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Language and the Bicultural Self

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In a study of bicultural individuals’ self-perceptions, Chinese-born students were randomly assigned to participate in either Chinese or English. Serving as controls, Canadian-born participants of either European or Chinese descent participated in English. The effects of the language manipulation paralleled findings in previous studies comparing East Asians to North Americans. Participants responding in Chinese reported more collective self-statements in open-ended self-descriptions, lower self-esteem on the Rosenberg scale, and more agreement with Chinese cultural views than did the remaining groups. In their self-descriptions, participants writing in Chinese provided similar numbers of favorable and unfavorable self-statements. The other groups reported more favorable self-statements. Participants reporting in Chinese indicated similar levels of positive and negative mood. The remaining groups reported more positive mood. The results suggest that East-Asian and Western identities may be stored in separate knowledge structures in bicultural individuals, with each structure activated by its associated language.

In social psychology, the paradigmatic, cross-cultural study of the self contrasts respondents in North America with ones in Hong Kong or Japan. Self-perceptions are often elicited through the Twenty Statements Test (TST; Kuhn & McPartland, 1954) in which participants repeatedly answer the question, “Who am I?” typically by completing 20 sentences beginning with “I am . . . .” The findings are replicable and reasonably robust. North Americans are more likely than East Asians to describe a private self, consisting of attitudes, beliefs, and traits. East Asians are more inclined than North Americans to describe an interdependent self, focusing on social roles (husband, wife, etc.), group memberships, and other people (Trafimow, Triandis, & Goto, 1991; Wang, 2001). East Asians are more likely than North Americans to portray their behavior as constrained by context and are less disposed to make favorable statements about themselves (Bond, 1996; Cousins, 1989; Fiske, Kitayama, Markus, & Nisbett, 1998; Kanagawa, Cross, & Markus, 2001; Markus, Mullally, & Kitayama, 1997; Triandis, McCusker, & Hui, 1990).

Other cross-cultural research has focused on the self-esteem of East Asians and North Americans, as measured by standard North American self-esteem scales (e.g., Rosenberg, 1965). Here, too, the results are consistent. East Asians generally report lower self-esteem than their North American counterparts (Heine, Lehman, Markus, & Kitayama, 1999). The self-esteem of East Asians increases with exposure to Western culture (Heine & Lehman, in press).

It does not appear that cultural differences in self-perceptions can be readily attributed to impression management. The same findings are obtained when participants are assured of the anonymity of their responses (Fiske et al., 1998; Heine et al., 1999; Heine, Takata, & Lehman, 2000). Similar results also are obtained in children, and associated research on parent-child interactions suggests that the discrepancies in self-concept emerge from differing socialization practices in the two cultures (Fiske et al., 1998; Heine et al., 1999; Miller, Wiley, Fung, & Liang, 1997; Wang, 2001; Wang, Leichtman, & Davies,

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Finally, cultural differences in self-esteem are evident on implicit measures (Hetts, Sakuma, & Pelham, 1999).

In the current research, we studied individuals who were born in East Asia and later either immigrated to Canada or came to Canada for university. We regard these individuals as bicultural because of their extensive exposure to both East-Asian and Western cultures. Recent research suggests that the extent to which individuals’ judgments and cognitions are influenced by their cultural beliefs depends, in part, on the relative accessibility of those beliefs (Briley, Morris, & Simonson, 2000; Chiu, Morris, Hong, & Menon, 2000; Hong & Chiu, 2001; Hong, Morris, Chiu, & Benet-Martinez, 2000). From this perspective, bicultural individuals are particularly interesting. If they have internalized contrasting cultural knowledge structures, their feelings and judgments should vary depending on the relative accessibility of the different cultural beliefs.

Hong et al. (2000) used pictures of Chinese or American cultural icons (e.g., a picture of the American flag vs. the Great Wall of China) to activate either Chinese or American belief systems in Hong Kong Chinese (who were acculturated with both Chinese and Western social beliefs) and Chinese-born Americans. The researchers then presented participants with an ambiguous picture in which a fish swam in front of several others. The behavior of the lead fish could be interpreted as caused externally (e.g., it was chased by the other fish) or internally (e.g., it was a leader). Because dispositional inferences are less common in East-Asian than in Euro-American respondents, the researchers expected the Chinese-icon prime to be followed by more external attributions for the lead fish’s behavior. The results supported this hypothesis.

It is one thing to modify individuals’ interpretations of the behavior of fish or even other people (Hong et al., 2000) as a function of the relative accessibility of different cultural beliefs. It is quite another thing to alter people’s self-perceptions. Do individuals regard themselves differently depending on the cultural frame they adopt? A belief in the malleability of the self-concept is consistent with the theoretical proposition that people’s self-perceptions reflect their currently accessible knowledge (e.g., Markus & Nurius, 1986). To the extent that self-knowledge varies somewhat from situation to situation, so too might self-perceptions. In the current study, we used language to shift the cultural frame adopted by Chinese-born university students. We hypothesized that language would be a powerful means of activating associated cultural constructs. Many of these students live in bicultural worlds. They typically use Chinese to communicate with their relatives and other Chinese-speaking individuals; they use English in school and with their nonimmigrant friends. They presumably learned to adopt an East-Asian self-concept and associated beliefs in their original language of Chinese. Use of the Chinese language may therefore increase the accessibility of traditional Chinese cultural knowledge and beliefs, as well as lead individuals to adopt self-views consistent with these knowledge structures. In contrast, the use of English may increase the accessibility of Western cultural constructs. Consequently, we expected Chinese-born participants to exhibit more characteristically Western self-perceptions when they responded in English rather than in Chinese.

A major advantage of using bilingual participants and a language manipulation to test cultural hypotheses is that it enables random assignment of participants to experimental conditions. Most cross-cultural studies in social psychology rely on convenience samples selected from universities in the target countries. In such research, it is difficult to guarantee that the samples are comparable on all relevant dimensions. In the current study, all Chinese-born participants could speak, read, and write Chinese and currently lived in Canada. Random assignment to language condition should ensure that the samples are alike except on the variable of interest. Of course, studies of Chinese-born students living in Canada also have shortcomings. For example, these students may not be representative of those who remained in China. The general validity of observed cultural differences is bolstered, however, to the degree that similar results are obtained across complementary procedures.

Past research on bilinguals is relatively limited but tends to support the contention that language influences judgments, self-assessments, and memories. Although Bond and Yang (1982) reported that Hong Kong bilinguals endorsed East-Asian values to a greater extent when they answered in English rather than Chinese, most studies evidence the opposite trend. Bond (1983) found that bilingual Hong Kong students showed greater approval of Eastern values when they responded in Chinese instead of English. Earl (1969) reported that Hong Kong bilinguals responded in a more Western fashion on a dogmatism scale when they answered in English rather than Chinese. Sussman and Rosenfeld (1982) observed that Venezuelans more closely approximated American conversational distance when speaking English rather than their native language. Trafimow, Silverman, Fan, and Law (1997) found that bilingual Hong Kong students reported more private traits and fewer social roles or group memberships on the TST when answering in English rather than Chinese. In a study of autobiographical memory, Marian and Neisser (2000) found that Russian-English bilinguals remembered more events from the Russian-speaking period of their lives when they responded in Russian and more
experiences from the English-speaking period of their lives when they responded in English.

In the present experiment, Chinese-born Canadians were randomly assigned to complete the study in either Chinese (Mandarin or Cantonese) or English. We included both an open-ended self-description measure and structured questionnaires. The open-ended self-description avoids the problem of cultural differences in interpretation of items used in structured questionnaires (Kanagawa et al., 2001). Rather than using the TST, we asked participants to describe themselves as a person. We thought that this format might encourage individuals to write more expansively about themselves. We also chose this format because of the possibility that grammatical differences between English and Chinese could influence responses to the “I am . . .” format of the TST. In English, “I am . . .” seems to invite completion with adjectival trait terms (I am shy, happy, etc.). In Chinese, because of a different grammatical structure, an adjective such as a trait term is likely to follow “I” rather than “I am.” In contrast, “I am” is more likely to be followed by a noun. This grammatical difference between the languages might partially explain the findings reported by Trafnow et al. (1997).

We examined the open-ended descriptions to see whether the language manipulation reproduced some of the qualitative differences in self-description obtained in previous cross-cultural comparisons. If changes in language prompt shifts in the cultural frame, then individuals responding in Chinese rather than English should refer more frequently to others (e.g., family, friends) or to collective aspects of self (e.g., group memberships) and less often to private aspects of self (e.g., traits).

Analyses of the open-ended descriptions also included an examination of the valence of private and collective self-statements. Cross-cultural research has demonstrated that East Asians are typically less self-enhancing than are North Americans (Diener & Diener, 1995; Fiske et al., 1998; Heine & Lehman, 1995, 1997; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). On the basis of the results of these past studies, we predicted that participants responding in Chinese would report fewer favorable statements about private aspects of the self than would participants responding in English. However, our prediction about the valence of the collective aspects of the self was less clear. On one hand, Heine and Lehman (1997) found that Japanese students were less likely than Canadian students to view their own family members and universities as superior to those of their peers. This finding suggests that participants responding in Chinese in the current study may report fewer favorable statements about the collective aspect of the self than would individuals responding in English. On the other hand, Endo, Heine, and Lehman (2000) found that Japanese students were as likely as their Canadian counterparts to evaluate their own relationships (e.g., with their best friend and romantic partner) more favorably than those of their peers. In addition, Kurman (2001) found that although participants from individualist cultures self-enhanced on personal, agentic traits to a greater degree than did those from collectivist cultures, no cultural difference emerged in self-enhancement on communal traits. It appears that although East Asians may not exaggerate the merits of the groups to which they belong, they do value harmony and the maintenance of good relationships with other group members. Therefore, participants responding in Chinese may be at least as favorable about collective aspects of the self as are the remaining participants.

We also encouraged and examined participants’ use of temporal and social comparisons in their self-descriptions. Temporal comparisons occur when participants contrast their current selves to their past or future selves; social comparisons involve contrasts to other people (Albert, 1977; Festinger, 1954; Wilson & Ross, 2000; Wood, 1989). In a study of the self-descriptions of Canadian university students, Wilson and Ross (2000) found that respondents used as many or more temporal than social comparisons. Also, temporal comparisons tended to be more flattering than social comparisons. Temporal comparisons typically involved contrasts to inferior past selves, whereas social comparisons were sometimes targeted at same-level or even superior individuals. Conceivably, the more interdependent and less self-enhancing East-Asian self-concept would be associated with relatively more upward and lateral social comparisons and fewer self-enhancing temporal comparisons. The current study provided a preliminary assessment of the impact of language on the frequency with which respondents report temporal and social comparisons.

The open-ended self-description was followed by structured questionnaires assessing self-esteem, mood, and Chinese cultural views. Although some past researchers have included structured scales (e.g., Heine et al., 1999) and others have used open-ended measures (e.g., Kanagawa et al., 2001), few have incorporated both. If comparable results are obtained on both types of measures in a single study, we can have increased confidence in the validity and generalizability of the findings.

We expected participants to respond in a more East-Asian direction on the structured measures when answering in Chinese than when responding in English. Participants reporting in Chinese should have lower self-esteem scores, replicating previous cross-cultural comparisons (Heine et al., 1999). We also expected language to influence reports of mood. In a study that asked American and Japanese students to report retrospectively on the frequency with which they experienced various emo-
tions, Markus and Kitayama (1994) found that Americans reported many more positive than negative emotions but that Japanese reported the same number of positive and negative emotions. By extension, we expected the language manipulation to influence participants’ evaluations of their current moods. Participants answering in Chinese should report a balance between positive and negative mood states, and those responding in English should report more positive than negative mood. Finally, we measured the extent to which participants endorsed statements reflecting Chinese cultural viewpoints, expecting to find greater acceptance in the Chinese language condition.

In addition to the bilingual group of Chinese-born participants, we included as controls groups of Canadian-born participants who were either of European or Chinese descent. The controls participated in English. Compared to the other three groups, Chinese-born participants completing the study in Chinese should respond in a fashion most congruent with East-Asian cultural mores. If East-Asian and Western identities are stored in separate knowledge structures (Hong et al., 2000; Trafimow et al., 1997), and if Western identities are currently more accessible, then Chinese-born participants writing in English and Canadian-born participants of Chinese ethnicity should exhibit self-perceptions similar to those of Euro-Canadians. On the other hand, if there is some blending of identities in bicultural individuals or if both cultures are somewhat salient, then Chinese-born participants writing in English may exhibit self-perceptions that fall on a continuum between those of Euro-Canadians and Chinese-born participants writing in Chinese. Such a continuum was evident in the research of Heine and Lehman (in press), who found that the self-esteem of Japanese participants rose with increasing exposure to Western culture.

**METHOD**

**Participants**

As part of a general packet of questionnaires, students in several courses completed a form on which they indicated their place of birth, whether and how long they had lived outside of Canada, their ethnicity, and the languages that they could speak, read, and write. On the basis of their responses to this questionnaire, we selected potential participants for the study. Participants included 111 undergraduates who took part for either partial course credit or $8. Thirty-two (16 men and 16 women) of the participants were born in Canada of European heritage and completed the study in English. Twenty-seven participants (9 men, 16 women, and 2 who did not report gender) were born in Canada of Chinese heritage and completed the study in English. Fifty-two participants were of Chinese ethnicity born in Hong Kong (42), Taiwan (7), Mainland China (2), and Malaysia (1). Collectively, they had lived in Canada for an average of 7.1 years (ranging from less than 1 year to 11 years). The range and the average number of years lived in Canada were based on the data of 47 participants; 5 participants failed to indicate the length of time they lived in Canada. The Chinese-born students were randomly assigned to either an English- (9 men, 17 women, and 3 who did not report gender) or Chinese-language (6 men, 15 women, and 2 who failed to report gender) session. Although we also considered varying the language of response in the group of Canadian-born Chinese, they lacked sufficient fluency in Chinese to complete the required measures. The mean age of participants was 20 (range: 18-40) and did not differ significantly across conditions. The number of years in which participants lived in Canada did not differ significantly in the two Chinese-born conditions.

**Procedure**

A Chinese-Canadian bilingual experimenter contacted all participants by telephone and invited them to participate in a self-description study. In the Chinese language condition, both oral instructions and written instructions were in the Chinese language. The experimenter spoke either Mandarin or Cantonese, depending on the language in which participants were fluent, and explained that it would be more convenient for her to conduct the study in Chinese. In the remaining conditions, all communications were in English.

A female, Chinese-Canadian experimenter who spoke English, Cantonese, and Mandarin fluently conducted all experimental sessions. The experimenter was blind to the hypotheses of the study. Participants were informed that their responses would be anonymous and confidential and that they should not write their names on the questionnaire. The questionnaire, which included instructions and the dependent measures, was first constructed in English. To correct for differences between the linguistic styles used by Cantonese and Mandarin participants, translation from English to Chinese was carried out by two Chinese-Canadian bilingual translators. The Chinese questionnaire was translated such that both Mandarin and Cantonese speakers would be able to comprehend it. Following the translation, two Chinese-born bilinguals who were unaware of the experimental hypotheses proofread the Chinese questionnaires for grammar and clarity. The two original translators then corrected errors identified by the proofreaders. The corrected Chinese questionnaires were given to another Chinese-born bilingual translator for back-translation. Few inconsistencies were found between the original English and back-translated ver-
sions. The inconsistencies were resolved by revising either the translated Chinese questionnaire or the original English questionnaire.

**Self-descriptions.** During the experimental session, participants first wrote an open-ended self-description. They were given approximately three-quarters of a page to describe themselves. The instructions also oriented them to making temporal and social comparisons but left the type and frequency of comparison up to them. Wilson and Ross (2000) found that suggesting comparisons to participants increased the number reported but did not influence the proportion of temporal versus social comparisons presented. The instructions were as follows:

First, please describe what you are like as a person, using your own words. Use whatever information you think helps to describe yourself. For example, you may want to describe yourself socially, academically, as a friend or family member, or you might mention skills or characteristics that are important to whom you are as a person. You may find it useful to describe yourself in comparison to other people, or compared to what you were like in the past, or compared to what you expect to be like in the future. Feel free to use or disregard any of these suggestions, and please include any other information that is important to know to get a clear picture of what you are like as a person.

**Self-esteem.** After completing the open-ended self-descriptions, participants were asked to indicate how they felt generally by responding to Rosenberg’s (1965) self-esteem measure. They marked the number that best represented their response to each item on a 9-point scale (1 = very strongly disagree, 9 = very strongly agree).

**Mood.** Participants were provided with 9 positive (strong, relaxed, content, inspired, hopeful, enthusiastic, proud, confident, and happy) and 13 negative (irritable, upset, angry, worried, distressed, nervous, scared, hostile, ashamed, afraid, guilty, alone, sad) mood terms. They indicated the extent to which they were experiencing each mood right now on a 7-point scale (1 = do not feel at all, 7 = feel very strongly). These mood items were a reduced set of those used by Wilson and Ross (2000), including only items that our translators judged to have equivalent meanings in Chinese and English. Thirteen of these items also appear on the PANAS (Watson, Clark, & Tellegen, 1988).

**Evaluations of the self-descriptions.** Participants were asked to return to the beginning of the questionnaire and to read their open-ended self-descriptions. They were given highlighter pens and asked to use different colors to indicate each statement that revealed something favorable or unfavorable about them. Following the conclusion of the study, an independent rater, blind to experimental hypotheses and condition, also evaluated whether the statements were favorable or unfavorable.

**Chinese cultural views.** On the basis of the responses of an independent sample of 67 Chinese-born individuals who evaluated a larger set of items, we created a set of seven statements that reflected Chinese cultural viewpoints. These pretest participants were asked to read through a list of statements, some of which were expected to represent typical Chinese beliefs and others to represent Western views. Because of our interest in self-descriptions, we focused on beliefs that were pertinent to the self. The seven statements selected for the current study reflected Chinese beliefs according to more than 80% of the independent sample, and/or fewer than 10% of Chinese-born participants in the sample reported that each statement reflected a Western view. The statements included the following: “I try to improve everyday, but people should not be especially proud of self-improvement”; “You should not feel good about your own achievements because there are many others who have achieved higher than you have.” Participants indicated the extent to which they agreed with each of the statements (1 = very strongly disagree, 9 = very strongly agree).

**Coding scheme for open-ended self-descriptions.** A bilingual Chinese-Canadian translated narratives from Chinese into English. All narratives were transcribed and put in a random order so that coders would be unaware of participants’ condition. The self-descriptions were coded for references made to an immediate family member (e.g., father, mother, parent, brother, sister), an extended family member (e.g., uncle, cousin, grandparent), other people (e.g., friends, other students at school), and cultural/ethnic background (e.g., “I was born in Hong Kong,” “I immigrated to Canada at 15,” “My parents are still in Hong Kong”). An independent observer blind to the experimental hypotheses coded all narratives, and a second observer independently coded approximately 50% of the narratives. After the coding, mentions of immediate family members, extended family members, and other people were combined to form one category of references to others because of their relative infrequency. Reliability, as calculated using Cohen’s kappa, was .89 for references to other people; interrater agreement, before making Cohen’s correction for chance, was 95%. Reliability, as calculated using Cohen’s kappa, was .95 for references to cultural/ethnic background; interrater agreement, before making Cohen’s correction for chance, was 99%.

As well, we coded for statements referring to a private aspect of the self and for statements referring to a collective aspect of the self (Trafimow et al., 1991). A private
self-statement referred to a trait, attitude, belief, or behavior that was not related to other people (e.g., “I am intelligent”). A collective self-statement referred to group membership and included any response describing the self as part of a demographic category or group or in relation to other people (e.g., “I am a student at the University of Waterloo,” “I am an obedient child,” “I am nice to my friends”). An independent observer blind to the experimental hypotheses coded the self-descriptions of all participants and a second observer independently coded the self-descriptions of approximately 50% of the participants. Reliability, calculated using Cohen’s kappa, was .82; interrater agreement was 90%, before applying Cohen’s correction for chance.

The open-ended self-descriptions also were coded for social and temporal comparisons. Social comparisons were defined as any comparison between one’s current self and another person or group (e.g., “I’m smarter than my sister,” “I think I’m doing worse than the typical University of Waterloo student”). Temporal comparisons were defined as any comparison between one’s current self and any self in the past or future (e.g., “I’m much more outgoing than I was when I was 14,” “I am less shy than before”). Although we included the possibility of temporal-future comparisons, they were too infrequent to warrant analysis and will not be reported further. Finally, we coded the direction of comparisons as upward if the target was better than self, downward if the target was inferior to self, and lateral if the target was at the same level as self. An independent observer blind to the experimental hypotheses coded all narratives, and a second observer independently coded approximately 50% of the narratives. Reliability, as calculated using Cohen’s kappa, was .88 for social comparisons and .73 for temporal-past comparisons. Interrater agreement, before making Cohen’s correction for chance, was greater than 96% for both comparison types.

### RESULTS

Preliminary analyses revealed no significant gender differences. The results are reported collapsed across this factor. All multiple comparisons were conducted using Tukey’s post hoc test.

#### Endorsement of Chinese Views

If responding in Chinese activates a Chinese identity, participants answering in Chinese should evidence higher agreement with the Chinese cultural views than do participants in the remaining conditions. We averaged each participant’s scores on the seven statements reflecting Chinese cultural viewpoints ($\alpha = .74$). A one-way ANOVA revealed a significant effect of condition, $F(3, 109) = 29.98$, $p < .001$. As shown in Table 1, participants responding in Chinese reported higher agreement with Chinese beliefs than did participants in the remaining conditions, all $p$s < .001. Only one other contrast attained significance: Chinese-born participants responding in English reported greater agreement with Chinese views than did Euro-Canadian participants, $p < .01$.

#### Coding of Self-Descriptions

Preliminary analyses revealed that total number of statements in the self-descriptions did not differ significantly across conditions, $F < 1$.

### References to culture or ethnic background

Because references to culture or ethnic background were infrequent, we coded whether each participant mentioned either topic at least once and conducted a nonparametric analysis. As anticipated, Chinese-born participants were more likely to cite their cultural or ethnic background when they wrote in Chinese rather than English (39% vs. 10%), $\chi^2(1, N = 52) = 5.99$, $p < .05$. Participants responding in Chinese were also more likely than the Euro-Canadian group to mention culture or ethnic background

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**TABLE 1: Dependent Variables by Condition**

<table>
<thead>
<tr>
<th>Condition</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endorse Chinese views</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>References to others</td>
<td>7.33</td>
<td>0.96</td>
<td>5.60</td>
<td>1.06</td>
</tr>
<tr>
<td>Private statements</td>
<td>7.43</td>
<td>4.22</td>
<td>5.21</td>
<td>3.62</td>
</tr>
<tr>
<td>Collective statements</td>
<td>6.78</td>
<td>3.86</td>
<td>8.76</td>
<td>4.28</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>4.83</td>
<td>4.71</td>
<td>2.10</td>
<td>2.20</td>
</tr>
<tr>
<td>Positive mood</td>
<td>5.56</td>
<td>1.20</td>
<td>6.68</td>
<td>1.35</td>
</tr>
<tr>
<td>Negative mood</td>
<td>3.35</td>
<td>1.30</td>
<td>3.95</td>
<td>1.53</td>
</tr>
<tr>
<td>M</td>
<td>3.02</td>
<td>2.25</td>
<td>1.10</td>
<td>2.17</td>
</tr>
<tr>
<td>SD</td>
<td>1.25</td>
<td>2.25</td>
<td>1.10</td>
<td>2.17</td>
</tr>
</tbody>
</table>

Note: 1 = Chinese-born responding in Chinese, 2 = Chinese-born responding in English, 3 = Canadian-born Chinese ethnicity responding in English, 4 = Canadian-born European ethnicity responding in English. Higher numbers indicate greater endorsement of Chinese views, more references to others, more private and collective statements, higher self-esteem, and positive or negative mood.
TABLE 2: Mean Number of Favorable and Unfavorable Self-Statements by Condition and Statement Type

<table>
<thead>
<tr>
<th>Statement type</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Private self-statements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td>2.17</td>
<td>1.83</td>
<td>4.07</td>
<td>3.17</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>2.13</td>
<td>2.58</td>
<td>1.39</td>
<td>1.52</td>
</tr>
<tr>
<td>Collective self-statements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td>1.13</td>
<td>2.07</td>
<td>0.68</td>
<td>1.25</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>0.83</td>
<td>1.30</td>
<td>0.39</td>
<td>0.74</td>
</tr>
</tbody>
</table>

NOTE: 1 = Chinese-born responding in Chinese, 2 = Chinese-born responding in English, 3 = Canadian-born Chinese ethnicity responding in English, 4 = Canadian-born European ethnicity responding in English. Higher numbers indicate more statements.

(13%), \( \chi^2(1, N = 55) = 5.26, p < .05 \), but did not differ significantly from the Canadian-born Chinese group (19%), \( \chi^2(1, N = 50) = 2.61, p = .13 \).

References to others. A one-way ANOVA across the four conditions on the average frequency of references made to other people revealed a significant main effect of condition, \( F(3, 107) = 5.06, p < .01 \) (see Table 1 for means). Participants responding in Chinese reported more references to other people than did the Canadian-born groups, both \( ps < .05 \), and marginally more than Chinese-born participants responding in English, \( p = .08 \). No other differences approached statistical significance.

Private versus collective self. A 4 (condition) × 2 (statement type: private, collective) ANOVA, with frequency of private versus collective statements as a within-participants factor, revealed a main effect of statement type, \( F(1, 107) = 136.77, p < .001 \) (see Table 1 for means). In general, participants wrote more private self-statements than collective self-statements. However, this main effect was qualified by a Condition × Statement Type interaction, \( F(3, 107) = 6.70, p < .001 \). In all of the English conditions, participants wrote significantly more private than collective self-statements, \( ps < .001 \); for participants writing in Chinese, the difference was only marginally significant, \( p = .07 \).

We conducted separate analyses on private and collective self-statements. For private self-statements, the effect of condition was significant, \( F(1, 107) = 2.86, p < .05 \). Participants writing in Chinese reported significantly fewer private self-statements than did Euro-Canadian participants, \( p < .05 \). The main effect of condition on collective self-statements also was significant, \( F(1, 107) = 5.22, p < .01 \). Participants writing in Chinese reported more collective self-statements than did participants in the remaining groups, all \( ps < .05 \). No other group differences in number of collective or private self-statements achieved significance.

Valence of private and collective self-statements. A 4 (condition) × 2 (statement type: private, collective) × 2 (statement valence: favorable, unfavorable) repeated-measures ANOVA was conducted, with statement type and statement valence as within-participant variables. Participants' own ratings of the valence of their statements were used in these initial analyses. Data from four participants (three Euro-Canadians and one Chinese-born writing in English) were excluded from these analyses because they did not complete the valence ratings of their own open-ended self-descriptions. Because all main effects and interactions were statistically significant, \( ps < .05 \), the results should be interpreted in terms of the significant three-way interaction, \( F(3, 103) = 3.75, p = .01 \) (see Table 2 for means).

To examine the triple interaction more closely, we conducted separate Condition × Statement Valence analyses on private and collective self-statements. Analyses of collective self-statements revealed only a significant effect of statement valence, \( F(1, 103) = 7.56, p < .01 \), with favorable statements more common than unfavorable ones. Analyses of private self-statements indicated a significant effect of statement valence, \( F(1, 103) = 44.15, p < .001 \), a marginally significant effect of condition, \( F(1, 103) = 2.56, p = .06 \), and a significant Condition × Statement Valence interaction, \( F(3, 103) = 4.89, p < .01 \). Participants writing in Chinese reported comparable numbers of favorable and unfavorable private self-statements, \( p = .95 \). In contrast, participants in the remaining conditions reported significantly more favorable than unfavorable private self-statements, \( ps < .01 \). In their open-ended self-descriptions, individuals writing in Chinese were more self-effacing than other participants only when they discussed private aspects of the self (see Table 2 for means).

An independent observer blind to the experimental hypotheses and condition coded the valence of the statements in all of the narratives. An analysis of her ratings exactly replicated the findings reported above. The correlation between self- and observer ratings was \( r(107) = \).
.76 for favorable self-statements and $r(107) = .78$ for unfavorable self-statements.

**Comparisons.** A $4 \times 2 \times 3$ ANOVA showed only a significant main effect of comparison direction, $F(2, 107) = 6.64, p < .01$. Participants reported more downward ($M = .29$) and lateral ($M = .34$) than upward ($M = .13$) comparisons, $F(1, 107) = 7.28, p < .01$, $F(1, 107) = 16.05, p < .001$, respectively. Across conditions, the mean number of temporal-past and social comparisons in each self-description was .26 and .25, respectively. There is no evidence in these data that the frequency or direction of social and temporal comparisons is affected by either language or culture.

**Self-Esteem**

A one-way ANOVA on self-esteem scores yielded a significant effect for condition, $F(3, 107) = 4.04, p < .01$ (see Table 1 for means). Participants answering in Chinese reported significantly lower self-esteem than did participants in the three remaining conditions, all $ps < .05$. No other differences between conditions approached significance, $ps > .99$. We found no relation between number of years living in Canada and self-esteem among the Chinese-born participants, $r(26) = -.19, p = .34$, for the group answering in English, and $r(21) = -.01, p = .97$, for the group responding in Chinese.

**Mood**

We calculated a positive mood score by averaging ratings of all the positive items ($\alpha = .90$) and a negative mood score by averaging ratings of all the negative items ($\alpha = .90$) for each participant. A $4 \times 2$ (mood type: positive, negative) ANOVA, with mood type as a repeated factor, revealed a significant main effect of mood type, $F(1, 107) = 67.69, p < .001$ (see Table 1 for means). Although participants generally scored higher on positive than on negative moods, this main effect was qualified by a significant Condition x Mood interaction, $F(3, 107) = 3.96, p = .01$. Participants in all conditions reported significantly higher ratings for positive moods, $ps < .001$, with the exception of participants answering in Chinese who reported comparable levels of positive and negative mood, $p > .25$.

A separate analysis for each type of mood score revealed that the main effect of condition was not significant on the positive mood scores, $F(3, 107) = 1.93, p > .10$, but was significant on the negative mood scores, $F(3, 107) = 3.10, p < .03$. Participants answering in Chinese reported more negative mood than did Canadian-born Chinese participants, $p < .05$, and marginally more negative mood than did Euro-Canadian and Chinese-born participants responding in English, $ps < .10$.

**DISCUSSION**

The most theoretically interesting contrasts involved the two Chinese-born groups who completed the experiment in either Chinese or English. These two groups of individuals were highly comparable: Participants in both groups were born outside of Canada in a Chinese culture; could still speak, read, and write Chinese; and had lived in Canada equivalent amounts of time, on average. Nonetheless, their self-appraisals were often dramatically different. Relative to Chinese-born participants writing in English, those writing in Chinese reported more agreement with Chinese views and lower self-esteem on the Rosenberg (1965) scale. In their open-ended self-descriptions, Chinese-born participants writing in Chinese provided more references to culture, more collective self-statements, and marginally more references to other people. Participants writing in Chinese were as likely to report unfavorable as favorable private self-statements and they indicated comparable levels of negative and positive moods. This tendency to evidence a balance between the good and the bad was absent in Chinese-born participants writing in English. Similar to their Canadian-born counterparts, they reported more favorable than unfavorable private self-statements and more positive than negative moods. The Chinese-born group writing in English differed from the Canadian-born groups in terms of birthplace, cultural background, time living in Canada, and language fluency; nonetheless, their self-portrayals more closely mirrored those provided by Canadian-born students than those provided by Chinese-born counterparts who responded in their native language.

Each of the effects of language has a direct parallel in previous studies comparing East Asians to North Americans. Chinese-born participants reported more characteristic East-Asian self-descriptions and feelings when they responded in Chinese than in English. Our review of cross-cultural research yielded an ambiguous prediction for the effects of language on only one variable, the valence of collective statements. Past research suggests that East Asians may be either less favorable about this aspect of themselves (Heine & Lehman, 1997) or as self-enhancing as North Americans (Endo et al., 2000; Kurman, 2001). The language manipulation produced results consistent with the latter finding. Participants writing in Chinese were more self-effacing than participants in the remaining groups on the private but not on the collective aspects of themselves.

The extensive effects of the language variable suggest that use of Chinese increases the accessibility of East-Asian views of the self. As an alternative interpretation, perhaps language and other activation manipulations might prime individual or collective orientations rather than a broader self-knowledge system associated with a
culture. In the current study, however, it is not obvious why simply priming a collective orientation would yield a greater balance between positive and negative moods. This effect of writing in Chinese could be predicted, however, on the basis of cross-cultural comparisons reported in previous research (e.g., Markus & Kitayama, 1994). The current research adds to the understanding of the effects of language on the self-perceptions of bicultural individuals who have resided in both cultures.

The present study revealed few effects of culture, independent of language. When writing in English, Chinese-born participants differed from the Euro-Canadians on only one dimension: They reported greater agreement with Chinese cultural viewpoints. Chinese-born participants writing in English did not differ significantly from Canadian-born Chinese on any variable. The finding that culture of origin had such a minor impact on self-descriptions supports the hypothesis that East-Asian and Western identities are stored in separate knowledge structures (Hong et al., 2000; Trafimow et al., 1997) in bicultural individuals, with each structure activated by its associated language.

Despite a plethora of dependent variables, we failed to detect a single significant difference between Canadian-born Chinese and Euro-Canadian participants. Most telling, perhaps, Canadian-born Chinese participants did not even report significantly more agreement with Chinese cultural views than did Euro-Canadian participants. Because Canadian-born Chinese responded only in English, we cannot determine whether they lacked Chinese cultural beliefs and knowledge or whether these constructs were simply not activated. We could not use language as means of activation because these participants reported little fluency in Chinese. Other means of activation (e.g., Brewer & Gardner, 1996; Gardner, Gabriel, & Lee, 1999; Hong et al., 2000) might reveal differences in self-perceptions between Canadian-born Chinese and Euro-Canadians.

We predicted that Chinese-born participants responding in Chinese would engage in less flattering comparison processes than Canadian-born participants. However, there was no indication in the content analysis of the open-ended self-descriptions that culture or language affected the direction or type of comparisons. Across all conditions, comparisons were relatively infrequent, but participants reported more than twice as many of the more self-enhancing downward than upward comparisons. As in Wilson and Ross (2000), temporal-past comparisons were as common as social comparisons in people’s self-descriptions, suggesting that both types of comparison are pertinent across cultures.

Further research will be required to determine when or whether cultural differences occur in the type or direction of comparisons. Conceivably, cultural differences in comparison standards might emerge following threats to self-esteem. After failure, North Americans might be more motivated than East Asians to bolster their self-regard by engaging in more self-enhancing social and temporal comparisons. In the spirit of Hong et al. (2000), then, we propose that future research should examine not whether cultural differences in comparison processes occur but the social contexts in which such differences might be magnified or diminished.

Previous research suggests that the self-esteem of East Asians rises with increasing exposure to Western society (Heine & Lehman, in press). We partially replicate this finding in that the self-esteem of Canadian-born Chinese participants exceeded that of Chinese-born participants responding in Chinese and did not differ from the self-esteem of Euro-Canadian participants. However, the self-esteem of Chinese-born participants responding in Chinese was significantly lower than that of Chinese-born participants responding in English, even though, on average, these two groups had similar levels of exposure to Canadian society. This finding suggests that the relative activation of the two cultural belief systems moderates the effect of cultural exposure on self-esteem. We also failed to obtain a relation between years living in Canada and level of self-esteem among immigrant participants. Heine et al. (1999) included quite large samples of immigrant Asians, nonimmigrant Asians, and European North Americans in their assessment of the effect of exposure to Western culture on self-esteem; the differences between the means, although significant, were relatively slight. The current study only examined the relation between years in Canada and level of self-esteem among foreign-born students. Our sample was perhaps too small and homogeneous to reveal an association between cultural exposure and self-esteem.

Conceivably, participants responding in Chinese in the current study present a more East-Asian portrayal of themselves in response to the perceived demands of the experiment rather than report their genuine views of themselves. We took several steps to reduce the plausibility of this alternative interpretation. All responses were anonymous and confidential and all participants were guided through the study by a Chinese-born experimenter. If Chinese-born participants felt pressure to present themselves modestly to another Asian, then Chinese-born participants in the English condition should have experienced similar demands. Moreover, participants in the Chinese language condition were unaware that other participants described themselves in English (and vice versa): Use of Chinese was portrayed as more convenient for the Chinese-speaking experimenter rather than a critical aspect of the study. We propose that if participants experienced a demand to present them-
selves more modestly in the Chinese language, this pressure was self-induced rather than a social strategy and occurs in their everyday lives as they shift from one language to the other even in the privacy of their own thoughts.

A major objective in the current research was to use language to activate different cultural belief systems in bicultural individuals. We chose to vary language because of its ecological validity—its potential impact on the self-descriptions of bilingual Chinese students in their everyday lives. We wondered whether such individuals might possess two quite different and even conflicting self-systems that are activated by language. The effects of the language manipulation were fairly dramatic in the present study. It influenced participants’ reports of their mood and aspects of their self-descriptions as well as a supposedly chronic measure of self-esteem (Rosenberg, 1965). Although self-concept malleability is not limited to bicultural individuals (Markus & Kunda, 1986), our observed effects might be particularly pronounced because of the host of differences between Asian and Western cultural frameworks. As well, a language manipulation might have a greater influence on Asian participants than it would have on Western biculturals because of collectivists’ greater tendency to attend to situational cues (Kanagawa et al., 2001).

Our findings suggest that bicultural individuals can shift from one cultural self-concept to another, depending on what is called for in a given situation. This facility may allow immigrants to adapt to a new culture without losing the sense of identity associated with their culture of origin. When the different cultures suggest clashing values and self-concepts, there is also a potential for confusion and upset. If cultural frameworks and their associated self-concepts are stored in separate knowledge structures, however, the discrepancies among various self-views may be rarely salient. Also, situational sensitivity and flexibility is such a key feature of collectivist cultures (Markus & Kitayama, 1994) that there may be little reason to assume that these self-discrepancies would be a source of distress in East-Asian immigrants. Instead, if biculturalism is associated with more diverse selves, it may buffer stress and facilitate coping with physical and psychological problems (Linville, 1987). Bicultural individuals who experience shortcomings in one cultural context may maintain subjective well-being by shifting to their other cultural identity. This potential for changing identities may help explain why bicultural individuals appear to benefit from valuing both of their cultures rather than choosing one or the other (Berry, 1998; LaFromboise, Coleman, & Gerton, 1993). Bicultural persons might feel discomfort, ambivalence, or confusion, though, if their divergent self-views become activated simultaneously, for example, when they introduce Western friends to their family (McGregor, Zanna, Holmes, & Spencer, 2001).

Although we have speculated about potential consequences of separate, culturally activated self-concepts, further research is needed to evaluate the validity of these suggestions. The current research points to the value of investigating both the differences and similarities between individuals from various cultural backgrounds and attending not only to broad cultural groupings but also to the specific contexts and conditions in which respondents describe themselves.

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