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

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ABSTRACT

Previous research with bilingual Hong Kong university students found higher independent self-construal scores when questionnaires were administered in English than when administered in Chinese. Interdependent self-construal scores were not so affected. The present study explored the language priming effect among mainland Chinese university students who were currently studying English and who presumably were less strongly bicultural and less fluent in English. Especially among freshmen, but not as much among juniors, independent self-construal scores were lower when the task was presented in English. As before, interdependent self-construal scores were not affected. The discussion focuses on the presence and accessibility of cultural frames, foreign language processing difficulty and cue strength as moderators of language priming effects.

INTRODUCTION

Individuals' self-concepts are formed in part by internalizing features of the cultures in which they develop. In many Western cultures, values such as autonomy, individualism and independent agency are promoted and function to guide Westerners' view of the self. Markus and Kitayama (1991) label the view of the self which reflects those specific characteristics an *independent self-construal*. Western cultural values may be contrasted with those of many non-Western cultures in which social cohesion, connectedness and collective agency are promoted. Individuals' self-concepts developed in such cultures would more strongly reflect these features, constituting what is termed an *interdependent self-construal*. Markus and Kitayama's distinction between independent and interdependent self-construals has been utilized in many studies and has been identified as "[arguably] the most notable achievement in the field of culture and self" (Lu & Gilmour, 2007).

Multicultural individuals can be thought of as having multiple self-concepts. In their theory of multiculturalism, Hong, Morris, Chiu, & Benet-Martinez (2000) propose that multicultural individuals possess at least two "cultural frames," each based upon a corresponding set of cultural experiences and knowledge. Significant knowledge of two or more cultures is stored in the minds of multicultural individuals and knowledge of one culture is brought to the fore when activated. In turn, these cultural frames affect many phenomena such as personality, values, emotional expression and self-concept. Contextual elements associated with different cultures govern the activation of frames at any particular time, and priming by means of situational cues (e.g., language, icons or settings) has the potential for bringing forth latent frames. Hong, et al. (2000) recognize shifts from one cultural frame to another as *frame switching*.

In a recent demonstration of frame switching, Kimmelmeier and Cheng (2004) explored the effect of language priming on self-construals among Hong Kong university students who completed English or Chinese versions of Singelis' (1994) independent and interdependent self-construal scales. Administration of the scales in English resulted in higher independent self-construal scores than did administration of the scales in Chinese. The language of administration did not affect the scores on the interdependent scale. It was the first time that a language priming effect was reported on a closed-ended self-construal measure, although language priming effects on open-ended self-construal measures have been reported before (e.g., Ross, Xun, & Wilson, 2002).

In addition to supporting Hong, et al.'s (2000) dynamic of frame switching in bicultural individuals, Kimmelmeier and Cheng's (2004) findings also support Gardiner, Gabriel, and Lee's (1999) proposal of an asymmetric effect of priming: That is, priming of self-construal would be effective only when the priming occurs on a dimension that is not "chronically salient by common cultural practices" (Kimmelmeier & Cheng, 2004, p. 710). Thus, because cues and contexts in Hong Kong support an interdependent self-construal to a greater degree than they support an independent self-construal, the language priming effect was restricted in their study to the measure of independent self-construal.

Kimmelmeier and Cheng's (2004) use of Hong Kong participants in their priming study is fortunate because of the strong multicultural character of its university students as promoted by

long-standing British control, English as the official language of instruction until recently, and English-language media (Hong et al., 2000), and as reflected in children usually learning to speak English at an early age (Trafimow, Silverman, Fan & Law, 1997). Thus, biculturalism among Hong Kong college students is likely to be strong, and bilingualism is likely to be manifested in relatively effortless fluency in English as well as Chinese. Hong Kong college students may be strong exemplars of both biculturalism and bilingualism.

What would we expect of participants who are not as bicultural or as fluent in their second language; students, say, currently in the process of developing bicultural selves and acquiring a second language? Presumably, frame switching would be more difficult, primes would be less effective, and outcomes might be moderated by additional or different cognitive or linguistic processes. Takano and Noda (1993), for example, have demonstrated cognitive processing difficulties due to the added processing load associated with tasks presented in a foreign language in which participants were unskilled.

The present study explored language priming on independent and interdependent self-construals among mainland Chinese university students majoring in English language studies. These students are presumably at still developing levels regarding their exposure to the West and their command of English. These students are assumed to be less bicultural than are Hong Kong university students and less fluent in English. If such participant differences are at play in the dynamics of bicultural self-construals, we would not expect the same language priming outcomes as those obtained by Kimmelmeier and Cheng (2004) on independent self-construal. Indeed, the use of English as the language of administration might even interfere with the display of an independent self-construal as the cognitive processing load increases with performance in a poorly mastered language (e.g., Takano & Noda, 1993).

While we expect different results of language priming on independent self-construal from those found by Kimmelmeier and Cheng (2004) we expect outcomes similar to those found previously on interdependent self-construal. In accord with the asymmetrical priming effect forwarded by Gardiner et al. (1999), the high salience of social cohesion, connectedness, etc. found in the mainland China setting would so strongly reinforce an interdependent self-construal that language priming effects would not be found on its corresponding measure.

METHOD

Participants

Chinese college students majoring in English language studies at a mid-sized university in Shandong, China (a northeastern province situated on the Yellow Sea) participated in the study. Of the 153 participants, 114 (74.5%) were women and 39 (25.5%) were men. Students differed in their educational level as 75 (49.0%) were close to completing their freshman year of college and 78 (51.0%) were close to completing their junior year of college. It should be noted that students matriculate as cohorts and all were considered "traditional" students (i.e., close to either one year out of high school or three years out of high school).

Procedure

Participants completed the 12-item Independent Self-Construal Scale and the 12-item Interdependent Self-Construal Scale by Singalis (1994; see Appendix A). The scales are theoretically and empirically related to the concepts of Independence / Collectivism, characteristic of cultures, particularly cultures from the West vs those from the East.

Chinese nationals who were attending graduate school in the United States and who had been undergraduate majors in English translated the original English versions of the scales into Mandarin Chinese and backtranslated the versions into English. The translators achieved consensus among themselves that improvements could no longer be made after three iterations of the translation / backtranslation process were completed. We then randomized the 12 items of each scale together to produce an instrument with 24 items with the same order of items used in both English and Chinese versions. Participants reported their level of agreement with each of the items on a seven-point Likert-type scale ranging from "strongly disagree" to "strongly agree." Participants' scores on the 12 items of each scale were averaged to reflect the original seven-point scale (e.g., with a score of "4" indicating "neither agree nor disagree" with the statements).

Within each college level, freshman or junior, approximately half of the women participants and approximately half of the men participants completed the English version of the instrument and the other participants completed the Chinese version; assignments to the different versions were made randomly. Testing occurred in a group format.

RESULTS

A 2 (language of administration, English vs Chinese) x 2 (freshman vs junior standing) ANOVA was performed on the independent self-construal scores and on the interdependent self-construal scores.

Independent Self-Construal Scores

For the entire group of participants, the mean value on the independent self-construal scale of $M = 4.84$ ($SD = .61$) was significantly above a neutral value of "neither agree nor disagree" (scale value = 4) approaching an average value just below "somewhat agree" (scale value = 5), with $t(152) = 17.133$, $p = 0.000$. The 95% confidence interval is 4.74 to 4.94. Thus, across conditions and college level, participants were more likely to agree than not with the item statements measuring independent self-construal.

Significant findings were obtained on the main effect of language of administration: Participants who completed the questionnaire in Chinese ($M = 4.98$, $SD = .60$) had *higher* independence scores than participants who completed the questionnaire in English ($M = 4.70$, $SD = .58$) with $F(1,149) = 8.780$, $p = .004$, *partial eta-square* = .056.

The interaction of language of administration by college level was also significant with $F(1,149) = 4.540$, $p = .030$, *partial eta-square* = .035. Table 1 displays this interaction. It is clear from these findings that the effect of language of administration most powerfully affected the scores of

the Freshman vs those of Junior participants. Further, independence scores among Freshmen were less moderate and more extreme than those of Juniors.

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

	Freshmen	Juniors	Total
Chinese	5.10 (.57)	4.86 (.62)	4.98 (.60)
English	4.61 (.59)	4.78 (.57)	4.70 (.58)
Total	4.86 (.63)	4.82 (.59)	4.84 (.61)

Interdependent Self-Construal Scores

For the entire group of participants, the mean value on the interdependent self-construal scale of $M = 5.29$ ($SD = .55$) was well above a neutral value of 4, reaching an average value significantly above "somewhat agree" (scale value = 5) with the item statements, $t(152) = 6.560$, $p = .000$. The 95% confidence interval is 5.20 to 5.40.

On the interdependent self-construal scale there were no statistically-significant differences associated with either the main effect of language of administration or the main effect of college level. There was no statistically-significant interaction between language of administration and college level. All $F(1,149)$ values ≤ 2.844 , all $ps \geq .094$. Table 2 displays the means and standard deviations of the conditions.

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

	Freshmen	Juniors	Total
Chinese	5.46 (.54)	5.28 (.50)	5.37 (.52)
English	5.25 (.54)	5.19 (.60)	5.21 (.58)
Total	5.35 (.54)	5.23 (.55)	5.29 (.55)

Corresponding with the Gardiner et al. (1999) theory of asymmetric effects of priming, and corresponding with Kimmelmeier and Cheng's (2004) failure to find a priming effect on interdependence self-construal scores, no language priming effect on interdependent scores was anticipated in this study. Of course, this is tantamount to predicting the null hypothesis. Subsequently, power was tested and found to be .39 at $p = .05$ for the main effect of language prime on interdependent scores, a value which reflects a low probability of identifying a significant difference at the level of the obtained mean difference of .16.

DISCUSSION

The language priming effects on the measure of independent self-construal found in this study differ markedly from the findings of Kimmelmeier and Cheng (2004). The main finding of this study is that independent self-construal scores are suppressed rather than enhanced especially

among college freshmen by the use of English as opposed to Chinese as the language of administration. Why would such differences be obtained?

It was assumed that the Hong Kong participants in Kimmelmeier and Cheng's (2004) study were strongly bicultural and fluent in English while the mainland Chinese participants in this study were less bicultural and less fluent in English. If so, the accessibility of Western cultural frames should be greater in the Hong Kong sample and the prime of English as the language of scale administration should help manifest the Western frame. Mainland Chinese participants, having weaker, still developing and less accessible Western frames, may not have the same potential of manifesting a Western frame, particularly under conditions of participation in a language not yet fluently mastered. Administration of tasks in a poorly mastered foreign language could in fact result in the suppression rather than the activation of cultural frames due to mechanisms such as increased processing load (e.g., Takano & Noda, 1993), foreign language anxiety (e.g., Horwitz, Horwitz, & Cope, 1986) or others.

In spite of using the same scales for the measurement of independent and interdependent self-construals (Singalis, 1994) and using the same language primes (Mandarin Chinese vs. English), we recognize significant confounds in comparing the results of Kimmelmeier and Cheng (2004) with those reported here. Differences in sample characteristics, time of testing, item translations, administration details, etc. between their study and the present one were not controlled or otherwise accounted for. Future research on priming and self-construals would do well to use more comparable groups and identical testing protocols to avoid the confounding influence of such variables operating between these two studies.

Table 1 displays an overall mean above the neutral value on the independent self-construal scores of $M = 4.84$ ($SD = .61$), a value close to the scale score of only "slightly agree." Further, small differences in independent self-construal scores between conditions were the rule, in spite of the statistically significant main effect of language and the interaction of language-by-college level that were obtained. While cultural frames associated with the West may be present and sensitive to language primes, they are apparently not particularly pronounced among the mainland Chinese participants in this study.

Although the differences are small, the pattern of means that was obtained aligns well with the processes described above regarding increasing fluency in a foreign language. Foreign language learners are likely to transition from a phase of high vulnerability to language processing load to one of lesser vulnerability to such load; and from there to responsiveness to positive effects of priming. The freshmen vs. junior participants (this study) vs. Hong Kong participants (Kimmelmeier and Cheng, 2004) may indeed be at three points along that transition. At some point along that course, only slight suppressant or enhancement effects of language priming would operate and corresponding differences would be small. Future research should explore this possibility within a single study with empirical checks of participants' language fluency.

The lack of a language priming effect on interdependent self-construal scores corresponds well with the findings of Kimmelmeier and Cheng (2004) and reinforces their assertion, based upon the ideas of Gardiner et al. (1999), that interdependence in the East is so highly salient that language primes of the sort used here are insufficiently powerful to cause changes in

interdependent self-construal. However, the low statistical power associated with the analysis on this variable precludes a stronger confirmation from this study.

In summary, the findings of the present study add to the growing literature of the language priming effect among multicultural individuals. The effects of language priming depend not only on what is being primed (independent and interdependent self-construals) but also on who is being primed (Hong Kong students vs mainland Chinese students). The findings of this study also support recognizing the degree of multiculturalism and foreign language fluency in theories of self-construal and multiculturalism.

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APPENDIX A: ITEMS FROM SINGELIS' (1994) INDEPENDENT SELF-CONSTRUAL SCALE AND INTERDEPENDENT SELF-CONSTRUAL SCALE

Independent Self-Construal Items

1. I'd rather say "No" directly, than risk being misunderstood.
2. Speaking up during a class is not a problem for me.
3. Having a lively imagination is important to me.
4. I am comfortable with being singled out for praise or rewards.
5. I am the same person at home that I am at school.
6. Being able to take care of myself is a primary concern for me.
7. I act the same way no matter who I am with.
8. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.
9. I prefer to be direct and forthright when dealing with people I've just met.
10. I enjoy being unique and different from others in many respects.
11. My personal identity independent of others is very important to me.
12. I value being in good health above everything.

Interdependent Self-Construal Items

1. I have respect for the authority figures with whom I interact.
2. It is important for me to maintain harmony within my group.
3. My happiness depends on the happiness of those around me.
4. I would offer my seat in a bus to my professor.
5. I respect people who are modest about themselves.
6. I will sacrifice my self-interest for the benefit of the group I am in.
7. I often have the feeling that my relationships with others are more important than my own accomplishments.
8. I should take into consideration my parents' advice when making education / career plans.
9. It is important to me to respect decisions made by the group.
10. I will stay in a group if they need me, even when I'm not happy with the group.
11. If my brother or sister fails, I feel responsible.
12. Even when I strongly disagree with group members, I avoid an argument.

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 12.

APPENDIX B: CORRELATION MATRICES

Independent Self-Construal Scores

	Chinese/English administration	Freshmen/Juniors	Independence Scores
Chinese/English administration	1.000		
Freshmen/Juniors	.007	1.000	
Independence scores	.230**	.032	1.000

**Correlation is significant at the 0.01 level (2-tailed)

Interdependent Self-Construal Scores

	Chinese/English administration	Freshmen/Juniors	Interdependence Scores
Chinese/English administration	1.000		
Freshmen/Juniors	.007	1.000	
Interdependence scores	.136	.108	1.000

AUTHOR NOTE

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