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### Journal

Personality and Social Psychology Bulletin, 34(1)

### ISSN

0146-1672

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### Publication Date

2008

### DOI

10.1177/0146167207309198

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*Pers Soc Psychol Bull* 2008; 34; 47

DOI: 10.1177/0146167207309198

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# What Do We See in a Tilted Square? A Validation of the Figure Independence Scale

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*The Figure Independence Scale (FIS) assesses people's preference for abstract figures that represent uniqueness. As psychological manifestations of cultural values cohere among each other within a cultural system, the authors argue that preference for uniqueness, as a psychological manifestation of the value for independence, can be used as an indirect measure of this value. Four studies examine the convergent, discriminant, and predictive validity of the FIS. The results indicate that liking for abstract, unique figures coheres with other specific manifestations of the value for independence (i.e., responses to explicit independence scale, need for personal control, liking for independence themes in advertisements, and use of social coping) and thus can be used as a measure of individuals' more global endorsement of this individualistic value.*

**Keywords:** culture; independence; scale validation; values; uniqueness



A tilted square in a group of straight squares could be viewed in many different ways. It could look different, unique, and likable. It could look disruptive, deviant, and unlikable. How one feels toward the tilted square, although seemingly random, is connected to culturally shared values (Kim & Markus, 1999). Even such an abstract figure can represent a meaning that is larger than the figure itself, and people's feelings toward it can be an extension of their cultural values for how individuals should relate to their social groups.

Within psychology, culture can be defined in many ways. Most commonly, it is defined in terms of the core orientations that are shared within a cultural system. Researchers often find different foundational and dominant meaning systems cross-culturally and utilize these

different meaning systems as a theoretical framework to explain many social behaviors observed in psychology studies. Core values serve as the starting point of much research in cultural psychology, with the assumption that these values act as guiding principles within the culture. Researchers have identified many dimensions of values that provide useful frameworks for cross-cultural research (e.g., Hofstede, 1980; Inglehart & Baker, 2000; Schartz, 1992). Among them, the distinction of collectivism and individualism has proven to be particularly fruitful, both as predictors of particular patterns of behavior and as outcomes of participating in cultural systems (e.g., Adams, 2005; Heine & Lehman, 1997; Iyengar & Lepper, 1999; Kim & Markus, 1999; Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006; Kitayama, Mesquita, & Karasawa, 2006; Markus

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**Authors' Note:** This research was supported by National Science Foundation Grant BCS-0338631. We would like to acknowledge Claude Steele for his collaboration with the second author in the study of homeless women from which Study 2 was drawn and the following people for their efforts in that project: research assistants Monique Boyce and Jennifer Yador and the social service providers at the shelter who worked with us in coordinating the project, Karen Commeret, Linda Glickman, Anthony Mallon, Lynn Millheiser, Sylvia Ridlin, Ophelia Smith, and Rita Zimmer. Study 2 was funded by the Russell Sage Foundation. We would also like to thank Sally Dickerson for her assistance in coordinating data collection in Study 1; Alvin Law, Christopher Lee, Emily Wang, and Brooke Wilken for their help with data collection; and Zoe Kinias, Eric Knowles, Lisa Jaremka, Angela Maitner, and Sarah Townsend for commenting on earlier versions of this manuscript. Finally, we would like to thank Jacob and Isabelle Kim-Sherman for their unique interdependence. A complete copy of the Figure Independence Scale can be downloaded from <http://www.psych.ucsb.edu/labs/kim/pubs.html>. Correspondence concerning this article should be addressed to Heejung S. Kim, University of California, Santa Barbara, CA 93106-9660; e-mail: [kim@psych.ucsb.edu](mailto:kim@psych.ucsb.edu).

*PSPB*, Vol. 34 No. 1, January 2008 47-60

DOI: 10.1177/0146167207309198

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& Kitayama, 1991; Mesquita, 2001; Taylor et al., 2004; Triandis, 1989; Vandello & Cohen, 1999).

Given the influential role of this conceptual framework, there is a wide variety of measures of cultural orientation, many of which are value scales that assess how much each person endorses individualistic or collectivistic values. Although these types of measures serve the purpose of assessing the explicit endorsement of cultural values well, they are not without methodological concerns (see, e.g., Heine, Lehman, Peng, & Greenholtz, 2002; Peng, Nisbett, & Wong, 1997). In addition, whereas values are an important aspect of culture, explicit value scales are not the only way to measure individual endorsement of these values. Although a set of collectively shared values might guide structure and organization within a culture, the assumption that its individual counterpart would also be a guiding principle for individual behaviors is problematic (cf. Durkheim, 1924/1974). Participation in a cultural context can have equal or greater consequences on psychological tendencies without necessarily affecting personal attitudes and beliefs (Farr, 1991; Kitayama, 2002). Thus, in the present research, we examine if a particular psychological manifestation of the value for independence (i.e., preference for a unique target object), which is not the value per se, can predict other psychological tendencies that are rooted in the same value. In so doing, we aimed to validate a scale to complement existing individualism/collectivism value scales.

## MEASUREMENT OF CULTURAL VALUES

The values of individualism and collectivism are by far the most actively used way to organize different cultural systems. People from different cultures are thought to vary in how much they endorse these values. Research has shown that people from individualistic cultures, such as the United States and Canada, tend to prioritize personal goals over the goals of collectives (Hofstede, 1980; Markus & Kitayama, 1991; Triandis, 1989). One of the psychological consequences of these values of individualism and collectivism is the development of a particular self-construal. In individualistic cultures, the self is generally viewed to be independent bounded, separate from its surroundings and defined by internal traits. The cultural emphasis is often placed on the volition, agency, freedom, and uniqueness of the individual, and people are encouraged to strive for independence and maintain their individuality (Fiske, Kitayama, Markus, & Nisbett, 1998; Kim & Markus, 1999; Markus & Kitayama, 1991). This individualistic cultural view contrasts with the collectivistic cultural view. Research has shown that people from collectivistic cultures, such as China, Japan, and Korea, tend to

subordinate their personal goals to the collective goals (Markus & Kitayama, 1991; Triandis, 1989). In these cultures, the self is primarily thought to be interdependent—fundamentally related to others and defined by social roles and positions. The cultural focus is placed on social norms, social duties, and maintenance of ingroup harmony (Fiske et al., 1998; Kim & Markus, 1999; Markus & Kitayama, 1991).

In conducting research that involves these concepts of individualism and collectivism, the most common way to measure these values is using a Likert-type value scale (Oyserman, Coon, & Kimmelmeier, 2002). For example, researchers often use value scales, such as the Individualism-Collectivism Scale (Triandis et al., 1986) or the Self-Construal Scale (Singelis, 1994), as predictors (e.g., Lee, Aaker, & Gardner, 2000) or dependent measures (e.g., Gardner, Gabriel, & Lee, 1999). These scales are designed to measure people's beliefs and values by assessing how much they agree or disagree with a series of statements that exemplify either individualistic or collectivistic values. Although widely used, recent research has pointed out problems regarding the use of such value scales as a measure of cultural beliefs.

## Methodological and Conceptual Issues With Value Scales

A comprehensive meta-analysis conducted by Oyserman et al. (2002) found that the presumed cultural differences in people's individualist/collectivist values (e.g., East Asians are more collectivistic and less individualistic than Americans) were weak, inconsistent, and unreliable (Oyserman et al., 2002). One reason for the inconsistent effects of culture on values scales is methodological: With the value scales, the meaning of a participant's ratings are not always clear. People formulate their self-perceptions through social comparison processes (Festinger, 1954), and when they compare themselves to others, they generally have a specific reference group in mind. Thus, the responses on a values scale not only reflect how one thinks she or he is but also reflect the characteristics of the reference group to which one is comparing oneself. This tendency, called the *reference group effect* (Heine et al., 2002), is particularly problematic in research comparing different cultural groups using value scales because people from different cultures are highly likely to compare themselves to very different reference groups (Heine et al., 2002; Peng et al., 1997; see also Biernat & Manis, 1994). To the extent that two cultural groups differ in their characteristics, such as Americans and Koreans differ in the importance of maintaining harmony, the answers given to these value scales cannot be taken at face value. Paradoxically, the existence of actual group differences

can nullify or obscure observed group differences due to the reference group effect.

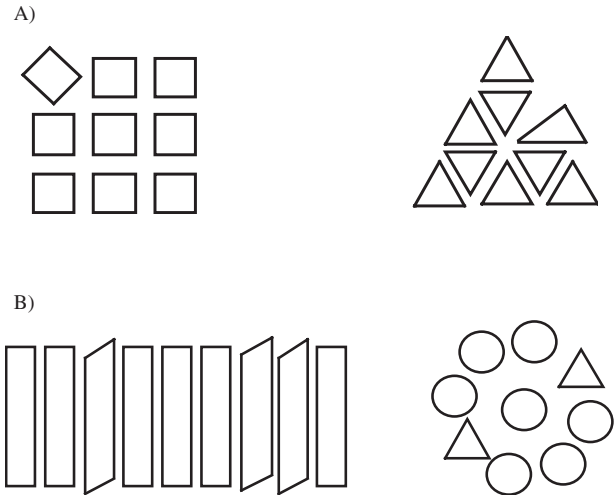
These weak and unreliable outcomes might also stem from a more fundamental, theoretical problem. Conceptualizing explicit endorsement of values as the key manifestation of cultural influence can be problematic because individuals' behavioral patterns are not always governed by their explicitly held values (Farr, 1991; see also Fazio, 1990). In fact, often, cultural participants are not fully aware or cannot clearly articulate the fundamental and powerful influences of culture, and the influence exerts its power through cultural practices, structures, and institutions (Bruner, 1996; Kitayama, 2002). Consequently, cultural differences are often better captured through behavioral patterns and less explicit manifestation of values than personally held beliefs and values (see Kitayama, 2002; Oyserman et al., 2002).

Another set of problems associated with the value scale regards the conceptualization of explicit individual values as the measure of cultural influence. Given the common emphasis on thoughts as the driving force of behaviors, individuals' measured values are privileged as the "cause" of other behaviors and psychological processes. However, we argue, at both the individual and the collective level, cultural values and ideologies are abstractions from a conglomeration of behaviors and other psychological tendencies. Thus, measured values are simply one of many possible behavioral and psychological manifestations of cultural values.

We do not claim that measured values cannot explain or predict cultural differences in behaviors. For instance, the value for expression as measured by a scale was shown to mediate cultural influences on how people are affected by self-expression (Kim & Sherman, 2007). Rather, we contend that many other culturally specific behaviors that are typically thought of as psychological outcomes of participating in a culture can be equally useful as a measure of cultural orientation. Within a cultural system, behavioral and psychological tendencies are organized in such a way that there is coherence or equilibrium within them, albeit somewhat loosely (Cohen, 2001; Kitayama, 2002). Thus, many of these specific behavioral and psychological tendencies, including explicitly measured values, should be related with each other, and in turn, many of them can represent an individual's endorsement of a cultural orientation.

### PREFERENCE FOR UNIQUENESS AS A MEASURE OF INDEPENDENCE

In the present research, we focus on individuals' liking for unique objects. Systematic preference for uniqueness is one of many specific components of the



**Figure 1** Examples of the abstract figures from the Figure Independence Scale.

general value for independence. A state of uniqueness of an individual signifies the independence that the individual has against collective influences such as social norms or external pressure (Kim & Markus, 1999). A desire to stand out is most prevalent in cultures that value independence, such as the United States (e.g., Kim & Drolet, 2003; Kim & Markus, 1999; Snyder & Fromkin, 1980). In other words, preference for unique targets is a specific psychological manifestation of the independence value. Thus, although a measure of the preference for unique objects is not a measure of value for independence per se, it is an implicit indication of the degree to which individuals participate and endorse a particular cultural system.

The Figure Independence Scale (FIS) was first introduced as a measure of the preference for uniqueness (Kim & Markus, 1999). The scale is designed to measure how much people like uniqueness by asking them to rank abstract figures that appear either unique or common (see Figure 1 for examples). In spite of the fact that the task is seemingly nonsocial in nature and involves quite inconsequential choices, the scale in the original study measured the predicted cultural differences in how much people like uniqueness. That is, the results showed that people from individualistic cultures significantly preferred unique figures more than nonunique ones, whereas people from the collectivistic cultures significantly preferred unique figures *less* than nonunique figures. Preferences for or against uniqueness were also found in behavioral choices (selecting or not selecting a unique-appearing pen) and larger cultural themes (magazine advertisements emphasizing uniqueness; Kim & Markus, 1999).

In Kim and Markus (1999), the FIS was simply used as a measure of the preference for uniqueness, a specific tendency resulting from participation in a cultural context where independence is valued. The studies did not examine how responses to the FIS cohere with other psychological manifestations of the value for independence. In the present research, we examined how responses to the FIS relate to other psychological tendencies that are shown to be outcomes of participation in individualistic/collectivistic cultural contexts. That is, we contend that responses to the FIS that are individuals' feelings toward uniqueness can be used as a measure of individuals' endorsement of the cultural value for independence because the tendency coheres with other psychological manifestations of the value. In so doing, we aim to validate the FIS as a measure of individuals' psychological endorsement of the value of independence.

## OVERVIEW

We present four studies to examine whether the FIS can be used as a measure of the individual endorsement of the cultural value of independence and how responses to the FIS correlate with and predict other psychological manifestations of independence. Study 1 was conducted to examine the relationships among the FIS and other measures of the value of independence as well as replicate the findings on the cultural difference in the preference for uniqueness between Asian Americans and European Americans. Study 2 was conducted to test the generalizability of the scale beyond comparisons between Asian and European Americans by examining its reliability and validity in a comparison between two groups theorized to be different in their value for independence. Study 3 examined whether responses to the FIS predict liking for independent themes in advertisements. Finally, Study 4 examined whether responses to the FIS predict the use of social coping in response to a stressor. In so doing, we demonstrate the convergent, discriminant, and predictive validity of the FIS.

## STUDY 1

In our first investigation, we administered the FIS to a sample of Asian Americans and European Americans. We first sought to replicate the basic finding from Kim and Markus (1999) that European Americans prefer the unique figures more than Asian Americans do. Moreover, to examine the relationship between the FIS and existing related value scales, we had participants complete a standard measure of independence, the Self-Construal Scale (SCS; Singelis, 1994), and a standard

measure of preference for uniqueness, the Need for Uniqueness (NFU; Snyder & Fromkin, 1977). Although conceptually linked, preference for unique target objects is not in itself the value for independence, and thus, we aimed to empirically examine the relationship between these two concepts. We predicted that the FIS would correlate with each of these measures. To examine discriminant validity, we had participants complete the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1981). We predicted that the FIS would be uncorrelated with this measure of self-aggrandizing tendencies. Narcissism, or extreme self-centeredness, can also be an outcome of individualism, but it also includes components such as vanity and exploitation that are conceptually distinct from the value of independence that we believe manifests itself in preference for unique objects.

## METHOD

### *Participants*

One hundred one undergraduates from a large Californian university completed the survey (49 East Asian American, 52 European American; 47 males and 54 females; age  $M = 20.18$ ,  $SD = 2.51$ ). Participants were recruited from psychology classes and participated in the study for course credit.

### *Materials*

*The FIS.* The scale contains 30 abstract figures composed of nine subfigures (see Figure 1; also see the appendix for the instruction sheet and a sample page from the scale). Participants were instructed to rank each of the nine subfigures in order of their preference by numbering them from 1 (favorite) to 9 (least favorite), and an example was given. In the questionnaire, two types of figures were created. Among 30 figures, there were 16 figures with eight identical subfigures and one subfigure that is different from the rest in terms of shape, direction, filler pattern, or position; the singular minority subfigure will be referred to as the *unique* subfigure (see Figure 1A). The other 14 figures followed the same basic pattern, but each of these had two, three, or four subfigures that differed from the rest, rather than just one different subfigure (see Figure 1B). These figures were filler items, added so that the unique items do not stand out as much, reducing the potential for demand characteristics.<sup>1</sup> The order of figures was counterbalanced in two forms.

*The NFU.* The NFU was developed and validated by Snyder and Fromkin (1977) and is a widely used scale of the motivation to stand out and not to conform to

group norms. The scale includes 32 items (e.g., “I find it sometimes amusing to upset the dignity of teachers, judges, and ‘cultured’ people” and “Other’s disagreement makes me uncomfortable”). Participants indicated their agreement with each statement on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. As the preference for uniqueness is one of the main characteristics of independent self-construal, we expected a high correlation between the FIS and the NFU.

*The SCS.* This scale, developed by Singelis (1994), is one of the most commonly used measures of independent and interdependent self-construal. The scale consists of two components to assess independent self-construal and interdependent self-construal, respectively. The scale includes 12 independence items (e.g., “I do my own thing, regardless of what others think”) and 12 interdependence items (e.g., “Even when I strongly disagree with group members, I avoid an argument”). Participants indicated their agreement with each statement on a 1 (*strongly disagree*) to 9 (*strongly agree*) scale. These components are conceptualized to be orthogonal to each other (Singelis, 1994). The FIS is a measure of the value of independence rather than the measure of the devaluing of interdependence. Thus, we hypothesized that the FIS would correlate more strongly with the independent component of the SCS than with the interdependent component.

*The NPI.* The NPI (Raskin & Hall, 1981) was also included in the study to examine the discriminant validity of the FIS. The NPI is a measure of a self-centered, self-aggrandizing, dominant, and manipulative interpersonal orientation (Emmons, 1987; Paulhus & Williams, 2002). The scale includes 40 items, and each item lists two opposite statements (e.g., “1. Modesty doesn’t become me” and “2. I am essentially a modest person”), and participants are instructed to choose which one of the two statements describes themselves best. The scale includes measurements of seven components: autonomy, entitlement, exhibitionism, exploitation, self-sufficiency, superiority, and vanity. Whereas narcissistic tendency is associated with individualism (Foster, Campbell, & Twenge, 2003; Lasch, 1992), the value one places on independence (e.g., value for autonomy and freedom) is conceptually distinct from a narcissistic tendency. Thus, we predicted that the FIS would not correlate with the NPI.

### Procedure

Participants received the questionnaire packet in a small group setting. The order of scales was counterbalanced. It took approximately 30 min to complete the questionnaires.

At the end of the questionnaires, participants indicated their gender, age, and ethnicity.

## RESULTS AND DISCUSSION

### Calculation of the FIS

Recall that participants ranked each of 9 subfigures within a figure from 1 to 9. Scores were reversed so that larger numbers indicate greater value for independence, ranging from 1 to 9. To score the value for independence, we averaged the numbers written on the 16 unique subfigures. The 16 items of the FIS had high reliability ( $\alpha = .89$ ).

### Cultural Difference in the Value of Independence

We compared the European Americans and the Asian Americans as to how much they differed on each scale. As predicted, significant cultural differences emerged with the FIS and the NFU. Replicating the previous findings (Kim & Markus, 1999), European Americans scored higher on the FIS, indicating greater value for independence ( $M = 5.36$ ,  $SD = 2.12$ ) than Asian Americans ( $M = 4.39$ ,  $SD = 2.17$ ),  $t(99) = 2.26$ ,  $p = .03$ ,  $d = .45$ . European Americans scored higher on the NFU, expressing greater motivation for uniqueness seeking ( $M = 3.22$ ,  $SD = 0.36$ ) than Asian Americans ( $M = 3.00$ ,  $SD = 0.40$ ),  $t(96) = 2.85$ ,  $p = .01$ ,  $d = .58$  (degrees of freedom vary due to missing data). There was no significant cultural difference in responses to either component of the SCS or the NPI ( $ps$  between .17 and .65). There was no effect of gender on any of the reported analyses, and thus it will not be mentioned further.

### Convergent and Discriminant Validity

We examined the correlations among the included scales: the FIS, the NFU ( $\alpha = .77$ ), Independence ( $\alpha = .69$ ) and Interdependence ( $\alpha = .73$ ) components from the SCS, and the NPI. As predicted, the responses to the FIS correlated positively with the responses to the NFU,  $r(98) = .39$ ,  $p < .01$ , and the independence component of the SCS,  $r(101) = .21$ ,  $p = .04$ . Also, the responses to the FIS did not significantly correlate with the interdependence component of the SCS,  $r(101) = -.15$ ,  $p = .15$ , or with the NPI,  $r(96) = .08$ ,  $p = .44$  (see Table 1).

Although these results support our hypothesis, it is also possible that this pattern could have been driven by the differences between cultural groups. In general, if two cultural groups differ on two variables, then between-group differences could inflate the correlation between the two variables by creating two clusters of associated

**TABLE 1:** Intercorrelations Among Scales in Study 1

	FIS	NFU	SCS (Independence)	SSC (Interdependence)	NPI
FIS	—				
NFU	.39**	—			
SCS (Independence)	.21*	.55**	—		
SCS (Interdependence)	-.15	-.29**	.13	—	
NPI	.08	.28**	.17	-.23*	—

NOTE: FIS = Figure Independence Scale; NFU = Need for Uniqueness Scale; SCS = Self-Construal Scale; NPI = Narcissistic Personality Inventory. \*Correlation is significant at the .05 level (two-tailed). \*\*Correlation is significant at the .01 level (two-tailed).

responses. Although the Asian American and European American responses differed on the FIS, the responses to the SCS and the NFU did not. Nevertheless, for this reason, it is important to examine whether the relationships between the FIS and the other scales are significant above and beyond the cultural differences by holding cultural group constant. To examine this, we conducted regression analyses in which the FIS and culture of participants were simultaneously entered as predictors and the SCS and NFU scales were entered as the outcomes. We coded Asian Americans as  $-1$  and European Americans as  $1$ .

The results of the regression analyses are very similar to the correlational analyses. The FIS was a significant predictor for the NFU,  $\beta = .34$ ,  $t(95) = 3.63$ ,  $p < .01$ , and the independence component of the SCS,  $\beta = .21$ ,  $t(98) = 2.04$ ,  $p < .05$ , but not for the interdependence component of the SCS,  $\beta = -.13$ ,  $t(98) = -1.28$ ,  $p = .20$ , and the NPI,  $\beta = .05$ ,  $t(93) = .46$ ,  $p = .65$ . These analyses indicate that the correlations between the FIS and the value for independence are not accounted for by between-culture differences on these variables. In sum, Study 1 demonstrated that responses to the FIS correlate with the explicit value measures of the value for independence and thus the scale possesses internal reliability and convergent and discriminant validity as well as a capacity to capture cultural differences.

## STUDY 2

In Study 2, we sought to generalize the validity of the FIS in capturing group differences in their attitudes toward independence. Thus, instead of the Asian American–European American comparison, we compared a college student sample with a group that was expected to show greater values for independence—a group paradoxically characterized by the media as *dependent*—women raising their children in a homeless shelter who were receiving public assistance.

In a qualitative investigation of homeless women on public assistance, Steele and Sherman (1999) observed that the women espoused a “heightened value of

independence.” Many of the women had left abusive or otherwise unsatisfactory living situations and saw entering the shelter system as a means of furthering their independence; thus, independence was a salient and continual goal (Sherman & Steele, 1999). As one woman, a 22-year-old mother of one, put it, “It was my choice [to enter the homeless shelter]. I didn’t want to go home and live with my parents, which I could’ve, but I didn’t want to. I wanted some type of independence” (Steele & Sherman, 1999, p. 422). Repeatedly throughout the interviews, the participants echoed these sentiments, leading Steele and Sherman (1999) to speculate that asserting their independence was an adaptive and useful strategy for these women who could not count on their social worlds to support them.

We predicted that this heightened importance of independence would be reflected in greater liking for unique figures. Thus, in Study 2, we administered the FIS to a sample of women from a homeless shelter as well as a sample of undergraduates from a college sample. We chose college women as a sample who had a relatively strong support network and for whom this assertive independence would not necessarily be as adaptive or necessary as a chronic strategy. In addition, participants completed a measure of perceptions of personal control (Pearlin, Menaghan, Lieberman, & Mullam, 1981).

## METHOD

### Participants

Fifty-six women living in a temporary housing shelter in New York City and 27 female undergraduate students from a large California university participated in the study for payment. The shelter sample consisted of 31 African Americans, 11 Latina Americans, 4 Asian Americans, 3 European Americans, 1 Native American, 6 participants of mixed ethnicity, and 1 participant with missing demographic information. (For a description of the shelter, see Steele & Sherman, 1999.) The undergraduate sample consisted of mixed ethnic groups, but the participants’ specific ethnicity was not recorded.



### Procedure

Participants completed a questionnaire packet alone. Each participant received a packet of questionnaires including the Feelings of Control Scale (Pearlin et al., 1981) and the FIS. Research assistants explained the instructions of the FIS verbally to participants. The Feelings of Control Scale included six items such as "What happens to me in the future mostly depends on me" and "I have little control over the things that happen to me" (reverse coded). The FIS used in the study was a shortened version including 16 total items (7 unique items and 9 filler items).

## RESULTS AND DISCUSSION

We predicted that the shelter participants would indicate stronger value for control and preference for unique subfigures than undergraduate participants. First, the reliability of the shortened FIS was high ( $\alpha = .81$ ), and the reliability of the Feelings of Control Scale was moderate ( $\alpha = .69$ ). The results supported our hypothesis and showed that the shelter participants perceived greater feelings of control ( $M = 4.13$ ,  $SD = 0.59$ ) than the undergraduate participants ( $M = 3.41$ ,  $SD = 0.36$ ),  $t(81) = 6.76$ ,  $p < .01$ ,  $d = 1.47$ . Similarly, the shelter participants indicated greater preference for the unique subfigures ( $M = 6.57$ ,  $SD = 1.94$ ) than the college participants ( $M = 5.00$ ,  $SD = 2.76$ ),  $t(72) = 2.68$ ,  $p = .01$ ,  $d = .67$ .<sup>2</sup>

In addition, the feeling of control and the responses to the FIS were significantly correlated,  $r(74) = .35$ ,  $p < .01$ . We examined whether this relationship is significant above and beyond the group differences by holding the effect of group constant in a regression analysis similar to the one conducted in Study 1. The relationship between FIS and feelings of control becomes marginally significant when group is entered into the regression;  $\beta = .18$ ,  $t(72) = 1.69$ ,  $p = .096$ . This weakened relationship indicates that the overall correlation was somewhat inflated by the group differences in the feeling of control and the FIS. Nevertheless, even in this analysis, the direction of the relationship between the FIS and feelings of control remains consistent: Those who liked the unique figures more possessed greater feelings of personal control.

Thus, Study 2 showed the predicted cultural differences on the FIS between a sample of women theorized to have a heightened degree of independence value, women in a homeless shelter, and a comparison sample of women from a university setting. Coupled with Study 1 and the previous demonstrations of cultural differences in the preference for uniqueness (Kim & Markus, 1999), we now have four studies utilizing a wide range of samples demonstrating reliable and predicted cultural differences

in the FIS. Taken together, these findings show the utility of the FIS as a measure of psychological endorsement of the cultural values of independence.

## STUDY 3

Study 3 was designed to examine the predictive validity of the FIS. In previous research, we found that independence themes were more commonly used in advertisements and were more liked in an individualistic culture, but interdependence themes were more commonly used in advertisements and were liked more in a collectivistic culture (Kim & Markus, 1999; see also, Han & Shavitt, 1994). Thus, we used this liking for advertisements and intention to purchase the advertised product as an outcome measure to examine whether the FIS would predict the extent to which independence and interdependence themes in advertisements were effective. We predicted that those individuals who indicate a preference for unique figures on the FIS would find more general independence themes in advertisements more persuasive than those individuals who do not indicate a preference for unique figures.

## METHOD

### Participants

Thirty-four students (4 Asian American, 6 Latino/as, 2 Native Americans, 20 European Americans, and 2 mixed) from a large California university completed the task. The study included 13 males and 21 females (age  $M = 20.54$ ,  $SD = 1.12$ ). Participants were recruited from psychology classes and participated in the study for course credit.

### Procedure

Participants completed a questionnaire packet in a small group setting. Each packet began with the FIS and was followed by the advertisement evaluation task. In the advertisement task, participants received a set of six ads. Among these six ads, two ads used themes of independence (e.g., "The Internet isn't for everybody. But then again, you are not everybody"), the other two ads used themes of interdependence (e.g., "E-mail for when I want to talk to my other best friend" with a photo of a woman holding a dog), and the final two ads used themes that are unrelated to either value (control ads). The ads were drawn from American magazines and were for such products as automobiles (Lincoln and Mercedes), alcohol (Jack Daniels), Internet services

(Cidco and Prodigy), and pharmaceuticals (Pfizer). The order of ads was counterbalanced. Participants were instructed to evaluate each ad according to four questions designed to assess the effectiveness of the ads, each on appropriately labeled 8-point scales (“How much do you like the ad?” “How effective do you think the ad is?” “Does seeing this ad make you like the product more or less?” and “If you are considering buying a product in the same category as the product in this ad, how likely is it that you would buy this particular product?”). Then participants completed a questionnaire indicating their gender, age, and ethnicity.

## RESULTS AND DISCUSSION

At first, evaluation of each ad was calculated by simply averaging the four response items for each ad ( $\alpha$ s ranging between .87 and .91), and then ads with the same theme were combined to yield a measure of the effectiveness of the independence, interdependence, and control ads. Gender was not a significant factor in any of the analyses. Then the relationship between the FIS and the effectiveness of the ads with independence themes was examined using a regression analysis. Intercorrelations among different types of ads indicated that there were considerable positive correlations among the ratings of the ads. That is, those who rated one type of ads (e.g., independence ads) highly also rated other ads—e.g., control ads,  $r(34) = .34, p = .05$ , and interdependence ads,  $r(34) = .33, p = .06$ —highly, indicating an individual difference in the tendency to rate ads more favorably in general regardless of themes. In this study, our purpose was to examine whether responses to the FIS would predict people’s rating of ads with independence themes relative to ads with nonindependence themes. Thus, we combined the ratings for all ads with nonindependence themes (i.e., interdependence and control themes) and entered the rating for nonindependence themes as a predictor in addition to the FIS to examine if the FIS predicts the effectiveness of the ads with independence themes controlling for overall rating for all other ads.

In the regression equation, rating for the independence ads was regressed on the FIS and the rating for the nonindependence ads. The results indicate that both the FIS,  $\beta = .35, t(29) = 2.13, p = .04$ , and the rating for the nonindependence ads,  $\beta = .50, t(29) = 3.07, p < .01$ , significantly predicted positive rating for the independence advertisements. That is, the FIS significantly predicted greater effectiveness of the ads with independence themes after controlling for the overall response bias of each participant. In addition, in a similar regression equation, we regressed rating for the interdependence ads on the FIS and the rating for the noninterdependence ads (i.e.,

combination of ratings for independence and control ads). The results indicated that the FIS significantly predicted *less* effectiveness of the interdependence advertisements,  $\beta = -.50, t(29) = -3.28, p < .01$ , controlling for the rating for the noninterdependence ads,  $\beta = .37, t(29) = 2.43, p = .02$ . That is, the FIS was also a significant predictor for the *ineffectiveness* of the ads with interdependence themes after controlling for overall response biases of each participant.

We examined whether this relationship is significant above and beyond the group differences by holding the effect of group constant in regression analyses. Thus, we created a culture variable by coding participants who are theorized to be more collectivistic (i.e., Asian Americans and Latino Americans; Hofstede, 2001) as  $-1$  and participants who are theorized to be more individualistic (i.e., European Americans) as  $1$ .<sup>3</sup> Then we entered the FIS, the rating for the nonindependence ads, and the culture variable simultaneously as predictors and the rating for the independence ads as the outcome in a regression analysis. The results were very similar to the previous analysis. Both the FIS,  $\beta = .34, t(24) = 1.95, p = .06$ , and the rating for the nonindependence ads,  $\beta = .54, t(24) = 3.06, p < .01$ , significantly predicted positive rating for the independence advertisements. Next, we entered the FIS, the rating for noninterdependence ads, and the cultural variable simultaneously as predictors and the rating for the interdependence ads as the outcome in a regression analysis. Both the FIS,  $\beta = -.54, t(24) = -3.20, p < .01$ , and the rating for noninterdependence ads,  $\beta = .34, t(24) = 2.04, p = .05$ , significantly predicted positive ratings for the interdependence ads. In sum, Study 3 demonstrated the FIS can predict the effectiveness of independent and interdependent themes used in ads.

## STUDY 4

Study 4 was designed to further examine the predictive validity of the FIS. Previous research has found that Asians/Asian Americans are *less* likely to use social support than European Americans in dealing with stressors (Kim, Sherman, Ko, & Taylor, 2006; Taylor et al., 2004). These studies also showed that people from more collectivistic cultures are less likely to seek social support than people from more individualistic cultures because they are more cautious about potentially disturbing their social network. In contrast, people from individualistic cultures tend to focus on active resolution of their problems using resources available, including seeking support from their social networks.

Thus, we used social coping as an outcome measure to examine whether the FIS would predict the extent to which people use social support in dealing with their

stressors. Although social coping is not conceptually linked to the preference for uniqueness per se, the cultural difference is theorized to be an outcome of different cultural views on the self and its relationship with the social surrounding. Thus, if the FIS can be used as a measure of independence values above preference for uniqueness, responses to the FIS should predict social coping responses. Thus, we predicted that those individuals who indicate a preference for unique figures on the FIS would report using social coping more than those individuals who do not indicate a preference for unique figures.

## METHOD

### *Participants*

One hundred twenty-six students (9 Asian Americans, 17 Latino/Latinas, 1 Native American, 87 European Americans, and 12 other ethnicities) from a large California university completed the task. The study included 73 males and 53 females (age  $M = 18.98$ ,  $SD = 1.49$ ). Participants were recruited from psychology classes and participated in the study for course credit.

### *Procedure*

Participants completed a questionnaire packet in a small group setting. Each packet began with the FIS and the SCS (Singelis, 1994). The order of these scales was counterbalanced. Then the use of social support was assessed in the following way. In the questionnaire, participants first described a specific stressful event that they experienced within the past 3 months in an open-ended format and evaluated the severity of the stressor using scales anchored at 1 (*not at all*) and 7 (*very much*). Then participants indicated how they coped with the stressor using the Brief COPE (Carver, 1997). The Brief COPE measures the use of different coping strategies in response to stress. The main outcome of interest in our study is social coping, which includes emotional support (e.g., "I got comfort and understanding from someone") and instrumental support (e.g., "I tried to get advice or help from other people about what to do"). Other strategies assessed by the COPE include planning, active coping, positive reframing, denial, self-blame, behavioral disengagement, substance use, self-distraction, religion, acceptance, and humor (Carver, 1997). Because our interest was chiefly in social support, we supplemented the Brief COPE social support items with additional items from the long form of the COPE (Carver, Scheier, & Weintraub, 1989). Participants rated each coping statement in terms of how much they had used it to cope with the

stressor, using scales anchored at 1 (*not at all*) and 5 (*very much*). After the Brief COPE, participants completed a questionnaire indicating their gender, age, and ethnicity.

## RESULTS AND DISCUSSION

The purpose of Study 4 was to examine the predictive validity of the FIS, and thus, we did not oversample Asian American participants to make cultural comparisons. Consequently, we present the data for the entire sample of participants. First, we examined the correlations between the FIS, Independence, Interdependence, and the use of social coping (i.e., the composite of emotional and instrumental coping). The analyses show that responses to the FIS significantly correlated with both the Independence component,  $r(126) = .27$ ,  $p < .01$ , and the Interdependence component,  $r(126) = .19$ ,  $p = .04$ , of the SCS, as well as with social coping,  $r(126) = .25$ ,  $p < .01$  (see Table 2). Social coping significantly correlated also with Independence,  $r(126) = .19$ ,  $p = .04$ , and Interdependence,  $r(126) = .21$ ,  $p = .02$ . In addition to the predicted correlation with social coping, the FIS was also positively correlated with positive reframing,  $r(126) = .20$ ,  $p = .02$ , and self-distraction,  $r(126) = .21$ ,  $p = .02$ , and negatively correlated with self-blame,  $r(126) = -.22$ ,  $p = .01$ . No other coping strategy was significantly correlated with either Independence or Interdependence.

Responses to Interdependence items of the SCS were positively correlated with responses to Independence items and with the FIS. Thus, in order to examine the unique contribution of each predictor, social coping was regressed on the FIS, Independence, and Interdependence. The results indicate that only the FIS significantly predicted greater use of social support,  $\beta = .19$ ,  $t(122) = 2.16$ ,  $p = .03$ . Neither Independence,  $\beta = .11$ ,  $t(122) = 1.19$ ,  $p = .24$ , nor Interdependence,  $\beta = .15$ ,  $t(122) = 1.72$ ,  $p = .09$ , were significant predictors of social support use.

As in the previous studies, we conducted regression analyses to examine the relationship between the FIS, the SCS, and social coping controlling for the effect of culture. We created a culture variable in the same way as in Study 3, with participants from more collectivistic cultures (i.e., Asian Americans and Latino Americans) coded as  $-1$  and European Americans coded as  $1$ .<sup>4</sup> In separate analyses, we entered the FIS and culture simultaneously as predictors and the Independence and Interdependence components of the SCS as outcomes. The FIS remained a significant predictor of Independence,  $\beta = .26$ ,  $t(109) = 2.76$ ,  $p < .01$ , and a marginal predictor of Interdependence,  $\beta = .17$ ,  $t(109) = 1.82$ ,  $p = .07$ , above and beyond the effect of culture.

**TABLE 2:** Intercorrelations Among Scales in Study 4

	FIS	SCS (Independence)	SCS (Interdependence)	Emotional Coping	Instrumental Coping	Social Coping
FIS	—					
SSC (Independence)	.27**	—				
SSC (Interdependence)	.19*	.19*	—			
Emotional coping	.25**	.19*	.166	—		
Instrumental coping	.22**	.16	.24**	.78**	—	
Social coping (instrumental and emotional coping combined)	.25**	.19*	.21*	.96**	.93**	—

NOTE: FIS = Figure Independence Scale; SCS = Self-Construal Scale.

\*Correlation is significant at the .05 level (two-tailed). \*\*Correlation is significant at the .01 level (two-tailed).

Similarly, when social coping was included as the outcome, and the FIS and culture entered as predictors, the FIS predicted social coping,  $\beta = .24$ ,  $t(109) = 2.58$ ,  $p = .01$ . Even when Independence and Interdependence were added to the analysis as predictors, only the FIS significantly predicted greater use of social support,  $\beta = .20$ ,  $t(107) = 2.10$ ,  $p = .04$ ; neither Independence,  $\beta = .05$ ,  $t(107) = 0.51$ ,  $p = .61$ , nor Interdependence,  $\beta = .14$ ,  $t(107) = 1.45$ ,  $p = .15$ , were significant predictors of social support use. In all analyses, the only significant effect of gender was the main effect of gender on the degree of social coping, showing that female participants ( $M = 3.72$ ,  $SD = 1.07$ ) reported using social coping more than male participants ( $M = 3.17$ ,  $SD = 1.09$ ),  $t(124) = 2.81$ ,  $p < .01$ .

These results show that the FIS can predict a pattern of behavior that is associated with the value for independence, in fact, even better than the explicit value scales. Together with Studies 1-3, the results indicate that the FIS possesses internal reliability and convergent, discriminant, and predictive validity.

## GENERAL DISCUSSION

In four studies, we examined the convergence between the Figure Independence Scale and other psychological manifestations of individualistic/collectivistic cultural values. These results show that specific attitudinal and behavioral manifestations of value for independence—preference for uniqueness, endorsement of independence and control in explicit scales, liking for independence themes in advertisement, and the use of social support—vary systematically across cultures and cohere among them. Thus, one specific component, such as the preference for uniqueness, can stand in as a measure of the more general value for independence and individuals' endorsement and participation in such cultural orientations. In so doing, we also

demonstrated that the FIS can be used to measure individuals' endorsement of the value for independence in both cross-cultural and within-culture research.

## METHODOLOGICAL BENEFITS OF THE FIS

Although value scales possess known limitations, they are frequently used, in part, because of their convenience and portability and because behavioral measures are often difficult to obtain. Cultural psychology research frequently involves transporting study instruments to another country where available research resources (e.g., availability of lab space, computers, or research labor) might differ greatly. Value scales that can be completed using a paper-pencil format are certainly easier to transport compared to many other methods.

The FIS is a measure of independence that has the same degree of convenience of use as value scales, with a few additional benefits. First, the FIS is less susceptible to the reference group effect. Unlike a typical value scale, the FIS is a ranking task in which people simply indicate their preference among presented options. Thus, the task does not require any implicit social comparison process and hence is not susceptible to the reference group effect (as recommended by Heine et al., 2002).

Beside its immunity to the reference group effect, there are a few additional methodological advantages of the FIS. Because the task itself is nonverbal and the instructions are simple, the concern for accurate translation is minimal and can be used with groups of varied educational backgrounds (as in Study 2). Also, the FIS is a more sensitive measure than choice measures (i.e., forced choice between two or more options representing different cultural values) because the scale uses a ranking method that allows a wider range of responses. Finally, the scale is more indirect and implicit compared to traditional value scales and thus raises fewer concerns about reactance or demand characteristics.

## LIMITATIONS AND UNANSWERED QUESTIONS

The presented studies show that the FIS can assess people's value for independence. However, one remaining question is whether the FIS can also assess people's value (or devalue) for interdependence. Within the present research, we have a somewhat inconsistent pattern of results. That is, in Study 1, the results show a lack of correlation between the preference for unique figures in the FIS and the Interdependence component in the SCS (Singelis, 1994). Yet, in Study 3, the preference for unique figures in the FIS significantly predicted both positive rating for independent ads and negative rating for interdependent ads. Yet again, in Study 4, we found positive intercorrelations between the FIS and the Interdependence component of the scale. It should be noted that responses to the FIS were very consistent with responses to other indicators of values for independence (i.e., Independence component of the SCS, the NFU, perceived importance of control, liking for independence ads, and social coping). Given that, this seeming inconsistency should not weaken the validity of the FIS as a measure of psychological endorsement of independence value.

Nevertheless, these findings are relevant to the question regarding whether values for independence and interdependence are unidimensional constructs (that is, two ends of one continuum) or bidimensional constructs (that is, each construct on its own orthogonal continuum). On one hand, some researchers argue for bidimensionality of these components of self-construal (e.g., Singelis, 1994), showing that responses to independence items are often uncorrelated with responses to interdependence items. On the other hand, many other studies implicitly and explicitly assume independence and interdependence to be unidimensional, mostly by simply contrasting two components (e.g., contrasting the effect of independent/interdependent self-construal or contrasting interdependent and interdependent cultural psychological patterns; e.g., Heine et al., 2001; Kim & Markus, 1999; Morling, Kitayama, & Miyamoto, 2002, among many others). Moreover, as shown in the present research, the Independence and Interdependence components of the SCS can even be *positively* correlated with each other (Studies 1 and 4).

One reason for such discrepancy in the present research might be that there is a difference in whether different culturally shared thoughts are expressed as abstract values or as a more concrete and behavioral manifestation. A person can strongly endorse both values for independence and interdependence when one is merely indicating the degree to which he or she agrees

with a fairly context-free statement such as "I act the same way no matter who I am with" or "It is important for me to maintain harmony within my group" (Singelis, 1994). However, when evaluating information or engaging in behaviors in concrete and specific situations, a person often has to ultimately choose a course of action that promotes either independence or interdependence. Thus, this situational specificity of concrete judgments and behaviors (e.g., deciding if one likes or dislikes an ad or deciding to voice one's minority opinion or go to a restaurant that the family chooses) perhaps explains the seemingly discrepant results in which responses to the FIS, which is also a measure of concrete preference, were unrelated or even positively related to the abstract interdependent values but related to negative rating for interdependent advertisements.

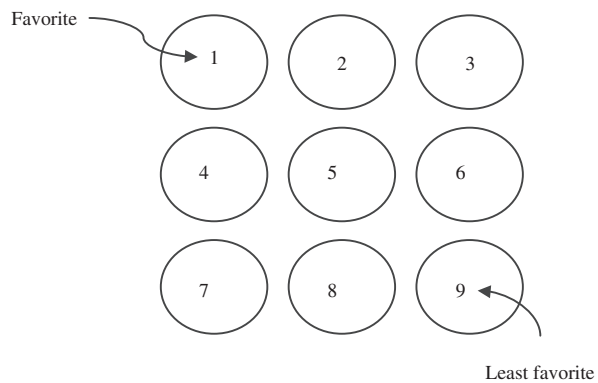
## CONCLUSIONS

Like existing value scales, the FIS is designed to capture a psychological manifestation of values for independence at the individual level. Our measure hinges on the assumptions that individual preferences are shaped by culture. Therefore, when a preference pattern varies systematically across cultures, this preference can be used as a useful "summary statement" of an individual's personal endorsement of a particular value system. We believe that the preference for uniqueness epitomizes the core aspect of individualistic values. It is a situation in which an individual is pitted against the collective and has to decide how much one likes the individual target. Indeed, the present research shows that the preference for uniqueness could predict an array of other psychological outcomes that are associated with individualistic values. What people see in a tilted square amidst many straight squares seems to be a struggle between individual and collective forces. For some, the tilted square might be a symbol of individual freedom, independence, and agency. For others, the tilted square might be a symbol of disturbance, disharmony, and self-indulgence.

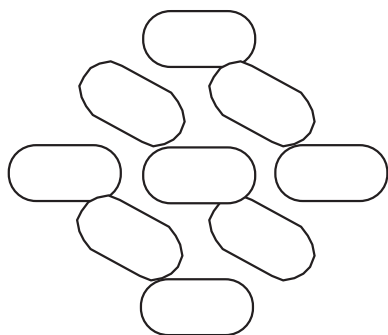
## APPENDIX INSTRUCTIONS AND SAMPLE

Each group in the following questionnaire contains nine numbered figures. Please rank each of the nine small figures in order of your preference from most to least. Number 1 means favorite figure, number 9 means least favorite figure. Write down your answer inside each figure as the example below shows. Please do not skip any figures.

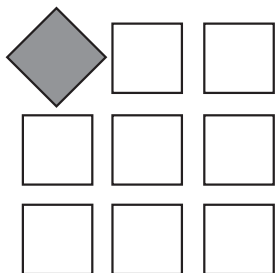
Example



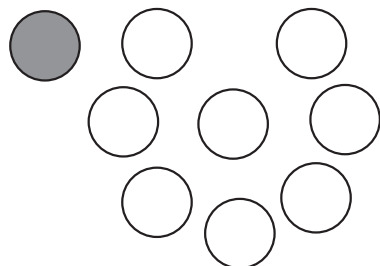
1)



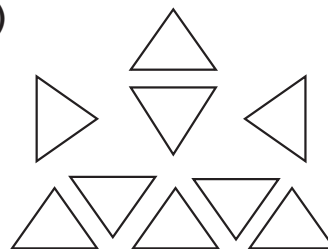
2)



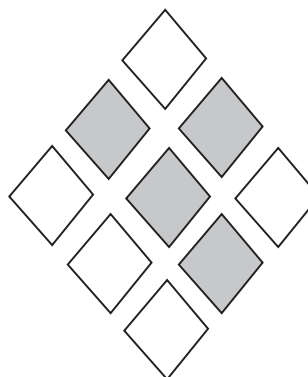
3)



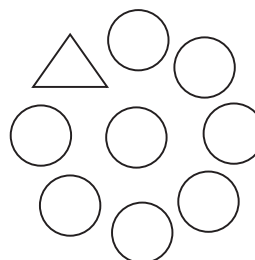
4)



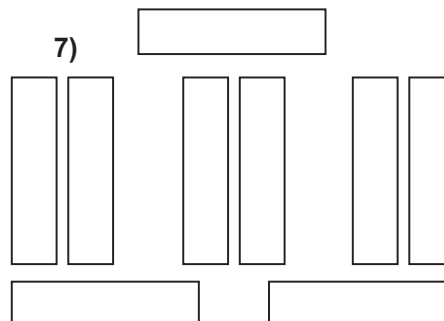
5)



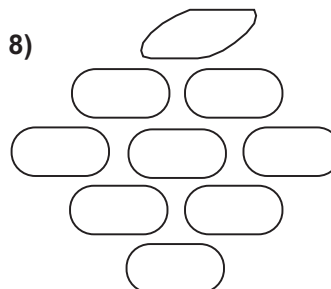
6)



7)



8)



## NOTES

1. In Kim and Markus (1999), participants' rankings of these nonunique minority subfigures were also analyzed. The results indicated that people from more individualistic cultures liked these minority subfigures more than people from more collectivistic cultures in a similar fashion as the unique subfigures, but to a weaker degree. Including analyses with these nonunique subfigures would be redundant and produce less clear results. Thus, for the sake of simplicity, we examined the unique subfigures only.

2. Because ethnicity was not recorded in the college sample, it is likely that this overall mean liking for the unique figures is lowered by the inclusion of Asian American college students. To compare whether the shelter sample had higher levels of liking for the unique figures than a European American college sample, we compared the means of the shelter sample ( $M = 6.68$ ,  $SD = 1.79$ ) to the mean of the European Americans college students in Study 1 ( $M = 5.55$ ,  $SD = 2.00$ ); there was a significant difference,  $t(98) = 3.00$ ,  $p = .003$ ,  $d = .60$ .

3. Four participants of other ethnicities were excluded in this analysis, as their cultural orientations could not be determined.

4. Thirteen participants of other ethnicities were excluded in this analysis, as their cultural orientations could not be determined.

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Received August 31, 2006

Revision accepted May 21, 2007