

## How essentialist beliefs about national groups differ by cultural origin and study abroad experience among Chinese and American college students

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Nationality constitutes a salient part of social categorization. However, little research has examined how people form nationality concepts and how it may be shaped by culture and experience. The current study aims to investigate essentialist beliefs about nationality in participants from two cultural origins: the United States and China. In both samples, we compared college students studying domestically and internationally ( $N = 290$ ) by using direct and indirect measures of essentialism. Ratings from direct measures of essentialism revealed that American participants were more likely than Chinese participants to perceive national groups as natural, whereas Chinese participants were more likely than American participants to perceive national groups as cohesive. Interestingly, the observed differences between domestic and international students on the indirect measure showed opposite directions among participants of different cultures of origin. As hypothesized, American international students showed lower essentialist thinking than American domestic students. Surprisingly, Chinese international students showed stronger essentialist thinking than Chinese domestic students. Further analyses revealed a positive relationship between the length of arrival time and essentialist thinking by Chinese international students. The current research demonstrates the cognitive malleability of social essentialism, addressing the importance of examining the effect of intergroup processes under diverse and dynamic cultural contexts.

*Keywords:* culture, multicultural experience, nationality, social essentialism.

In 2015, the Miss Japan contest was won by a mixed-race woman, stirring much controversy as to whether individuals without “pure” Japanese blood can represent Japan. In 2016, the United States voted for a president who vowed to put “America first” and protect the country from immigrants, the same year when one-third of French voters cast their support for a fervently nationalist presidential candidate. After a century of efforts to establish a connected global community, the last few decades seem to have witnessed the hardening of physical and psychological national borders, as most vividly embodied by the growing “Trump Wall” between the United States and Mexico.

Why, in the age of globalization and convenient international mobility, do so many individuals hold on to rigid ideals of how their own and other countries should be? Although not without economic, cultural, and ideological drives, the rise of nationalism and the subsequent intergroup conflicts may reflect a

psychological mechanism that human beings are inclined to endorse. *Psychological essentialism* is a fundamental cognitive framework reflecting our bias to represent concepts—including biological species, social groups as well as other collective concepts—as sharing intrinsic properties (*essence* or *essence placeholder*) that give rise to observable regularities (Gelman, 2003; Medin & Ortony, 1989). An essentialist account entails assumptions about the nature and structure of the conceptualization of groups, such as discrete and absolute group boundaries, immutable group membership, uniform group features, and rich inductive potential of group identity (Barrett, 2001; Diesendruck & Gelman, 1999; Gelman & Wellman, 1991; Shtulman & Schulz, 2008). Essentialist thinking about nationality has received much less scholarly attention than essentialist beliefs regarding other salient social categories such as gender, race, and ethnicity, despite its significant implications for personal meaning, social decisions, and policy orientations, such as support for xenophobia and anti-immigrant attitudes (Hjerm, 1998; Kunovich, 2009; Shulman, 2004). How do people conceptualize nationality and identify national membership? Are essentialist beliefs about nationality culturally universal, or are they sensitive to social inputs and individual experiences?

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Received 3 December 2019; accepted 15 December 2020.

## Essentialist Beliefs about National Groups

In this paper, we use the terms “nationality” and “national groups” to refer to people’s subjective understanding of nations and national memberships, instead of the legal contents of one’s citizenship status as defined by either domestic or international laws. For some, nations are stable communities of people sharing common territory, language, cultural traditions, and economic life (Guibernau, 1996; Llobera, 1996), while others have pointed out that none of those elements as mentioned above constitute a sufficient or necessary component of nationhood (Reicher & Hopkins, 2001). As such, many scholars adopt the idea that nations are *imagined* communities (Anderson, 1991), the concept of which is largely shaped by common subjective experience. Hence, national groups are not “natural partitions of the social world” (Hussak & Cimpian, 2019), but psychological constructs which laypeople employ to imagine immutable, quasi-biological connections among their members (Connor, 1994; Feeney et al., 2020).

Indeed, nationality is arguably a particular case of psychological essentialism (Pehrson et al., 2009). As with other social categories, lay assumptions around nationality cluster on two related yet distinctive dimensions (Haslam et al., 2000; Prentice & Miller, 2007): naturalness (i.e., the extent to which national groups are seen as naturally formed, with discrete boundaries), and cohesiveness (i.e., the extent to which national groups are seen as cohesive, homogenous entities). Based on this two-dimensional model of social essentialism, essentializing nationality may entail (a) naturalness beliefs that nationality is inheritable by birth, is fixed or extremely difficult to change, and is exclusive in an all-or-none fashion; and (b) cohesiveness beliefs that members from the same national group share something deep in common which gives rise to uniform features, and allows people to make rich inductions based on group identity.

Recent studies have shed light on how national groups are essentialized by children and adults. Using both forced-choice and open-ended measures, Hussak and Cimpian (2019) found that both U.S. children and adults see national group membership as stable and inductively meaningful. When contrasted with other salient social categories such as gender and race, American children relied on nationality membership to make inferences about personal preferences. This finding highlighted the powerful social meaning of nationality in guiding predictions about novel individuals. In another study, researchers contrasted U.S. and Turkish participants’ essentialist beliefs (biological basis, inheritance, and immutability) about individuals along different social dimensions (gender, nationality, religion, socioeconomic status, and

sports team preference), and found that nationality was ranked the second-highest essentialized social category in both cultures by children and adults (Davoodi et al., 2020). These findings provide key evidence that essentialist beliefs about nationality emerge early in human development and share similar characteristics with essentialist thinking along other social dimensions, such as race and gender.

## Psychological Essentialism Shaped by Culture and Experience

There have been many scholarly discussions on the innate and universal nature of psychological essentialism as a fundamental cognitive framework. Empirical studies on infant cognition demonstrated that social categorization (i.e., the differentiating between “us versus them”) and in-group preference already emerge at a very early life stage (Kiley Hamlin et al., 2010; Mahajan & Wynn, 2012), thereby suggesting the innate nature of social categorization. Previous studies beyond W.E.I.R.D. societies (Western, Educated, Industrialized, Rich, and Democratic; Henrich et al., 2010) provided some (albeit limited) cross-cultural evidence for the presence of psychological essentialism (e.g., Astuti et al., 2004; Atran et al., 2002; Davoodi et al., 2020; Medin & Atran, 2004; Vapnarsky et al., 2001). Across societies (e.g., Brazil, Turkey, Madagascar, Yukatek Maya village in Mexico, and the Menominee Indian tribes in the U.S.), children demonstrated much similarity in understanding the biological inheritance of category membership. These findings suggest that an essentialist pattern of reasoning is early-emerging and cross-culturally present, which may reflect a commonly shared aspect of human cognition.

Another line of research has examined individual and group variability in social essentialist thinking, highlighting its cultural sensitivity. Arguably, essentialist beliefs can be shaped by cultural discourses on the content of an essence placeholder (Atran et al., 2002; Dar-Nimrod & Heine, 2011; Gil-White, 2001), or by the surrounding social structures. For example, Giles et al. (2008) found that South Africans held stronger beliefs about the nativity of aggressive behaviours (i.e., such behaviours are innate rather than learned) than American participants. Indian participants, who have grown up in a patriarchal caste society, held culturally specific essentialist beliefs about gender and caste (Mahalingam, 2003). These findings suggest that sociocultural context can play a critical role in shaping essentialist thinking about specific social groups. In this case, cultural discourses direct attention to particular social groups as available candidates for social essentialism. Culturally salient groups thus are essentialized to a greater degree as compared to other non-salient groups.

Alternatively, essentialist beliefs about specific social categories can be attenuated by individuals' exposure to diverse social environments. For example, Israeli children attending integrated kindergartens were less likely to essentialize ethnicity categories than those attending segregated kindergartens (Deeb et al., 2011). Similarly, children in Northern Ireland attending integrated schools are less likely to essentialize religious categories (such as Catholic and Protestant) than children attending segregated schools (Smyth et al., 2017). In a recent longitudinal study, Pauker and colleagues tracked American students moving from the continental U.S. to attend college in Hawaii, the state with the highest multiracial population (Pauker et al., 2018). These students' racial essentialism decreased after the first year of college, a change associated with increased exposure to diverse outgroup acquaintances.

Together, previous literature has revealed the fundamental nature of psychological essentialism on the one hand, as demonstrated by the early, cross-cultural emergence of an essentialist pattern of reasoning, and the cultural sensitivity of psychological essentialism on the other, as demonstrated by variances in essentialist thinking about specific social categories across cultural and social contexts. However, previous studies on the impact of personal experiences were predominantly conducted with racial categories and within the scope of domestic migration. How people from different sociocultural backgrounds conceptualize national groups, and how individual exposure to diversity unfolds in their sociocultural contexts await further empirical investigation.

### The Current Study

In this paper, we aim to extend previous literature by examining how cultural origin and exposure to multicultural diversity affect essentialist beliefs about national groups. To do so, we recruited U.S. and Chinese college students with and without study abroad experience and compared their essentialist thinking about national groups. This comparison allows us to conduct an initial assessment of (a) whether young adults growing up in the U.S. and China would show different patterns of essentialist thinking about national groups, and (b) whether young adults with study abroad experience are less likely to essentialize national groups compared to those without such experience, and if so, whether this effect would unfold in the same way across the two cultural samples.

China and the U.S. are chosen as they offer particularly interesting cases for comparison given their dramatically different leading cultural values and divergent sociohistorical pathways of nationhood construction. In terms of cultural values, China is typically believed to

represent collectivist culture, which emphasizes group values, group harmony and group unity, whereas the United States is considered a prime example of individualist culture, which emphasizes individual uniqueness and individual values (Markus & Kitayama, 2010; Nisbett, 2003; Triandis, 1989). In this sense, individuals in collectivist societies may be more accepting of social groups (such as nationality) as coherent, homogenous entities than their counterparts from individualistic societies, thereby harbouring a higher level of cohesiveness in their essentialist beliefs than those from individualistic societies. However, the individualistic versus collectivistic value orientations do not make clear predictions about cultural differences in the degree to which nationality categories are perceived as natural. Adults from Turkey, a country that is considered much less individualist than the U.S. (Hofstede et al., 2010), showed similar levels of the tendency to essentialize nationality as having biological underpinnings with American adults (Davoodi et al., 2020). If naturalness beliefs reflect a more robust aspect of intuitive thinking that is commonly shared across societies, we may not expect participants from the U.S. and China to show differences in levels of naturalness beliefs.

When we look into the social history of nation-building, the Chinese "nation" has been portrayed as a unified civilization with a long, uninterrupted, superior cultural lineage of Han ethnicity that has attracted the neighbouring "barbarian" groups to assimilate (Barabantseva, 2010; Wu, 1991). In premodern China, Chinese identity was not determined by biological distinctiveness but marked by the mastery of acquired cultural competences such as the Chinese language, Confucian ethics, and appropriate social skills (Wu, 1991). Such ideas have been adopted and revised by modern Chinese nation-states since the early 20th century (Zhao, 2006). In today's mainland China, the Han ethnicity continues to dominate the population (94%) and the cultural mainstream, and ethnic minorities—most of which are physically indistinguishable—willingly or reluctantly assimilate (Barabantseva, 2010). Overall, the history of nation-building in China and current social reality do not emphasize a shared biological basis of nationality, and the Chinese have relatively low exposure to visible intra-national diversity.

The U.S., on the other hand, has transitioned from a "melting pot" model of national identity as assimilation to Anglo-Protestantism, to a pursuit more recently of multiculturalism as a national characteristic (S. L. Andersen, 2015). After several waves of mass international migrations during the 20th century, 23.5% of the current U.S. population is visible ethnic minorities, and nearly 15% is made up of international immigrants, many of whom would become naturalized American

citizens (Migration Policy Institute, 2020). The multicultural ideological underpinning and the exposure to a more diverse population with larger immigrant communities may well weaken the essentialist tendency of American adults to perceive nationality as biologically determined and immutable.

In sum, the scant empirical evidence so far on cross-cultural comparisons of social essentialist thinking provides limited guidance for generating concrete hypotheses in our study. Nevertheless, we expected to see (a) a cultural difference in the cohesiveness aspect of essentialist thinking, such that Chinese participants would show a stronger endorsement of the cohesiveness of nationality than the American participants, given the collectivistic value orientation and high demographic homogeneity in China compared to the U.S. (Cultural Hypothesis A); and (b) a cultural similarity in the naturalness aspect of essentialist thinking, such that both Chinese and American participants would show a low endorsement of the “naturalness” of nationality, out of Chinese participants’ belief about the “obtainability” of Chinese identity and American participants’ familiarity with cases of nationality change (Cultural Hypothesis B). Regarding the potential effect of study abroad experience, we predicted that college students with study abroad experience in both samples would show less essentialist thinking than those without, given that study abroad experience exposes people to greater variability of outgroup members and opportunities to observe cross-boundary transformation (Study Abroad Hypothesis).

## Method

### Participants

Four groups of university students were recruited in the fall, 2017, from China and the U.S. ( $N = 290$ ), including Chinese domestic students studying in China, Chinese international students studying abroad in the U.S., American domestic students studying in the U.S., and American international students studying abroad in China. The *Chinese domestic students* ( $n = 122$ , recruited via social media; 45% female, 24% male, 31% unspecified or missing) were born and raised in China and attending a Sino-U.S. joint venture university in Shanghai, China. *Chinese international students* ( $n = 61$ , recruited via social media; 59% female, 26% male, 15% unspecified or missing) were also born and raised in China but were attending college in Boston, USA. *American domestic students* ( $n = 74$ , recruited from the psychology participant pool; 81% female, 19% male) were born and raised in the U.S. and attending a private university in Boston, USA. *American international students* ( $n = 33$ , recruited through psychology courses,

campus posters, and social media platforms; 52% female, 33% male, 15% unspecified or missing) were born and raised in the U.S. but were studying at a Sino-U.S. joint venture university in Shanghai, China. Due to the international program settings of this university, the American international students group only included two cohorts of students (freshmen or sophomores). All participants were above 18 years old, with minimal international experience (less than six months) apart from their current host country. Participants recruited from the psychology participant pool or psychology courses were rewarded course credit. Other enrolled participants were paid a modest sum of cash (20 RMB, approximately 3 U.S. dollars) for the completion of the online survey. The current study was approved by the institutional review boards at both university sites in China and U.S.

### Materials and Design

Participants responded to indirect and direct measures of essentialist beliefs about Chinese and Americans and reported their demographic information. Participants also answered open-ended questions regarding their perceptions of typical Chinese and American people in later sections of the same survey, which will not be discussed in the current paper. These open-ended questions were always presented after the essentialism measures, thus would have no influence on the results reported in the current study. The original English survey was translated into Chinese by a bilingual speaker with professional training in translation. The translated materials were then back-translated to English by another bilingual speaker to make sure there was no major discrepancy of understanding.

**Indirect measures of social essentialist beliefs.** Participants’ social essentialist beliefs were assessed by an adaptation of the classic switched-at-birth task (S.A.B.; Eidson & Coley, 2014; Gelman & Wellman, 1991; Solomon et al., 1996), which has been widely used to test the extent to which participants perceive category membership and category features as being “natural” or heritable from birth. Participants were presented with two vignettes, one describing a child that was born to Chinese biological parents in China and adopted by an American family in the U.S. when the child was 6 months old (the China-born target); the other vignette describing a child that was born to American biological parents in the U.S. and adopted by a Chinese family in China at the same age (the U.S.-born target). These two vignettes were displayed in randomized order. After viewing each vignette, participants were asked to judge whether the child, after growing up, would exhibit the same characteristics as their birth parents or as their adoptive parents. These personal

characteristics included physical characteristics, ability, preference, personality, and belief (see Appendix A for more details). In each trial, the response of choosing birth parents was coded as 1 (*essentialist response*), and the response of choosing adoptive parents was coded as 0 (*non-essentialist response*). In total, each participant completed ten trials (five for the China-born target, and five for the U.S.-born target).

We also asked participants to numerically evaluate the extent to which the adoptive child was American, and the extent to which the same child was Chinese, in each vignette. These two questions were designed to probe how participants define nationality, particularly by contrasting their responses about the target's birth and adoptive countries. The "Americanness" and "Chineseness" of the child was asked on two separate scales (0–100), with explicit instructions that the two numbers do not need to add up to be 100. Therefore, judgments of nationality were not mutually exclusive by the design of the task. Instead, participants were granted the discretion to treat membership in the two nationality groups as either mutually exclusive or overlapping. Higher ratings on the nationality membership consistent with birth parents ("birth national group membership") indicate the assumption that nationality is "naturally" determined on a biological basis, whereas higher ratings on the national membership consistent with adoptive parents ("adoptive national group membership") indicate a more fluid conceptualization of nationality as being acquired through personal experience.

**Direct measure of social essentialist beliefs.** Participants' social essentialist beliefs were also measured by a shortened version of the Social Essentialism Scale (Haslam et al., 2000), a validated instrument widely used for assessing essentialist thinking about social categories. The Social Essentialism Scale differed from the S.A.B. task in that it explicitly asks participants to report their thoughts on abstract national groups, whereas the S.A.B. measure gauges participants' underlying conceptualizations about national groups through their reasoning about specific, hypothetical individuals presented in personal scenarios. Besides, the Social Essentialism Scale captures both the naturalness and cohesiveness beliefs about national groups, whereas the S.A.B. task mainly tests the naturalness aspect.

In the current study, participants were presented with three nationality categories: Chinese, American, and French (as a control group). Participants also rated a list of six filler social categories (e.g., women, police officers, Muslims). The original scale includes nine items for each social category, which clustered on the naturalness and cohesiveness dimension. For the sake of brevity, we used a shortened version with six items (three

items for each dimension, selected based on factorial loading) for each social category. These six items were naturalness, discreteness, and immutability (clustered on the naturalness dimension); and uniformity, inherence, and informativeness (clustered on the cohesiveness dimension; see Appendix B). This shortened version has been validated among Chinese adult participants in previous studies (Coley et al., 2019), replicating with high fidelity the same two-dimensional construct model from the original scale. Participants rated each social category on all six items, each on a 9-point scale. Statements were presented in blocks of essentialism items in a randomized order. Within each item block, the order of social categories was randomized. Participants' ratings of the American and Chinese national groups on all six items were averaged, and a higher average score reflects stronger essentialist beliefs.

**Demographics.** Participants reported basic demographic information, including gender, school year, ethnicity, major, sexual orientation, socioeconomic status (measured by annual household income), and previous international traveling experience. Based on different economic development and income levels in China and the U.S, we used different anchors of annual household income for participants from the two countries (USD \$25,000, \$50,000, \$75,000, and \$100,000 for U.S participants; RMB 30,000, 80,000, 300,000, 1,000,000 for Chinese participants). Chinese international students reported their length of living in the U.S. (in numbers of months; range: 0 to 80 months). Due to the structure of the study abroad program at the data collection site in Shanghai, the American international students group only included two cohorts of students, which limited the variability of their length of living in China (less than 1 month for the newly arrived freshmen and approximately 9 months for the sophomores).

## Procedure

All surveys were programmed on Qualtrics (Qualtrics, Provo, UT). American domestic participants recruited from the psychology participant pool in Boston completed the study in a private lab room. The other three samples completed the survey online at a time and place of their own choosing. American participants (domestic and international) completed the survey in English, and Chinese participants (domestic and international) completed the survey in Chinese. Participants first completed the indirect essentialist measure (S.A.B. task), followed by the direct essentialist measure (Social Essentialism Scale), and reported demographic information at the end. Participants were debriefed and thanked. It took about 20 min on average to finish the study.

## Results

### Does Indirect Essentialist Thinking Vary by Culture and Study Abroad Experience?

**Switched-at-birth choices.** We first looked at responses from the S.A.B. task as an indicator of the naturalness beliefs of national groups. We coded participants' choice between the child's birth parents (coded as 1) or adoptive parents (coded as 0) in each trial as the dependent variable. We then tested a mixed-effect binomial logistic regression model to examine whether participants' origin culture (American vs. Chinese) and study abroad status (domestic vs. international) would predict their essentialist responses (birth parents vs. adoptive parents). The type of individual trait and participant ID were entered as random effects. Results showed a main effect of participants' culture ( $B = .499$ ,  $SE = .168$ ,  $p = .003$ ), a main effect of study abroad status ( $B = .964$ ,  $SE = .230$ ,  $p < .001$ ), as well as a significant interaction between the two ( $B = 1.273$ ,  $SE = .288$ ,  $p < .001$ ; see Table 1). This model performed significantly better than an intercept-only null model ( $\chi^2[3] = 20.383$ ,  $p < .001$ ). Consistent with previous literature and our Study Abroad Hypothesis, American international students showed a lower likelihood of choosing birth parents ( $M = 29.4\%$ , 95% confidence interval [CI] = [24.5%, 34.3%]), thus were less essentialist than American domestic students ( $M = 40.7\%$ , 95% CI = [37.1%, 44.2%]). However, the Chinese sample showed, unexpectedly, the opposite effect: Chinese international students showed higher likelihood of choosing birth parents ( $M = 41.3\%$ , 95% CI = [37.4%, 45.2%]), thus were more essentialist than Chinese domestic students ( $M = 33.9\%$ , 95% CI = [31.3%, 36.6%]; see Figure 1).

Table 1  
Mixed-effects Binomial Logistic Regression Model for Switched-at-Birth Responses

Predictors	<i>B</i>	<i>SE</i>	<i>Z</i>	<i>p</i>
Participant culture	0.50	0.17	2.97	.003**
study abroad status	0.96	0.23	4.18	<.001***
Culture x Abroad	1.27	0.29	4.41	<.001***
Observations	2,900			
Log likelihood	-1,589.6			
Model AIC	3,217.2			
Model BIC	3,330.7			

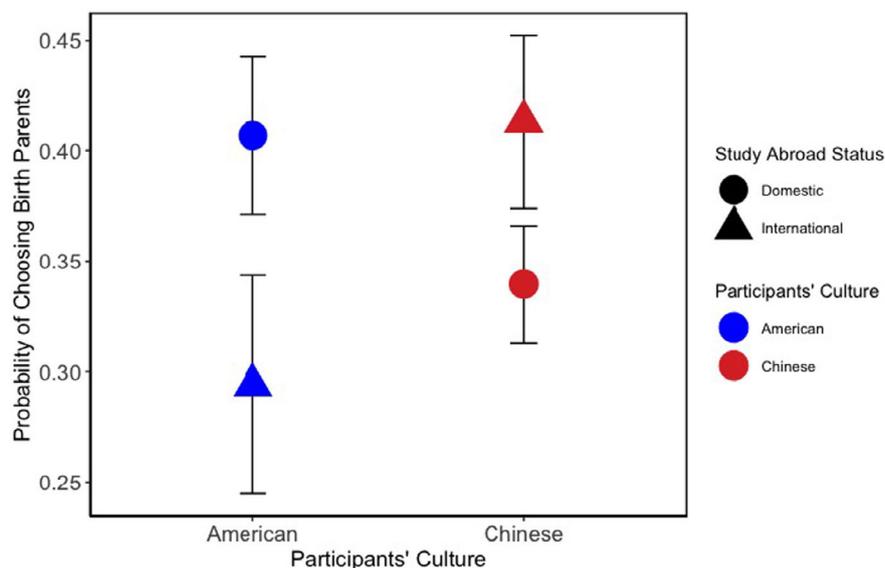
AIC = the Akaike information criterion; BIC = the Bayesian information criterion.

†  $p < 0.10$ ; \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$ ; \*\*\*  $p \leq 0.001$ .

**National identity ratings.** We then tested a mixed-effect linear regression model on participants' national identity ratings consistent with the birth origin of the hypothetical child in each trial (Chineseness ratings on the China-born target, and Americanness ratings on the U.S-born target) by entering participant culture and study abroad status as fixed effects, and participant ID as a random effect. Results showed a main effect of participant culture ( $B = .294$ ,  $SE = .039$ ,  $p < .001$ ) on nationality ratings (see Table 2). This model performed significantly better than an intercept-only null model ( $\chi^2[3] = 60.441$ ,  $p < .001$ ). Overall, American participants were much more likely to attribute nationality to birth ( $M = 55.1\%$ , 95% CI = [50.2%, 60.0%]) than Chinese participants ( $M = 29.2\%$ , 95% CI = [26.8%, 31.6%]). Results also showed a trend for study abroad status ( $B = .100$ ,  $SE = .056$ ,  $p = .073$ ), which seems to be driven by the American sample. Specifically, American international students gave marginally lower native nationality ratings ( $M = 48.2\%$ , 95% CI = [39.3%, 57.0%]) than American domestic students ( $M = 58.2\%$ , 95% CI = [52.4%, 64.0%]);  $t(212) = 1.892$ ,  $p = .060$ , Cohen's  $d = .28$ ; see Figure 2). Yet, no difference was found between Chinese international ( $M = 30.1\%$ , 95% CI = [25.5%, 34.6%]) and Chinese domestic students ( $M = 28.8\%$ , 95% CI = [26.0%, 31.5%]). Overall, participants' birth-based nationality ratings indicated that American participants hold stronger naturalness beliefs than Chinese participants, with study abroad status marginally decreasing American international students' naturalness tendency.

### Do Direct Essentialist Ratings Vary by Culture and Study Abroad Experience?

To assess the hypothesized effect of culture and study abroad experience on participants' essentialist beliefs assessed by direct measures, we computed a naturalness score and a cohesiveness score for each participant by averaging their ratings on the corresponding items across the national categories American and Chinese. We then conducted a mixed-effect linear regression model on essentialist scores by entering participants' culture, study abroad status, and essentialism dimension (naturalness vs. cohesiveness) as fixed effects, and participant ID as a random effect. Results showed no three-way interaction, but a significant two-way interaction between the participant culture and essentialism dimension ( $B = .050$ ,  $SE = .431$ ,  $p < .001$ ), as well as a main effect of the essentialism dimension ( $B = 1.108$ ,  $SE = .191$ ,  $p < .001$ ; see Table 3). This model performed significantly better than an intercept-only null model ( $\chi^2[7] = 57.964$ ,  $p < .001$ ). On the naturalness dimension, American participants scored higher ( $M = 5.87$ , 95% CI = [5.61,



**Figure 1** Switched-at-birth responses by participant culture and study abroad status. American college students with study abroad experience showed weaker essentialist thinking compared to American students studying domestically, whereas Chinese college students with study abroad experience showed stronger essentialist thinking compared to Chinese students studying domestically. The y-axis represents the predicted probability of choosing birth parents. Error bars reflect 95% confidence intervals.

**Table 2**  
*Mixed-effects Linear Regression Model for Birth Consistent Nationality Ratings*

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Participant culture	0.29	0.04	7.50	<.001***
Study abroad status	0.10	0.06	1.80	.07 <sup>†</sup>
Culture x Abroad	0.11	0.07	1.63	.11
Observations	580			
Log likelihood	26.2			
Model AIC	-40.4			
Model BIC	-14.2			

*Note.* AIC = the Akaike information criterion; BIC = the Bayesian information criterion.

<sup>†</sup> $p < 0.10$ ; \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$ .

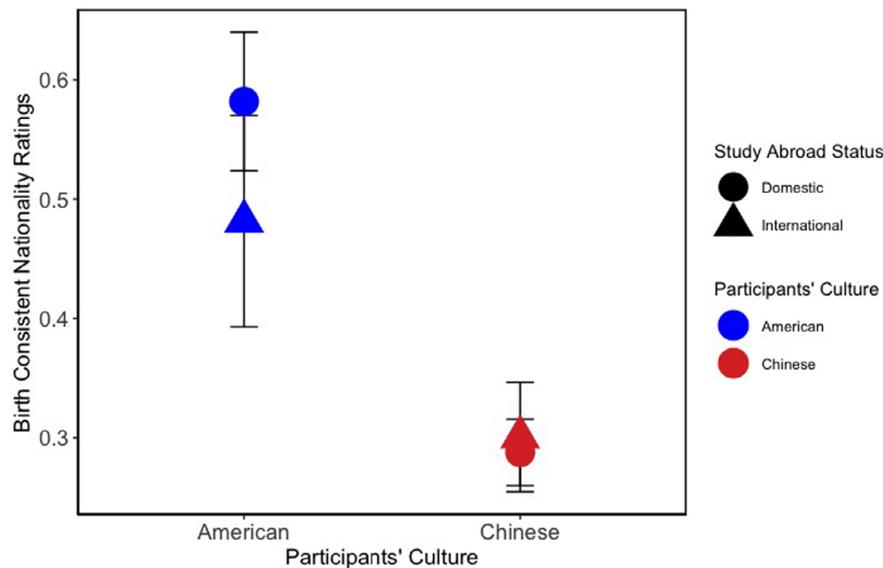
6.13]) than Chinese participants ( $M = 4.89$ , 95% CI = [4.70, 5.09]), whereas on the cohesiveness dimension, Chinese participants scored higher ( $M = 5.12$ , 95% CI = [4.94, 5.30]) than American participants ( $M = 4.79$ , 95% CI = [4.54, 5.04]). The cultural differences were confirmed by independent sample  $t$  tests on both the naturalness dimension ( $t[285] = 6.057$ ,  $p < .001$ , Cohen's  $d = .74$ ) and the cohesiveness dimension ( $t[285] = 2.142$ ,  $p = .033$ , Cohen's  $d = .26$ ; see Figure 3).

No effect of study abroad status was found on the direct measure of essentialism, although exploratory analyses indicated that Chinese international students

gave higher cohesiveness ratings ( $M = 5.22$ ,  $SD = .92$ ) than Chinese domestic students ( $M = 4.90$ ,  $SD = .97$ ),  $t(178) = 2.08$ ,  $p = .039$ , Cohen's  $d = .32$ . We further looked into the relationship between essentialist ratings and the time spent in the U.S. by the Chinese international students. Simple regression analysis results showed that for Chinese international students, time spent in the U.S. was positively related to cohesiveness ratings ( $B = .320$ ,  $SE = .008$ ,  $p = .023$ ); in other words, the more time Chinese students spent in the U.S., the more essentialist they became. This finding provided further evidence that the stronger essentialist tendency observed in the Chinese international students was associated with their experience living in a foreign country, rather than due to other a priori differences between the domestic and the international sample. Due to the limited variability of the American international students group in this regard, we were unable to conduct a comparable regression analysis on American international students.

### Relations among Indirect and Direct Essentialist Responses

To better understand the relations between the indirect and direct essentialism measures that we used, we examined the correlations among participants' responses across the measures. Results revealed both within- and cross-measure correlations (see Table 4). Within the



**Figure 2** Birth-based nationality ratings by participant culture and study abroad atatus. American participants in general were more willing to assign birth consistent nationality to the hypothetical individual than Chinese participants. Specifically, American international students gave marginally lower ratings than American domestic students. No difference was found between Chinese international and domestic students. Error bars represent 95% confidence intervals.

**Table 3**  
*Mixed-effect Linear Regression Model on Social Essentialism Scale Ratings*

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Participant culture	1.03	0.19	5.51	<.001**
Study abroad status	0.08	0.27	0.28	.78
Essentialism dimension	1.11	0.19	5.82	<.001**
Culture x Abroad	0.17	0.34	0.52	.62
Culture x Dimension	1.29	0.24	5.33	<.001**
Abroad x Dimension	0.09	0.34	0.26	.80
Culture x Abroad x Dimension	0.05	0.04	0.12	.91
Observations	574			
Log likelihood	-949.5			
Model AIC	1919.0			
Model BIC	1962.5			

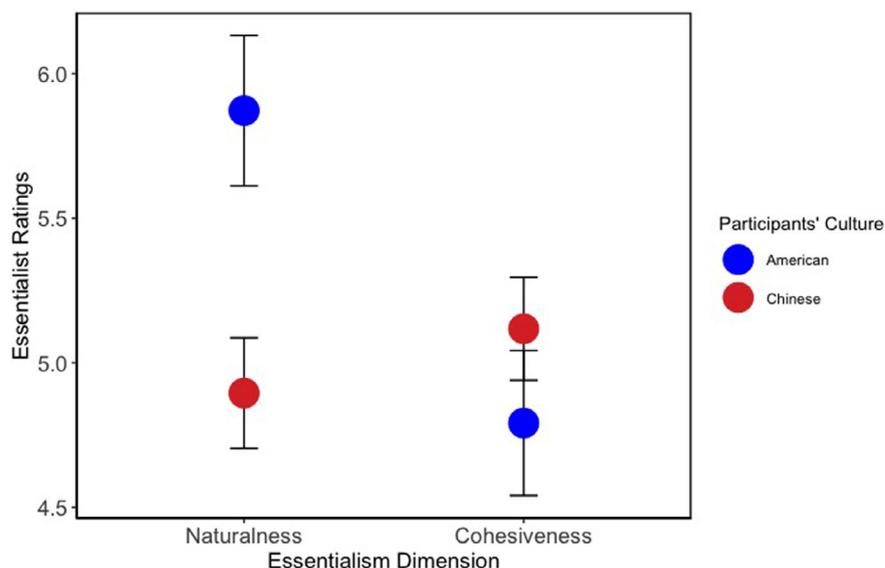
*Note.* AIC = the Akaike information criterion; BIC = the Bayesian information criterion.

<sup>†</sup> $p < 0.10$ ; \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$ .

S.A.B. measure, responses across the two vignettes were reliably correlated. Essentialist responses choosing birth parents on the China-born target were positively correlated with responses choosing birth parents on the U.S.-born target. Likewise, ratings of the Chineseness on the China-born target were positively correlated with ratings of the Americanness on the U.S.-born target. Within the Social Essentialism Scale, naturalness and cohesiveness ratings were reliably correlated under both the American and Chinese categories. Naturalness ratings across the

two categories and cohesiveness ratings across the two categories were also strongly correlated. These within-measure correlations reassured the internal consistency of both types of essentialism measures that we used in the current study.

In addition, we found some cross-measure relations among participants' responses on the S.A.B. task and the Social Essentialism Scale. This is mainly observed between the naturalness ratings on the Chinese and American categories from the Social Essentialism Scale



*Figure 3* Cultural patterns on direct essentialist ratings. American participants scored higher than Chinese participants on the naturalness dimension, whereas Chinese participants scored higher than American participants on the cohesiveness dimension. Error bars reflect 95% confidence intervals.

**Table 4**  
*Correlations among Essentialist Responses from the Switched-at-Birth Task and the Social Essentialism Scale*

	SAB China-Born	Chineseness by Birth	SAB U.S.-Born	Americanness by Birth	SES_Nat (American)	SES_Coh (American)	SES_Nat (Chinese)	SES_Coh (Chinese)
SAB China-Born	–							
Chineseness by birth	.05	–						
SAB U.S.-Born	.44***	.06	–					
Americanness by birth	.05	.80***	.15*	–				
SES_Nat (American)	.02	.19***	.03	.16**	–			
SES_Coh (American)	.04	–.09	.06	–.03	.20***	–		
SES_Nat (Chinese)	.03	.24***	.03	.18**	.53***	–.05	–	
SES_Coh (Chinese)	.09	–.02	.08	.00	.02	.62***	.23***	–

*Note.* SES\_Coh = mean cohesiveness ratings for nationality categories; SES\_Nat = mean naturalness ratings for nationality categories.

†  $p < 0.10$ ; \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$ ; \*\*\*  $p \leq 0.001$ .

and the birth consistent nationality ratings from the S.A.B. vignettes. This result suggests that both essentialist beliefs on abstract, collective concepts of national groups (such as Chinese and American) measured directly, and national identification judgments on hypothetical, concrete examples of individuals measured indirectly, may stem from the same underlying construct. Particularly, essentialist ratings on the naturalness dimension, or the tendency to essentialize national groups as naturally divided units, were consistently correlated with judgments on birth consistent nationality membership for both the China-born target and U.S.-born target.

## Discussion

The current study investigated how cultural background and study abroad experience relate to differences in essentialist beliefs about national groups by comparing the perception of national groups among Chinese and American college students studying domestically and abroad, using both indirect (i.e., hypothetical individual cases) and direct measures (i.e., explicit essentialist statements about national groups). We found that American and Chinese students differed in their essentialist beliefs about national categories on both measures, and that the study abroad experience interacted with

cultural origin in predicting indirect essentialist responses. The findings of our study, which is among the first to make direct cross-cultural comparisons of essentialist beliefs, not only enriched the empirical evidence regarding essentialist beliefs in previously understudied samples, but also provided conceptual and methodological insights for future research on social essentialism.

### **Essentialist Beliefs about National Groups Varied by Culture of Origin**

**Cultural differences in perceived cohesiveness of national categories.** As predicted, Chinese participants showed higher cohesiveness ratings than American participants on the Social Essentialism Scale. This finding was consistent with our Cultural Hypothesis A and corroborating evidence from other studies that tested Chinese and American adults' essentialist beliefs regarding various social categories, including but not limited to national groups (Coley et al., 2019). The American participants' tendency to see national groups as less cohesive might stem from their individualistic cultural lens through which they see national groups as made up of heterogeneous individuals, the visible racial/ethnic diversity in the United States, and the American mainstream ideology that embraces such diversity (albeit sometimes superficially). The Chinese imaginary of nationhood, on the other hand, builds on the collectivist value orientation that emphasizes the shared characteristics and goals of the national group members, discourses that centre around China's long history as one united nation and the small proportion of visible ethnic minorities and international immigrants. These contextual factors might have led the Chinese participants to believe in internal similarities within national groups. Notably, the cultural value argument and demographic characteristic argument worked in the same direction in the present study. Therefore, we encourage future studies to disentangle the effect of these two factors to better showcase their respective contributions, such as by comparing individuals from demographically diverse collectivist societies with those from demographically homogeneous individualistic societies.

**Cultural differences in perceived naturalness of national categories.** Despite the dearth of existing empirical evidence, we hypothesized on the basis of Chinese and U.S. social histories of nation-building and current demographic characteristics that participants from both countries may report low endorsement of the naturalness of nationality (Cultural Hypothesis B), although for different reasons. To our surprise, American participants were more likely to essentialize national groups or nationality as naturally formed and being

determined upon biological, inheritable underlying realities than Chinese participants, reflected both in their ratings on the Social Essentialism Scale, as well as in their willingness to endorse birth-based nationality membership in the S.A.B. task. We suspect that, in addition to the Chinese tradition of determining one's national identity by learned cultural competences, the American participants' stronger emphasis on the "natural" origin of national group membership might relate to the practice of birthright citizenship in the U.S., which ties national membership to birth. Further studies are needed to shed light on the mechanisms explaining this cultural difference in essentializing national groups as natural kinds.

### **Effects of Study Abroad Experience on Social Essentialism Differed for Chinese and American College Students**

Perhaps most strikingly, we found that study abroad experience interacts with cultural background in predicting participants' essentialist beliefs about national groups. In line with our Study Abroad Hypothesis, American international students showed weaker essentialist thinking than American domestic students, particularly in the S.A.B. task (although not on the Social Essentialism Scale). As with participants in previous studies (Deeb et al., 2011; Pauker et al., 2018; Smyth et al., 2017), our American participants' essentialist thinking appears to have been attenuated by their exposure to diverse environments. While our study did not capture the precise mechanism by which immersion impacts essentialist thinking, it was possible that our participants may have witnessed within-group variability as well as between-group similarities during their study abroad experience, which may have led to cognitive changes about specific national groups or familiarity with cross-group interactions in daily practice, which in turn may have reduced their anxiety about other groups.

However, counter to our Study Abroad Hypothesis, Chinese international students showed strengthened instead of weakened essentialist thinking relative to Chinese domestic students, both in the S.A.B. task and the Social Essentialism Scale, especially on its cohesiveness dimension. This result, that studying abroad related to higher instead of lower essentialist thinking among Chinese college students, is inconsistent with evidence collected among American samples in previous research and from the current study. Why does the study abroad experience seem to have different effects on American and Chinese students? One may argue that our findings reflect pre-existing group differences (such as socioeconomic status) among those who study abroad or study domestically between American and Chinese students rather than any effects brought by the study abroad

experience. Although our quasi-experimental design does not allow us to rule out this possibility, this account is unlikely to fully explain the differences observed between the domestic and international groups: The positive correlation found between the length of time lived in the U.S. by the Chinese international students and their essentialist thinking provides stronger evidence suggesting that the experience of living abroad induced changes in essentialist beliefs about national groups among Chinese students. It also cannot explain why American international students exhibited lower essentialist responses only on the indirect but not the direct measure of essentialism. Although longitudinal studies are needed to verify this speculation, the available evidence suggests that our findings are unlikely to be attributed simply to preexisting group differences.

Other explanations could be related to the two countries' respective roles in international education mobility and their relative cultural and racial power status. The U.S. has long been the world's top destination for international students and scholars for several decades, whereas China only recently began to attract students and scholars from overseas. Therefore, American international students and Chinese international students in our sample may differ in their motivation to study abroad. The American students studying in China—who are treading a road less travelled—may have a particularly strong willingness to explore different cultures, perhaps associated with less essentialist beliefs, whereas the Chinese students studying in the United States are more likely to be driven by goals of seeking better education and professional resources. Such different motivations may have driven the American international students to engage in more intergroup contacts than their Chinese counterparts studying in the U.S., thereby resulting in different trajectories of change in their essentialist beliefs—a possibility that is beyond the scope of the current study but can be investigated in greater depth in future research.

It is also possible that the Chinese and American students studying abroad had been treated differently in their host countries. Although all international students undergo the challenges of acculturation, the relative power status of the interacting groups might change the acculturation dynamics (Amir, 1969). Due to the global dominance of the United States, the American students studying in China are likely to be perceived as having higher socioeconomic status and treated as privileged first-world expats, as has been observed for their older, professional compatriots (Farrer, 2010) or other practitioners of “privileged mobility” (Croucher, 2012; Lundström, 2017). Therefore, even as a minority social group in China, American students would feel less threat from the local majority group and may have a more

positive attitude towards interacting with the local community, which in turn would encourage them to further modify their essentialist beliefs. In contrast, Chinese students studying in the U.S. are considered a marginalized group with lower power status and indeed often face racial discrimination and microaggressions (Ruble & Zhang, 2013). In this context, Chinese international students may be more likely to perceive the threat from the local majority group, and thus have stronger psychological demands to stay cohesive within their own group, in order to better survive in a threatening environment. As demonstrated in a previous study (Yang et al., 2015), stronger cultural anxiety experienced by the minority group may lead them to adopt essentialism to defend their group identity. Although we can only speculate on the origins of these strikingly different patterns, they lay important groundwork for future investigation.

### **Importance of Administering Diverse Measures of Social Essentialism**

Results from the current study speak to the importance of conceptualizing social essentialism as a multidimensional construct and assessing it with diverse measures. Previous literature suggested that social essentialism is composed of two related but dissociable dimensions (Haslam et al., 2000), and should therefore be measured on both dimensions instead of relying on a single global measure. More recently, more dimensions under or related to essentialism were further proposed, such as universality (Haslam & Levy, 2006) as well as “kindhood” (Noyes & Dunham, 2019). In line with such theoretical progress, the current study not only suggested that social categories could be essentialized to different degrees on the naturalness and cohesiveness dimensions, as with many previous studies (Coley et al., 2019; Haslam et al., 2000; Prentice & Miller, 2007), but also revealed different patterns of cross-cultural differences on these two dimensions. Using unidimensional measures of essentialism would not allow us to capture these nuanced patterns of results. The current study addresses again the importance of using multiple measures of essentialism in addition to the existing instruments.

Curiously, our analyses also revealed inconsistencies on different types of measures that would arguably assess the same theoretical construct or association between the constructs: The American participants responded differently to indirect and direct measures of essentialist beliefs. Similarly, there was a statistically significant interaction between cultural origin and study abroad status on the S.A.B. responses, but the model on nationality ratings revealed only a marginally significant effect of study abroad status on American students (vs. no significant effect on Chinese students), and there was

no significant interaction between cultural origin and study abroad status on the direct social essentialism measure. We suspect that such discrepancies may be a result of the nature of the measures used given the growing awareness of diversity-related political correctness, which makes responses that are less essentialist and more global and cosmopolitan more desirable. The fact that the significant result on the interactive effect of the culture of origin and study-abroad status occurred in the relatively “indirect” measure (i.e., the S.A.B. task) suggest that participants (and especially the American participants from our college sample) might be reluctant to disclose their agreement with essentialist statements regarding national groups which are perceived as socially undesirable. This interpretation is consistent with findings showing that American university students’ essentialist thinking about gender is stronger under time pressure (Eidson & Coley, 2014). In this way, future research should continue to investigate politically sensitive constructs such as essentialist beliefs about nationality, race, and ethnicity by experimenting with measures of different levels of face validity to see which best assesses participants’ underlying beliefs.

### Limitations and Future Directions

The current study bears a number of limitations. Firstly, we used university students as participants who are not representative of the entire population of either China or the United States. Therefore, the findings cannot be generalized to the entire Chinese or American populations. Also, our four subsamples may not be demographically equivalent. Using a within-subject longitudinal design with a larger and broader sample would be ideal to rule out the potential self-selection bias.

Secondly, the terms “American” and “Chinese” are ambiguous in that they can both be interpreted as national groups and as racial/ethnic labels. Although “American” is much more likely to convey the meaning of nationality given the high racial and ethnic diversity in the United States, the image of a stereotypical white American rooted in the participants’ essentialist beliefs may also cloud their judgment (such as whether this person can become “Chinese”). This lexical ambiguity can be partially addressed by comparing the essentialism ratings for these categories to those for the control categories French and Black. The former is unlikely to be interpreted as a racial group, whereas the latter is unlikely to be interpreted as a national group. Our data showed that the category Black was highly essentialized on the naturalness dimension ( $M = 7.01$ ,  $SD = 1.52$ ). This pattern is consistent with previous evidence on essentialist thinking about racial categories (e.g., Haslam et al., 2000). In contrast, the category American received

much lower naturalness ratings ( $M = 4.88$ ,  $SD = 1.57$ ), and was similar in that respect to French ( $M = 5.31$ ,  $SD = 1.56$ ) and Chinese ( $M = 5.64$ ,  $SD = 1.63$ ). This suggests that participants treated American and Chinese as national categories—like French—rather than as racial/ethnic categories, like Black, at least on the essentialism scale. Nevertheless, future studies may do well to explicitly instruct participants to reason about national groups instead of ethnicity on all measures.

Besides, a host of individual and contextual factors that may have influenced participants’ essentialist beliefs were not captured in the current research. One limitation of our measurement is the lack of individual-level cultural variables. In the current study, we used the participants’ country of origin as a proxy for their cultural value inclination towards collectivism or individualism without measuring their individual value orientations, following common practice in cross-cultural psychology and to keep the survey brief. To capture the association between individualism/collectivism and essentialist beliefs more accurately, future studies should consider measuring this and other relevant cultural variables (such as tightness and looseness; Gelfand et al., 2011) on an individual level. Future studies should also consider other relevant contextual factors that may influence the quality of study abroad experience and its effect on essentialism beliefs such as the depth of exposure to and contact with outgroup members (Pauker et al., 2018), as well as foreign-language proficiency. These factors are beyond the scope of the current study. Future research, especially longitudinal studies that track individual changes over the course of study abroad experiences, can elucidate the roots and processes of social essentialism by investigating the characteristics of the individual and the conditions of the home and host societies.

### Conclusions

In conclusion, the current study found that American and Chinese college students with or without study abroad experience differ in essentialist thinking about national groups. Participants’ study abroad experience interacts with their culture of origin in predicting their essentialist beliefs about national groups, in that American international students harbour less essentialist beliefs about nationality than American domestic students, whereas Chinese international students were more essentialist than Chinese domestic students. Our findings not only shed light on possible determinants of social essentialist thinking but also have significant implications for policies and practices in the globalizing higher education sector for creating multicultural contexts that can benefit all students.

## Acknowledgements

The current research is funded by Shanghai Planning Office of Philosophy and Social Science 2017ESH002 (P.I: Xuan Li). We thank the local and international students at Northeastern University, USA, and New York University Shanghai, China, for participating in the study. We thank Grace Yushan Huang for back translating the study materials.

## Conflicts of Interest

The authors declare there are no conflicts of interest.

## Data Availability Statement

The data that support the findings of this study are available from the corresponding author, Yian Xu (xu.yia@northeastern.edu) upon request.

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## Appendix A

### Switched-at-Birth Task

#### Vignette 1 (China-Born Target)

A child was born to a Chinese family (Mr. and Mrs. Wang) in China, but adopted by an American family (Mr. and Mrs. Green). The child was brought to the U.S. when six months old. The child grew up happy and well loved.

Please use the information below to make your best guess about what characteristics this child would have at your age. Remember, the child was born to a Chinese family (Mr. and Mrs. Wang) in China but raised by an American family (Mr. and Mrs. Green) in the U.S.

- (1) Mr. and Mrs. Wang like cats more than dogs. Mr. and Mrs. Green like dogs more than cats. Which will the child prefer?
- (2) Mr. and Mrs. Wang are short. Mr. and Mrs. Green are tall. Which will the child be?
- (3) Mr. and Mrs. Wang are calm. Mr. and Mrs. Green are anxious. Which will the child be?
- (4) Mr. and Mrs. Wang believe that eating meat is healthy. Mr. and Mrs. Green believe that eating meat is unhealthy. Which will the child believe?
- (5) Mr. and Mrs. Wang are better at soccer than swimming. Mr. and Mrs. Green are better at swimming than soccer. Which will the child be better at?

#### Vignette 2 (U.S-Born Target)

A child was born to an American family (Mr. and Mrs. Louis) in the U.S., but adopted by a Chinese family (Mr. and Mrs. Li). The child was brought to China when six months old. The child grew up happy and well loved.

Please use the information below to make your best guess about what characteristics this child would have at your age. Remember, the child was born to an American family (Mr. and Mrs. Louis) in the U.S. but raised by a Chinese family (Mr. and Mrs. Li) in China.

- (1) Mr. and Mrs. Louis like potato chips more than candy. Mr. and Mrs. Li like candy more than potato chips. Which will the child prefer?
- (2) Mr. and Mrs. Louis are overweight. Mr. and Mrs. Li are slim. Which will the child be?
- (3) Mr. and Mrs. Louis are outgoing. Mr. and Mrs. Li are shy. Which will the child be?
- (4) Mr. and Mrs. Louis believe there is an afterlife. Mr. and Mrs. Li believe there is no afterlife. What will the child believe?
- (5) Mr. and Mrs. Louis are better at music than the computer. Mr. and Mrs. Li are better at the computer than music. Which will the child be better at?

## Appendix B

### Social Essentialism Scale

Dimension	Question
Naturalness	
Discreteness	Some groups have sharper boundaries than others. For some, membership is clear-cut, definite, and people either belong to the group or they do not. For others, membership is more "fuzzy"; people belong to the group in varying degrees. How clear cut is the boundary for the following group?
Naturalness	Some groups exist naturally; we know about them because someone discovered them or because their existence is evident to us all. Other groups are created artificially; they are invented by people. To what extent do you think the following categories are natural?
Immutability	For some categories, membership is easy to change; it is easy for members to leave the group, and nonmembers to join. For other categories, membership is very difficult to change; it is almost impossible for members to leave or nonmembers to join. How difficult is it to change the membership of the following group?

## Appendix B (continued)

Dimension	Question
Cohesiveness	
Uniformity	Some groups are very uniform; members are very similar to one another and have many features in common. Other groups are not very uniform; members differ greatly from one another, and don't share many characteristics. To what extent are members of the following group uniform?
Informativeness	Some categories are very informative; knowing that someone belongs to a particular category tells you a lot about that person. Other categories are not informative; knowing that someone belongs to that category doesn't tell you much about them. To what extent is knowing the following category informative?
Inherence	Some groups share an underlying essence; although members might have similarities and differences on the surface, underneath they are basically the same. Other groups do not share an essence; although they may share superficial characteristics, they vary underneath. To what extent do members from the following group share something deep in common?