
The Measurement of Values and Individualism-Collectivism

Shigehiro Oishi
Ulrich Schimmack
Ed Diener
Eunkook M. Suh

University of Illinois—Urbana-Champaign

This study presents alternative measures of S. H. Schwartz's theory of values using pairwise comparisons and goal concepts. Not only did the three measures of values—the Schwartz Value Survey (SVS), the Pairwise Comparison Value Survey (PCVS), and the Personal Striving Value Survey (PSVS)—converge but they were also correlated in similar ways with the Individualism-Collectivism Scale (ICS). This provides evidence that the newly developed scales can be alternatives to the SVS, which allows future studies of values using multiple measures. Moreover, the findings provide support for Schwartz's conception of values as higher order goals. The present findings have several implications for the study of values and their linkage to the study of individualism-collectivism and the self-concept.

Despite Rokeach's (1968) assertion that values should be a prominent research topic in social psychology, the study of values was overshadowed by attitudes, attributions, social cognition, and group processes in the 1970s, 1980s, and for part of the 1990s. However, a series of large-scale cross-cultural studies by Schwartz and his colleagues (Schwartz, 1992, 1994; Schwartz & Bilsky, 1987, 1990; Schwartz & Sagiv, 1995) revitalized the study of values (see Seligman, Olson, & Zanna, 1996, for a recent review). Schwartz focused his conceptualization of values on transsituational goals, including goal-related constructs such as "personal projects" (Little, 1983) and "life tasks" (Cantor & Kihlstrom, 1987). His theory generated a large number of studies on connections between values and diverse social behaviors, including readiness for out-group social contact (Sagiv & Schwartz, 1995), voting behavior (Schwartz, 1996), attitude toward high achievers (Feather, 1996), and attitude function (Maio & Olson, 1995). One possible weakness of pre-

vious studies, however, is that they relied on a single measure of values, namely, the Schwartz Value Survey (SVS). As Campbell (1986) maintained, the use of multiple methods and multiple measures is essential for any research program to be truly successful because alternative measures with different methods provide stringent tests of construct validity. In this article, we first examined Schwartz's theory of values using three different value measures: the SVS, a newly developed Pairwise Comparison Value Survey (PCVS), and the value scale based on "personal strivings" (Emmons, 1986). Then we explored the links between values and individualism-collectivism using multiple measures to expand the nomological network (Cronbach & Meehl, 1955) of value concepts. In this regard, the present investigation is a first step toward an integration of research on values, goals, and individualism-collectivism constructs.

Schwartz's Theory of Values

Schwartz (1996) defined values as "desirable, transsituational goals, varying in importance, that serve as guiding principles in people's lives" (p. 2). Based on the literature about needs, institutional demands, and functional requirements of social groups, Schwartz and Bilsky (1987, 1990) proposed that human values represent three universal requirements of human existence: (a) needs of individuals as biological organisms, (b) req-

Authors' Note: We would like to thank Drs. Shalom Schwartz, Harry Triandis, Terry Tracey, Motoni Katayama, and Sylvia Puente for valuable comments on the earlier version of this article. Correspondence should be addressed to Shigehiro Oishi, Department of Psychology, University of Illinois, 603 East Daniel Street, Champaign, IL 61820; e-mail soishi@s.psych.uiuc.edu.

PSPB, Vol. 24 No. 11, November 1998 1177-1189
© 1998 by the Society for Personality and Social Psychology, Inc.

uisites of coordinated social interactions, and (c) survival and welfare needs of groups. On the basis of the three needs, Schwartz (1992) initially proposed the structure of values consisting of the following 11 value types: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, spirituality, tradition, conformity, and security. Based on the structural analyses of cross-cultural studies, spirituality was dropped. The present model therefore consists of 10 value types (see Figure 1).

Besides the view of values as motivational goals, there are two important features of Schwartz's (1992, 1994, 1996; Schwartz & Sagiv, 1995) theory: (a) the circular structure and (b) value priorities. The circular structure of values seen in Figure 1 represents dynamic relations among values. According to the circular structure, the pursuit of adjacent values (e.g., power and achievement and stimulation and self-direction) is compatible, whereas the pursuit of opposite values (e.g., power and universalism) generates conflict. Individuals high in power also tend to place great importance on achievement and security. Conversely, those high in universalism tend to stress benevolence and self-direction. That is, Schwartz's structure of values allows researchers to generate systematic hypotheses. Closely related to the properties of the circular structure, Schwartz emphasizes value priorities as a meaningful predictor of social behaviors. The relative importance of a particular value over the other values is the most important unit of analysis in his theory. For instance, the value priorities of tradition, conformity, and security in relation to self-direction, universalism, and benevolence were prime indexes for readiness for out-group contact (Sagiv & Schwartz, 1995). In brief, the view of values as motivational goals, the circular structure, and value priorities constitute the axes of Schwartz's theory of values.

The SVS

To test the above conceptualization, Schwartz (1992) developed the SVS, which consists of 56 value items. Of the 56 values, 44 were identified as the predicted value type in at least 75% of the 97 samples from 44 countries (Schwartz, 1994). In addition, the 10 value types emerged in predicted or adjacent location in 82% of the diverse international samples (Schwartz & Sagiv, 1995). Therefore, the structural invariance of the SVS across cultures is well established (see also Schmitt, Schwartz, Steyer, & Schmitt, 1993).

Concerning the measurement of values in general, the use of a rank ordering versus a rating procedure has been hotly debated. In his seminal studies on values, Rokeach (1973, 1979) used a ranking task to assess a person's value preferences. Rokeach and Ball-Rokeach (1989) argued that the ranking procedure directly re-

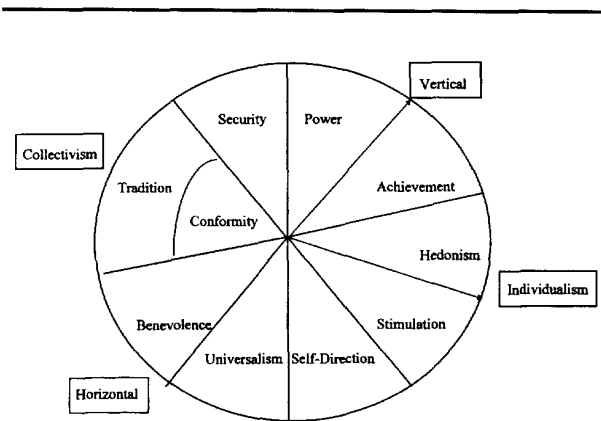


Figure 1 Theoretical links between Schwartz's 10 value types and Triandis's two individualism-collectivism dimensions. SOURCE: Schwartz (1994), Triandis (1995).

flects the phenomenological reality of people engaging in value choice behavior. In support of this view, Krosnick and Alwin (1988) found that the ranking procedure resulted in stronger relations to target variables than did the rating procedure. In contrast, Maio, Roese, Seligman, and Katz (1996) found that value ratings were more strongly related to the target variables than were value rankings. Furthermore, Braithwaite and Law (1985), as well as Schwartz (1992, 1994), maintained that a rating scale is more desirable because it allows participants to indicate that two values are equally important to them. Schwartz (1994) also argued against Rokeach and Ball-Rokeach (1989) that ratings may be phenomenologically closer to the way in which people use values in their daily lives because typically people are only loosely aware of their values. Furthermore, Ng (1982) maintained that the ranking procedure often violates the statistical assumption of independence and, thus, that the rating procedure should be preferred. In addition, ranking 16 values in the Rokeach Value Survey (RVS) seems to be more difficult and time-consuming than rating. As Schwartz (1994) pointed out, adding sample-specific values is also more difficult in the ranking procedure.

One potential drawback of the rating procedure is the effect of response sets. That is, it is not clear whether differences between those people with a high average rating across all values (e.g., indicating power, love, security, and freedom to be their guiding principles in life) and those people with low overall averages (e.g., indicating power, love, security, and freedom to be moderately important) reflect meaningful individual differences or are simply an artifact due to response sets. Schwartz, Verkasalo, Antonovsky, and Sagiv (1997) examined the effects of response styles on the SVS and found a small

but statistically significant correlation between the mean importance rating of the SVS and social desirability measured by the Marlow-Crowne scale ($r = .17, p < .01$ in the Israeli adult sample and $r = .27, p < .01$ in the Finnish sample). Furthermore, social desirability was significantly positively correlated with conformity and tradition in both Israeli and Finnish samples. Schwartz et al.'s (1997) findings suggest that individuals who rate all of the values as very important tend to respond in a socially desirable fashion and that such a tendency is most pronounced in values related to conformity and tradition. In other words, response sets in the SVS appear to reflect substantive individual differences (i.e., a tendency to endorse values related to social harmony) in addition to a possible artifact.

The issue of response sets can raise concerns in multiple group comparisons, especially in comparisons that involve cross-cultural groups. Triandis, McCusker, and Hui (1990), for instance, used the SVS to compare value priorities of a Chinese and an American sample. They unexpectedly found that the Americans endorsed values signifying a sense of belonging, respect for tradition, and loyalty significantly more than did the Chinese. The American sample, however, exhibited a higher mean across all ratings. Therefore, it is still possible that the Chinese considered the values of a sense of belonging, respect for tradition, and loyalty more important than did the Americans, relative to other values. This example indicates that response sets might obscure interindividual and intergroup differences in value priorities in the rating procedure adapted in the SVS. To address this issue, Schwartz (1992) recommended using the mean importance rating for the 56 values as a covariate in comparing multiple groups. Individual and group differences in response styles can therefore be minimized by the procedures recommended by Schwartz (1992). In sum, the SVS shows proper psychometric properties and structural invariance across cultures. Group comparisons using the SVS, however, require the statistical control for response styles.

Alternative Measures of Values

The PCVS was created to address the issue of response styles and to provide an alternative measure of Schwartz's theory of values. Unlike the SVS and the RVS, the PCVS employs a pairwise comparison procedure similar to Thurstone's (1927) law of comparative judgments (cf. Sixtl, 1982). Each of the 10 values is compared with each of the other 9 values, one at a time, on a 7-point scale ranging from -3 to 3 and constituting 45 pairwise comparisons in total (see appendix for details). In this procedure, not only is the relative importance of the values directly measured but the degree to which one value is more important than the other is also measured.

More important, response sets are mostly precluded by this approach because all respondents have the same mean across items (i.e., 0). Thus, it is easier to compare and interpret the relative importance of each value across respondents without any statistical adjustments. Moreover, the PCVS maintains an advantage of the rating procedure because it allows respondents to endorse two values equally while it controls for response sets.

Another way to measure values is to obtain individuals' personal strivings (Emmons, 1986) and compute value scores based on the type of personal strivings. Schwartz (1994) suggests that individuals who stress power tend to pursue goals related to social fame and reputation, whereas those who stress universalism tend to pursue goals related to human rights, equality, and environmental protection. Although Schwartz (1992, 1994) emphasizes his theory of values as representations of goals, the relations between values measured by the SVS and goals were not explicitly examined in previous research. Furthermore, a review by Austin and Vancouver (1996) indicates that although a large body of research on goals has been accumulated in various areas of psychology, theoretical relations between goal concepts and values have not been clearly identified. Goals are known to be intertwined with various aspects of human life, including emotional experiences (Cantor & Harlow, 1994; Carver & Scheier, 1990; Emmons, 1986, 1991), self-evaluations (Bandura & Cervone, 1983), achievement (Elliott & Dweck, 1988), and memory (Singer & Salovey, 1996). The examination of the links between values and goals, therefore, provides (a) an empirical test of Schwartz's concept of values as higher order goals and (b) builds a basis for a synthetic understanding of human behaviors.

Values and Individualism-Collectivism

Whereas Schwartz's (1990, 1992, 1994) theory focuses on value priorities at the individual level, Triandis's (1995, 1996) theory of individualism-collectivism focuses primarily on cultural syndromes, such as shared attitudes, norms, and values at the cultural level. Therefore, with regard to the connection between values and the individualism-collectivism construct, Schwartz (1992) warns researchers that the simple equation between these constructs could be misleading. For instance, Schwartz demonstrates that although values such as wealth, social power, and authority serve individual interests at the individual level, these values tend to receive greater priority in collectivist nations. That is, individualistic values are not necessarily more important in individualist nations than in collectivist nations. To avoid the confusion between individual-level analyses and cultural-level analyses, we focus on the individual-level analyses of values and individualism-collectivism.

Namely, we measure values and individualism-collectivism at the individual level and use constructs parallel to individualism-collectivism at the individual level. Schwartz (1992) notes that at the individual level the values of power, achievement, hedonism, stimulation, and self-direction serve individual interests, whereas the values of benevolence, tradition, and conformity reflect collective interests. Therefore, we predict that individualists tend to place greater emphasis on power, achievement, hedonism, stimulation, and self-direction, whereas collectivists tend to place greater importance on benevolence, tradition, and conformity.

Triandis (1995, 1996) has refined his theory of individualism-collectivism by adding another dimension: vertical versus horizontal. He argues that vertical societies and people emphasize the importance of status and hierarchy, whereas horizontal societies and people stress egalitarianism, paying smaller attention to social class and status. Triandis (1996) hypothesizes that the values of conformity and security represent the collectivism construct, whereas those of self-direction and hedonism represent the individualism construct. Similarly, Triandis hypothesizes that the values of power and achievement constitute the vertical dimension, whereas those of benevolence and universalism characterize the horizontal dimension. Based on Triandis's (1996) analyses, we predict that vertical individualists stress the values of power and achievement, whereas horizontal individualists emphasize the values of self-direction. Likewise, we hypothesize that vertical collectivists stress the values of tradition and conformity, whereas horizontal collectivists emphasize the values of benevolence.

In addition, Markus and Kitayama's (1991) two types of self-construals (i.e., independent self-construals and interdependent self-construals) are closely related to Triandis's individualism-collectivism constructs. The essential aspect of the independent self-construal is the conception of the self as an autonomous and independent person. Conversely, the interdependent self-construal centers on the conception of the self as embedded in others, statuses, roles, and relationships. Based on these characteristics, we hypothesize that the independent self-construal is positively correlated with the values of self-direction, whereas the interdependent self-construal is related to those of benevolence, tradition, and conformity. Despite the clear theoretical connections between values and individualism-collectivism, systematic relations between these constructs have not been empirically tested. The exploration of the linkage, therefore, yields an important test of the nomological network (Cronbach & Meehl, 1955) of values and individualism-collectivism constructs.

Overview

In the present study we developed alternative methods to measure Schwartz's (1992, 1994, 1996) theory of values. For the first alternative we employed a pairwise comparison procedure to allow respondents to directly indicate the relative importance of each value. In addition, we measured values based on personal strivings. These two measures of values allowed us to examine the two important features of Schwartz's theory: relative importance of values as a unit of analysis and the view of values as higher order goals. Furthermore, we tested the theoretical links between values and individualism-collectivism, thereby extending the nomological network of values and individualism-collectivism. The present study addressed the issues of the measurement of values, the need for multiple measures, and the integration of several major research programs in personality and social psychology (i.e., values, goals, and individualism-collectivism).

METHOD

Participants

Sample 1. Participants were 150 University of Illinois undergraduate students (110 females, 40 males) enrolled in a personality psychology course in the spring of 1996. The racial backgrounds of the participants were as follows: 113 Whites, 6 Blacks, 9 Hispanics, and 16 Asians. Of the participants, 30 were between the ages of 18 and 19 years, 97 participants were between the ages of 20 and 21 years, 19 participants were between the ages of 22 and 25 years, and 4 participants were between the ages of 26 and 30 years.

Sample 2. This sample consisted of 121 introductory psychology students at the University of Illinois (58 male, 63 female; 90 White Americans, 5 Black Americans, 6 Hispanic Americans, and 20 Asian Americans). Of the participants, 72% were either 17 or 18 years old, 16% were 19 years old.

Procedure

At Time 1 in Sample 1 the participants completed the PCVS, the Self-Construal Scale (SCS), and the Individualism-Collectivism Scale (ICS), in that order. It took the participants, on average, about 10 minutes to complete the PCVS and another 10 minutes to complete the SCS and the ICS. At Time 2 the participants completed the SVS, the PCVS, and the Personal Striving Value Survey (PSVS), in that order. It took the participants, on average, about 10 minutes to complete the SVS and 15 minutes to complete the PSVS. Four undergraduate assistants completed the scales used in this study prior to

the study's inception. When asked how easy or how difficult they found each of the three scales, one assistant mentioned that choosing one value over the other in the PCVS was more difficult than completing the SVS. It should be noted, however, that none of the participants in this study complained about completing the scales during or after the experiment. The students in Sample 2 completed the PCVS and the SCS, in that order. The participants received partial credit for the course by participating in this study. Due to incomplete data, four participants were dropped from all analyses in Sample 1. Due to occasional missing data, the number of participants differed slightly in several of the analyses.

Measures

SVS. The SVS comprises 56 value items. As recommended by Schwartz (1994), we used in our analyses the 44 value items that were shown to be stable across cultures. The respondents were asked to rate the importance of each value on a 9-point scale ranging from -1 (*opposed to my value*), 0 (*not important*), 3 (*important*), 6 (*very important*), to 7 (*of supreme importance*). Each value-type score was computed by taking the mean rating for the items assigned for each value type based on Table 3 in Schwartz (1994). Cronbach's alpha for each subscale in Sample 1 was as follows: Power .80 (3 items), Achievement .81 (4 items), Hedonism .62 (2 items), Stimulation .85 (3 items), Self-Direction .70 (5 items), Universalism .86 (8 items), Benevolence .70 (5 items), Tradition .70 (5 items), Conformity .77 (4 items), and Security .70 (5 items).

PCVS. As described briefly earlier, the PCVS measures values at the level of the 10 value types proposed by Schwartz (1994). The pairwise comparisons of the 10 value types yield 45 pairs. Each value appears 9 times, about equally often (4 or 5 times) on the left or right side of the comparison. In the PCVS, we changed benevolence to social relationships, universalism to social/ecological concern, and conformity to dutifulness because the original labels were not intended to be used in communication with laypersons. In the instructions of the PCVS we explained the meaning of each value type by listing up to five of the most representative values belonging to the particular type. For example, next to social/ecological concern we listed the values of protecting the environment, a world of beauty, unity with nature, broadminded, and social justice (see appendix for detail). After reading the instruction participants were asked to indicate the degree to which they prefer one value over the other for each pair using a 7-point scale ranging from -3 (*left value is much more important*) to 0 (*both values are equally important*) to +3 (*right value is much more important*). In comput-

ing a scale score for each value type, +3 for an item means +3 for the right value and -3 for the left value. Similarly, +2 for an item means +2 for the right value and -2 for the left value. Likewise, -1 for an item means -1 for the right value and +1 for the left value. As such, two scores are generated from each item, resulting in 90 items (i.e., 9 items for each value type). Therefore, the total scale score ranges from -27 to +27 for each value type. (The scale score can be computed by the software program written by the second author, which is available by request.) The PCVS was administered twice over a 16-day interval.

PSVS. Personal striving is one of the most widely researched goal constructs and is defined as "what a person is characteristically trying to do" (Emmons, 1986, p. 1059). Based on the instructions given by Emmons (1986) the respondents completed 10 sentences starting with "I am typically trying to . . ." On the next page, after generating 10 personal strivings, the respondents rated each striving on the degree of relevance to each of Schwartz's 10 values. For instance, an individual who generated a personal striving (e.g., "I am typically trying to study at least 2 hours a day") rated to what degree this striving was relevant to power, achievement, pleasure/enjoying life, stimulation, self-direction, social/ecological concern, social relationships, tradition, dutifulness, and security on a 7-point scale ranging from 7 (*extremely relevant*) to 4 (*moderately relevant*) to 1 (*not at all relevant*). Next to the value labels, we listed up to five value items that represent each value type. For instance, next to power we listed social power, authority, wealth, and social recognition in parentheses. The respondent repeated this rating for the 10 strivings. By averaging the ratings given to the 10 personal strivings we computed a score for each value type. The score, therefore, ranged from 1 to 7.

ICS. The ICS was developed by Singelis, Triandis, Bhawuk, and Gelfand (1995) to measure the construct of individualism-collectivism at the individual level. The ICS consists of 16 individualism and 16 collectivism items. These were further divided into four categories: horizontal individualism (HI), horizontal collectivism (HC), vertical individualism (VI), and vertical collectivism (VC). The internal consistencies (Cronbach's alpha) of the four scales were .67, .74, .74, and .68, respectively (Singelis et al., 1995).

SCS. The SCS was developed by Singelis (1994) to measure the constructs of the independent self and interdependent self postulated by Markus and Kitayama (1991). The SCS consists of 24 items, 12 of which measure the independent self and 12 of which measure the interdependent self. Cronbach's alpha for the inde-

TABLE 1: Correlations Between the 10 Value Types in the PCVS at Times 1 and 2

Variable	Power	Achievement	Hedonism	Stimulation	Self-Direction	Universalism	Benevolence	Tradition	Conformity	Security
Power	.77**	.27**	.05	.05	-.33**	-.30**	-.35**	-.05	-.11	-.10
Achievement	.29**	.58**	-.10	-.14	.00	-.30**	-.27**	-.05	.03	.06
Hedonism	-.17*	-.12	.62**	.30**	.06	-.13	.26**	-.41**	-.23**	-.07
Stimulation	.04	-.22**	.35**	.69**	.03	.01	-.08	-.26**	-.26**	-.36**
Self-direction	-.23**	.05	-.15	.10	.61**	.19*	.08	-.22**	-.22**	-.18*
Universalism	-.39**	-.23**	-.17*	.01	.31**	.82**	.04	-.19*	-.26**	-.19*
Benevolence	-.27**	-.31**	.08	-.20*	.05	.13	.73**	-.08	-.10	-.03
Tradition	-.05	-.03	-.32**	-.29**	-.24**	-.15	-.15	.74**	.43**	.13
Conformity	.01	.01	-.19*	-.16	-.30**	-.34**	-.20*	.38**	.63**	.29**
Security	-.13	.05	-.06	-.34**	-.06	-.17*	.12	.07	.12	.54**
<i>M</i> (Time 1)	-8.37	3.08	7.45	-1.71	7.66	-.39	8.77	-9.52	-5.93	-1.04
<i>SD</i> (Time 1)	9.28	6.09	6.39	6.88	5.78	9.82	6.58	7.89	7.04	6.67
<i>M</i> (Time 2)	-8.87	4.54	6.44	-1.79	8.03	-.90	8.77	-8.73	-7.46	-.04
<i>SD</i> (Time 2)	8.47	6.48	6.51	7.00	5.67	9.78	7.02	6.74	6.62	6.35

NOTE: $N = 146$ at Time 1 and $N = 142$ at Time 2. Numbers shown in bold denote test-retest reliability coefficients. PCVS = Pairwise Comparison Value Survey.

* $p < .05$. ** $p < .01$.

pendent self was .69 and for the interdependent self was .73 (see Singelis, 1994, for more information).

RESULTS

Convergent and Discriminant Validity

We first correlated the value scores derived from the first and the second administration of the PCVS with each other. If each value type was distinct, then the correlations with the same value type should be higher than the correlations with other value types. As shown in Table 1, this was indeed the case for all 10 value types. In contrast, the cross-value correlations were relatively low. The highest cross-value correlations were found between tradition and conformity ($r = .39$ and $.43$), whereas the within-value correlations ranged from $.54$ to $.82$. This finding supported the distinctiveness of the 10 value types. The diagonal elements of Table 1 also indicated that the new value measure had moderate to high test-retest reliability over a 16-day interval.

In the following analysis we averaged the PCVS scores across the two assessments and correlated the scores with the scale scores for the 10 value types in the SVS and the PSVS. The correlation matrixes presented in Table 2 contain an essential part of Campbell and Fiske's (1959) Multitrait-Multimethod Matrix (MTMM), omitting the heterotrait-monomethod triangles. Campbell and Fiske note that the two essential criteria for convergent and discriminant validity are (a) monotrait-heteromethod coefficients are significantly different from zero and sufficiently large (e.g., the correlation coefficient for power measured by the PCVS and the SVS should be significantly different from zero and sufficiently large) and (b) the monotrait-heteromethod coefficients

should be higher than the heterotrait-heteromethod coefficients (e.g., the correlation coefficient for power measured by the PCVS and the SVS should be larger than the correlation coefficient between power measured by the PCVS and achievement measured by the SVS). As shown in bold in Table 2, 29 out of the 30 monotrait-heteromethod coefficients (i.e., except the correlation for security measured by the SVS and the PSVS) met the first criterion. This provides support for convergent validity for the 10 value types. Similarly, 530 out of 540 comparisons met the second criterion, indicating clear discriminant validity for the 10 value types. Furthermore, the pattern of correlations among the heterotrait triangles (e.g., correlation between power and universalism) was strikingly similar across the methods. This provides additional support for the discriminant validity of the 10 values. Table 2, as a whole, provides strong evidence that Schwartz's 10 values are distinct and that the newly developed PCVS and PSVS are both viable measures of Schwartz's theory of values. From the substantive viewpoint, it also suggests that Schwartz's theory of values certainly reflects daily strivings and value priorities. It is also noteworthy that, confirming Schwartz's circular structure of values seen in Figure 1, there are clear circular relations among the 10 values as indicated by the pattern of correlations—the correlations are the highest between the adjacent values (e.g., power and achievement), decrease as the values grow apart, and become the lowest at the opposite position (e.g., power and universalism).

Issues of Response Sets

As discussed earlier, group comparisons using the SVS require a statistical control for the response sets. On the other hand, the PCVS does not require such a control

because respondents have the mean rating of zero. The mean rating for the 44 value items in the SVS in the male sample was 4.21, whereas the mean rating in the female sample was 3.93 ($t = 1.66, p < .10$). As can be seen in the first two columns of Table 3, male respondents tended to rate most values as more important than female respondents in the SVS. For instance, although female respondents rated self-direction as significantly more important in the PCVS, male respondents rated self-direction as slightly more important than the female respondents in the unadjusted SVS ($t = .18, ns$). Controlling for the response sets in the SVS, however, female respondents tended to place more importance on self-direction than did male respondents ($t = -1.20, ns$). Although the gender difference in the importance of self-direction in the adjusted SVS was not significant, the pattern of gender difference in the adjusted SVS was more consistent with the PCVS. As a whole, Table 3 indicates that the effects of response sets on group mean comparisons in the SVS can be controlled by using the mean rating for the 44 values as a covariate. It also shows that the adjusted means in the SVS exhibit similar patterns of mean differences between gender in the PCVS.

Values and Individualism-Collectivism

To investigate the relationship between values and individualism-collectivism we computed correlations between the SVS, the PCVS, the PSVS, and the ICS. As shown in Table 4, VI was significantly positively correlated with power and achievement in all three measures of values, whereas HI was significantly positively correlated only with self-direction. Likewise, VC was significantly positively correlated with tradition and conformity in all three measures of values, whereas HC was significantly positively correlated only with benevolence. It is also noteworthy that VI was negatively correlated with self-direction, universalism, and benevolence, whereas HC was negatively correlated with power and achievement. Similarly, VC was negatively correlated with self-direction, whereas HI was negatively correlated with benevolence. Table 4, therefore, indicates the systematic relations between Schwartz's theory of values and Triandis's individualism-collectivism constructs across the three measures of values and confirms most of the theoretical analyses done by Schwartz (1990) and Triandis (1996).

To further extend the nomological network of values, we examined the correlations between the three value scales and Singelis's (1994) SCS, which measures Markus and Kitayama's (1991) independent and interdependent selves. Confirming the hypothesis, Markus and Kitayama's interdependent self was significantly positively correlated with Schwartz's (1994) benevolence, tradition, and conformity in three different measures (see

Table 4). The independent self was also significantly positively related to self-direction in the PCVS in Sample 2 and in the SVS. However, this predicted correlation was not observed in the PCVS and the PSVS in Sample 1. Overall, however, the patterns of correlations in Table 4 indicate that Schwartz's (1994) value types were systematically related to self-concepts as well as individualism-collectivism constructs at the individual level.

DISCUSSION

In this study, our goal was twofold: (a) to provide reliable alternative measures of Schwartz's (1994) theory of values and (b) to test the construct validity of Schwartz's theory of values by examining the links among values, goals, and individualism-collectivism constructs. First, we found moderate to high test-retest reliability of the PCVS. The MTMM also demonstrates that Schwartz's 10 values are distinct. Furthermore, strong convergence among the SVS, the PCVS, and the PSVS (see Table 2), along with the similar patterns of correlations with external constructs (see Table 4), provides evidence that two new scales can be used to measure Schwartz's theory of values. These new measures with the SVS also enable researchers to undertake the study of values with multiple measures, which is critical, according to Campbell (1986) and others, for the study of values to grow further in personality and social psychological research. In addition, it is encouraging that the present study demonstrated the connections between values and self-concepts as well as widely popular individualism-collectivism constructs. These findings suggest that values are deeply intertwined with self-concepts and goals and that understanding of manifold psychological functions may be ameliorated by understanding human values. In the following, we focus our discussion on three main issues that emerged from the present analyses: the measurement of values, the conception of values as higher order goals, and the implications of the study of values for the study of individualism-collectivism and the self.

The measurement of values. For a long time, value researchers debated the advantages and disadvantages of the ranking versus rating procedures without a definite answer to this methodological issue (e.g., Feather, 1973; Moore, 1975; Ng, 1982; Rankin & Grube, 1980; Schwartz, 1992, 1994). To overcome limitations of these procedures we developed a new value scale using a pairwise comparison procedure. The new procedure has two advantages: (a) in contrast to the ranking procedure, it does not demand discrimination between values of equal importance; and (b) in contrast to rating scales, it controls for response sets. Although respondents in the SVS are never directly asked to compare and indicate the

TABLE 2: Convergent and Discriminant Validity of the Pairwise Comparison Value Survey (PCVS), the Schwartz Value Survey (SVS), and the Personal Striving Value Survey (PSVS)

	PCVS									
	Self-									
	Power	Achievement	Hedonism	Stimulation	Direction	Universalism	Benevolence	Tradition	Conformity	Security
SVS										
Power	.80**	.40**	-.02	.01	-.27**	-.45**	-.34**	-.07	-.07	-.08
Achievement	.41**	.68**	-.09	-.16	.06	-.25**	-.23**	-.29**	-.10	.03
Hedonism	.12	.04	.59**	.33**	-.14	-.27**	.02	-.24**	-.24**	-.11
Stimulation	.05	-.11	.42**	.67**	.05	-.14	.01	-.28**	-.31**	-.31**
Self-direction	-.22**	.01	.17*	.31**	.56**	.28**	-.13	-.26**	-.42**	-.26**
Universalism	-.45**	-.43**	-.16	-.00	.33**	.78**	.18*	-.13	-.26**	-.11
Benevolence	-.36**	-.18*	-.08	-.18*	-.04	.14	.42**	.06	.10	.08
Tradition	-.18*	-.20*	-.17*	-.22**	-.25**	-.10	.03	.57**	.40**	.18*
Conformity	.17*	.14	-.06	-.31**	-.36**	-.48**	.06	.30**	.55**	.27**
Security	.21**	.19*	-.22**	-.26**	-.29**	-.32**	-.19*	.20*	.42**	.34**
PSVS										
Power	.51**	.34**	.08	.01	-.16	-.24**	-.13	-.22**	-.12	-.16
Achievement	.12	.47**	.05	.04	-.01	-.23**	-.24**	-.07	.01	.00
Hedonism	-.12	-.03	.43**	.22**	.05	.10	-.34**	-.27**	-.07	-.06
Stimulation	.01	-.11	.36**	.56**	.05	-.03	-.12	-.24**	-.21**	-.24**
Self-direction	-.18*	.13	-.05	.08	.44**	.07	-.01	-.08	-.19*	-.09
Universalism	-.21**	-.33**	-.20*	-.10	.13	.47**	.14	.11	-.04	-.20*
Benevolence	-.34**	-.23**	.14	-.03	.13	.07	.46**	-.06	-.09	.01
Tradition	.05	-.11	-.33**	-.26**	-.29**	-.13	-.05	.55**	.33**	.17*
Conformity	.07	-.01	-.24**	-.31**	-.24**	-.13	-.14	.30**	.43**	.26**
Security	.06	-.02	-.09	-.09	-.02	-.02	-.02	-.08	.08	.20*

degree to which benevolence is more important than power, the consistent convergence between the SVS and the PCVS suggests that with the statistical adjustment the absolute ratings of 44 single values in the SVS can be reliably transformed to the measure of relative importance of the 10 value types.

The appropriate psychometric properties of the PCVS found in this study indicate that values can be measured via a procedure other than the ranking and rating procedures. Applied research interests that center on the value priorities further accentuate the suitability of a pairwise comparison procedure in the measurement of the relative importance of values. Moreover, the use of the mean rating in the SVS as a covariate in multiple group comparisons can be staggered by the assumption of the homogeneous regression coefficient of the covariate (Hays, 1994). In the present case, the regression coefficient of the mean rating on each value score should be homogeneous across each gender. When applied in multiple group comparisons from diverse samples the assumption might not hold. One advantage of the PCVS is that it controls for the response sets without relying on a statistical control, which requires a rather stringent

assumption of the homogeneity of regression. Therefore, when researchers are primarily interested in the value priorities and multiple group comparisons of the value priorities, the PCVS can be a viable alternative for the SVS.

As seen in Table 2, however, the convergence of security among the three measures of values was considerably weaker than that of the other value types. It is not entirely clear why this was the case. One possibility is that the college student participants in this study may not have, in general, thought about security as seriously as they thought about achievement and hedonism. To gain a more precise understanding of the psychometric properties of the newly developed value scales the convergence of security among the different measures of values should be examined in the future in samples with older participants.

Values and goals. We measured Schwartz's (1994) theory of values based on personal strivings (Emmons, 1986). One of the most important features of Schwartz's theory of values lies in its motivational aspects, particularly the conception of values as higher order goals. Nevertheless, the linkage between goals and values was

SVS												
				Self- Direction	Universalism	Benevolence	Tradition	Conformity	Security		M	SD
											2.15	1.65
											4.63	1.30
											4.89	1.35
											3.66	1.61
											4.79	1.02
											4.35	1.22
											4.87	1.02
											2.61	1.42
											3.66	1.31
											3.55	1.18
.49**	.29**	.15	.10	.05	-.20*	-.28**	-.30**	.03	.05	3.02	1.39	
.23**	.25**	.15	.14	.13	-.14	-.23**	-.22**	-.01	.00	4.35	1.21	
-.00	-.02	.20*	.26**	.20*	.13	-.03	-.29**	-.25**	-.14	5.16	1.13	
.05	-.08	.22**	.45**	.21**	.07	-.17*	-.17*	-.26**	-.22**	3.81	1.46	
-.03	-.01	.01	.18*	.38**	.18*	-.05	-.21**	-.26**	-.25**	4.59	1.21	
-.13	-.20*	-.18*	-.00	.14	.40**	.03	-.09	-.25**	-.12	3.15	1.51	
-.18*	-.20*	-.01	.08	.10	.21**	.19*	-.18*	-.15	.12	4.56	1.16	
.11	-.12	-.12	-.14	-.25**	.00	-.13	.24**	.16	.13	2.56	1.26	
.04	-.02	-.13	-.30**	-.27**	-.01	-.06	.12	.24**	.35**	3.10	1.23	
.09	.03	.02	-.02	.04	.04	-.10	.12	-.06	.11	3.06	1.35	

NOTE: The correlation matrix between the SVS and the PCVS was based on partial correlations, controlling for the mean rating of the SVS, as recommended by Schwartz (1992). Similarly, the correlation matrix between the PSVS and the PCVS was based on partial correlations, controlling for the mean rating of the PSVS. Finally, the correlation matrix between the PSVS and the SVS was based on partial correlations, controlling for the mean ratings of the SVS and the PSVS. Numbers shown in bold denote convergent validity coefficients.

* $p < .05$. ** $p < .01$.

not explicitly examined before. Therefore, the present analyses provide important support for the idea that values manifest themselves as daily strivings. As predicted, individuals who value benevolence tended to try to help friends, whereas those who value stimulation tended to try to find exciting things to do everyday.

Compared to the PCVS, however, the PSVS tended to show the smaller correlations with the SVS. By definition, personal strivings are things individuals are trying to do in their everyday life. In the present study, it appears that there are a great deal of constraints in the participants' daily lives in terms of what to do. Regardless of how much they value achievement, for instance, they have to do homework and attend classes. Whereas the SVS and the PCVS measures the importance of each value type as guiding principles in life, the PSVS measures value priorities in daily life. To the extent that individuals are constrained by situations they cannot fully pursue what they ideally want to do. Thus, the relatively low correlations between the PSVS and the other value scales appear to reflect different levels of goals among the three value scales—the PCVS and the SVS tend to focus on higher order goals, whereas the PSVS tends to focus on specific

goals. Despite the lower correlations it is noteworthy that the convergence observed between the PSVS and the other value measures was substantial (see Table 2). In other words, the present findings suggest that although individuals are to some degree constrained by situations, they often create the situations so as to pursue their higher order goals.

The cumulative body of literature on goal concepts shows that goals are an integral part of personality and social behaviors that interact with affect, self-concepts, and self-regulation, among others (see Austin & Vancouver, 1996; Gollwitzer & Bargh, 1996; Martin & Tesser, 1996, for reviews). The connection between goals and values found in the present study, therefore, suggests interactions among values, affect, and self-regulation (see also Feather, 1990). For instance, based on Higgins's (1996) self-discrepancy theory, value conflicts between ideal self and ought self may be systematically related to the types of emotional experiences. Dweck's (1996) findings that the type of goals has profound influences on perceptions and behaviors imply that the salient value type may also influence perceptions of the situations and subsequent behaviors. As such, Schwartz's conception of

TABLE 3: Sex Differences on Unadjusted and Adjusted Mean Value Scores in the Schwartz Value Survey (SVS) and the Pairwise Comparison Value Survey (PCVS)

	SVS (unadjusted)			SVS (adjusted)			PCVS		
	M	F	t value	M	F	t value	M	F	t value
Power	2.75	1.95	2.45*	2.61	2.09	1.83	-6.24	-9.63	2.25*
Achievement	4.89	4.55	1.29	4.73	4.71	.13	3.09	3.83	-.72
Hedonism	5.06	4.83	.84	4.94	4.95	-.01	8.65	6.61	1.90
Stimulation	4.42	3.39	3.28**	4.27	3.54	2.81**	.63	-2.51	2.75**
Self-direction	4.84	4.78	.18	4.71	4.89	-1.20	6.32	8.24	-2.03*
Universalism	4.31	4.36	-.19	4.17	4.50	-1.65	-2.72	.16	-1.68
Benevolence	4.84	4.88	-.18	4.72	5.00	-1.88	8.26	9.27	-.87
Tradition	2.95	2.49	1.60	2.79	2.65	.63	-9.57	-9.06	-.40
Conformity	3.96	3.56	1.55	3.80	3.72	.49	-6.44	-6.85	.35
Security	3.80	3.46	1.20	3.65	3.61	.32	-1.96	-.06	-1.81

NOTE: M = male, F = female.

* $p < .05$. ** $p < .01$.

values as superordinate goals supported in this study is promising and should be applied in the investigation of various affective, cognitive, and behavioral phenomena in the future.

Values, individualism-collectivism, and the self. Three different measures of values correlated with the four types of individualism-collectivism constructs very similarly. Such findings mostly confirm Triandis's (1996) theoretical analyses. That is, VI is best described as the relative importance of power and achievement, whereas HI is well characterized by the relative importance of self-direction. Similarly, VC is best described as the relative importance of tradition and conformity, whereas HC is best characterized by the relative importance of benevolence. Compared to a very successful research program of individualism-collectivism at the cultural level (e.g., Diener & Diener, 1995; Han & Shavitt, 1994; Triandis et al., 1990), the study of individualism-collectivism at the individual level has not been as productive. Also, instead of individualism-collectivism scales, it is often the case that researchers use nationality, race, or ethnicity to operationalize the individualism-collectivism constructs. The systematic relations between values and individualism-collectivism demonstrated in this study show that the individualism-collectivism constructs can be measured at the individual level by value scales such as the SVS and the PCVS. Furthermore, as noted by Triandis (1995), individualists and collectivists are likely to pursue different types of goals. Given the close relation between goals and values, the individualism-collectivism constructs can be measured, as shown above, through personal strivings (Emmons, 1986) and similar goal constructs. In short, the incorporation of values into research designs may help advance the understanding of individualism-collectivism within a culture.

On the other hand, compared to the study of individualism-collectivism, many cross-cultural studies on values

focused on the examination of structural invariance (e.g., Schwartz, 1994; Schwartz & Sagiv, 1995). Previous studies on substantial issues examined the relationship between a particular value and other variables in one culture but did not examine whether the relation found in one culture would be observed in other cultures. For instance, although Feather (1996) found that the value of achievement was positively correlated with global self-esteem in an Australian sample, research is yet to be done on whether the relation between the value of achievement and global self-esteem is stronger in one culture than in others. The findings of cross-cultural studies on individualism-collectivism suggest that group differences in value priorities may be related to systematic differences in the role of certain psychological functions, such as the role of self-esteem in life satisfaction (Diener & Diener, 1995) and persuasion (Han & Shavitt, 1994). In the future, patterns of relation between a particular value and other variables should be investigated at the cultural level. In sum, value research at the individual level and individualism-collectivism research at the cultural level benefit from each other by using the measures and past findings in respective areas.

In addition to the links between values and individualism-collectivism, the present study indicates that the values are related to Markus and Kitayama's (1991) two types of self-construals: the independent self and the interdependent self. Individuals who primarily view themselves as autonomous tend to value self-direction, whereas individuals who perceive themselves as part of a group tend to stress the importance of benevolence, tradition, and conformity. Given the recent findings on the relations among the independent versus interdependent self-construals, unrealistic optimism (Heine & Lehman, 1995), and self-serving bias (Heine & Lehman, 1997), the value priorities may be closely related to the way in which individuals gain and maintain psychologi-

TABLE 4: Correlations Among the Three Value Measures, the Individualism-Collectivism Scale (ICS), and the Self-Conceptual Scale (SCS)

	ICS				SCS			
	VI	HI	VC	HC	Ind	Dep	Ind	Dep
PCVS								
					Sample 1		Sample 2	
Power	.54**	.03	.07	-.27**	.18*	-.08	.12	-.21*
Achievement	.43**	.21**	.06	-.07	.15	-.17	.13	-.14
Hedonism	.00	.00	-.21**	.11	.03	-.16	.08	-.09
Stimulation	.03	.13	-.25**	.14	.25**	-.27**	.17	-.24**
Self-direction	-.27**	.19**	-.45**	.07	.05	-.25**	.41**	-.20*
Universalism	-.36**	.09	-.15	.06	.14	-.07	-.07	-.00
Benevolence	-.36**	.23**	.01	.26**	-.15	.20*	-.15	.26**
Tradition	-.01	-.16	.40**	.08	-.19*	.30**	-.15	.20*
Conformity	.04	-.16	.42**	.13	-.30**	.26**	-.23**	.36**
Security	-.05	-.12	.18*	.17	-.25**	.21**	-.23**	.13
SVS								
Power	.52**	.21**	.04	-.27**	-.07	-.22**		
Achievement	.43**	.19**	-.18**	-.16	.07	-.22**		
Hedonism	-.07	.06	-.05	-.05	.15	-.12		
Stimulation	-.07	-.05	-.20*	-.10	.16	-.16		
Self-direction	-.23**	.33**	.36**	.11	.32**	-.26**		
Universalism	-.37**	.10	-.13	.18*	.13	-.26**		
Benevolence	-.30**	.00	-.00	.41**	.05	.22**		
Tradition	-.12	-.01	.25**	.02	-.27**	.22**		
Conformity	.23**	.17	.37**	.05	-.32**	.21**		
Security	.08	-.12	.28**	.20*	-.19*	.22**		
PSVS								
Power	.45**	.02	-.05	-.22**	.07	-.21**		
Achievement	.33**	.18**	-.04	-.19*	.18*	-.22**		
Hedonism	-.01	-.01	-.19*	.07	.16	-.09		
Stimulation	-.04	.02	-.13	-.02	.11	-.11		
Self-direction	-.14	.18**	-.27**	.04	.13	-.13		
Universalism	-.37**	.06	-.12	.05	-.12	.08		
Benevolence	-.23**	.25**	.05	.35**	-.14	.18*		
Tradition	.02	-.04	.38**	.02	-.21**	.22**		
Conformity	.13	.01	.40**	.00	-.03	.15		
Security	-.07	-.02	-.01	.00	-.07	.06		

NOTE: Numbers shown in bold denote the predicted positive correlations. The correlation matrix between the SVS and the ICS was based on partial correlations, controlling for the mean rating of the SVS as recommended by Schwartz (1992). Similarly, the correlation matrix between the PSVS and the ICS was based on partial correlations, controlling for the mean rating of the PSVS to be consistent with Schwartz's (1992) procedure. VI = vertical individualism, HI = horizontal individualism, VC = vertical collectivism, HC = horizontal collectivism, Ind = the independent self, Dep = the interdependent self.
p* < .05. *p* < .01.

cal well-being. The present findings on the link between values and self-concept, therefore, has an important implication that the understanding of value priorities may contribute to uncovering mechanisms of self-regulation.

CONCLUSION

Schwartz's (1992, 1994, 1996; Schwartz & Sagiv, 1995) theory of values is based on several important psychological functions, including needs, motivations, and goals. The present study provides empirical evidence that values are indeed related to goals, individualism-col-

lectivism constructs, and self-concepts. Although values, individualism-collectivism, self-concepts, and goal constructs have been investigated relatively independently of one another, the present study indicates that they are related in a meaningful fashion. More important, the current findings suggest that Schwartz's theory of values provides a common framework for these diverse research paradigms. The extension of the nomological network (Cronbach & Meehl, 1955) of values to the aforementioned constructs should contribute to an integration of research findings from various fields and to an advancement of the psychological understanding of individuals and societies. Such an endeavor can be undertaken in the future using the multiple measures of values presented in this study.

APPENDIX
The Pairwise Comparison Value Survey

First, please carefully read the defining characteristics of each value described below. Then, using the scale below, please indicate which of the values you assign more importance to as a guiding principle in your life.

- Power:** social power, authority, wealth, preserving my public image, social recognition
- Achievement:** successful, capable, ambitious, influential, intelligent
- Pleasure/enjoying life**
- Stimulation:** A varied life, daring, an exciting life
- Self-direction:** creativity, curious, freedom, choosing own goals, independence
- Social/ecological concern:** protecting the environment, a world of beauty, unity with nature, broadminded, social justice
- Social relationships:** helpful, honest, forgiving, loyal, responsible
- Tradition:** devout, accepting portion in life, humble, moderate, respect for tradition
- Dutifulness:** politeness, honoring parents and elders, obedient, self-discipline
- Security:** clean, national security, social order, family security, reciprocity of favors

- 3 left value is much more important
- 2 left value is more important
- 1 left value is slightly more important
- 0 both values are equally important or unimportant
- 1 right value is slightly more important
- 2 right value is more important
- 3 right value is much more important

For example: Power Dutiful

(continued)

APPENDIX Continued

If you value dutiful much more than power, you should put 3.
If you value power slightly more than dutiful, you should put -1.

1. Self-direction	Dutifulness
2. Social/ecological concern . . .	Social relationships
3. Power	Pleasure/enjoying life
4. Stimulation.	Tradition
5. Dutiful	Achievement
6. Pleasure/enjoying life	Self-direction
7. Security.	Achievement
8. Social relationships	Security
9. Dutiful	Power
10. Pleasure/enjoying life	Social/ecological concern
11. Stimulation.	Self-direction
12. Security.	Power
13. Achievement	Pleasure/enjoying life
14. Social/ecological concern . . .	Dutiful
15. Social relationships	Power
16. Tradition	Achievement
17. Self-direction	Security
18. Achievement	Social relationships
19. Stimulation.	Social/ecological concern
20. Pleasure/enjoying life	Tradition
21. Dutiful	Pleasure/enjoying life
22. Social/ecological concern . . .	Security
23. Power	Achievement
24. Stimulation.	Dutiful
25. Security.	Stimulation
26. Tradition	Power
27. Social relationships	Dutiful
28. Self-direction	Social relationships
29. Self-direction	Social/ecological concern
30. Achievement	Stimulation
31. Power	Social/ecological concern
32. Achievement	Self-direction
33. Tradition	Security
34. Dutiful	Security
35. Pleasure/enjoying life	Stimulation
36. Self-direction	Tradition
37. Power	Self-direction
38. Social/ecological concern . . .	Tradition
39. Stimulation.	Social relationships
40. Social relationships	Tradition
41. Pleasure/enjoying life	Social relationships
42. Achievement	Social/ecological concern
43. Tradition	Dutiful
44. Power	Stimulation
45. Security.	Pleasure/enjoying life

NOTE: When scoring, +1 for the first pair, for instance, is counted as +1 for dutiful and -1 for self-direction. Similarly, -2 for the second pair means -2 for social relationships and +2 for social/ecological concern.

REFERENCES

Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin*, 120, 338-375.

- Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology*, 45, 1017-1028.
- Braithwaite, V. A., & Law, H. G. (1985). Structure of human values: Testing the adequacy of the Rokeach Value Survey. *Journal of Personality and Social Psychology*, 49, 250-263.
- Campbell, D. T. (1986). Science's social system of validity-enhancing collective belief change and the problems of the social science. In D. W. Fiske & R. A. Shweder (Eds.), *Metatheory in social science* (pp. 108-135). Chicago: University of Chicago Press.
- Campbell, D. T., & Fiske, F. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.
- Cantor, N., & Harlow, R. E. (1994). Social intelligence and personality: Flexible life task pursuit. In R. J. Sternberg & P. Ruzgis (Eds.), *Personality and intelligence* (pp. 137-168). New York: Cambridge University Press.
- Cantor, N., & Kihlstrom, J. F. (1987). *Personality and social intelligence*. Englewood Cliffs, NJ: Prentice Hall.
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control process view. *Psychological Review*, 97, 19-35.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 112, 393-395.
- Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology*, 68, 653-663.
- Dweck, C. S. (1996). Implicit theories as organizers of goals and behavior. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 69-90). New York: Guilford.
- Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54, 5-12.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, 51, 1058-1068.
- Emmons, R. A. (1991). Personal strivings, daily life events, and psychological and physical well-being. *Journal of Personality*, 59, 453-472.
- Feather, N. T. (1973). The measurement of values: Effects of different assessment procedures. *Australian Journal of Psychology*, 25, 221-231.
- Feather, N. T. (1990). Bridging the gap between values and actions: Recent applications of the expectancy-value model. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2., pp. 151-192). New York: Guilford.
- Feather, N. T. (1996). Values, deservingness, and attitudes toward high achievers: Research on tall poppies. In C. Seligman, J. M. Olson, & M. P. Zanna (Eds.), *The psychology of values: The Ontario symposium* (Vol. 8, pp. 215-251). Mahwah, NJ: Lawrence Erlbaum.
- Gollwitzer, P. M., & Bargh, J. A. (Eds.). (1996). *The psychology of action: Linking cognition and motivation to behavior*. New York: Guilford.
- Han, S. P., & Shavitt, S. (1994). Persuasion and culture: Advertising appeals in individualistic and collectivistic societies. *Journal of Experimental Social Psychology*, 30, 326-350.
- Hays, W. L. (1994). *Statistics* (5th ed.). Fort Worth, TX: Harcourt Brace.
- Heine, S. J., & Lehman, D. R. (1995). Cultural variation in unrealistic optimism: Does the West feel more invulnerable than the East? *Journal of Personality and Social Psychology*, 68, 595-607.
- Heine, S. J., & Lehman, D. R. (1997). The cultural construction of self-enhancement: An examination of group-serving biases. *Journal of Personality and Social Psychology*, 72, 1268-1283.
- Higgins, E. T. (1996). Ideals, oughts, and regulatory focus: Affect and motivation from distinct pains and pleasures. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 91-114). New York: Guilford.
- Krosnick, J. A., & Alwin, D. F. (1988). A test of the form-resistant correlation hypothesis: Ratings, rankings, and the measurement of values. *Public Opinion Quarterly*, 52, 526-538.
- Little, B. (1983). Personal projects: A rationale and method for investigation. *Environmental Behavior*, 15, 273-309.
- Maio, G. R., & Olson, J. M. (1995). Relations between values, attitudes, and behavioral intentions: The moderating role of attitude function. *Journal of Experimental Social Psychology*, 31, 266-285.

- Maio, G. R., Roesse, N. J., Seligman, C., & Katz, A. (1996). Rankings, ratings, and the measurement of values: Evidence for the superior validity of ratings. *Basic and Applied Social Psychology, 18*, 171-181.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- Martin, L. L., & Tesser, A. (Eds.). (1996). *Striving and feeling: Interactions among goals, affect, and self-regulation*. Mahwah, NJ: Lawrence Erlbaum.
- Moore, M. (1975). Rating versus ranking in the Rokeach Value Survey: An Israeli comparison. *European Journal of Social Psychology, 5*, 405-408.
- Ng, S. H. (1982). Choosing between the ranking and rating procedures for the comparison of values across cultures. *European Journal of Social Psychology, 12*, 169-172.
- Rankin, W. L., & Grube, J. W. (1980). A comparison of the ranking and rating procedures for value system measurement. *European Journal of Social Psychology, 10*, 233-246.
- Rokeach, M. (1968). *Beliefs, attitudes and values*. San Francisco: Jossey-Bass.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Rokeach, M. (1979). From individual to supra-individual values: With special reference to the value of science. In M. Rokeach (Ed.), *Understanding human values* (pp. 47-70). New York: Free Press.
- Rokeach, M., & Ball-Rokeach, M. (1989). Stability and change in American values priorities, 1968-1981. *American Psychologist, 44*, 775-785.
- Sagiv, L., & Schwartz, S. H. (1995). Value priorities and readiness for our-group social contact. *Journal of Personality and Social Psychology, 69*, 437-448.
- Schmitt, M. J., Schwartz, S. H., Steyer, R., & Schmitt, T. (1993). Measurement models for the Schwartz values inventory. *European Journal of Personality Assessment, 9*, 107-121.
- Schwartz, S. H. (1990). Individualism-collectivism: Critique and proposed refinements. *Journal of Cross-Cultural Psychology, 21*, 139-157.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1-65). Orlando, FL: Academic Press.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues, 50*, 19-45.
- Schwartz, S. H. (1996). Value priorities and behavior: Applying a theory of integrated value systems. In C. Seligman, J. M. Olson, & M. P. Zanna (Eds.), *The psychology of values: The Ontario symposium* (Vol. 8, pp. 1-24). Mahwah, NJ: Lawrence Erlbaum.
- Schwartz, S. H., & Bilsky, W. (1987). Toward a psychological structure of human values. *Journal of Personality and Social Psychology, 53*, 550-562.
- Schwartz, S. H., & Bilsky, W. (1990). Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology, 58*, 878-891.
- Schwartz, S. H., & Sagiv, L. (1995). Identifying culture-specifics in the content and structure of values. *Journal of Cross-Cultural Psychology, 26*, 92-116.
- Schwartz, S. H., Verkasalo, M., Antonovsky, A., & Sagiv, L. (1997). Value priorities and social desirability: Much substance, some style. *British Journal of Social Psychology, 36*, 3-18.
- Seligman, C., Olson, J. M., & Zanna, M. P. (Eds.). (1996). *The psychology of values: The Ontario symposium* (Vol. 8). Mahwah, NJ: Lawrence Erlbaum.
- Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin, 20*, 580-591.
- Singelis, T. M., Triandis, H. C., Bhawuk, D., & Gelfand, M. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-Cultural Research, 29*, 240-275.
- Singer, J. A., & Salovey, P. (1996). Motivated memory: Self-defining memories, goals, and affect regulation. In L. L. Martin & A. Teaser (Eds.), *Striving and feeling: Interactions among goals, affect, and self-regulation* (pp. 229-250). Mahwah, NJ: Lawrence Erlbaum.
- Sixtl, F. (1982). *Meßmethoden der Psychologie* [Measurement procedures in psychology]. Weinheim, Germany: Beltz.
- Thurstone, L. L., (1927). A law of comparative judgment. *Psychological Review, 34*, 273-286.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview.
- Triandis, H. C. (1996). The psychological measurement of cultural syndromes. *American Psychologist, 51*, 407-415.
- Triandis, H. C., McCusker, C., & Hui, C. H. (1990). Multimethod probe of individualism and collectivism. *Journal of Personality and Social Psychology, 59*, 1006-1020.

Received January 8, 1997

Revision accepted November 17, 1997