

Supplementary Material

1 Guttman Scale to Measure the Experience of Cultural Mixing

We initially conducted semi-structured interviews with 30 college students to explore the nature of the experience of cultural mixing. The interview questions were: “What do you think cultural mixing is?”; “What kind of cultural mixing have you experienced?”; and “What criteria do you think can be used to judge the level of a cultural mixing experience?” Content analysis was conducted on the interview data, with representative words extracted to classify and summarize them. The results showed there were 10 levels of experiencing cultural mixing. Therefore, we developed a list of ten items that could be rated on a 5-point scale (1 = extremely disagree, 5 = extremely disagree).

1. I think there should be something that mixed my ethnic culture with Tibetan culture.
2. I vaguely feel that there is something that mixed my ethnic culture with Tibetan culture.
3. I have heard about something that mixed my ethnic culture with Tibetan culture.
4. I have personally seen something that mixed my ethnic culture with Tibetan culture.
5. Someone around me has used something that mixed my ethnic culture with Tibetan culture.
6. I have been paying attention to something that mixed my ethnic culture with Tibetan culture.
7. I have purchased something that mixed my ethnic culture with Tibetan culture.
8. I have given other people something that mixed my ethnic culture with Tibetan culture.
9. I own something that mixed my ethnic culture with Tibetan culture.
10. I have created something that mixed my ethnic culture with Tibetan culture.

1.1 First Pilot Study

The first pilot study, which was conducted to verify the logic of the scale, asked four

individuals with a PhD in psychology and five with a Master's degree to submit comments and suggestions about the structure of the scale. Their suggestions led to the deletion of Items 1 and 8. Then, we conducted a small-scale test with 30 undergraduates, who were not in psychology, to check if all the items were accurately understood. The results of this test showed that most of the participants avoided the absolute response options (extremely disagree and extremely agree); therefore, we changed these response options to "1 = disagree" and "5 = agree." An independent samples t test found that there is significant difference in the percentage of participants choosing "extremely disagree" and "extremely agree" and of them choosing "disagree" and "agree" before and after the change in response options of the culture mixing experience scale was made, $t(55) = 6.13, p < .001, d = 1.02$.

1.2 Second Pilot Study

We posted a survey seeking Chinese participants on www.wjx.com, and 196 participants completed it, which included the 8-item scale, before the survey expired. Seven participants who gave atypical/invariant responses were excluded, yielding a final sample of 189 participants (85 males): 13 participants were under 18 years-old, 160 participants were 18 to 30 years-old, and 11 participants were over 30 years-old. The data were analyzed using SPSS 22.0.

Coefficient of reproducibility (CR). According to Guest (2000), the CR is a measure of the unidimensionality of the items in a scale, and by convention, a CR of .90 or higher is accepted as evidence that a scale is unidimensional. We recorded 1, 2, and 3 as 0, and 4 and 5 as 1, and then calculated the coefficient of replication using the "deviation from perfect reproducibility" method (see Guest 2000 for details). Our initial analysis of all eight items

produced a respectable CR of .88, but as we hoped to achieve a CR of .90, we tried deleting the variable with the most errors, i.e., “someone around me has used ...” (the 5th item), which had 56 errors. After deleting this item, the CR rose to .92.

Validity analysis. Given the nature of a Guttman scale, theoretically, the degree of “cultural mixing experience” represented by the seven items should gradually increase; for example, those who “created cultural mixing” must have “seen cultural mixing.” Hence, the average of these seven items should range from high to low. As we expected, the actual results were consistent with this assumption: $M_{\text{feel}} = 3.39$; $M_{\text{heard}} = 3.12$; $M_{\text{seen}} = 2.80$; $M_{\text{attention}} = 2.37$; $M_{\text{purchased}} = 2.14$; $M_{\text{own}} = 1.87$; $M_{\text{created}} = 1.59$. Thus, the scale objectively reflects the actual situation; that is, the scale has good validity. In conclusion, the 7-item scale was suitable for measuring cultural mixing experiences, given its good reliability and validity.

The final items of the scale are as follows:

1. I vaguely feel that there is something that mixed my ethnic culture with Tibetan culture.
2. I have heard about something that mixed my ethnic culture with Tibetan culture.
3. I have personally seen something that mixed my ethnic culture with Tibetan culture.
4. I have been paying attention to something that mixed my ethnic culture with Tibetan culture.
5. I have purchased something that mixed my ethnic culture with Tibetan culture.
6. I own something that mixed my ethnic culture with Tibetan culture.
7. I have created something that mixed my ethnic culture with Tibetan culture.

2 Pilot Study for Selecting Stimuli

Pictures for the picture-learning task. Large pictures depicting different aspects of either Yi culture, Dai culture, or geometry were selected based, in part, on reading literature about the Yi culture and in-depth interviews with three Yi undergraduate students. The pictures, which included architecture, home decorations, apparel, food, entertainment, music, and art, were downloaded from the Internet to create a library of material. We selected 16 typical cultural images from the materials library that contained representative cultural elements (8 Yi culture pictures and 8 Dai culture pictures), and 8 geometric pictures. Each picture was attached to a cultural description (see Cui et al., 2016). For example, there was a description at the top of the picture of the Dai Duxianqin that stated: “Dai Duxianqin: Duxianqin is the favorite instrument of the Dai people. It is characterized by only one string...” In addition, we replaced the word “Dai” with the word “Shui” to form 8 so-called Shui culture pictures (e.g., “Shui Duxianqin: Duxianqin is the favorite instrument of the Shui people. It is characterized by only one string...”).

Pictures for the memory test. We selected 82 pictures from the material library for the memory test: 22 geometric pictures, 30 pictures of Yi culture, and 30 pictures of Dai culture. Each of the newly selected 60 cultural images contained one or more representative cultural elements of the corresponding ethnic group described in the cultural learning picture. Then, we followed Cheon et al.’s (2016) procedures to use Photoshop 7.0 software to capture the cultural elements in different cultural images and synthesize 30 new cultural mixing pictures. That is, the above-mentioned 30 Yi culture pictures, 30 Dai culture pictures, and the newly

synthesized 30 culture mixing pictures¹ were matched by elements (Figure1). Finally, we combined the eight geometric learning pictures (with the text removed) with 22 newly selected images to form 30 geometric memory-test pictures.



Figure 1. Sample stimuli for memory test task.

Note. A) The first picture shows (left-most) the Yi girls wearing Yi costumes holding yellow umbrellas with Yi totems; the second picture shows the Dai girls wearing Dai costumes holding pink umbrellas; the third picture shows the Dai girls wearing Dai costumes holding yellow umbrellas with Yi totems; The fourth picture is exactly the same as the third. B) The first picture shows (left-most) that a Yi man wearing Yi costume is drawing Yi patterns to the appliance; the second picture shows that the Dai people dressed in Dai costumes are playing the Dai Duxianqin; the third picture shows that the Dai people dressed in Dai costumes are playing the Dai Duxianqin with the Yi patterns; the fourth picture is exactly the same as the third.

Pilot study. We conducted a pilot study to test the picture material with 60 Yi senior high-school students, who we randomly assigned to one of four conditions: Yi culture, Dai

¹ The synthesized 30 pictures were viewed by the participants in both Yi-Dai culture mixing condition and Yi-Shui culture mixing condition in the formal experiment. The participants in Yi-Dai culture mixing condition would consider it to be Yi-Dai culture mixing pictures, but the participants in Yi-Shui culture mixing condition would consider it to be Yi-Shui culture mixing pictures after the *picture-learning task*.

culture, Yi-Dai cultural mixing, or Yi-Shui cultural mixing. Participants in each condition were asked to complete “the picture learning task” and “the memory test”, as done in the formal study. The participants had to answer the same question (which was different for each condition) every time they saw a picture during “the memory test”. For example, the participants in the Yi-culture condition were asked, “Is this a Yi culture picture?”; whereas participants in the Dai-culture condition were asked, “Is this a Dai culture picture?” We created a measure (successfully perceived; SP) to analyze the answers to the question. SP was the proportion of the number of participants who correctly perceived a picture as belonging to the corresponding culture relative to the total number of participants in the condition. For instance, an SP of 70% for a picture in the Yi-culture condition meant that 70% of the participants in that condition thought that picture was, indeed, a picture of the Yi culture, while 30% thought that picture was not a picture of the Yi culture. The results showed that the SP of 101 pictures was 100%, and the SP of the remaining 19 pictures were all greater than 73%, which was in line with our expectations. In other words, the participants did not doubt the authenticity of these cultural pictures.

3 Cultural Introduction to the Yi, Dai, and Shui

China is a multiethnic country that includes 56 nationalities. The Han people are the majority group. They constitute 92% of the population of China. The remaining 55 ethnic minorities account for 8% of the total population.

The Yi people mainly live in Sichuan Province. Liangshan Yi Autonomous Prefecture in Sichuan Province is the largest Yi community in China. In 2010, the Yi population was about 8.71 million. The Yi people have their own language and encourage endogamy, and their unique culture is well preserved. Moreover, the Yi culture is highly identifiable; for example, the Yi people strongly favor red, yellow, and black, and use them extensively in architecture, furniture, clothing, and other fields.

The Dai people mainly live in Yunnan Province. In 2010, the Dai population was about 1.159 million. The Dai people have their own language. Their clothes are light and concise, usually in light colors, such as light pink, light green, and light blue. Moreover, The Dai people have domesticated elephants and peacocks since ancient times.

The Shui people mainly live in Guizhou Province. In 2010, the Shui population was about 0.041 million. The Shui people have their own language. A fish is a totem of the Shui people. The Shui people have a taboo against wearing red and yellow, but like blue, white, green and three cool colors.

The Tibetans mainly live in three provinces: Sichuan, Qinghai and Tibet. In 2010, with a population of about 6.5 million, Tibetans were the eighth largest ethnic group in China. The Tibetans have their own unique food structure and eating habits. Among them, ghee, tea, Zamba, beef and mutton are known as the "four treasures" of Tibetan diet. Tibetans' daily

clothing is mainly blue and white, accompanied by gorgeous belts or lace.

References

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