamic self-construal of a Chinese individual. Our study filled this research gap. These results demonstrate that the self-construal priming could influence a Chinese individual's self-representation in a correspondent manner; however, German-Chinese individuals who have direct exposure to another culture showed a higher prime efficiency. Our findings generally indicate that an individual's direct bicultural experiences could facilitate cultural frame switching. Those findings are important because they help create a more nuanced understanding of the effect of acculturation on the dynamic change of an individual's self-construal, which is an important contribution to multicultural psychology literature. Our results also provide empirical evidence for the polycultural assumption

(Morris et al., 2015). Future researches should continue to investigate the individual differences in acculturation. Also, due to the intra-cultural variability of self-construal in Chinese populations (Abdukeram et al., 2015; Mamat et al., 2014), it would also be interesting to focus on multicultural experience that occurs within a country.

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## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix S1. Supporting analysis.

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