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THE EFFECTS OF LANGUAGE PRIMING AND UNIQUE VS. COLLECTIVE SELF-PRIMING ON INDEPENDENT AND INTERDEPENDENT SELF-CONSTRUAL AMONG CHINESE UNIVERSITY STUDENTS CURRENTLY STUDYING ENGLISH

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Mainland Chinese college students majoring in English language studies completed new measures of independent self-construal and interdependent self-construal. Participants completed these in English or in Chinese, after having engaged in either a self-priming task in which they wrote about unique features of the self or their memberships in social groups. Independent self-construal scores were lower when the task was presented in English. Interdependent self-construal scores were lower after having completed the unique self-prime. These findings are discussed in terms of biculturalism, bilingualism, foreign language processing difficulty and differential potencies of primes.

INTRODUCTION

For some time now, the self has been thought to incorporate at least two complementary components of self-concept: an *independent self-construal* which reflects features such as autonomy, individualism and independent agency, and an *interdependent self-construal* which reflects features such as social connectedness, group cohesion and collective agency (Markus & Kitayama, 1991; Hong, Morris, Chiu & Benet-Martinez, 2000; Wang, 2006; Wang & Ross, 2005). Because these different self-construals correspond with specific values, practices and pressures associated with different cultures, people in Western cultures which stress the autonomy of the self are thought to characteristically display their independent selves whereas those in Eastern (or non-Western) cultures tend to manifest their interdependent selves. Thus, cross-cultural differences among people's cognitions, emotions and motivations may be attributable in part to ubiquitous and positively regarded cultural values, norms, narratives and ideologies as mediated through different selves (though for a contrasting view, see Matsumoto, 1999).

From this position, multicultural individuals may be unique in developing rather flexible self-concepts reflecting the different "cultural frames" they possess. At any point in time, one or another of these cultural frames is activated due to situational conditions and contexts, thereby influencing personality, emotions, expressed values, autobiographical memories, self-concept and more (Hong, et al., 2000; Wang, 2006). Later, as conditions and contexts associated with another culture happen to be experienced, one's cultural frames change in a process termed "frame switching" (Hong, et al., 2000). The activation of the new frame then mediates the multiple covert and overt changes in the self. Thus, for those multicultural individuals with deep experiences in both Western and Eastern cultures (say, respectively, U.S. and Chinese cultures), one's Western self is manifest under salient Western context conditions and one's Eastern self appears under salient Eastern conditions.

Frame switching among multicultural individuals has been successfully demonstrated in a number of studies that experimentally manipulate primes associated with different cultures. Thus, manipulations such as language-of-administration (Kimmelmeier & Cheng, 2004), exposure to cultural icons (e.g., the U.S. Capitol Building vs the Great Wall; Hong, Chiu & Kung, 1997) and self-primes ("How would you define yourself as a unique individual?" vs "How would you define yourself as a member of a social group?"; Wang & Ross, 2005, p. 597) influence individuals' performance on measures of self, attributions and memories. Generally, experimental primes are thought to act by switching cultural frames in a direction concordant with those specific characteristics of the culture being primed in multicultural individuals. Thus, primes associated with Western cultures bring forth the independent self; primes associated with Eastern cultures bring forth the interdependent self.

Although widespread, the effectiveness of cultural primes is not so straightforward as to be demonstrable across all variables. Kimmelmeier and Cheng (2004) presented Hong Kong university and middle school students Singelis' (1994) independent and interdependent self-construal measures in either English or Chinese and found independent self-construal scores enhanced by administration of the task in English. However, no such language priming effect was found on interdependent self-construal scores. Kimmelmeier and Cheng reasoned that

interdependent self-construals among their Hong Kong sample were so chronically salient that such a weak prime as language-of-administration was insufficiently potent to affect change on Singelis' measure of interdependent self-construal. In doing so, they also introduced cue strength (strong vs weak) as an important variable associated with cultural priming.

Further, while generally thought to affect psychological changes in the same direction as that of the cultural primes (the enhancement effect), the use of primes can bring about an opposite effect (a suppression effect). Reasoning that mainland Chinese university students currently studying English were neither as bicultural or as bilingual as Kimmelmeier and Cheng's (2004) Hong Kong participants, Dixon (2007) found that independent self-construal scores were *lower* when Singelis' (1994) measures were administered in English vs Chinese to these participants. Dixon cited degree of biculturalism and cognitive processing load associated with a poorly mastered English as likely mediators of this suppression effect. The former, not-yet-developed biculturalism, would lead to poorly accessible cultural frames; the latter, lack of fluency in English, would require too many cognitive resources for enhancement to appear. (Interestingly, as was found in Kimmelmeier and Cheng's (2004) study, English vs Chinese administration failed to produce differences on interdependent self-construal scores.) Thus, Dixon (2007) introduced participant differences (comfortably bicultural and bilingual vs not so) as an important variable associated with priming.

The present study expands upon the Dixon (2007) and Kimmelmeier and Cheng (2004) studies by examining two new issues with respect to the effects of cultural priming on independent and interdependent self-construals. First, would the suppression effect reported by Dixon again be found for mainland Chinese university students on new measures of independent and interdependent self-construals? Lu and Gilmour (2006) have developed such measures which they argue are more comprehensive, valid and reliable than previous measures. Furthermore, they also issue a call for research that would address the construct validity of the new instruments. The present study explores the language priming effect on these new measures among mainland Chinese university students who are majoring in English, directly addressing the generalizability of different measures of the same overall constructs. Our hypotheses are that we would again obtain a suppression effect on independent self-construal through the use of English vs Chinese as the language-of-administration and fail to obtain an effect on interdependent self-construal through this prime.

Second, could primes other than language-of-administration be sufficiently strong to alter interdependent self-construals among this mainland Chinese sample? Wang and Ross (2005) have developed a self-priming task which has been found to influence earliest memories and story recall among Caucasians and Asians in the United States. In the priming manipulation, participants were to describe their unique characteristics (corresponding with a Western cultural frame) or their social roles (corresponding with an Eastern cultural frame). When asked to describe their earliest memories, participants given the unique priming condition provided individually focused accounts whereas those given the collective prime provided group-oriented and social interaction accounts. When asked to recall stories, unique self-priming led to recall of the story protagonist's personal autonomy whereas the collective prime led to recall of peripheral characters and social interactions. The present study explores the potential of this self-priming task to influence closed-ended measures of independent and interdependent self-construal. That

such a manipulation would be promising is suggested by the concepts of differential cue strength among primes (e.g., Kemmelmeier & Cheng, 2004) and differential levels-of-processing during encoding in memory studies (e.g., Craik, 2002; Craik & Lockhart, 1972). We hypothesized that unique self priming would be sufficiently strong to increase independent self-construal and decrease interdependent self-construal.

METHOD

Participants

Chinese college students majoring in English language studies at a mid-sized university in northeastern China participated in the study. All of the students were at the rank of juniors and were "traditional" students in the sense of having been out of high school for three years. Of the 57 students who completed all or part of the procedures, 50 (87.7%) were women and seven (12.3%) were men. Separately, the women and the men were randomly assigned one of four conditions (described below) with the only restriction on randomization being that there be roughly equal numbers of participants in each of the conditions and no more than two men to a condition.

Procedure

The four conditions of the study were defined by the combinations of English vs Chinese language-of-administration and unique self-prime vs collective self-prime. Participants were told that they were volunteering for separate studies conducted in separate phases, the first of which was to explore their self descriptions and the second of which was to explore self-concept. Testing occurred in a whole group format.

In the first phase, students were administered the self-priming manipulation created by Wang and Ross (2005). Half of the participants completed a unique self-priming task in which they read and wrote about the following:

How would you define yourself as a unique individual? List ten personal qualities, attributes, beliefs, or behaviors that do not relate to others and make you unique. For example, "I am smart" and "I am honest."

The other half of the participants completed a collective self-priming task in which they read and wrote about the following:

How would you define yourself as a member of a social group? List ten memberships of social groups with which you are likely to be experiencing a "common fate." For example, "I am a Catholic" (membership in a religious group) and "I am a daughter" (membership in a family group).

(See Wang & Ross, 2005, pp. 597-598.)

In the second phase of the study, participants completed Lu and Gilmour's (2007) 42-item Independent and Interdependent Self Scale (IISS). The IISS is composed of two 21-item subscales, the Independent subscale and the Interdependent subscale (see Appendix A). The Independent subscale was designed to reflect the following seven facets of the self: "being independent, unique and consistent"; "expressing oneself"; "realizing internal attributes"; "promoting one's own goal"; "being direct"; "separation from in-group"; and "self-reliance with hedonism." The Interdependent subscale was designed to reflect these seven facets of the self: "belonging and fitting it"; "occupying one's proper place"; "engaging in appropriate action"; "promoting others' goals"; "being indirect"; "family integration"; interdependence with sociability" (p. 250).

Because Lu and Gilmour's (2007) Chinese version of the IISS used classical Chinese characters--more complex and more associated with Taiwan--the scales were translated to modern, simplified Chinese more widely used on the mainland. Two Chinese nationals who were teaching Chinese language at an American university collectively translated to the simplified Chinese from Lu and Gilmour's (2007) originals. The 42 items were then randomized with the same order of items used in the Chinese and English versions. Participants were instructed to report their level of agreement with each of the items on a seven-point Likert-type scale anchored by "strongly disagree" to "strongly agree." Scores on each of the subscales were averaged to correspond with the original seven-point scale (with a score of "4" indicating "neither agree nor disagree").

RESULTS

A 2 (Chinese vs English language-of-administration) x 2 (unique self-prime vs collective self-prime) ANOVA was performed on the Independent subscale of the IISS and on the Interdependent subscale of the IISS.

Independent Self-Construal Scores

For the entire group of participants, the average value on the Independent subscale of the IISS was $M = 5.15$ ($SD = .48$), a value slightly but significantly above the value of "somewhat agree" (scale value = 5), with $t(53) = 2.355$, $p = .022$. The 95% confidence interval is 5.02 to 5.28 which encompasses Lu and Gilmour's (2006) mean of 5.26 obtained in their Study 1 which included 606 Chinese students and adults.

A significant main effect on the Independent subscale was obtained in comparing the effect of English vs Chinese language-of-administration: Participants who completed the questionnaire in English ($M = 4.99$, $SD = .49$), had lower Independent self-construal scores than those who completed the questionnaire in Chinese ($M = 5.31$, $SD = .42$) with $F(1,50) = 6.46$, $p = .014$, *partial eta-square* = .114. This suppression effect supports our hypothesis as it comports well with that obtained by Dixon (2007) using a similar mainland Chinese sample, and differs from the opposite finding by Kemmelmeier and Cheng (2004) in a Hong Kong sample.

Contrary to our hypothesis, the main effect of unique vs collective self-prime failed to approach significance, and the interaction between language-of-administration and self prime failed to

approach significance with all $F(1,50)$ values < 1.00 , all $ps \geq .631$. Table 1 displays the means and standard deviations of all conditions.

Table 1. Mean Independent Self-Construal Scores (and Standard Deviations) as a Function of Self-Prime and Language-of-Administration

	Unique self-prime	Collective self-prime	Total
Chinese	5.32 (.51)	5.30 (.32)	5.31 (.42)
English	4.94 (.40)	5.04 (.60)	4.99 (.49)
Total	5.13 (.49)	5.18 (.48)	5.15 (.48)

Interdependent Self-Construal Scores

For the entire group of participants, the average score on the Interdependent subscale of the IISS was $M = 5.77$, $SD = .43$, a value well above the value of "somewhat agree" (scale value = 5), with $t(1,55) = 13.445$, $p = .000$. The 95% confidence interval is 5.65 to 5.88, the range of which is above Lu and Gilmour's (2006) mean of 5.34 obtained in their Study 1.

The ANOVA performed on these data revealed a significant main effect for self-prime consistent with our hypothesis: Participants who completed the unique self-prime had lower interdependent self-construal scores ($M = 5.63$, $SD = .41$) than those who completed the collective self-prime ($M = 5.90$, $SD = .41$), with $F(1,52) = 6.034$, $p = .017$, *partial eta-square* = .104. Thus, unique vs collective self-prime appears to be powerful enough to change interdependent self-construals.

As expected, the main effect of language-of-administration failed to approach significance, and the interaction between language-of-administration and self-prime did not approach significance with all $F(1,52)$ values ≤ 1.263 , all $ps \geq .266$. Table 2 displays the means and standard deviations of all conditions.

Table 2. Mean Interdependent Self-Construal Scores (and Standard Deviations) as a Function of Self-Prime and Language-of-Administration

	Unique self-prime	Collective self-prime	Total
Chinese	5.72 (.48)	5.93 (.46)	5.82 (.47)
English	5.54 (.30)	5.86 (.36)	5.71 (.37)
Total	5.63 (.41)	5.90 (.41)	5.77 (.43)

DISCUSSION

Independent Self-Construal

The language priming effects on the Lu and Gilmore (2007) measure of independent self-construal pattern fits well with the findings of Dixon (2007) who employed the measure developed by Singelis (1994): Independent self-construal scores were found to be *lower* when the task was completed in English than when the task was completed in Chinese. In both studies, mainland Chinese students, who were assumed to be less bicultural and less fluent in English,

display a pattern opposite of that found among Hong Kong participants (Kimmelmeier & Cheng, 2004).

The assumption that the mainland Chinese participants in the present study are not particularly bicultural is challenged by the finding that the average independent self-construal score ($M = 5.15$) was slightly but significantly above a scale value of "slightly agree" and well above a value of "neither agree nor disagree." Thus, participants in this study do not appear to be devaluing statements constructed to accord with a Western view of the self. Subsequently, it may be more accurate to attribute the suppression effect found in this study to difficulties with a not-yet-mastered English. Foreign language processing load (e.g., Takano & Noda, 1993) and foreign language anxiety (e.g., Horwitz, Horwitz, & Cope, 1986) could be considered likely candidates as mediating mechanisms.

While the influence of language priming on independent self-construal matches very well with the findings of Dixon (2007) and contrasts importantly with the findings of Kimmelmeier & Cheng (2004), confounds exist between the characteristics of the mainland Chinese vs. Hong Kong studies. Possible confounds include item translations, details of the samples beyond location, settings, administration details, etc. that were not controlled and may be responsible for findings we ascribe to sample differences in English fluency or degree of biculturalism. Future research should more directly eliminate such confounds within a single study.

As found with both Dixon (2007) and Kimmelmeier and Cheng (2004), the language-of-administration prime failed to have a significant effect on interdependent self-construal scores in the present study. Thus, interdependence in the East may be so salient that language primes may have too little potency to effect changes in interdependent self-construal (see Gardiner, Gabriel, & Lee, 1999). Further, this finding as well as the findings reported on independent-self construals lend support to the idea that Lu and Gilmore's (2007) IISS measures operate similarly to Singelis' (1994) scales of independent and interdependent self-construal.

Interdependent Self-Construal

The self-priming task was effective in altering participants' interdependent self-construal scores in a direction commensurate with the prime: Interdependent self-construal scores obtained under the unique self-prime were found to be lower than those obtained under the collective self-prime. These findings on this closed-ended measure of self as well as the findings of Wang and Ross (2005) on open-ended measures of autobiographical memory and story recall support cultural frame switching theory such as that of Hong, Morris, Chiu and Benet-Martinez (2000): Primes associated with Western cultures are capable of "bringing out a more Western self" among individuals.

These findings also reveal that, while the prime of language-of-administration is too weak to alter these mainland Chinese participants' scores on interdependent self-construal, the self-prime of unique vs. collective self *is* sufficiently potent to alter these scores. Why might there be differences in the effective potency among these two types of primes? One candidate may have to do with different primes' abilities to lead to different levels of cognitive processing (Craik, 2002; Craik & Lockhart, 1972) with language-of-administration leading to shallow level

processing and self-priming leading to deeper level processing. Compared with the language-of-administration prime, the self-prime used in this study appears more personally rich (describe yourself), more likely to engage active processing (via listing features of the self), more elaborate and more multidimensional (list ten features). For all the reasons that differential levels of processing affect memory, it would be expected that different cues shift cultural frames.

Although it was found that the self-prime was effective in altering interdependent self-construal, the specific enhancements or decrements are unknown. Without a neutral contrast condition with which to compare the unique self-prime and the collective self-prime, it is not clear if the unique self-prime led to decreased interdependent scores, the collective self-prime led to increased interdependent scores, or if both occurred. Further research must overcome this procedural weakness, directly addressing these possibilities for a fuller account of the effectiveness of these primes.

The Effectiveness of the Different Priming Conditions with the Different Self-Construals

The main effects of the different primes on the different self-construals found in the present study are straightforward: Language-of-administration was found to be an effective prime in altering independent self-construal in this study as well as in the studies of Dixon (2007) and Kimmelmeier and Cheng (2004). Describing the self in unique vs. collective ways was found in this study to be an effective prime in altering interdependent self-construal. No other significant effects of priming were obtained.

A notable outcome of this study is that unique vs. collective self-priming had no effect on independent self-construal scores although it had a significant effect on interdependent self-construal scores. If social connectedness is so strong in mainland China and among the mainland Chinese participants in this study that a relatively weak prime such as language-of-administration has no effect on interdependent self-construal while the unique vs. collective self-prime appears to be sufficiently potent to influence interdependent self-construal, it would be reasonable to expect that the self-prime would influence a more labile independent self-construal. Because this failed to occur, mechanisms other than the relative sensitivity of the dependent measures and the relative potency of the primes used in the present study must be at work. Further theory and research would do well to more thoroughly explore this possibility.

Bargh (2006) has anticipated the need for a "second generation" of research which investigates how multiple effects of single primes operate and how multiple primes affect specific outcomes. The research reported in this study advances that agenda specifically. In the future, a full accounting of the field will organize and summarize what is being primed (e.g., independent or interdependent self-construal), alternative facets of what is being primed (e.g., open-ended or closed-ended measures), who is being primed (e.g., multicultural, multilingual or unicultural, unilingual individuals), and characteristics of the efficacy of different primes (e.g., language-of-administration, cultural icons, various self-primes, etc.).

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APPENDIX A: ITEMS FROM LU AND GILMOUR'S (2007) INDEPENDENT AND INTERDEPENDENT SELF SCALE (IISS)

Independent Subscale

1. I believe that people should try hard to satisfy their interests.
2. I believe that people should fully realize their potential.
3. I believe that people should have their own ideals and try hard to achieve them.
4. I believe that people should fully live up to their capabilities in any circumstances.
5. I believe that people should face up to challenges in the environment.
6. I believe that once a goal is set, one should do one's best to achieve it.
7. I believe that a happy life is the result of one's own efforts.
8. I believe that people should pursue their own welfare.
9. I believe that people should express their feelings in interpersonal interactions.
10. I believe that people should maintain their independence in a group.
11. I believe that people should be self-resilient and self-reliant.
12. I believe that interpersonal communication should be direct.
13. I believe that people should express their opinions in public.
14. I believe that people should be unique and different from others.
15. I believe that people should retain independence from their family members.
16. For myself, I believe that others should not influence my self-identity.
17. I believe that people should be direct with others.
18. I believe that family and friends should not influence my important life decisions.
19. I believe that people should try to achieve their goals at any costs.
20. I believe that people should stick to their opinions in any circumstances.
21. I believe that people should be the same at home and in public.

Interdependent Subscale

1. I believe that family is the source of our self.
2. I believe that success of the group is more important than success of the individual.
3. We should be concerned about other people's dignity in interpersonal interactions.
4. Once you become a member of the group, you should try hard to adjust to the group's demands.
5. I believe that people should find their place within a group.
6. I believe that the group should come first when it is in conflict with the individual.
7. I believe that it is important to maintain group harmony.
8. We should sacrifice our personal interests for the benefit of the group.
9. I believe that the family should be a life unit.
10. I believe that the success and failure of my family is ultimately related to my self-identity.
11. I believe that people should perform their social roles well.
12. I believe that people should behave appropriately according to different circumstances.
13. I believe that people close to me are important parts of my self.
14. I believe that people should behave appropriately according to their different social status and roles.
15. Belonging to a group is important to my self-identity, or sense of myself.
16. Acting appropriately is an important principle for me.
17. I believe that intimate relationships could reflect one's self-identity.
18. In the interest of maintaining interpersonal harmony, communication should be indirect.
19. I believe that people should consider the opinions and reactions of the others before making decisions.
20. I have a strong identification with people close to me.
21. My self-identity is the result of my social status.

Response Alternatives

- Strongly disagree [value = 1]
Disagree [value = 2]
Somewhat disagree [value = 3]
Neither agree nor disagree [value =4]
Somewhat agree [value = 5]
Agree [value = 6]
Strongly agree [value =7]

Scoring

Individual participants' scores within each scale were summed, then divided by 21.

APPENDIX B: CORRELATION MATRICES

Independent Subscale Scores

	Chinese / English administration	Unique / Collective self-prime	Independence Scores
Chinese / English administration	1.000		
Unique / Collective self-prime	.017	1.000	
Independence scores	.341*	.060	1.000

*Correlation is significant at the 0.05 level (2-tailed)

Interdependent Subscale Scores

	Chinese / English administration	Unique / Collective self-prime	Interdependence Scores
Chinese / English administration	1.000		
Unique / Collective self-prime	.017	1.000	
Interdependence scores	.135	.312*	1.000

*Correlation is significant at the 0.05 level (2-tailed)

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