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Converging Measurement of Horizontal and Vertical Individualism and Collectivism

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The constructs of horizontal (H) and vertical (V) individualism (I) and collectivism (C) were theoretically defined and empirically supported. Study 1 confirmed, via factor analysis, that the 4 constructs, HI, VI, HC, and VC, which were previously found in the United States, which has an individualist culture, also were found in Korea, which has a collectivist culture. Study 2 investigated multimethod-multitrait matrices measuring the constructs and generally supported their convergent and divergent validity. Study 3 showed how these 4 constructs relate to previously identified components by H. C. Triandis and colleagues. Study 4 showed the relationships of the measurement of the 4 constructs to some of the measures used by other researchers.

The individualism and collectivism constructs (Dumont, 1986; Hofstede, 1980; Lukes, 1973) have been discussed in many contexts in the social sciences (Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994; Triandis, 1995). For example, closely related concepts can be found in the areas of values (Hofstede, 1980; Kluckhohn & Strodtbeck, 1961), social systems (Parsons & Shils, 1951), morality (Miller, Bersoff, & Harwood, 1990), politics (Singelis, Triandis, Bhawuk, & Gelfand, 1995), religion (Bakan, 1966), cognitive differentiation (Witkin & Berry, 1975), ideology (Dumont, 1986), economic development (Adelman & Morris, 1967), modernity (Inkeles & Smith, 1974; Taylor, 1989), the structure of constitutions (Massimini & Calegari, 1979), cultural patterns (Hsu, 1983), and the self (Jansz, 1991; Markus & Kitayama, 1991; Triandis, 1989). Predictions of behavioral patterns from these constructs have been successful (Wheeler, Reis, & Bond, 1989).

Although the utility of the constructs is indisputable, there is still the tendency to conceive of individualism and collectivism in pure dichotomies in all of the aforementioned contexts. An alternative view, offered by Triandis (1995), is that individualism and collectivism are polythetic constructs. As in zoology, in which, for instance, a "bird" is defined by two attributes (e.g., feathers and wings) and hundreds of species of birds are defined by other attributes, individualism and collectivism may be defined by four attributes and different species of these constructs (e.g., Korean and Japanese collectivism) can be defined by additional attributes.

Specifically, Triandis (1995) argued that the four defining attributes of individualism and collectivism are (a) the definition of the self, which can emphasize personal or collective aspects (Triandis, 1989) or can be independent or interdependent (Markus & Kitayama, 1991); (b) personal goals that can have priority over in-group goals or vice versa (Triandis, 1990; Yamaguchi, 1994); (c) the emphasis on exchange rather than communal relationships (Mills & Clark, 1982) or the emphasis on rationality rather than relatedness (Kim et al., 1994); and (d) the importance of attitudes and norms as determinants of social behavior. In individualist cultures attitudes are more important than norms, but in collectivist cultures norms are given more weight than are attitudes (Bontempo & Rivero, 1992; Trafimow & Finlay, 1996; Davidson, Jaccard, Triandis, Morales, & Diaz-Guerrero, 1976; Kashima, Siegel, Tanaka, & Kashima, 1992).

Purpose of This Article

The purpose of this article is to theoretically define and empirically support additional attributes that further define the constructs of individualism and collectivism. In particular, we argue that both individualism and collectivism may be *horizontal* (emphasizing equality) or *vertical* (emphasizing hierarchy) and that this is a viable and important distinction.

We first present theory regarding the horizontal and vertical distinction and then attempt to demonstrate the viability of the distinction through four studies. Whereas previous research suggests that the distinction is important in the United States (Singelis et al., 1995), in Study 1 we examined whether the structure exists in a non-Western context, Korea. In Study 2 we used two methods for the measurement of horizontal individualism (HI), vertical individualism (VI), horizontal collectivism (HC), and vertical collectivism (VC) as well as multitrait-multimethod matrices of the individualism and collectivism constructs. To further test the viability of the distinction, in Study 3 we examined whether the constructs would relate in hypothesized ways to Triandis and colleagues' previous work on the components of individualism (e.g., self-reliance, competition,

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Table 1
Relation of Horizontal and Vertical Individualism and Collectivism to Other Typologies

Dimension	Collectivism	Individualism
Vertical self	Self different from others	Self different from others
Fiske (1992)	Communal sharing	Market pricing
	Authority ranking	Authority ranking
Rokeach (1973)	Low freedom	High freedom
	Low equality	Low equality
	Communalism (e.g., China)	Market democracy (e.g., France)
Horizontal self	Self same as others	Self same as others
Fiske (1992)	Communal sharing	Market pricing
	Equality matching	Equality matching
Rokeach (1973)	Low freedom	High freedom
	High equality	High equality
	Communal living (e.g., kibbutz)	Democratic socialism (e.g., Norway)

emotional distance from in-groups, and hedonism) and collectivism (e.g., interdependence, family integrity, and sociability). Finally, in Study 4, after a review of the literature on the measurement of individualism and collectivism, we examined the relationship between our new measures of HI and VI and HC and VC and some of the most widely used measurements of the constructs found in the literature.

Theoretical Considerations

Whereas individualism and collectivism are often treated as constituting two distinct cultural patterns, Triandis (1990, 1995) suggested that there are many kinds of individualism and collectivism. For instance, he argued that American individualism is different from Swedish individualism; likewise, the collectivism of the Israeli kibbutz is different from Korean collectivism.

We contend that the most important attributes that distinguish among different kinds of individualism and collectivism are the relative emphases on horizontal and vertical social relationships. Generally speaking, horizontal patterns assume that one self is more or less like every other self. By contrast, vertical patterns consist of hierarchies, and one self is different from other selves. The ways in which these relative emphases combine with individualism and collectivism produce four distinct patterns: HI, VI, HC, and VC.

More specifically, in HI, people want to be unique and distinct from groups, are likely to say "I want to do my own thing," and are highly self-reliant, but they are not especially interested in becoming distinguished or in having high status. In VI, people often want to become distinguished and acquire status, and they do this in individual competitions with others. They are likely to say "I want to be the best." In HC, people see themselves as being similar to others (e.g., one person, one vote) and emphasize common goals with others, interdependence, and sociability, but they do not submit easily to authority. In VC, people emphasize the integrity of the in-group, are willing to sacrifice their personal goals for the sake of in-group goals, and support competitions of their in-groups with out-groups. If in-group authorities want them to act in ways that benefit the in-group but are extremely distasteful to them, they submit to the will of these authorities.

This four-way typology fits exceptionally well with some of the literature that has examined varieties of cultural patterns. For instance, Fiske (1992) discussed cultural patterns that correspond to collectivism (which was referred to as "communal sharing"), vertical (authority ranking) and horizontal relationships (equality matching), and individualism (market pricing).

The typology also is consistent with Rokeach's (1973) analysis of political systems. He discussed political systems that highly value both "equality and freedom," which correspond to HI (social democracy, such as in Australia, Sweden). Systems that he discussed as valuing equality but not freedom correspond to our conceptualization of HC (e.g., the Israeli kibbutz). Those systems that value freedom but not equality correspond to our notion of VI (e.g., competitive capitalism and market economies such as in the United States). Finally, those societies that neither value equality nor freedom correspond to VC (e.g., fascism or the communalism of traditional societies with strong leaders) in our conceptualization.

Table 1, adapted from Triandis (1996), depicts the relationship between the proposed dimensions of HI and VI and between VI and VC and these typologies.

In a preliminary attempt to demonstrate the viability of these constructs, Singelis et al. (1995) provided 32 items, 8 for each of HI (α = .67), VI (α = .74), HC (α = .74), and VC (α = .68). Using factor analysis, Singelis et al. demonstrated that the structure is found in the United States. In study 1, we sought to provide further evidence of the viability of the constructs in a non-Western culture, Korea.

Study 1

Method

Participants. Three-hundred twenty-six students who attended Chung-Ang University in South Korea participated in this study.[1]

Instrument. On the basis of a pilot study conducted in the United States, we used a modified version of the original Singelis et al. (1995)

[1] These data were part of a larger study by Triandis et al. (1997), which examined the use of deception in negotiations in eight cultures. Although the vertical–horizontal distinction was not a focus of that study, the items were used to confirm the location of each of the eight cultures on the individualism and collectivism variables.

items in this study. This included 27 items that had high factor loadings on the constructs. HI was based on 5 items, including "I often do my own thing"; VI was based on 8 items, including "When another person does better than I do, I get tense and aroused." HC was based on 8 items, including "The well-being of my coworkers is important to me." VC was based on 6 items, including "It is important to me that I respect the decisions made by my groups." The items were translated in accordance with the recommendations of Brislin (1980).

Analysis. The 27 × 27 matrix of correlations among the items was subjected to an exploratory factor analysis. Bentler and Wu's (1995) equal prior instant communalities method was used. Both an orthosim solution, which provides orthogonal factors similar to varimax, and an oblimin solution were obtained, and we examined the first four factors given this expectation.

Results

Table 2 shows the highest loading items obtained in the analysis. For interpretation, the orthogonal factors were defined by the following three highest loading items on each factor in the orthosim solution.

Factor 1. "If a coworker gets a prize I would feel proud," "The well-being of my coworkers is important to me," and "To me, pleasure is spending time with others." This is clearly a Horizontal Collectivism factor.

Factor 2. "It is important to me that I do my job better than others," "Winning is everything," and "Competition is the law of nature." This is clearly a Vertical Individualism factor.

Factor 3. "I rely on myself most of the time; I rarely rely on others," "I often do my own thing," and "My personal identity, independent of others, is very important to me." This is clearly a Horizontal Individualism factor.

Factor 4. "It is my duty to take care of my family, even when I have to sacrifice what I want," "Parents and children must stay together, as much as possible," and "It is important to me that I respect decisions made by my groups." That is clearly a Vertical Collectivism factor.

The oblimin solution had high loadings on the same items of Factor 1. Also, in the case of Factor 2, in addition to the items just shown, there were high loadings on "When another person does better than I do, I get tense and aroused" and "Without competition it is not possible to have a good society," which were expected.

The high loading factors of the oblimin were the same as those of the orthosim solution of Factor 3 plus the item "I'd rather depend on myself than on others," and the same was the case for Factor 4, plus the item "Family members should stick together, no matter what sacrifices are required."

Discussion

The interpretation of the four factors was the same for the orthosim and oblimin solutions. The HC, VI, HI, and VC factors emerged in Korea, providing further confidence in the viability of the horizontal and vertical distinction. However, given that the research on the distinction relied exclusively on attitude items, it is important to illustrate that the distinction holds with other methods. Toward this end, in the next study we sought to expand the method of measurement of the constructs by developing a set of scenarios that measure relative emphasis on HI, VI, HC, and VC as well as the attitude items. By creating two different methods of measurement, we were able to examine the

Table 2
Factor Loadings for Horizontal and Vertical Individualism and Collectivism

Item	Factor loading
Horizontal individualism	
1. I'd rather depend on myself than others.	.68
2. I rely on myself most of the time; I rarely rely on others.	.66
3. I often do "my own thing."	.55
4. My personal identity, independent of others, is very important to me.	.40
Vertical individualism	
1. It is important that I do my job better than others.	.59
2. Winning is everything.	.56
3. Competition is the law of nature.	.53
4. When another person does better than I do, I get tense and aroused.	.45
Horizontal collectivism	
1. If a coworker gets a prize, I would feel proud.	.67
2. The well-being of my coworkers is important to me.	.64
3. To me, pleasure is spending time with others.	.61
4. I feel good when I cooperate with others.	.49
Vertical collectivism	
1. Parents and children must stay together as much as possible.	.61
2. It is my duty to take care of my family, even when I have to sacrifice what I want.	.60
3. Family members should stick together, no matter what sacrifices are required.	.52
4. It is important to me that I respect the decisions made by my groups.	.45

degree of convergent and divergent validity using a multitrait–multimethod analysis.

Study 2

Method

Participants. One-hundred twenty-seven Illinois undergraduates from the introductory psychology subject pool participated in this study. Seventy-four percent of the sample were self-identified as White, 4% as Hispanic, 12% as Asian, and 8% as Black; 54% were men and 46% were women.

Instruments. The same 27 items that were modified from Singelis et al. (1995) were included in this study. In addition to these attitude items, which measured HI, VI, HC, and VC, we used 36 scenarios, in multiple-choice format, that allowed participants to select one of four (i.e., HI, VI, HC, and VC) answers.

In the first step, 50 scenarios were constructed, derived from a pilot study, to reflect everyday situations that students are likely to encounter. We started by asking a sample of participants to provide written descriptions of situations that occur in everyday student life. We sampled social, political, economic, aesthetic, religious, and truth situations, as suggested by Spranger (1928). The edited situations were presented to graduate students who knew the meaning of HI, VI, HC, and VC. They were asked to supply answers that corresponded to each of these four constructs that might be given to 50 situations created. For example, one scenario from the aesthetic domain was as follows:

> You are buying some new clothing. Which is the most important factor that you will consider in choosing the style? The style that is . . .
>
> A. Most suitable to your unique personality (HI)
> B. Most impressive in social situations (VI)
> C. Worn by your friends (HC)
> D. Recommended by your parents (VC).

A new sample of 8 graduate students who were familiar with the definitions of HI, HC, VI and VC assigned one of these four qualities to each of the four answers in each scenario. If 7 of 8 of these judges agreed that a scenario had unambiguous HI, HC, VI, and VC answers, we retained the scenario. Otherwise, we discarded it, which resulted in the 36 scenarios.

Analyses. We computed each individual's HI, VI, HC, and VC scores as the sum of the items from Study 1. We next scored the scenarios by noting the frequency of endorsement of HI, VI, HC, and VC answers by our participants. We then correlated the HI, VI, HC, and VC scores obtained from the attitude items with the scores obtained from the scenarios. This gave us the opportunity to compute multitrait–multimethod matrices.

Results

The literature (e.g., Rhee, Uleman, & Lee, 1996; Triandis, 1995) on individualism and collectivism argues that they are independent dimensions. That is, a person can score high or low on both or high on one and low on the other. Thus, in Table 3 we present two matrices: one for individualism and one for collectivism.

The correlations that illustrate the convergent validity of the constructs were generally high (e.g., the correlations between the attitude and scenario items for each construct). For instance, the correlation between the attitude and scenario measurements for HC was .41, .51 for VI, and .29 for VC. The only exception was that for HI, which was .11. It is possible that this was caused by a restriction of range of this construct. That is, student populations in United States score high on HI (Singelis et al., 1995), and there may be restricted variability on this construct. Nevertheless, the analysis generally demonstrated convergent validity.

Table 3
Multitrait–Multimethod Matrices for Attitude and Scenario Methods of Measurement of Individualism, Collectivism, Horizontal, and Vertical Aspects of the Constructs

Scenario or attitude	Scenario		Attitude	
	Individualism			
	HI	VI	HI	VI
Scenario HI	—	−.50	.11	−.20
Scenario VI		—	.20	.51
Attitude HI			—	.30
Attitude VI				—
	Collectivism			
	HC	VC	HC	VC
Scenario HC	—	−.01	.41	.41
Scenario VC		—	.07	.29
Attitude HC			—	.50
Attitude VC				—

Note. HI = horizontal individualism; VI = vertical individualism; HC = horizontal collectivism; VC = vertical collectivism.

Another noteworthy aspect of the matrices was the divergent validity, which can be examined within each method and across methods. For the individualism constructs, there seemed to be differentiation between horizontal and vertical aspects within the scenarios ($r = -.50$) and the attitude items ($r = .30$) as well as across methods ($rs = .20$ and $-.20$, respectively). For the collectivism constructs, there seemed to be differentiation between horizontal and vertical aspects within the scenarios ($r = -.01$), but not as good divergence within the attitudes ($r = .50$) or across methods ($rs = .41$ and $.07$, respectively).

Discussion

This analysis indicated that the constructs generally had good convergent and divergent validity. For instance, HI and VI were discriminably different. In fact, they were negatively correlated, presumably reflecting the difference between the horizontal and vertical components. HC and VC were not as discriminably different, especially when using attitude items. In the analyses that follow, we kept the HC and VC distinct but expected similar results when we correlated them with outside variables.

Given the demonstrated viability of the constructs, it was important to see how our measurements would relate to other measurements of individualism and collectivism that exist in the literature. This would illuminate which aspect of individualism and collectivism our measures were tapping into and provide further evidence of the converging validity of our measures.

Over the past decade, there have been many measures of individualism and collectivism developed in several disciplines (e.g., psychology, communications, business). To provide order

to this, we first provide a comprehensive review of measures used by Triandis and colleagues as well as other popular measures in the literature for individualism and collectivism. In Study 3 we examined how VI and HI as well as VC and HC would relate to previous Triandis measurements. In Study 4 we examined how the constructs would relate to popular measures in the literature. In both studies, we expected that the constructs would differentially relate to existing measures.

Review of Measurements of Individualism and Collectivism

Although the constructs of individualism and collectivism have a long history and can even be found in ancient Greece (see Triandis, 1995), the first measurements were obtained by Hofstede (1980) and Hui (1984, 1988). They provided the first measurements at the cultural and individual levels, respectively. Hui's dissertation included a 63-item Individualism–Collectivism Scale, whose validity was established by correlations with social interest (Crandall, 1980), responses to several scenarios, and the allocation of resources behaviors of those scoring high or low on that scale (Hui, Triandis, & Yee, 1991). Conceivably, the earlier work by Tanaka (1978), who measured the importance of the goal to do "what I think worth doing" and found much higher scores among individualists (e.g., Australians, New Zealanders) than collectivists (e.g., residents of the Indian peninsula), also can be viewed as relevant for the measurement of the individualism construct, but he did not use these labels.

Triandis, Leung, Villareal, and Clack (1985) used both the Hui (1984, 1988) items and scenarios for the measurement of the constructs and showed that the measurements had convergent and discriminant validity. Triandis et al. (1986, 1988) presented cross-cultural measurements of the constructs. The content of individualism included emphases on self-reliance, hedonism, and emotional distance from in-groups (e.g., "I am not to blame if a member of my family fails"), whereas the content of collectivism included family integrity (e.g., agreement with "aging parents should live at home with their children until they die"), sociability (e.g., "I like to talk with my neighbors every day"), and interdependence (e.g., "I like to cooperate with others"). In American samples, self-reliance was linked to competition (e.g., agreement with "winning is everything"). In collectivist samples, self-reliance also could be high, but the motivation often was to avoid being a burden on the in-group. Moreover, second-order factor analyses suggested that subordination of personal goals to in-group goals was a central theme of collectivism (Triandis et al., 1985, 1988). Consistent with these results, Bellah, Madsen, Sullivan, Swidler, and Tipton (1985) reported content analyses of interviews among Americans and found extreme individualism in that sample.

The importance of multimethod measurement was emphasized by Triandis, McCusker, and Hui (1990), who used values (e.g., Schwartz, 1992, 1994), attitude items, measurements of the social content of the self, judgments of perceived homogeneity or heterogeneity of in-groups and out-groups, and the perceptions of social behavior as a function of social distance. They found that the measurements of these attributes showed some convergence and were patterned differently in collectivist and individualist cultures.

Trafimow, Triandis, and Goto (1991) found that the measurements of the social content of the self could be changed by giving the participants the instructions to think of what "you have in common with your family and friends" (which raised the social content of the self) or to think of what makes "you different from your family and friends" (which lowered the social content of the self). University of Illinois students with Chinese names had higher social content of the self than students with English names. The social content scores of all students increased with the former instruction and decreased with the latter instruction.

Values have direct relevance for the measurement of the constructs. In addition to Hofstede's (1980) study, Hofstede and Bond (1984), the Chinese Cultural Connection (1987), and Schwartz (1994) provided measurements that reflect these constructs. Content analyses of documents (Morsbach, 1980) and insults (Semin & Rubini, 1990), observations, such as whether people walked alone or with others (Kernis, Grannemann, Richie, & Hart, 1988; Triandis, 1990), the distribution of attention (Derber, 1979) given to others, and the distribution of resources (Knight, 1981) have provided measurements of the constructs.

Other researchers have measured the constructs using their own methods. For example, Sinha and Verma (1990) used approaches that included responses to items such as "I am the kind of person who does *X*" (where *X* denoted a typical individualist or collectivist behavior) and also asked people to report (using the same behaviors) how members of their own culture typically behaved. Miller (1984) found that collectivists paid more attention to the situation (context) than did individualists in making judgments of the appropriateness of behaviors in various situations. The emphasis on context over content is especially important (Shweder & Bourne, 1982) in distinguishing collectivist from individualist cultures and in understanding cultural differences in communication patterns (Singelis & Brown, 1995; Triandis, 1994, chap. 7). Indeed, Rhee et al. (1996) recently demonstrated that individualism and collectivism change meaning depending on the in-group and culture.

Wagner and Moch (1986) used items that conceptually are linked to vertical collectivism (e.g., "People in a work group should be willing to make sacrifices for the sake of the work-group"). Yamaguchi (1994) used items that pitted personal needs and goals against the needs and goals of "my group." Oyserman (1993) used different items for each of her studies of "personhood." Weissman, Matsumoto, Brown, and Preston (1993) asked participants to rate the importance of 25 values in relation to family, close friends, colleagues, and strangers. Bhawuk and Brislin (1992) developed 16 items that measure the constructs. Hui (1989) reported asking participants to rate 25 stimuli (e.g., grandfather's brother) according to how "indispensable they are to my happiness." This score was reported by Vijaykumar (1991) to correlate with the number of telephone calls made to that person and with the intention to say to that person "I love you" among samples of Tamils, Telegus, and other groups in Southern India.

Bierbrauer, Meyer, and Wolfradt (1994) devised a scale that measures the normative and evaluative components of the constructs that discriminated German from Kurdish participants. Chan (1994) devised a way to take several scales that measure

the constructs and develop a single score that predicts negotiation behavior. Singelis (1994), Gudykunst, Matsumoto, Ting-Toomey, Nishida, and Karimi (1994), and Gudykunst et al. (1996) devised methods that measure interdependent and independent self-construals that had good alphas and showed substantial validities.

Study 3

On the basis of this review, clearly there are a plethora of measurements available for individualism and collectivism. To further demonstrate the viability of the vertical and horizontal distinction proposed, it is important to illustrate that the constructs differentially relate, in predictable ways, to previous measurements. One such set that we examined was how VI and HI and VC and HC relate to Triandis and colleagues' previous components. Recall that previous work (Triandis et al., 1985, 1986; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988) suggested that the content of individualism consists of four factors: Self-Reliance (e.g., "I usually struggle through a personal problem by myself"), Competition (e.g., "I always do my best when I compete with others"), Emotional Distance from In-Groups (e.g., "The parents of those who did win an award have no right to feel that they themselves have earned it"), and Hedonism (e.g., "It is important for me to enjoy my life"). The content of collectivism consists of three factors: Interdependence (e.g., "Before making a decision I like to consult with many others"), Family Integrity (e.g., "I want my aging parents to live with me in my home"), and Sociability (e.g., "I like sharing little things with my neighbors").

Given the theoretical arguments presented previously regarding HI, HC, VI, and VC, it is reasonable to expect that HI will be related to self-reliance; HC will be related to interdependence and sociability; VC will be related to family integrity; and VI will be related to competition and hedonism.

Method

Participants. The students who participated in Study 2 responded to the materials for this study.

Instrument. The 27 modified items from Singelis et al. (1995) were supplemented with 48 nonoverlapping items that measured aspects of individualism (i.e., competition, emotional distance from in-groups, hedonism, and self-reliance) and collectivism (i.e., family integrity, interdependence, and sociability).

Results

As a preliminary step, we computed and visually compared the means of each participant on HI, VI, HC, and VC. We used the highest of the four means to assign the participant to one of the four categories. We then computed the mean responses of each participant to the items that measured the qualities shown in Table 4.

Table 4 shows that individualists scored high on competition, low on family integrity, relatively high on emotional distance from in-groups, somewhat high on hedonism, somewhat low on interdependence, high on self-reliance, and low on sociability. Collectivists scored low on competition, high on family integrity, low on emotional distance from in-group, low on hedonism, and high on sociability. VI was related to especially high scores on competition and hedonism. Vertical collectivists scored especially high on family integrity. Horizontal individualists scored especially high on self-reliance. Horizontal collectivists scored especially high on family integrity and sociability and low on emotional distance from in-groups.

Table 4
Means of Responses to 9-Point Scales Measuring Aspects of Individualism and Collectivism Provided by Those Who Stressed Horizontal and Vertical Aspects of the Constructs

Dimension	HI	HC	VI	VC
Competition	6.1	5.1	7.0	5.2
Emotional distance from in-groups	4.6	4.1	4.7	3.3
Family integrity	6.1	7.1	6.1	7.6
Hedonism	6.6	6.5	7.0	6.0
Interdependence	6.2	6.2	5.1	5.7
Self-reliance	6.7	5.7	6.8	5.7
Sociability	5.5	6.6	5.6	6.6

Note. HI = horizontal individualism; HC = horizontal collectivism; VI = vertical individualism; VC = vertical collectivism.

Although the means showed some differences among people who scored high on HI, VI, HC, and VC, we wanted to establish which of the components, such as interdependence or competition, best predicted each of the HI, VI, HC, and VC scores. As such, we computed four regression equations, one for each of the four tendencies, with the seven components as the predictors.

The HI scores were predicted only by self-reliance ($p < .000$). The VI scores were predicted by both competition ($p = .000$) and hedonism ($p < .005$). The VC scores were predicted by family integrity ($p = .000$) and sociability ($p < .005$). Finally, HC was predicted by both interdependence ($p = .000$) and sociability ($p < .005$).

Discussion

Results of this study provide further support for the distinctions among the four cultural patterns: Those who emphasized VI scored especially high on competition and hedonism; those who emphasized HI were not competitive but scored high on self-reliance; those who emphasized VC scored especially high on family integrity and sociability and low on emotional distance from in-groups ($p < .04$); those who emphasized HC scored high on sociability and interdependence but not on family integrity.

In addition to providing further evidence of convergent validity, our results help to clarify the overlap between VC and HC found in Study 2. It appears that VC and HC are related because both emphasize sociability but are distinct in terms of their emphasis on family integrity and interdependence, respectively. We next examined the relationship between the VI, HI, VC, and HC attitudes and the way others have measured individualism and collectivism.

Study 4

The purpose of this study was to relate the horizontal and vertical measurements of individualism and collectivism that we

developed to the measures of these constructs developed by others. The review of methods presented earlier shows that there are many methods. Ideally, we would have liked to have used all of them. However, this goal was unrealistic because to use all the methods would require that a participant spend several days responding to instruments. Given the limitations of subject pools, and to avoid fatigue effects, we wanted to use measurements that took less than 1 hr to complete. Thus, we selected methods that have had high reliability and validity and had been used in important studies in recent years.

Some of the scales had several items, and thus it was necessary to shorten them. A standard method for reducing a long instrument is factor analysis. One takes the most highly loaded items from each factor. Fortunately, a number of published studies supplied us with this information, so we were able to select the appropriate items, as described later.

Method

Participants. Ninety undergraduates from the psychology subject pool of the University of Illinois were included in this study. In that pool, 76% were self-identified as White, 4% as Hispanic, 12% as Asian, and 8% as Black; there were 54% men and 46% women.

Instruments. All the scales, except those of Maslach, Stapp, and Santee (1985) and Cheek, Tropp, and Chen (1994), consisted of attitude items with which the participants could agree or disagree. The total questionnaire included the following:

1. Eight collectivist items from Oyserman (1993), selecting them from her studies by looking at indicators of high reliability and validity ($\alpha = .42$).

2. Seven "interdependent" construal items ($\alpha = .76$) and seven "independent" construal items ($\alpha = .68$) from Gudykunst et al. (1994). We selected the items with the highest loadings in the two factors of their factor analysis.

3. All 14 items from Clark, Ouellette, Powell, and Milberg (1987) ($\alpha = .80$).

4. All 30 of the right-wing authoritarianism scale of Altemeyer (1981; $\alpha = .86$). This scale was added because previous work by Gelfand, Triandis, and Chan (1996), using multidimensional scaling, suggested that participants see authoritarianism as the opposite of individualism. In that study, collectivism was perceived to be orthogonal to individualism. However, the vertical and horizontal aspects of individualism and collectivism were not examined in that study.

5. All 34 items measuring personal, social, and collective identity of Cheek et al. (1994). This scale consisted of identity statements, such as "my sex, being a male or a female." The participants were asked to indicate the importance of the identity on a 5-point scale ranging from 1 (*not important to my sense of who I am*) to 5 (*extremely important to my sense of who I am*). The items were formed into subscales of social identity ($\alpha = .83$), personal identity ($\alpha = .73$), and collective identity ($\alpha = .64$).

6. We used all 12 items that measure the individuation construct from Maslach et al. (1985; $\alpha = .89$). This scale required the participants to indicate their degree of willingness to engage in 12 behaviors, such as "tell a person that you like him or her." The ratings were made on a 5-point scale ranging from 1 (*not at all willing to do this*) to 5 (*very much willing to do this*).

We next report the correlations among these scales and our 27 items making up HI ($\alpha = .81$), VI ($\alpha = .82$), HC ($\alpha = .80$), and VC ($\alpha = .73$).[2]

Results

The pattern of correlations indicated that the scales developed by Oyserman (1993), Gudykunst et al. (1994), Clark et al. (1987), and Singelis et al. (1995) converge.

Oyserman's (1993) items sampled the horizontal aspects of collectivism. That is, her scores correlated $-.31$ with HI ($p < .01$, one-tailed) and .25 ($p < .02$) with HC. It also correlated .27 ($p < .01$) with the Gudykunst et al. (1994) interdependence, $-.45$ with the Gudykunst et al. independence ($p < .001$), and .26 ($p < .02$) with the Clark et al. (1987) communal relationships measure.

The Gudykunst et al. (1994) interdependent construal tapped both aspects of collectivism, but more of HC ($rs = .71$ and .52 for HC and VC, respectively, $ps < .001$). It also correlated with both Oyserman's (1993) items and the Clark et al. (1987) measure. The Gudykunst et al. independent construal reflected HI ($r = .66$, $p < .000$).

The Clark et al. (1987) measure sampled HC ($r = .56$, $p < .000$) but did not reflect VC well ($r = .18$, $p < .08$). It also had correlations of $-.29$ and $-.29$ ($ps < .005$) with HI and VI, respectively.

The Maslach et al. (1985) and Cheek et al. (1994) measures tapped a domain that was conceptually related to individualism and collectivism, but the measurements suggested that, empirically, these scales were unrelated to our measurements. The Cheek et al. collective identity measure was related to VC ($r = .32$, $p < .02$), but otherwise the correlations were small.

Right-wing authoritarianism was correlated with VC ($r = .29$, $p < .005$), but not with HC ($r = .01$), in spite of the fact that in Study 2 there was less divergent validity between HC and VC. This suggests that HC and VC have considerable overlapping variance but that the overlapping variance is also distinguishable from authoritarianism. On the other hand, some of the unique variance of VC, presumably the aspect that accepts submission to in-group authorities, is related to authoritarianism.

Discussion

Many scales developed by other researchers tend to measure the horizontal aspects of the constructs. In particular, HC is

[2] One important point about alphas in the measurement of cultural constructs, with samples from only one culture, is that when we use "cultural items," defined as items in which less than 10% of a sample in a culture give a response on one side of the neutral point on a 9-point scale, alphas are necessarily low because of a restriction of range. In the case of the 27 items of this study, about one third of the items were cultural. In some cases, only a few people in our sample used more than one position on the scale, thus drastically reducing the correlations with other items. Yet, the definition of culture as "shared meaning" makes those items exceptionally appropriate for the measurement of cultural syndromes. Thus, low alphas can sometimes be acceptable in studies with culturally homogeneous samples. It also should be remembered that the more items there are on a scale, the more reliable it is likely to be. We tried, in most cases, to measure the constructs with 8–20 items to equate more or less the reliabilities of the scales that reflect the length of the scale. Given these points, we can state that all the scales performed well.

well measured by the Gudykunst et al. (1994) Interdependent Construal scale as well as the Singelis et al. (1995) Interdependent Construal scale. HI may be measured with the Gudykunst et al. Independent Construal scale satisfactorily. Other data we have not reported show that the negative pole of the Yamaguchi (1994) scale also may be used to measure this construct.

There are some scales that seem to tap into the vertical aspects, although not as many. VC is linked to the Cheek et al. (1994) Collective Identity scale and to the Altemeyer (1981) scale. Thus, authoritarianism seems to share some elements with VC, but not with HC. This lends further support to the divergent validity of VC and HC, which was discussed in Study 2.

Interestingly, the correlation between authoritarianism and VC differs from the results of multidimensional scaling of elements that reflect collectivism, individualism, and authoritarianism (Gelfand et al., 1996). That multidimensional scaling indicated that individualism and authoritarianism were viewed by our student sample as being polar opposites, whereas collectivism was viewed as being orthogonal to that dimension. In the current study VC was linked to authoritarianism. However, the conceptions that participants have about the way the content elements of the constructs are related to each other do not have to be the same as the relationships among the scales that measure these constructs. Naive participants may conceive of individualism by emphasizing the "do my own thing" element, which certainly is opposite in meaning to "do what authorities judge to be correct." The collectivist elements broadly defined are different from VC, which specifies doing what the collective wants done even if the participant would like to do something else. On the other hand, doing what the collective wants done, even when one wants to do something else, has common content with doing what authorities judge to be correct.

Whereas VC is captured by some of the measurements, VI, which stresses competition narrowly, is not measured by any of the scales developed by other researchers.

General Discussion

The theory of individualism and collectivism predicts correlations among definitions of the self as interdependent, giving priority to in-group goals, and emphasis on norms more than on attitudes and emphasis on communal more than exchange relationships (Triandis, Chan, Bhawuk, Iwao, & Sinha, 1995). In this article, we have shown that the distinction between horizontal and vertical aspects of individualism and collectivism is also important. Although individualism and collectivism are different, the differences between the two kinds of individualism and collectivism also are important.

Specifically, we have demonstrated that these constructs are found in a non-Western culture, Korea, suggesting that the distinction is not only relevant to Western contexts (Singelis et al., 1995). We also have provided both attitudinal- and scenario-based measurements, which generally support the convergent and divergent validity of the measurements.

Furthermore, the content of our measurements relate in predicted ways to other components. In our samples, we saw that the vertical individualists stressed competition and hedonism even more than the horizontal individualists; the horizontal individualists stressed self-reliance. The vertical collectivists seemed to be more authoritarian and traditional but also stressed sociability; the horizontal collectivists stressed sociability, interdependence, and hedonism. Finally, the measurement of the four constructs permitted a more complete and systematic sampling of the domains of individualism and collectivism. Our research revealed that the scales that measure individualism and collectivism stress the horizontal and vertical aspects of the constructs to different degrees. Thus, for instance, the Oyserman (1993), Gudykunst et al. (1994), and Clark et al. (1987) scales reflect only the horizontal aspects of the constructs, whereas the scales of Cheek et al. (1994) and Altemeyer (1981) reflect the vertical aspects of the constructs, particularly collectivism.

Theoretical Implications

Given the viability of the constructs, future researchers should focus on incorporating these dimensions into theory and research in social and organizational psychology. Predictions can be made regarding how VI and HI and VC and HC would relate to topics such as attributions, conformity, persuasion, leadership, conflict and justice, group processes, and gender. For instance, Chen, Meindl, and Hunt (1997) demonstrated that HC and VC are differentially related to reward allocation preferences. HC was negatively correlated with preferences for allocations based on equity, whereas VC was positively correlated with preferences for allocations based on equity.

Self-serving biases may be much more prevalent in vertical individualist cultures (e.g., France, the United States) than in horizontal individualist cultures (e.g., Norway, Sweden) because the former focus on being distinguished and gaining status through competition. Moreover, the vertical–horizontal distinction also may be relevant to conformity. Conformity may be higher in vertical collectivist cultures than in horizontal collectivist cultures because the former focus on sacrificing one's needs for the group.

With respect to gender, researchers may find that cultures differ in the degree to which the status of men and women differ on the basis of the horizontal and vertical distinction. In HI, there is less of a difference in the status of men and women than in VI. In VI, some women of great achievement more or less reach the top of the status hierarchy, but certainly not as easily as is the case for men. The status difference, however, is contested. In HC, the ideology calls for no sex differences in status, but small differences are accepted. In VC, large differences in the status of men and women may not be contested.

On a more general note, on the basis of our analysis of other measurements in the literature, it appears that many researchers conceive of individualism and collectivism primarily in their horizontal forms. Thus, most of the published research on individualism and collectivism may be limited to the horizontal conceptualization of the constructs.

Practical Implications

It is important to note that none of the four cultural patterns is necessarily better or worse for human functioning. Instead, each of these cultural patterns is probably functional in different situations. Specifically, the HI pattern allows individuals to do their own thing without the restraints provided by in-groups;

the VI pattern, with its emphasis on competition, is likely to result in creativity and high effort. By contrast, the HC pattern is likely to lead to much social support and sociability. The VC pattern can allow the in-group to produce more than the sum of its parts. This cultural pattern provides protection and security and reduces the need for personal decisions, which some people find anxiety provoking. In Eric Fromm's (1941) terms, this somewhat authoritarian pattern allows individuals to "escape from freedom."

On the other hand, there are probably costs associated with each pattern. The HI pattern may result in social isolation, in which individuals do their own thing but no one approves of what they do. The VI pattern may result in extreme stress, especially after failures in competition, and thus may reduce the effectiveness of the immune system and increase the probability of both cardiovascular disease and ineffectiveness in battling infections (Triandis et al., 1988). The HC pattern could absorb much of the individual's energy in social relationships, thus decreasing productivity. The VC pattern could result in authoritarian regimes and ethnic cleansing.

Study Limitations

Our studies were performed at the individual level of analysis. Future research should be directed at examining HI, VI, HC, and VC at the cultural level of analysis. Statistically, these two levels are independent, so it is possible to have different patterns at each level. We expect, however, that these patterns will be discernible at the cultural level. Schwartz (1994), for instance, found two dimensions of values at the cultural level that are consistent with our analysis of HI, VI, HC, and VC at the individual level. Specifically, in an analysis of countries, Schwartz (1994) found two dimensions of values. One dimension contrasted hierarchy and mastery (which can be conceived of as a vertical pole) with egalitarian commitment (our horizontal pole). The other dimension contrasted values of conservation (our collectivism pole) with affective and intellectual autonomy (our individualism pole).

Indeed, a recent analysis also illustrated that HI, VI, HC, and VC at the individual level are also related to Schwartz's (1994) values at the individual level (Oishi, 1997). Nevertheless, future researchers should focus on demonstrating the viability of the distinction at multiple levels of analysis.

Future research should also be directed at exploring the VI factor. New items should be developed to expand the content of VI because the present items are too narrowly linked to competition. The items may include, for instance, ideas related to being distinguished, standing out from the crowd, being famous, having power, and so on.

Finally, future research should examine whether market economies in fact emphasize VI more than the other elements. Surprisingly, we did not find that people in the United States, a market economy, emphasized VI, as would be expected from our discussion of Rokeach's (1973) values. Future researchers will need to illuminate whether this was attributable to our particular sample or whether the theory is misspecified. For instance, it may be that individualism is strongly linked to horizontal definitions of social relationships in student populations. In other words, it is possible that individualist students are more or less horizontal rather than that some of them are vertical. It also may be the case that the present generation of college students is less competitive (Burke, 1994) than other generations have been. Clearly, further research is needed with populations that are more likely to be vertical (e.g., in the military, in athletic competitions, in industrial settings in which downsizing is taking place).

At the societal level, a measure of verticality is the ratio of the incomes of the top 20% to the bottom 20% of the population of the country. In 1993 the U.S. ratio was about 9, whereas the Swedish ratio was about 3. Most Western European market democracies have ratios of about 5 or 6. That would suggest that the United States is more vertical. However, the ratio of other societies in the Americas is much higher (e.g., Brazil is 35, Guatemala 31). Nor is the ratio of the individualistic societies low and that of collectivist societies high. For instance, the ratios in Bangladesh and Japan are close to 4. In short, according to that ratio, the United States may not be as vertical as the theory suggests, and future researchers should examine these possibilities.

Conclusion

In summary, theoretical development of the HI, VI, HC, and VC constructs and their measurements appear to be consistent with our data and to overlap both with some of the measures that are currently in the literature, to measure aspects that are not covered by these measures.

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