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Brief report

The measurement of values across cultures: A pairwise comparison approach

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Abstract

We examined the value orientations of Americans and Japanese, comparing Likert scale rating and pairwise comparison methods. Consistent with a recent meta-analysis of studies using rating scales (Oyserman, Coon, & Kemmelmeier, 2002), Americans and Japanese did not differ on individualism, and Americans scored higher than Japanese on collectivism. However, the pairwise comparisons revealed that Americans scored higher than Japanese on self-direction, an indicator of individualism, whereas Japanese scored higher than Americans on Benevolence, an indicator of collectivism. These findings suggest that cross-cultural comparisons based on Likert ratings may have been compromised by response artifacts.

Keywords: Values; Culture; Individualism; Collectivism; Measurement

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1. Introdution

Values have been of important concern for personality researchers for decades (e.g., Allport, 1961; Oishi, Diener, Suh, & Lucas, 1999; Rokeach, 1973; Vernon & Allport, 1931). More recently, cross-cultural researchers have come to view values as an important basis for understanding cultural syndromes (e.g., Bond, 1988; Schwartz, 1994; Triandis, 1995). Up to now, the most frequently investigated value in cross-cultural research has been the construct of individualism–collectivism. Oyserman et al. (2002) conducted a comprehensive meta-analysis on individualism–collectivism, and reached two conclusions. First, the construct of individualism–collectivism is multi-faceted. In some cases, the magnitudes of cultural differences shifted substantially, depending on which facets of individualism–collectivism were assessed. Second, although it has often been assumed in the literature that East Asians are collectivists and North Americans are individualists, self-reported scores on individualism–collectivism scales revealed relatively small cultural differences, especially between Japanese and Americans (e.g., $d = 0.25$ on individualism, and 0.06 on collectivism). Oyserman et al. concluded that "even when reliable scales are used, Americans do not differ much in IND from Japanese and Koreans, for COL effects remain small for Koreans, and actually 'flip' for the Japanese-American comparisons, with Americans reporting slightly *higher* COL than Japanese" (p. 72).

There are two notable reactions to the second conclusion of Oyserman et al. (2002). The first type of reaction was that the characterization of East Asians (especially, Japanese) as collectivists reflects the old cultural stereotypes in the mind of cross-cultural researchers rather than reality (e.g., Matsumoto, 2000). Takano and Osaka (1999), for instance, argued that the economic, political, and military situations in Japan have changed drastically since World War II, and that differences between Japan and the US in individualism and collectivism at this time are negligible. There is a similar concern that the world is becoming more and more similar in values because of intense global marketing (e.g., McDonald, Starbucks), communication (e.g., CNN, MTV), and migration/travel. Inglehart and Baker (2000) found a general trend toward a greater degree of individualism (e.g., self-expression) from 1981 to 1995 in many nations, including Japan and the US. Interestingly, however, they also found that the magnitude of Japan-US difference in self-expression and secular-rational values did not change much between 1981 and 1995 (see Hofstede, 1980, 2001; for a similar result).

The second type of reaction to Oyserman et al.'s (2002) conclusion is that their null findings are due to the methodological artifact associated with a Likert scale. In typical studies reviewed by Oyserman et al. participants indicated their agreement or disagreement with statements such as "I prefer to be direct and forthright when I talk with people." In cross-cultural comparisons, responses to such global items are vulnerable to two types of response artifacts such as response styles (e.g., Chen, Lee, & Stevenson, 1995) and reference group effect (e.g., Heine, Lehman, Peng, & Greenholtz, 2002; Peng, Nisbett, & Wong, 1997). For example, the findings that Japanese scored lower than Americans on both individualism and collectivism could be due to the tendency of Japanese to use the mid-point and avoid the end-point of a Likert

scale (Chen et al., 1995). To avoid the effect of response styles, some researchers (e.g., Bond, 1988; Hofstede, 1980) recommend the standardization of the responses within each person (see Schimmack, Oishi, & Diener, in press; for the effect of standardization). Oyserman et al.'s meta-analysis is, however, based predominantly on unstandardized scores.

The null findings could also come from cultural differences in the choice of a comparison standard, or reference group effect. Peng et al. (1997) argued that if Americans are comparing themselves with other Americans when rating how collectivistic they are, many of them might say that they are quite collectivistic, whereas if Chinese are comparing themselves with other Chinese, many of them might say they are not so collectivistic. Indeed, Heine et al. (2002) found no difference between Japanese and Canadians in collectivism when no explicit reference group was presented. However, when participants were asked to compare themselves with somebody from the other culture (Japanese participants comparing themselves with Canadians and vice versa), the expected cultural differences in values emerged.

In short, although the influential meta-analysis by Oyserman et al. (2002) showed a small difference between Japanese and Americans in individualism–collectivism, previous research demonstrated important method-specific cultural differences and similarities in value orientations. Given that the studies meta-analyzed by Oyserman et al. relied predominantly on Likert scales, it is instructive to examine the magnitude of cultural differences in values between Japanese and Americans using multiple methods. Looking back his 50-year history of research, Campbell (1996) pointed out response style as one of the major unresolved problems in personality assessment, and reiterated the importance of a multi-method approach to measurement. Following Campbell's lead, the main goal of our study was to directly compare rating and pairwise comparison data in the same samples, so as to uncover method-specific vs. method-invariant cultural differences between Americans and Japanese in values. A pairwise comparison will result in the same overall mean for all participants, thereby controlling for cultural differences in response styles.

2. Method

Participants were 65 University of Illinois students (32 women) and 103 University of Texas at El Paso students (58 women) in the US, and 90 college students (52 women) in Kobe and 54 (28 women) college students in Tokyo. The English questionnaire was translated into Japanese by Shigehiro Oishi. A back-translation was then accomplished by another bilingual individual.

Participants were asked to complete the PCVS (Oishi, Schimmack, Diener, & Suh, 1998) and the Individualism–Collectivism Scale (ICS; Triandis, 1995). The PCVS is composed of the pairwise comparison of Schwartz's (1994) 10 values. Each of the 10 values is compared with each of the nine other values, one at a time, which constitutes 45 pairwise comparisons in total (see Oishi et al., 1998, for details). The PCVS allowed participants to describe their value preference on a 7-point scale ranging from −3 (left value is much more important), −2, −1, 0 (both values are equally

important), +1, +2, to +3 (right value is much more important). The scale score ranged from −27 to +27 with the mean overall score being zero for everyone.

The ICS was developed by Triandis (1995) with an aim of assessing the construct of individualism–collectivism at the individual level. The participants answered how strongly they agree or disagree with each statement on a 5-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The ICS is composed of 16 individualism ($\alpha = 0.67$ among Americans, 0.79 among Japanese) and 16 collectivism items ($\alpha = 0.78$ among Americans, 0.70 among Japanese). These items are further divided into four categories: horizontal individualism (HI), vertical individualism (VI), horizontal collectivism (HC), and vertical collectivism (VC). VI is defined as self-interest and competition ($\alpha = 0.77$ among Americans, and 0.64 among Japanese). HI is characterized by independence and autonomy ($\alpha = 0.69$ among Americans, and 0.80 among Japanese). VC is defined as the priority of group goals over individual goals and respect for elders and persons in authority ($\alpha = 0.61$ among Americans and 0.54 among Japanese). HC is characterized by relationship-orientation and harmony ($\alpha = 0.71$ among Americans, and 0.67 among Japanese).

3. Results

Table 1 presents the means, standard deviations, *t*-values, and the effect sizes (*d*). The results from the Likert scale rating of individualism–collectivism of the present American and Japanese samples were very similar to Oyserman et al.'s meta-analysis. Consistent with Oyserman et al. (2002), Japanese were not different from Americans

Table 1
Mean (*SD*) and mean differences on values between American and Japanese participants

	Mean (*SD*)		*t* value	Effect size *d*
	US	Japan		
ICS				
IND	3.50 (0.45)	3.43 (0.50)	1.27	0.14
COL	3.61 (0.52)	3.39 (0.43)	4.14	0.47
HI	4.00 (0.56)	3.80 (0.63)	2.93	0.33
VI	3.00 (0.74)	3.06 (0.60)	−0.82	−0.09
HC	3.66 (0.60)	3.56 (0.56)	1.53	0.17
VC	3.57 (0.59)	3.23 (0.47)	5.76	0.65
PCVS				
Power	−3.15 (5.34)	−4.61 (3.75)	2.55	0.31
Achievement	2.23 (3.76)	−1.74 (3.63)	8.74	1.07
Hedonism	0.21 (3.46)	1.39 (4.16)	−2.51	−0.31
Stimulation	−2.50 (3.88)	−1.01 (4.11)	−3.02	−0.37
Self-direction	2.48 (3.51)	0.82 (4.13)	3.53	0.43
Universalism	−0.68 (4.01)	1.55 (3.14)	−5.03	−0.62
Benevolence	2.41 (4.04)	4.26 (3.25)	−4.07	−0.50
Tradition	−3.34 (4.06)	−2.59 (3.81)	−1.56	−0.19
Conformity	−0.023 (4.20)	−0.78 (3.64)	1.57	0.19
Security	2.36 (3.73)	2.72 (3.94)	−0.77	−0.09

in individualism. It should be noted, however, that Americans were higher than Japanese on horizontal individualism, which emphasizes independence, whereas there was no difference in vertical individualism, which emphasizes competition. Again, consistent with Oyserman et al's meta-analysis, Japanese were *lower* than Americans in collectivism on the Likert scale rating.

In contrast, the PCVS data showed a different picture of the US-Japan difference in values (see Table 1). Americans were higher than Japanese in Power (e.g., social recognition), Achievement (e.g., success), and Self-Direction (e.g., independence), whereas Japanese were higher than Americans in Hedonism (e.g., enjoying life), Stimulation (e.g., a varied life), Universalism (e.g., unity with nature), and Benevolence (e.g., loyal). Previous research (Oishi et al., 1998) found that Power and Achievement were related to the vertical dimension of individualism, and Self-Direction was related to the horizontal dimension of individualism, whereas Benevolence was related to the horizontal dimension of collectivism. Hedonism, Stimulation, and Universalism were not related to either individualism or collectivism. In sum, even though the results from the Likert scale were consistent with Oyserman et al.'s (2002) meta-analysis and inconsistent with the cultural theorists (Markus & Kitayama, 1991; Triandis, 1995), the pairwise comparison method revealed the cultural differences generally predicted by cultural theorists.

4. Discussion

This study was conducted to uncover method-specific vs. method-invariant cultural differences and similarities in values. To this end, we measured a variety of values using two methods: a Likert scale and a pairwise comparisons method. A recent meta-analysis by Oyserman et al. (2002) showed that Americans are no more individualistic than Japanese, and Americans are slightly more collectivistic than Japanese. This was surprising, given numerous studies showing cultural differences in various phenomena related to individualism–collectivism (see Heine, Lehman, Markus, & Kitayama, 1999; for a review). Consistent with Oyserman et al.'s meta-analysis, when compared on the traditional Likert scale measure of individualism–collectivism, no notable differences were found between Americans and Japanese on individualism. Moreover, Americans were even *more* collectivistic than Japanese on the Likert scale. However, when measured by the pairwise comparison method, cultural differences emerged between Japanese and Americans, as predicted by cultural experts (e.g., Markus & Kitayama, 1991; Triandis, 1995). Japanese scored lower than Americans in Self-Direction, an indicator of horizontal individualism and the independent self, and higher in Benevolence, an indicator of horizontal collectivism and the interdependent self. Thus, the "surprising" lack of cultural differences between Japanese and Americans in previous research on values might be in part due to methodological limitations of Likert scales.

Before closing, it is instructive to briefly note the difference between the pairwise comparison and other methods previously proposed to tackle the limitations of Likert scales. Peng et al.'s (1997) scenario approach requires the creation of scenarios

understood by people from target cultures. Heine et al.'s (2002) reference group approach requires that participants are familiar with another culture, as participants are asked to compare themselves with someone from another culture (e.g., Americans being asked to compare themselves with typical Japanese). When researchers are interested in comparing two groups, these might not be too serious an issue. However, when researchers are interested in comparing multiple groups, it would be difficult to create scenarios common to all these groups, or to expect participants to be familiar with all other cultures. The pairwise comparison method does not entail these requirements. Thus, this approach provides a viable alternative to the creative solutions proposed by Heine et al. (2002) and Peng et al. (1997).

Our study utilized convenient samples, and consisted of a single study. In addition, because the ICS and the PCVS assess comparable, but not identical constructs (e.g., Self-Direction vs. Horizontal Individualism: ''One should live one's lives independently of others''), the divergent findings between these two scales that we found here could be due to the difference in the constructs under study rather than method variation per se. Despite these limitations, however, our findings shed light on critical issues in cross-cultural research on values. First, as pointed out by Heine et al. (2002) and Peng et al. (1997), cultural comparisons based on a Likert scale might obscure cultural differences. Second, the measurement of specific values helps delineate complexities of cultural differences (e.g., Oyserman et al., 2002; Schwartz, 1994). Finally, although some leading cultural psychologists (e.g., Heine et al., 2002; Kitayama, 2002) are pessimistic about measuring cultural differences in values, our study demonstrates that there is a hope in the measurement approach in the cross-cultural psychology of value orientations.

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