

Sex Differences in Value Priorities: Cross-Cultural and Multimethod Studies

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The authors assess sex differences in the importance of 10 basic values as guiding principles. Findings from 127 samples in 70 countries ($N = 77,528$) reveal that men attribute consistently more importance than women do to power, stimulation, hedonism, achievement, and self-direction values; the reverse is true for benevolence and universalism values and less consistently for security values. The sexes do not differ on tradition and conformity values. Sex differences are small (median $d = .15$; maximum $d = .32$ [power]) and typically explain less variance than age and much less than culture. Culture moderates all sex differences and sample type and measurement instrument have minor influences. The authors discuss compatibility of findings with evolutionary psychology and sex role theory and propose an agenda for future research.

Keywords: sex differences, values, cross-cultural

Are there any universal differences between the value priorities of women and men? Do women attribute more or less importance than men to particular values, regardless of age, education, or cultural background? If such sex differences do exist, are they large, small, or, perhaps, of trivial size?¹ Might such differences shed light on the debate about gender differences in the moral orientations of care versus justice?

Numerous past studies have reported sex differences in value priorities (e.g., Beutel & Marini, 1995; Feather, 1975; Rokeach, 1973). These studies cannot, however, clearly answer these questions. First, they typically examined only one or relatively few societies. Whatever differences they identified may be limited to these groups or to the unique social conditions that characterize them. Second, various studies were based on different conceptions of what constitutes a value or on different instruments to measure values. This makes comparison of findings difficult and potentially misleading. Third, and equally important, past studies may not have covered the full range of significant values on which men and women might differ. Fourth, some of the reported gender differences in value priorities might reflect differences in the meaning of values to men and women rather than differences in value importance.

The current article seeks to overcome these four limitations. It addresses the questions posed at the outset by drawing on studies in which we and our collaborators gathered data in 73 countries or cultural groups around the world. The findings therefore overcome the first limitation of sampling a narrow set of cultures. This research benefits from access to data from every individual respondent, unlike most meta-analytic studies. This enables us, in

addition to computing effect sizes, to use hierarchical linear modeling (HLM) to estimate differences in sex effects across countries and to compare the strength of sex effects with those of cultural group. When data are available, we also compare the effects of sex with the effects of age and education. These comparisons put the strength of sex effects into perspective.

Varied conceptions of values in past literature have given way to a growing consensus among psychologists to conceptualize values as an individual attribute (e.g., Feather, 1975; Rohan, 2000; Rokeach, 1973; Schwartz, 1992). Human values are commonly defined as transsituational goals, varying in importance, that serve as guiding principles in the life of a person or a group. This conception of values guided all the studies on which this report is based, thereby overcoming the second limitation we noted in drawing inferences from past research.

Schwartz (1992) identified 10 motivationally distinct basic values that are recognized across societies. Research suggests that these basic values are inclusive, leaving out no major, distinct values that are meaningful across societies (Schwartz, 2005a). We compare the importance of each of these values to women and men. This minimizes the third limitation noted earlier, inadequate coverage of the range of significant values on which women and men might differ. Below are the 10 basic values, each defined in terms of its central goal.

1. Power: Social status and prestige, control or dominance over people and resources.
2. Achievement: Personal success through demonstrating competence according to social standards.
3. Hedonism: Pleasure and sensuous gratification for oneself.
4. Stimulation: Excitement, novelty, and challenge in life.
5. Self-direction: Independent thought and action-choosing, creating, exploring.
6. Universalism: Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.

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This research was supported by Israel Science Foundation Grant 921/02-1 awarded to Shalom H. Schwartz. We thank Moshe Berger, Ariel Knafo, Yuval Piurko, and Noga Sverdlik for their comments on the article and David Buss for his guidance in applying evolutionary psychology to explain the findings.

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¹ We use the terms *sex differences* and *sex effects* to describe the results of comparing people grouped into female and male categories. The term *gender* refers to the meanings ascribed to these female and male categories.

7. Benevolence: Preservation and enhancement of the welfare of people with whom one is in frequent personal contact.

8. Tradition: Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self.

9. Conformity: Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.

10. Security: Safety, harmony, and stability of society, of relationships, and of self.

The social and psychological conflict and congruity people experience when pursuing values give rise to a particular structure of relations among the 10 values (Schwartz, 1992, 2005a). Figure 1 presents a circular structure that portrays the total set of relations. Conflicting values are in opposing directions from the center; congruent values are adjacent to one another in the circle. The values can be viewed as organized along two bipolar dimensions shown in the figure: (a) self-enhancement values (power, achievement) that encourage and legitimize pursuit of one's own interests oppose self-transcendence values (universalism, benevolence) that emphasize concern for the welfare of others and (b) openness values (self-direction, stimulation) that welcome change and encourage pursuit of new ideas and experience oppose conservation values (security, tradition, conformity) that emphasize maintaining the status quo and avoiding threat. Hedonism values share elements of openness and self-enhancement.

Research in over 70 cultural groups has validated the motivationally distinct content of these 10 values and the relations of conflict and compatibility among them (Schwartz, 1992, 2005a, 2005b; Schwartz & Boehnke, 2004). On the basis of this conception of values, Schwartz developed three instruments to measure individual differences in value priorities to assess the robustness of his theory and to accommodate varied populations (Schwartz, 1992, 2003, 2005a, 2005b; Schwartz, Melech, Lehmann, Burgess, & Harris, 2001). Each instrument successfully identified the 10 basic values and the structure of their interrelations in numerous societies. The current examination of possible sex differences in value priorities draws on data gathered with each instrument. This permits assessment of whether observed sex differences are general or depend on the instrument used to measure them. Self-reported values, measured with these instruments, are not mere lip service. They have predicted more than 15 different behaviors (e.g., voting, delinquency, cooperation, competition, con-

sumer purchasing, environmental, religious) in 20 countries (summarized in the following studies: Bardi & Schwartz, 2003; Schwartz, 2005a; Schwartz & Bardi, 2001).

The fourth limitation noted earlier is the possibility that measured sex differences in values may reflect differences in value meaning rather than importance. Preparation of language versions in this study used iterated back-translations to capture nuances, usually with two or more independent translators. The empirical analyses we report below suggest that women and men construed the meanings of the 10 values and of the items used to index them in quite similar ways. Hence, differences in value meanings are unlikely to constitute an important source of sex differences in value priorities that we observed.

We first briefly review findings of past research on sex differences in value priorities. Next, we present the current research as four studies distinguished by instrument used and/or type of sample. We then examine instrument and sample effects. Finally, we integrate the findings of all four studies to draw general conclusions and discuss their implications for theories of gender difference. In Study 1, we draw on data from representative samples from 19 European countries plus Israel using a short version of the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001). Study 2 uses data from adult samples in seven countries that responded to the full PVQ. Study 3 examines data from adult samples from a culturally more diverse set of 15 countries who responded to the Schwartz Value Survey (SVS). Study 4 includes the most culturally diverse set of samples—university students from 70 countries or cultural groups who completed the SVS.^{2,3}

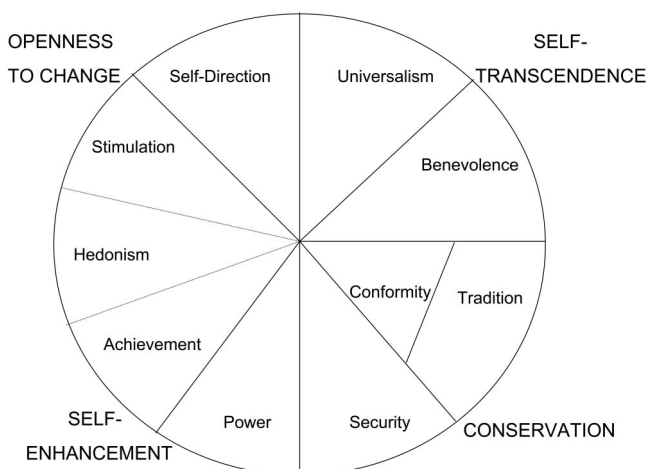


Figure 1. Structure of relations among motivationally distinct values.

² We thank the following people who gathered the data analyzed in Studies 2, 3, and 4 in an international project organized by Shalom H. Schwartz: Charity Akotia, Hasan Bacanli, Krassimira Baytchinska, Gabriel Bianchi, Marim Bilalic, Wolfgang Bilsky, Klaus Boehnke, Engelina Bonang, Michael Bond, Bartolo Campos, Gian Vittorio Caprara, M. Martina Casullo, Patrick Chiroro, Renee Mayorga Chavez, Jose Luis Cossio, Szymon Czaplinski, Åke Daun, Kenneth Dion, Karen Dion, Igor Dubov, J.-B. Dupont, Tahani Edris, Norman Feather, Johnny Fontaine, Kathy Frost, Adrian Furnham, Wei-Zhi Gang, Francis Gendre, James Georgas, Rosalba Giacopino, Robin Goodwin, Hector Grad, Andreas Gronningsaeter, Aydan Gulerce, Hidekazu Hakoi, Beatrice Hammer, Gyu-seog Han, Andreas Hinz, Judy Howard, Sipke Huismans, Sumiko Iwao, Maria Jarymowicz, Jordana Jovanovic, David Karp, Uichol Kim, Goran Knezevic, Jenny Kurman, Alexandre Kurc, Dan Landes, Nadezhda Lebedeva, Alexey Levinson, Mei-Chi Li, Peter Majanen, Eva Mautner, Isabel Menezes, Paulo Mercado, Gerold Mikula, Kay Mitchell, Kyrre Moen, Leo Montada, Melanie Moore, Mesfin Samuel Mulato, John Munene, Regmi Murari, Kathleen Myambo, George Nidharadze, Toomas Niit, Sola Olowu, Michalis Papadopoulos, Darja Piciga, Martti Puhiniemi, Deepa Punetha, Joseph Puyat, Mark Radford, Sonia Roccas, Maria Ros, Viera Rozova, Jose Saiz, Jose Miguel Salazar, Aliou Sall, Evelyn Scannell, Manfred Schmitt, Loraine Scholtz, Shalom Schwartz, Renuka Sethi, Carlos Sousa, Dario Spini, Jan Srnc, Star Soh, Silvia Susnjic, Leonid Smirnov, B. James Starr, Osamu Takagi, Alvaro Tamayo, Giancarlo Tanucci, Ilina Todorova, Harry Triandis, Shripati Uphadhyaya, Zsuzsa Vajda, Erika van der Watern, Markku Verkasalo, Monique Wach, Colleen Ward, Marie Wissing, Roderick Fulata Zimba, and two anonymous others whose names we are not free to reveal.

³ Researchers interested in the overlap of the current data with previous studies should contact Shalom H. Schwartz.

Past Empirical Research

Previous studies have yielded mixed results. The sex differences observed most often are that men tend to emphasize self-enhancement values more than women do and women tend to emphasize self-transcendence values more than men do. Some link such findings to the roughly parallel agentic/instrumental versus communal/expressive distinction suggested by Bakan (1966) and Parsons and Bales (1955). There is also a weaker trend for men to attribute more importance to openness and women to conservation values.

Several American studies used the Rokeach Value Survey (RVS, an ipsative instrument) to measure the importance of 36 value items (Di Dio, Saragovi, Koestner, & Aube, 1996; Rokeach, 1973; Ryker, 1992). Men tended to rank value items we classify as achievement, self-direction, hedonism, and stimulation (e.g., social recognition, freedom, a comfortable life, and an exciting life) higher in importance than women did. Women tended to rank items we classify as benevolence, universalism, and tradition (e.g., true friendship, equality, salvation) higher than men did. Using the RVS in Australia, Feather (1984, 1987) found sex differences mainly compatible with the self-enhancement versus self-transcendence dimension (e.g., men higher on pleasure, exciting life; women higher on loving and forgiving). Bond (1988) reported cross-culturally robust sex differences with the RVS across nine East Asian countries that he interpreted as consistent with the agency–communion distinction (e.g., men higher on success; women higher on security). However, Bond's survey of Confucian values uncovered no consistent sex differences in 21 countries.

Other studies reported findings with versions of the SVS, ipsatizing importance scores within person. In Israel and Turkey, adults exhibited no sex differences on any of the 10 values (Aygun, & Imamoglu, 2002; Prince-Gibson & Schwartz, 1998). However, other studies yielded quite different results. Hinz, Albani, Giebler, and Brähler (2002) found sex differences on all 10 values in a representative German sample. Women rated self-transcendence and conservation values higher, and men rated self-enhancement and openness values higher. Spanish women also rated self-transcendence values higher and self-enhancement values lower than men did (Grad Fuchsel, 1999). In student samples, Australian women rated achievement and benevolence values higher and power values lower than men did (Feather, 2004). American and British women assigned greater importance than men to achievement, self-transcendence, and conservation values (Ryckman & Houston, 2003). The difference for achievement values in these two studies contradicts the usual pattern.

American studies of the absolute importance of work values linked to benevolence and achievement were also inconsistent. Several revealed no sex differences among people with similar jobs (Major, 1987; Major, McFarlin, & Gagnon, 1984; McCarrey et al., 1989). Others reported differences in social (e.g., helping, friendship; women higher) and/or extrinsic (e.g., advancement, status; men higher) job values (Bridges, 1989; Fiorentine, 1988; Johnson, 2001). A study of adolescents' values reported sex differences consistent with the agentic/instrumental versus communal/expressive distinction (Beutel & Marini, 1995).

In sum, the empirical research on sex differences in value priorities reveals a trend for women to emphasize benevolence values more than men. This difference is compatible with the view that women use a care orientation more than men (Gilligan, 1982).

However, the findings give no sense of how strong this preference may be, and they do not shed light on differences in the justice orientation. The values most expressive of a justice orientation are universalism and self-direction, values on which sex differences in past research are unclear. The research suggests that men tend to emphasize achievement values more than women do, though this effect reversed sometimes. Differences on other values were even more inconsistent. Several factors that distinguish different studies may help explain inconsistencies.

First, many studies that failed to find sex differences had relatively small samples ($n < 200$). Studies with small samples require large differences to attain statistical significance. Nonetheless, few (if any) sex differences were observed even in some large studies.

Second, sex differences may be less pronounced in homogeneous than in heterogeneous samples (Feather, 1987). Most past research studied homogeneous samples and may therefore have underestimated or missed sex differences present in general populations. We studied samples that differ considerably in homogeneity, allowing us to evaluate this possibility.

Third, student samples may underestimate sex differences. This is because college life exposes male and female students to more similar expectations and behavior opportunities than later life roles do and selection increases intellectual and socioeconomic, homogeneity. By comparing findings in student and adult samples, we also address this possibility.

Fourth, studies differed both in the instruments used to measure value priorities and in the specific values they examined. There may be stable differences in some types of values but not in others. By investigating a broad range of values that presumably encompasses the major types of value content, we should be able to uncover the types of values in which sex differences do and do not exist. By measuring this content with more than one instrument, we can also establish which, if any, differences are robust to variation in instrument.

Finally, the nature and strength of sex differences in value priorities may have depended on the cultural groups studied. Studies in English-speaking countries have predominated, and many areas of the world are not represented. This makes it impossible to assess the extent to which any sex differences approach universality or show significant and systematic variation of direction or strength across cultures. The large and diverse set of cultures we investigate allows us to address these questions. We identify whether there is significant cross-cultural variation in the effect of sex on the importance of particular values.

The literature may overestimate sex differences in values because of the presumed preference for publishing studies that reject the null hypothesis in the gender domain (Kupfersmid, 1988). This bias should not prejudice the current report. The data we use were not gathered for the purpose of examining sex differences. Rather, the major aims were to assess the cross-cultural validity of the values theory and to relate value priorities to attitudes, behaviors, background, and personality. With the exception of two samples, this is the first use of these data to examine sex differences in value priorities.

Study 1

Samples and Procedure

Strict probability samples, representative of the population 15 years and older in each of 19 countries, participated in the European Social Survey

(ESS) carried out in the years 2002–2003. The countries included the following: Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Great Britain, Greece, Hungary, Ireland, Israel, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, and Switzerland. Appendix A lists the number of men and women in each sample. The data were taken from the Web site <http://ess.nsd.uib.no> and cleaned as reported below. The value survey was administered following a face-to-face interview on a wide variety of topics for approximately 1 hr. Some 65% of respondents completed the survey as part of the interview, whereas the remainder completed it in written form (total included $N = 33,866$).

Instrument

Participants completed a short version of the PVQ (Schwartz, 2005b; Schwartz et al., 2001) specially designed for the ESS.⁴ This version includes verbal portraits of 21 different people, gender matched with the respondent. Each portrait describes a person's goals, aspirations, or wishes that point implicitly to the importance of a value. For example: "Thinking up new ideas and being creative is important to her. She likes to do things in her own original way" describes a person for whom self-direction values are important. "It is important to him to be rich. He wants to have a lot of money and expensive things" describes a person who cherishes power values. Respondents' own values are inferred from their self-reported similarity to people described implicitly in terms of particular values.

Regarding each portrait, respondents answer the following question: "How much like you is this person?" Six labeled responses range from 1 (*not like me at all*) to 6 (*very much like me*). The score for the importance of each value is the mean response to the items that measure it. Two portraits operationalize each value, with three for universalism because of its very broad content. To eliminate individual differences in use of the response scale, we centered each person's responses on his or her own mean. Such ipsatizing converts absolute value scores into scores that indicate the relative importance of each value in the value system, that is, the individual's value priorities (Schwartz, 1992, 2003). Ipsatizing is desirable for value scores because values influence cognition, emotion, and behavior through a trade-off among multiple values that are simultaneously relevant to action (Schwartz, 1996; Tetlock, 1986). In his discussion of standardization in cross-cultural research, Fischer (2004) recognizes the legitimacy of ipsatizing value scores from the Schwartz value theory instruments.

In this and the subsequent studies, we included respondents in the analyses if they met two criteria: (a) Their responses exhibited some minimal discrimination among values—they used the same point on the response scale for no more than 80% of the items used in the indexes; (b) they skipped fewer than 30% of these items. These criteria, recommended in Schwartz's (1992, 2003) studies, are commonly used and strengthen associations when studying relations of value priorities to behavior and attitudes (e.g., Bardi & Schwartz, 2003; Schwartz, in press). The first criterion led to dropping 2.3% of respondents and the second criterion to dropping 0.6% in the ESS.⁵ Any remaining missing data were deleted in a pairwise manner.⁶

Alpha reliabilities of the 10 values averaged .59, ranging from .39 for tradition to .79 for hedonism. These reliabilities are low because each is based on only two items (universalism is based on three items) that must cover conceptually broad constructs. Nonetheless, predicted relations of these value scores with such variables as political orientations, attitudes toward immigration, and social involvement data support their validity (Schwartz, in press).

Two methods assessed whether men and women in each country construed the value items in the same way. First, we carried out multidimensional scaling (MDS) analyses (Borg & Groenen, 1997; Guttman, 1968) of the relations among the items. Separate projections for men and for women revealed virtually identical spatial representations of the items.

Next, we ran a multigroup confirmatory factor analysis (CFA). We first constrained configural invariance for factors (values) across women and men, then metric and then scalar invariance for items. This analysis

produced a nonpositive definite covariance matrix because two pairs of adjacent values were extremely highly correlated. Combining achievement with power and tradition with conformity to form eight factors overcame this problem. The fit indices for configural and metric invariance were satisfactory (comparative fit index [CFI] = .90, adjusted goodness-of-fit index [AGFI] = .94, root-mean-square residual [RMR] = .07, root-mean-square error of approximation [RMSEA] = .037, confidence interval [CI] = .037–.038, p of close fit [PCLOSE] = 1.0). Thus, women and men attributed similar meanings to the value items (Vandenberg & Lance, 2000). When we constrained scalar invariance, chi-square deteriorated significantly, $\Delta\chi^2(19) = 3313$, $p < .001$, but CFI did not change. Change in chi-square is highly sensitive with large sample sizes and complex models. The other indices suggested that scalar invariance might be accepted (CFI = .88, RMSEA = .04, CI = .039–.040, PCLOSE = 1.0).⁷

Analyses

Within each country, we computed the effect size for sex for each of the 10 values (Cohen's d ; Cohen, 1988). To hold constant the effects of age and education on value priorities when estimating sex effects, we entered each person's age and years of formal education as covariates in the multivariate analysis of variance from which we derived the means for men and women. Appendix A lists the effect sizes for sex for each value in each country and indicates which ones are statistically significant.

To obtain estimates of the variation in sex effects on each value across countries, we used HLM5 (Bryk & Raudenbush, 2002). HLM analyses also provided information that enabled us to put the size of sex effects in perspective. These analyses yielded comparable, cross-nation estimates of the variance in each value explained by age, education, and country, as well as by sex. HLM provides more accurate estimates of these effects because it controls the differential reliability of the within-nation relationships due to differences in sample size while estimating regression coefficients.

Results

Table 1 reports results of the analyses across the 19 countries. Row 1 shows that women rated benevolence, universalism, secu-

⁴ Schwartz (2003) described the rationale, development, reliability (internal and test-retest), and validity (convergent, discriminant, and construct) of this short version of the PVQ.

⁵ Analyses that include all respondents to the ESS yield slightly larger sex differences, on average (.01), than those reported below. These variations have no effect on any substantive conclusions. We cannot estimate the percentage dropped in Studies 2, 3, and 4 because most samples in those studies were cleaned according to these criteria before we received them. In 14 samples that had not been cleaned, the percentage dropped was lower than in the ESS data.

⁶ When 5% or fewer cases are missing, pairwise deletion handles missing data adequately and is better than listwise deletion or mean substitution (Schafer & Graham, 2002). The percentage missing is as follows: Study 1—0.6%, Study 2—0.3%, Study 3—2.0%, and Study 4—2.6%.

⁷ Scalar invariance ensures that any systematic response bias is the same in both groups. We thank Eldad Davidov for computing this CFA. Assessing equivalence with CFA across many cultures for a model as complex as 10 factors and 21 indicators (40 in Study 2, and 45 in Studies 3 and 4) is more problematic. Tests of such complex models across as many groups as in the current studies have yet to be published. We attempted to test equivalence across the 19 countries in Study 1 plus France (Davidov, Schmidt, & Schwartz, 2005). This required reducing the model to seven distinct values to overcome a nonpositive definite covariance matrix by combining three pairs of adjacent values. This test supported configural and metric equivalence across cultures (RMR = .08, normed fit index [NFI] = .89, CFI = .91, RMSEA = .01, PCLOSE = 1.0).

Table 1
Study 1: Sources of Difference in Value Importance Across 19 Representative National Samples From the European Social Survey Using the PVQ Short Form

| Variable | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|-------|-------|-------|-------|--------|------|--------|-------|-------|------|
| No. of samples in which the value is more important: women/men | 19/0 | 19/0 | 1/18 | 1/18 | 3/16 | 0/19 | 1/18 | 19/0 | 9/10 | 19/0 |
| Mean effect size | .36 | .25 | -.09 | -.14 | -.11 | -.24 | -.29 | .20 | .01 | .15 |
| % variance due to sex | 3.17 | 1.56 | 0.27 | 0.56 | 0.36 | 1.30 | 2.00 | 0.93 | 0.01 | 0.64 |
| % variance due to age | 1.30 | 2.96 | 0.05 | 11.34 | 9.30 | 5.47 | 0.87 | 4.40 | 7.86 | 7.99 |
| % variance due to education | 0.23 | 1.00 | 2.66 | 0.23 | 0.64 | 0.07 | 0.00 | 1.55 | 1.34 | 1.68 |
| % variance due to country | 5.76 | 3.00 | 3.96 | 2.71 | 10.35 | 5.96 | 2.37 | 9.10 | 7.42 | 4.19 |
| Chi-square variation of sex slope across countries ^a | 93.49 | 87.83 | 48.46 | 52.53 | 125.38 | 84.1 | 141.03 | 42.21 | 71.63 | 44.7 |

Note. PVQ = Portrait Values Questionnaire; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

^a $\chi^2(18) > 34.80, p < .01$; $\chi^2(18) > 42.32, p < .001$.

rity, and tradition values consistently higher than men did. Men, in turn, rated self-direction, stimulation, achievement, power, and hedonism values consistently higher. Only conformity values exhibited no clear trend.

Despite the consistent direction of the sex differences, however, their size was singularly unimpressive. Row 2 of the table reports the mean effect size (*d*) for each value across countries, weighted for sample size (equal weighting yields the same results). The *d* of .36 for benevolence, a quite modest effect by Cohen's rule of thumb, indicates an overlap between the distributions of women's and of men's ratings of benevolence values of about 75%. All other *d*s are $< .30$, indicating even greater overlap of distributions. These results do not depend on use of centered (ipsatized) values. Analyses of uncentered values show the same direction for 181 of 190 *d*s (10 values \times 19 countries), no significant *d* reverses direction, and 120 of the 134 significant *d*s are also significant with uncentered values.

Rows 3–6 report the percentage of variance in value importance accounted for across countries by sex, age, education, and country, respectively. Sex accounts for slightly more than 3% of the variance in the importance of benevolence values, 2% in power values, and less than 2% in all of the other values. To put the effects of sex into perspective, compare them with the percentage of variance accounted for by age, education, and country. Across countries, age accounts for more variance than sex in 7 of 10 values, at least 4 times as much variance in 6 of these values. Education accounts for more variance than sex in half the values. Country accounts for more variance than sex in all 10 values.

Row 7 reports the chi-square value for variation in the regression slopes of sex across countries for each value. This indicates whether the size and direction of the sex effect on a value varies significantly across countries. The results indicate significant ($p < .001$) variation in sex effects across these 19 countries for every value. The greatest cross-national variation in sex effects is for power values, the least for security values. This parallels the variation in *d*s presented in Appendix A (power ranging from $-.09$ to $.55$; security ranging from $-.34$ to $-.06$). We discuss the cross-national variation in sex effects in the conclusion section of this article.

To sum up: There is a consistent tendency for either men or women to attribute greater priority to 9 of the 10 values, all but

conformity. However, sex differences are quite small. Most prominent are differences in the importance of benevolence values and power values. Sex explains about the same amount of variance in values as education and considerably less than age and country.

Study 1 has both strengths and limitations for determining the reliability and generality of sex effects. Its strengths include the large, strict probability samples to represent country populations well, the high quality of data gathering, and the control of individuals' age and education in assessing sex effects. Its limitations include low internal reliabilities of value measurement due to using a shortened version of the PVQ instrument to measure values and relatively restricted cultural variability of the countries studied—four from East-Central Europe, 14 from West Europe, and Israel. Study 2 includes a somewhat more culturally heterogeneous set of samples that completed the full PVQ to measure values.

Study 2

Samples and Procedure

Adults in seven countries completed a written value survey during the years 2001–2003, in studies relating values to attitudes or behavior. French and German samples represented national populations, samples from Italy (Rome) and Argentina (Buenos Aires) roughly represented their regions, whereas those from Israel (Haifa), Poland (Krakow), and the Seychelles were convenience samples. Appendix B lists the numbers in each sample (total $N = 7,045$).

Instrument

Participants completed the full 40-item PVQ. The format and scoring of the full PVQ is the same as described for the short version in Study 1. The number of portraits to measure each value in the full PVQ reflects the breadth of its content: six for universalism; five for security; four each for tradition, benevolence, self-direction, and achievement; three each for stimulation, hedonism, and power. Alpha reliabilities of the 10 values averaged .67, ranging from .55 for tradition to .79 for achievement. Data were prepared as in Study 1 (see Footnotes 4 and 5).

To assess meaning equivalence, we conducted separate MDS analyses (Borg & Groenen, 1997; Guttman, 1968) of the value items for men and for women in the French, German, and Italian samples. These revealed virtually identical spatial representations of the items, suggesting that both sexes attribute similar meanings to each. The other samples were too small to

analyze, but MDS analyses on Israeli and Polish student samples indicated no sex differences in value meaning in those countries. The CFAs of male and female data sets in Study 1 and those described in Footnote 7 were also supportive.

Analyses

Analyses were the same as in Study 1 except that data on years of education were not available for these samples. Hence, only age was held constant in estimating sex effects. Appendix B lists the effect sizes for sex in each country and their statistical significance.

Results

Table 2 reports results of the analyses across the seven countries. Row 1 shows that women gave consistently higher priority to benevolence, universalism, and security values than men did. Men in every sample gave higher priority to stimulation and power values than women did. There were weak trends for conformity (women higher) and for self-direction and achievement (men higher).

As in Study 1, however, even the largest differences are unimpressive. As row 2 shows, the mean effect sizes (d) for benevolence and power were both $.133$, indicating an overlap of sex distributions of about 78%. All other effect sizes were less than $.122$. Given that only large effects would be significant in the small samples in this study, we also counted the number of effect sizes greater than or equal to $.25$ in the direction of the mean effect size (see Appendix B). Only for benevolence and power values did at least half the effect sizes reach $.125$. Analyses of uncentered values show the same direction for 65 of 70 ds and for all significant ds .

Rows 3–5 report the percentage of variance in value importance accounted for across countries by sex, age, and country, respectively. Sex accounts for about 2.5% of the variance in the importance of benevolence and power values and for about 1% or less in all the other values. Comparison of the percentage of variance accounted for by sex, age, and country reveals how small the effects of sex truly are. Across countries, age accounts for more variance than sex in 8 of 10 values. Country accounts for more variance than sex in all 10 values.

Row 6 reports the chi-square value for variation in the regression slopes of sex across countries for each value. Recall that this indicates whether the size and direction of the sex effect on a value

varies significantly across countries. The results indicate significant ($p < .01$) variation in sex effects for achievement, hedonism, tradition, stimulation, and conformity.

Together, Studies 1 and 2 suggest that women and men differ quite consistently in the importance they attribute to benevolence, universalism, stimulation, power, security, achievement, and self-direction values. However, these differences are small, both absolutely and relative to the effects of age and country in both studies. The fact that not all values exhibited cross-country variation of sex effects in Study 2 may be due to the small number of samples and to weighting according to sample size in the HLM analysis. We withhold conclusions about variation of sex effects across countries pending results from all four studies.

Studies 1 and 2 yielded similar results even though they examined different sets of samples and used somewhat different versions of the PVQ. The low internal reliability of some values in the short form of the PVQ apparently did not preclude finding reliable sex differences in value priorities. Because these studies both used the same basic measurement approach, we must still ask whether the observed sex effects are instrument dependent. The PVQ is a relatively concrete instrument that measures values indirectly. Study 3 draws on data gathered with a very different, abstract method that measures values directly. The first two studies covered European countries and added a few countries from outside that region. Study 3 appreciably expands the range of cultures.

Study 3

Samples and Procedure

Adults from 15 countries completed a written value survey between the years 1988 and 2003. Representative national samples were obtained for Chile, Finland, France, and Sweden, and representative regional samples for Australia (Victoria), Japan (Osaka), the Netherlands (Amsterdam region), New Zealand (Auckland), Russia (Moscow), and Japanese immigrants in the Northwest United States. Convenience samples from Australia (Adelaide), China (Shanghai factory workers), East Germany (Chemnitz), West Germany (West Berlin), Israel (Jerusalem), and Peru (Lima) all included varied age and occupational groups. These samples cover the full range of adult ages, occupations, education levels, and so forth. The nations vary substantially in political and economic systems, socioeconomic level, history, culture, and religion. They are from Asia, Latin America, North America, the Middle East, East Europe, West Europe, and Oceania (total $N = 13,345$; Appendix C lists numbers in each sample).

Table 2

Study 2: Sources of Difference in Value Importance Across Seven Adult Samples Using the Full PVQ

| Variable | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| No. of samples in which the value is more important: women/men | 7/0 | 7/0 | 2/5 | 0/7 | 4/3 | 2/5 | 0/7 | 6/1 | 5/2 | 3/3 |
| Mean effect size | .33 | .18 | -.06 | -.17 | -.05 | -.22 | -.33 | .12 | .05 | .17 |
| % variance due to sex | 2.44 | 0.79 | 0.06 | 0.80 | 0.07 | 1.04 | 2.57 | 0.31 | 0.02 | 0.68 |
| % variance due to age | 0.39 | 1.01 | 1.32 | 8.46 | 9.98 | 6.86 | 2.45 | 7.80 | 8.31 | 7.81 |
| % variance due to country | 7.35 | 4.30 | 4.36 | 2.48 | 17.58 | 12.63 | 11.27 | 6.03 | 17.46 | 20.10 |
| Chi-square variation of sex slope across countries ^a | 2.65 | 1.75 | 12.53 | 29.02 | 34.56 | 40.69 | 13.99 | 16.57 | 18.47 | 34.42 |

Note. PVQ = Portrait Values Questionnaire; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

^a $\chi^2(6) > 16.82, p < .01$; $\chi^2(6) > 22.46, p < .001$.

Table 3

Study 3: Sources of Difference in Value Importance Across Representative or Near Representative Adult Samples From 15 Countries, Using the SVS

| Variable | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| No. of samples in which the value is more important: women/men | 15/0 | 15/0 | 1/14 | 0/15 | 0/15 | 1/14 | 0/15 | 10/5 | 8/7 | 6/9 |
| Mean effect size | .24 | .19 | -.11 | -.20 | -.16 | -.20 | -.31 | .03 | .01 | -.03 |
| % variance due to sex | 1.43 | 0.86 | 0.28 | 0.89 | 0.69 | 1.00 | 2.27 | 0.01 | 0.00 | 0.01 |
| % variance due to age | 0.15 | 1.99 | 3.12 | 10.99 | 12.88 | 3.77 | 0.57 | 6.63 | 6.95 | 8.48 |
| % variance due to country | 5.65 | 6.64 | 7.58 | 9.74 | 14.00 | 10.94 | 12.88 | 18.90 | 14.10 | 15.74 |
| Chi-square variation of sex slope across countries ^a | 49.16 | 69.02 | 34.84 | 64.20 | 20.28 | 34.24 | 39.98 | 58.44 | 29.11 | 33.68 |

Note. SVS = Schwartz Value Survey; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

^a $\chi^2(14) > 29.14, p < .01$; $\chi^2(14) > 36.12, p < .001$.

Instrument

Participants completed the SVS (Schwartz, 1992, 2005a). The SVS presents two lists of abstract value items. Each item expresses an aspect of the motivational goal of one of the 10 values. An explanatory phrase in parentheses following each item further specifies its meaning. For example, "EQUALITY (equal opportunity for all)" is a universalism item; "PLEASURE (gratification of desires)" is a hedonism item. Respondents rate the importance of each item "as a guiding principle in MY life" on a 9-point scale ranging from 7 (*of supreme importance*) through 0 (*not important*) to -1 (*opposed to my values*). Samples responded either to the 56-item SVS or to the revised 57-item version (Schwartz, 1994).

The score for the importance of each value is the average rating given to the items designated a priori and demonstrated in studies in 67 countries to form an index of that value with relatively equivalent meaning (Schwartz, 1992, 2005a). The number of items to measure each value ranges from two (hedonism) to eight (universalism), reflecting the conceptual breadth of the values. Alpha reliabilities of the 10 values averaged .68, ranging from .61 for tradition to .75 for universalism. Data were prepared as in Study 1 (see Footnotes 4 and 5).

To index the value scores, we used only 45 items that appeared in both surveys and that had demonstrated near equivalence of meaning across cultures using MDS analyses (Schwartz, 1992, 1994) and CFA (Schwartz & Boehnke, 2004).⁸ Two analyses addressed the question of cross-sex meaning equivalence in the SVS statistically. Struch, Schwartz, and van der Kloot (2002) examined 44 of the SVS items and the 10 value constructs in 21 countries from eight cultural regions with 15 languages ($N = 11,244$).⁹ MDS analyses followed by Procrustes rotation revealed identical regions for the women's and men's samples. Each region encompassed all the items that indexed the value. At the item level, the overall fit between the women's and men's configurations on two dimensions was .993.

We also ran a CFA on the values data from Study 3, constraining configural, then metric, and then scalar invariance across female and male subsamples. The fit statistics for configural plus metric invariance were as follows: CFI = .97, Tucker-Lewis index (TLI) = .97, AGFI = .86, RMR = .18, and RMSEA = .038 (CI = .038-.038).¹⁰ Together, these MDS analyses and CFAs suggest that the value items in the SVS have quite similar meanings for women and men. When we constrained scalar invariance, neither CFI nor TLI nor RMSEA changed, but the highly sensitive chi-square deteriorated significantly, $\Delta\chi^2(35) = 768.32, p < .001$.

Analyses

Analyses were identical to those in Study 2, with controls for age of respondents.

Results

In Table 3, row 1 reveals that women in all 15 countries gave higher priority to benevolence and universalism values. Men gave consistently higher priority to stimulation, power, hedonism, self-direction, and achievement values. As in Studies 1 and 2, however, sex differences were small. As row 2 shows, mean effect sizes (d) for each value across countries ranged from $.101$ to $.31$, indicating overlap of sex distributions of 80% and more. For benevolence, universalism, stimulation, achievement, and power values, at least half the effect sizes within countries were greater than or equal to $.25$ in the dominant direction (see Appendix C). Analyses of uncentered values show the same direction for 135 of 150 d s and for all significant d s.

Rows 3-5 of Table 3 show the percentage of variance in value importance accounted for across countries by sex, age, and country. Sex accounts for slightly more than 2% of the variance in power values, about 1.5% in benevolence values, and 1% or less in all of the other values. Comparisons with age and country put these effects of sex into perspective. Across countries, age accounts for more variance than sex in the importance of all values except power and benevolence, and country accounts for more variance than sex in all 10 values.

⁸ Schwartz and Boehnke (2004) tested a single model constraining configural invariance for 10 factors across two data sets, each aggregated from 23 cultures. The fit statistics they reported for each set were RMSEA = .06, .06 and standardized root-mean-square residual (SRMR) = .08, .07. They did not test metric or scalar invariance, but the unconstrained loadings on their respective factors of all but three items differed less than .09 across the two sets ($M = .05$), and all but one loading was greater than .40. This suggests at least moderate similarity of meaning across cultures. Most of the samples in this study are included in Studies 3 or 4.

⁹ The regions were Chinese East Asia, Eastern Europe, Finland, France, Israel, Japan, Latin America, and the United States.

¹⁰ Constraining metric in addition to configural invariance changed CFI and TLI, and RMSEA changed not at all, indicating a good fit, but chi-square deteriorated, $\Delta\chi^2(35) = 174.79, p < .01$. Following a modeling rationale (Little, 1997), we accepted the more constrained metric invariance model because chi-square is an overly sensitive index with large samples and models with numerous constraints like this one. We thank Daniel Fuss for performing these analyses.

Table 4
Sources of Difference in Value Importance Across 67 Student Samples, Using the SVS

| Variable | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|--|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| No. of samples in which the value is more important: women/men | 54/13 | 47/20 | 16/51 | 11/56 | 9/58 | 15/52 | 4/63 | 37/30 | 35/32 | 29/38 |
| Mean effect size | .19 | .15 | -.10 | -.19 | -.21 | -.11 | -.36 | .05 | -.01 | -.03 |
| % variance due to sex | 0.88 | 0.62 | 0.25 | 0.88 | 1.13 | 0.35 | 2.99 | 0.07 | 0.00 | 0.01 |
| % variance due to cultural groups | 9.23 | 12.11 | 12.80 | 10.25 | 20.48 | 8.83 | 11.94 | 16.71 | 24.92 | 20.10 |
| Chi-square variation of sex slope across cultures ^a | 155.78 | 305.49 | 135.15 | 146.21 | 223.48 | 131.11 | 171.76 | 174.8 | 243.34 | 248.85 |

Note. SVS = Schwartz Value Survey; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

^a $\chi^2(66) > 95.63, p < .01$; $\chi^2(66) > 107.26, p < .001$.

Row 6 reports chi-square values for variation in the regression slopes of sex across countries. The results indicate significant ($p < .01$) variation in the size and/or direction of the sex effects across these 15 countries for all values but hedonism and conformity (borderline $p < .011$).

Overall, the percentage of variance explained by sex was slightly lower in Study 3 than in Studies 1 and 2, but the general trend was the same. The first three studies reveal robust, small sex differences in six values across three instruments and across adult samples from numerous countries around the world. Although the three studies include samples from 30 nations, the representation of cultures is still too limited to conclude that the findings point to near-universal phenomena. In particular, there were no samples from Africa, Southeast Asia, and North America (except immigrants). Other non-European regions were also underrepresented. Study 4 seeks to overcome this limitation. It draws on data from a much larger set of samples from all the world's permanently inhabited continents. This set of samples is culturally much more diverse than the sets of samples in Studies 1–3. Any sex differences that replicate in Study 4 as well would be strong candidates to consider as near universals.

The samples in Study 4, as in most past research on sex differences in values, are college students. Comparing differences in student and adult samples can address the following question: Do studies of students exaggerate sex differences or underestimate them?

Study 4

Samples and Procedure

Between the years 1988 and 2003, 103 samples of university and college students from 64 countries completed the SVS. In 27 countries, there were multiple samples from the same ethnic group. We combined the multiple samples in a country except if there was a cross-over interaction between sample and sex that accounted for more than 1% of the variance in at least one value. This occurred in three countries (Germany East/West, Turkey Ankara/Istanbul, and Ukraine East/West).¹¹

Combining samples within countries yielded 67 distinct cultural groups from all inhabited continents: Africa (8), South and Southeast Asia (6), East Asia (5), the Middle East (3), Central and Eastern Europe (16), Western Europe (16), Latin America (6), North America (2), and Oceania (2). Appendix D lists the numbers in each sample (total $N = 23,272$). This large and geographically dispersed set of samples represents much of the cultural diversity of literate human societies. As such, it poses the strongest challenge to finding evidence for universality of sex effects on values.

Instrument

Evidence relating to the cross-cultural and cross-sex equivalence of value meanings in the SVS was discussed in Study 3. In Study 4, the alpha reliabilities of the 10 values ranged from .55 for self-direction to .73 for universalism ($M = .67$). Data were prepared as in Study 1.

Analyses

Analyses paralleled Studies 2 and 3 with two exceptions. First, we did not control age, because the vast majority of respondents were 18–24 years old in these student samples. Second, we included the year the data were gathered as a Level-2 predictor of the sex slope in the HLM. This permitted assessing possible cohort effects on the size and direction of sex differences that might reflect changing sex roles during the 15-year period of data gathering.

Results

In Table 4, row 1 reveals that women gave higher priority to benevolence and universalism values across the 67 cultural groups than men did. Men gave consistently higher priority to self-direction, stimulation, hedonism, achievement, and power values than women did. For many values, the sex difference was not as consistent as in Studies 1–3. In each of these values, however, it was statistically significant by the binomial test ($p < .001$).

As in the previous studies, even the consistent sex differences were small in size. Row 2 shows the largest mean effect size was for power values (.36; about 75% overlap). The other effect sizes ranged from .101/ to .121/ (85% overlap or more). Only for power values were at least half the effect sizes within countries greater than or equal to .25 in the dominant direction (see Appendix D). Given the similar d s for centered and uncentered values in Studies

¹¹ We examined within-country Sex \times Sample interactions and the variance they explained by multivariate analyses of variance in the 10 values. The difference between East and West Germany probably reflects the extended period of Soviet versus democratic rule, whereas that between East and West Ukraine reflects their strong cultural affinities to Poland (East) versus Russia (West) that ruled them at various times. The difference between Istanbul and Ankara may reflect substantial disparities in the intellectual and socioeconomic levels of the students at the universities sampled (Istanbul higher), in their rural versus urban origins and degree of religiosity (Ankara more rural and religious), and in the cultures of the West versus Central and Eastern regions of Anatolia from which students were mainly drawn.

1–3, we decided to forego computing 700 additional *ds* for uncentered values in Study 4.

Rows 3 and 4 of Table 4 show the percentage of variance in value importance accounted for across countries by sex and culture group. Sex accounts for almost 3% of the variance in the importance of power values, but it accounts for about 1% or less in all the other values. Cultural group accounts for more than 10 times as much variance as sex in the importance of 9 values and for 4 times as much variance in power values.

Row 5 reports chi-square values for variation in the regression slopes of sex across culture groups. Large, significant ($p < .001$) chi-squares indicate that, despite the generally consistent direction of sex effects for most values, the magnitude of these effects varies a great deal across cultures. Although mean effect sizes across all the samples were similar to those in the previous studies, only in this study were there effect sizes greater than .60, and the range of effect sizes was also larger here. The especially strong effects of culture on value priorities in Study 4, and the larger variation in the size of sex effects across groups, reflect the much greater cultural diversity of the samples.

Did the year the data were gathered account for any of the variation in sex differences in values across cultural groups? Year of data gathering failed to predict the sex slope for any of the 10 values. All p values were between .24 and .99 except for universalism ($p > .09$). Thus, there was no evidence of cohort effects on the size or direction of sex differences.

Study 4 included 39 student samples from 36 countries that were not found in Studies 1, 2, or 3. We examined whether the seven clear sex effects found in Studies 1–3 (for power, benevolence, stimulation, universalism, hedonism, achievement, and self-direction) also replicated across these added countries. Although all effects were slightly less consistent, they did, indeed, replicate. This suggests that the consistency of sex effects across the samples in Studies 1–3 was not the product of including too limited a range of cultures.

Effects of Instrument and Sample Type

Despite the consistency of sex effects on value priorities across the four studies, there were notable differences. For example, women attributed significantly more importance than men to tradition values in Studies 1 and 2, but not in Studies 3 and 4. And hedonism values were more important to men than to women in Studies 1, 3, and 4, but not in Study 2. Might the different instruments or types of sample account for these inconsistencies? More generally, might some of the consistent results across studies appear less consistent when we take effects of instrument or sample type into account?

All of the student samples responded to the SVS, whereas 26 of 41 general samples responded to the short or full PVQ. Thus, instrument and sample type were substantially confounded. This makes it difficult to disentangle possible instrument and sample effects on the relations of sex to value priorities. To reduce confounding, we generated samples of students who responded to the PVQ by identifying the students in the 19 representative national samples of the ESS. There were more than 50 female and 50 male students in all but the Czech Republic (32 women, 29 men) and the United Kingdom (41 men). Separating the ESS samples into student and general samples and including both in the overall analysis yielded 127 samples: PVQ/general—26; PVQ/student—19; SVS/general—15; SVS/student—67.

These four sets of samples differed somewhat in the diversity of cultures they encompassed. For example, the SVS/student set encompassed cultures from all continents, whereas the PVQ/general set included only European cultures plus Israel. To control the influence of culture on gender effects, while examining the influence of instrument and sample type, we included dummy variables for seven cultural regions as predictors of the gender slope in the HLM analyses.¹²

The PVQ and SVS have different response scales. To combine all samples in one analysis, we standardized individuals' scores on each value around their group mean, thereby putting all on the same scale. To assess instrument and sample type effects, we coded SVS as zero and PVQ as one and students as zero and general as one. We included these two variables with cultural regions as Level-2 predictors of the sex slope in HLM analyses for each value.

The top section of Table 5 presents the coefficients, standard errors, and t ratios for the effects of instrument on the sex slope for each of the 10 values. Instrument affected the slope of sex for the four values rated significantly more important by women than by men across samples (benevolence, universalism, security, and tradition). In each case, the sex effect was significantly stronger with the PVQ. That is, despite the lower reliabilities of the PVQ indexes, they were at least as sensitive to sex differences as the reliable SVS indexes.

Increased salience of women's gender identity when responding to the PVQ may explain the instrument effect for benevolence and universalism. The portraits in the PVQ are gender-matched to the respondent; they describe a person whose gender is made explicit. The gender specificity of the PVQ may make gender identity salient for women but less so, if at all, for men. This is because questionnaires rarely use feminine phrasing but commonly use masculine or neutral phrasing.

The salience of gender identity for women may influence responses to the values that are especially important to women. When the PVQ presents portraits of women who strongly endorse these values, the salience of respondents' own female gender identity may increase the similarity they perceive between the woman portrayed and the self. Because benevolence and universalism are values typically important to women, the gender salience in the PVQ may enhance their importance scores for women. This would enlarge the observed sex differences. Gender identity is not salient with the SVS, so there is no enhancement of sex differences. This post hoc explanation merits testing by comparing sex differences in single samples that respond to both instruments.

Comparison of the content of the items that measure tradition and security values in the instruments suggests explanations for the instrument effect on these two values. Items referring to religion constitute 20% of the tradition items in the SVS, 25% in the full PVQ, but 50% in the short form of the PVQ used in the ESS in Study 1. Only in Study 1 did women attribute consistently more importance to tradition values than men. Substantial research dem-

¹² Theory and findings of Inglehart and Baker (2000) and Schwartz (2004) suggested eight cultural regions: West European, East-Central European, Southeast Asian, African, English-speaking, Confucian, and Latin American. Middle Eastern samples served as the reference group.

Table 5
Hierarchical Linear Model Analysis: Instrument and Sample Type Effects on the Slopes of Sex as a Predictor of Value Priorities, Controlling Effects of Culture Region

| Fixed Effects on Gender Slopes of: | Coefficients | SE | t(117) |
|------------------------------------|--------------|-------|---------|
| Instrument | | | |
| Benevolence | .040 | .010 | 3.95** |
| Universalism | .018 | .007 | 2.45* |
| Self-direction | .003 | .007 | 0.46 |
| Stimulation | .004 | .008 | 0.52 |
| Hedonism | .004 | .005 | 0.72 |
| Achievement | -.016 | .010 | 1.64 |
| Power | -.015 | -.010 | -1.49 |
| Security | .041 | .007 | 5.91** |
| Conformity | .004 | .006 | 0.73 |
| Tradition | .039 | .006 | 6.83** |
| Sample type | | | |
| Benevolence | .023 | .099 | 2.32* |
| Universalism | .004 | .008 | 0.52 |
| Self-direction | -.029 | .009 | -3.65** |
| Stimulation | -.032 | .008 | -3.76** |
| Hedonism | -.012 | .006 | -1.84 |
| Achievement | -.030 | .010 | -3.11** |
| Power | -.013 | .011 | -1.22 |
| Security | .020 | .007 | 2.71** |
| Conformity | .016 | .007 | 2.27* |
| Tradition | .018 | .007 | 2.70** |

Note. Instrument scored zero for Schwartz Value Survey and one for Portrait Values Questionnaire; sample type scored zero for student and one for general.

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

onstrates that women in Western countries exhibit greater religiosity than men (e.g., Kelly & De Graaf, 1997; Walter & Davie, 1998). Hence, the sex difference in Study 1 may be due to the stronger emphasis on religion in the instrument used in that study.

Women attributed more importance than men to security values in response to the PVQ, but not to the SVS. The security items in the two instruments have similar content with one exception. One PVQ item mentions "living in a secure environment" and avoiding "anything that might endanger her safety." Responses to this item were the main source of the sex difference. This item focuses on the danger of being personally attacked in uncertain surroundings, a danger that is greater for women than for men. Women may attribute more importance to security because the PVQ draws attention to this threat to their personal safety.

We turn now to the effects of the type of sample on sex differences in values. The bottom section of Table 5 indicates that sample type significantly influenced the slope of the sex effect for seven values: benevolence, self-direction, stimulation, achievement, security, conformity, and tradition. In each case, the effect of sex was stronger in the general samples than in the student samples. The weaker sex effects in student samples might reflect greater homogeneity resulting from college selection, socialization, expectations, and opportunities that promote similarity among male and female students. Alternatively, weaker sex effects may characterize this age-developmental stage of youths. To shed light on these possibilities, we compared the value priorities of men and women in the 19 ESS countries who were in college ($N = 2,603$) with those of nonstudents of the same ages ($N = 4,304$).

Among noncollege youths, the same nine significant sex differences found in the total sample emerged ($p < .001$), and five of these were significantly larger than among college youths ($p < .01$). Among college youths, only two sex differences were significant ($p < .001$). This supports the homogeneity explanation of weaker sex effects in student samples.

We compared students with their nonstudent peers to determine whether the weaker sex differences could be traced more to men or women. Women students differed significantly from their nonstudent peers on the seven values for which the sex effect was weaker among students. In each case, women students were more like both male students and male nonstudents. This suggests that women self-select and/or are selected into higher learning partly on the basis of holding value priorities similar to those of men.¹³ The value priorities of college men differed from those of their noncollege peers only for self-direction (higher), universalism (higher), and tradition (lower). For men, values apparently play a smaller role in selection into higher education. These findings may imply that, when group homogeneity is based on ascribed characteristics (e.g., ethnicity) rather than value-based selection, it may not reduce sex differences in value priorities.

Integration of Findings

Table 6 integrates the findings of the four studies. Row 1 lists the number of samples, across the 127 samples examined, in which men or women attributed more importance to each value. Sex differences were highly consistent for power (men higher in 96% of samples) and benevolence (women higher in 90%) values. Differences were quite consistent (>80% of samples) for stimulation (men higher), universalism (women higher), hedonism (men higher), and achievement (men higher) values, and differences were a bit less consistent for self-direction values (men higher in 79%). Although differences for security values were less consistent, the proportion of samples with women higher (69%) was significant by binomial test ($Z = 4.08$, $p < .001$). Differences for tradition and conformity values were not significant.

General adult samples exhibited more consistent sex differences than student samples did. In every one of the 41 general samples, men rated power and stimulation values more important and women rated benevolence and universalism values more important. Self-direction and achievement values were nearly universally (93% of samples) more important to men. The direction of all sex differences was the same across the 86 student samples as across the general samples. However, for students, only men's preference for power values was nearly universal (94% of samples). The proportion of student samples with directionally consistent sex differences was significant for seven values (all Z s > 4.64, $p < .001$, by binomial test). Differences for conformity, tradition, and security values were not significant.

Row 2 of Table 6 presents the meta-analytic effect sizes (average d , weighted for sample size) for sex differences in values, on the basis of 127 samples. Effect sizes for all but conformity values

¹³ These findings might also be due to the socialization of women students to have values more like men. However, data from several student samples in Study 4 for which we had year in school did not reveal such a trend.

Table 6
Sources of Difference in Value Importance Across 127 cultural groups

| Variable | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| No. of samples in which the value is more important: women/men | 114/13 | 106/21 | 27/100 | 16/111 | 22/105 | 23/104 | 5/122 | 87/40 | 69/58 | 69/58 |
| Mean effect size | .29 | .21 | -.11 | -.18 | -.15 | -.20 | -.32 | .14 | .03 | .08 |
| % variance due to sex | 1.97 | 1.01 | 0.27 | 0.78 | 0.50 | 0.98 | 2.35 | 0.40 | 0.02 | 0.17 |
| Chi-square variation of sex slope across countries/groups ^a | 440.75 | 464.45 | 275.05 | 291.27 | 387.41 | 402.57 | 407.84 | 448.86 | 447.54 | 654.82 |

Note. BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

^a $\chi^2(126) > 135.807, p < .01$; $\chi^2(126) > 149.449, p < .001$.

differed significantly from zero ($p < .01$). These effects were small; the distributions of women's and of men's ratings of all values overlap substantially, about 77% for power values, 80% for benevolence values, and 85% or more for the other values.

Row 3 of Table 6 reports the percentage of variance in value importance accounted for by sex across the 127 samples. Sex accounted for almost 2.5% of the variance in the importance of power values, almost 2% in benevolence values, and 1% or less in all the other values. Recall that sex accounted for about the same amount of variance as education in Study 1. It accounted for substantially less variance than age in the importance of all but power and benevolence values in Studies 1, 2, and 3. Cultural group accounted for more variance than sex in the importance of all values in all four studies.

Row 4 of Table 6 reports the chi-square values for the variation of sex slopes across cultural groups. Every one of the chi-square values is very large and significant ($p < .001$). This indicates that, despite the consistency of most sex effects on value priorities, the strength and/or direction of these effects varies substantially across cultural groups. Thus, culture not only influences the importance of values but it also moderates the effects of sex on value priorities.

General Discussion

Taken together, the four studies lead to the conclusion that men and women differ consistently in the importance they attribute to most basic values. However, the size of sex differences is small, both absolutely and compared with other sources of difference. And the effects of sex on value importance vary substantially across cultures. The consistency of sex differences in values is intriguing because it holds across an exceptionally wide range of cultural groups. Hence, it may reflect patterns or mechanisms inherent in human culture or human nature. Note, however, that these findings are limited to adults in literate societies. Moreover, women and men do not differ greatly in the order of importance they attribute to the 10 values. Across all samples, benevolence values are most important for women, followed by universalism, self-direction, security, conformity, hedonism, achievement, tradition, stimulation, and power. For men, benevolence values are first as well, followed by self-direction, universalism, security, hedonism, conformity, achievement, stimulation, tradition, and power. The Spearman correlation between these ranks is .96.

The pattern of observed sex differences comports with expectations from the theory of the structure of relations among values

(Schwartz, 1992; see Figure 1). This structure locates values likely to arouse social and psychological conflict, when simultaneously pursued, in opposing directions around the motivational circle and congruent values adjacent to one another. The two bipolar dimensions of the value structure organize the sex differences in value priorities. Men attribute more importance than women to self-enhancement values (power, achievement); women attribute more importance to the opposing self-transcendence values (universalism, benevolence). Men more than women favor openness values (self-direction, stimulation) and hedonism values that share elements of openness and self-enhancement. Men and women differ less regarding the opposing conservation values (security, tradition, conformity), though women favor security and tradition somewhat more.

The current findings confirm the trends in the past research reviewed earlier. They also clarify why some past studies failed to find the usual sex differences and occasionally found reversals. This is exactly what the current research would lead us to expect. Given that sex effects are small, vary by culture, and are weaker among student samples, it is hardly surprising that a literature that includes studies in several countries, often using small samples and focused primarily on students, revealed only limited consistency of sex differences.

What do our studies imply for the debate about gender differences in moral orientations? Jaffee and Hyde's (2000) meta-analytic summary of relevant findings revealed a difference in care orientation favoring women ($d = .28$), virtually identical to the difference for benevolence values here ($d = .29$). The justice orientation—emphasizing fairness, equity, autonomy, rights, and duties—seems most compatible with giving priority to universalism and self-direction values. Jaffee and Hyde reported a small difference in justice orientation favoring men ($d = .19$). Across our samples, men give higher priority to self-direction ($d = .11$), but women give higher priority to universalism ($d = .21$). Thus, insofar as universalism and self-direction values express a justice orientation, this study offers no support for Gilligan's (1982) view that men more than women favor a justice orientation.

Applying Theoretical Perspectives on Gender Differences to the Findings

In the four studies, the mean effect sizes of sex for the 10 values rarely exceeded .30. This parallels findings for gender in many psychological domains. As Hyde and Plant (1995) noted, psycho-

logical gender differences more often fall in the range close to zero than do effects of many other individual differences. Despite their small size, the consistency and cultural variability of sex differences in values are striking and demand explanation. We next consider how the two key theoretical perspectives in the field of gender differences, evolutionary psychology and social role theory, might explain these findings. This article can provide only the basic directions of such explanations, not full explications.

Evolutionary psychology. Evolutionary theorists interpret widespread sex differences as reflecting different adaptation problems regularly faced by our male and female ancestors (e.g., Geary, 1998; Pinker, 2002). Presumably, the long history of differential evolutionary pressures on men and women has led to the development of cognitive and affective mechanisms that differentiate the sexes. Values, as guides to behavior, may be viewed as one such mechanism.

Power values show the largest, most reliable sex difference in the current research. This is consistent with other universal sex differences: In all societies, for instance, men occupy the vast majority of high power and status positions and commit vastly more same-sex murders than women (Daly & Wilson, 1983, 1988). The principles of differential parental investment and sexual selection have been used to explain such sex differences. Females invest more in their offspring (Trivers, 1972) and depend more on their mate for support during pregnancy and early child rearing. Women tend to be more selective in choosing mates because a mistake is more costly. Their sexual selection focuses on cues indicating how well a man will provide needed resources (Buss & Kenrick, 1998). Men evolved to compete on the dimensions women want (Buss, 1994/2003). Social status and the resulting control of resources, achieved in part through aggressiveness and competitiveness, may have constituted critical evidence that a man was a desirable mate (Betzig, 1986). Hence, men are more likely to value status and resources and to compete with other men to achieve them.

The above analysis seems to imply large gender differences in power values. However, evolutionary psychology might expect small sex differences in all values that are measured at a domain-general level. In keeping with a conception of basic values as transsituational, we measured values without reference to context. However, the evolutionary adaptations that inclined men to value power more and benevolence less than women occurred in specific domains such as mating but not in hunting or fighting the outgroup, in which coalition formation was adaptive. Hence, observed sex differences in basic values may be small because they result from averaging across domains that are not necessarily the same.

Greater male competitiveness is also consistent with the higher importance that men attribute to achievement and stimulation values. Achievement values—seeking personal success through demonstrating competence according to social standards—relate directly to competition. Stimulation values emphasize and justify the pursuit of excitement, novelty, and challenge in life. Men engage in risky behavior more than women do (Byrnes, Miller, & Schafer, 1999). From an evolutionary perspective, they do this because it serves to increase their social status (Wilson & Daly, 1985).

The greater importance that men attribute to hedonism values may have roots in aspects of sexual selection (Buss, 1994/2003).

Men gain greater reproductive benefit from seeking many pleasurable sexual liaisons, whereas women risk unwanted pregnancies and uncertain paternity that may deprive them of needed support. Women must more often forgo immediate gratification in response to the needs of small children. Adaptation to these asymmetries may lead men to value hedonism more.

For women to maximize their return on their greater investment in pregnancy, nursing, and caring for infants, concern for the welfare of close others, expressed in benevolence values, would be adaptive. The greater need of women to protect themselves and their infants during the vulnerable period of early child rearing may also make security values that concern safety, harmony, and stability more important to women than to men.

The consistent sex differences in the importance of universalism and self-direction values challenge evolutionary theorizing. Neither sexual selection nor differential parental investment seem relevant to why women emphasize understanding, appreciation, tolerance, and protection for the welfare of all people more, whereas men emphasize independence of thought and action, creativity and exploration more. An argument that these value priorities reflect generalizing from priorities for benevolence and stimulation contradicts the emphasis of evolutionary theory on the domain specificity of the mechanisms of adaptation.

How might evolutionary approaches explain the large cross-national variation in the size of gender differences in value priorities? Evolutionary psychologists expect cultural variation in the expression of universal psychological mechanisms (e.g., jealousy), depending on cultural variation in evoking conditions (e.g., threat; Buss & Kenrick, 1998). Thus, they would expect cultures to differ in the conditions that evoke particular values for men and women. For example, the extent of their involvement in caring for infants may affect the size of the difference between the sexes in the importance of benevolence values in a society. Specifying and explaining the variation in evoking conditions for values is a challenge.

Social role theory. In contrast to evolutionary psychology's focus on humankind's past adaptations, social role theory locates the source of sex differences in the current or recent division of labor (Eagly, Wood, & Diekmann, 2000). Occupational and family roles and the allocation of women and men to them provide sex-differentiated experiences that directly influence behavior, identities, attitudes, and basic values. Moreover, the different common role occupancies of the sexes produce diffuse gender role expectations that indirectly influence men and women, regardless of their placement in specific occupational and family roles (Eagly, Beall, & Sternberg, 2004). Thus, sex-typed role experiences and gender role expectations can both explain sex differences in basic values.

The interaction between physical sex differences and the demands of the ecology and socioeconomic system of a society give rise to the different roles assigned to men and women (Wood & Eagly, 2002). The greater importance of power values to men may be grounded in the fact that men predominate in occupations that enjoy more power and status across societies. Wherever there are gender hierarchies, men rank higher (Whyte, 1978). Thus, men experience more opportunities to exercise power directly than women do. Pursuing a value successfully and using it to justify or make sense of one's actions

tend to increase its personal importance as a guiding principle in life (Schwartz & Bardi, 1997). Dominance is a trait universally considered more applicable to men across diverse cultures (Williams & Best, 1990). Diffuse gender role expectations may also encourage men to adopt power values, even if their own personal status is not high.

Women's role in reproduction and in caring for young children, the elderly, and the sick gives them more direct experience with nurturing activities in almost all societies (Valian, 1998). These direct experiences promote valuing benevolence. Women's responsibilities as the main family nurturer also lead to the construal of the feminine gender role in terms of fostering others' well-being. Thus, diffuse gender role expectations also encourage women to value benevolence, regardless of their individual experiences.

The gender role expectations that promote women's concern for close others may partly extend to concern for all others. This would contribute to women's greater emphasis on universalism values. More significant for women's universalism values, however, may be their status as a disadvantaged group relative to men in most societies. Lower status may make women more sensitive to issues of equality and justice and arouse their sympathy for other disadvantaged groups (Eagly, Johannesen-Schmidt, Diekmann, & Koenig, 2004).

Social role theory can explain the greater importance attributed by men than women to achievement, self-direction, and stimulation values by noting the differential placement of the sexes in the occupational world. Men more frequently occupy higher status, money-earning, provider roles that encourage developing skills and values relevant for such work (Valian, 1998). There are also cross-culturally consistent gender role expectations for men to exhibit agentic traits (e.g., Diekmann & Eagly, 2000). Achievement (and power) values justify and give coherence to such agentic behavior as assertiveness, ambition, dominance, and decisiveness. Valuing self-direction does the same for such agentic behavior as self-reliance, independence, and innovativeness. Furthermore, valuing stimulation does this for being active, energetic, and taking initiative.

The division of labor and the gender hierarchy may also explain the sex difference in hedonism values. Men have more opportunities to gratify their sensuous desires outside the watchful eye of the family. Women are more constrained by their investment in maintaining the family and by the watchful eye of their male relatives. Gender role expectations in many societies demand greater "purity" of women. These factors contribute to men's greater valuing of hedonism than women's.

In most societies, women's smaller size, lower status, and greater dependence on others' support make them more vulnerable than men. This experience can explain why women ascribe more importance to security values. An interesting finding is that students in Studies 1 and 4 did not exhibit this sex difference. This suggests that the experience of status vulnerability and dependence on others differs little for men and women during their student days.

Recall that sex differences for seven values were significantly weaker in the student samples than in the general samples, though in the same direction. Social role theory might reason that men and women have similar experiences in their student role and are

exposed to similar role expectations. This weakens the influence of sex-differentiated experiences in other life domains and of diffuse gender role expectations. Evolutionary theory could argue, in a similar vein, that the contingencies of student life evoke less sex-differentiated values.

Social role theory might attribute the substantial cross-cultural variation in sex differences to variation in the division of labor and gender hierarchy across countries. Explanations of this variation would draw on the specific occupational and family roles enacted by women and men in each society (cf. Abele, 2003). Regarding the small size of sex differences in values, social role theory might cite the fact that men and women share many similar experiences and are exposed to similar role expectations in their daily functioning as human beings. The close alliance of women and men in families may also reduce sex differences in values (cf. Eagly, Johannesen-Schmidt, Diekmann, & Koenig, 2004). Because men are usually the main family providers and women gain from men's sharing of their resources, wives may accommodate their values to those of their husbands to some degree. We find it interesting that this suggests that increased independence and equality of women in the labor force may encourage them to express distinctive values. Consequently, sex differences in some values may be even more pronounced in postindustrial societies.

We do not consider how either evolutionary psychology or social role theory might explain the inconsistency of sex differences in the importance of conformity and tradition values. Before we propose possible explanations, we must clarify the nature of the substantial cross-cultural variation in the size and direction of the sex differences. Does this variation correspond to particular features of societies (socioeconomic, political, religious)?

Cross-National Variation of Sex Differences in Value Priorities

The size and sometimes even the direction of sex differences in value priorities varied substantially across countries. The patterns of cross-national variation depended on the value in question. For example, across the 67 student countries (Study 4), the size and direction of sex differences in achievement values correlated $-.53$ with those in universalism values but $.10$ with those in self-direction values. Thus, for each value or subset of values, a separate theoretical and empirical analysis of the societal factors that might explain cross-national variation in sex differences is needed. Space considerations permit only a few exemplary findings to illustrate this research direction.

Consider variation in the sex difference for self-direction across the 19 ESS countries. The sex difference (men higher) is smaller the more autonomous versus embedded ($r = -.58$; Schwartz, 2004) and the more individualist ($r = -.49$; Hofstede, 2001) the culture of the country. Moreover, the sex difference is smaller ($r = -.54$) the richer the country (gross domestic product per capita in 1999). Thus, in poorer countries with more embedded and collectivist cultures (e.g., Greece), men attribute substantially more importance to self-direction values than women do, whereas in richer countries with more autonomous and individualist cultures (e.g., the Netherlands), there is no sex difference. This finding is compatible with the idea that gender role differentiation decreases with advanced industrialization and cultural individuation, thereby

reducing sex differences in values. However, variation in most of the other sex differences does not follow this pattern.

For example, national measures of gender equality predict sex differences in power and benevolence values but in an unexpected direction. The greater the social, health, and employment equality of women and men in a country (Population Crisis Committee, 1988), the larger the sex differences (men higher) in power values ($r = -.61$) and the larger the sex differences (women higher) in benevolence values ($r = .70$). That is, in countries with greater gender equality (e.g., Finland, Sweden), men attribute substantially more importance to power values but substantially less to benevolence values than women do; in countries with less gender equality (e.g., Israel), these sex differences are relatively small. These findings contradict the idea that gender equality reduces gender differences. They are compatible with one idea that we suggested above: Increased independence and equality of women in the labor force may encourage them to express distinctive values rather than to accommodate their values to those of their husbands. Generating and testing explanations for the diverse patterns of variation in sex differences in values is a challenge for future reports.

Distinctive Features of the Current Research and Future Directions

Several features distinguished the current research from past studies of sex differences in value priorities. Broad coverage of cultures clarified the generality of sex differences, their variability, and their strength relative to culture effects. The representative national samples enabled us to identify sex differences that characterize populations rather than subgroups. Including both general and student samples revealed that student samples tend to understate sex differences in values. The relatively similar findings with three instruments showed that most sex effects do not depend on mode of measurement. The theory and methods provided relatively comprehensive coverage of the major motivationally distinct types of values recognized across cultures. Hence, it is unlikely that we overlooked significant types of values on which women and men might differ.

Finally, unlike previous studies, we tackled the issue of equivalence of the meaning of the value items for women and men. The MDS analyses and the evidence of configural and metric invariance from the CFAs can be interpreted as showing that women and men attribute equivalent meanings to the values. The fit indexes other than chi-square supported scalar invariance as well. It is therefore not likely that different response biases of women and men on some items seriously affected the observed sex differences in value priorities.

This article is a limited first step toward understanding sex differences in values. We have focused largely on the main effects of sex. However, sex and gender doubtless have an impact on value priorities in interaction with other factors. For instance, for 7 of the 10 values, the sex differences were significantly larger in the general population than among students. An important next step is to study interactions between sex and such demographic variables as age, education, religion, and social class. One might ask, for example, whether differences in power values decrease or even reverse when, after around the age of 45 years, men pass the peak of their occupational and sexual striving and women experience greater independence.

Another direction for future research is to examine the emergence of sex differences in value priorities in childhood and adolescence. One Israeli study (Melech, 2001) revealed that five of the seven differences found here among adults were present among 12-year-olds (excluding hedonism and self-direction). Of course, the emergence of sex differences in value priorities, like the size and direction of these differences, may well vary across cultures. This highlights the potential fruitfulness of cross-national studies for teasing apart possible sources of sex differences in values.

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Appendix A

Sex Differences in Value Importance (Cohen's *d*) in 19 European Social Survey Samples With the PVQ21 Value Survey

| Country | Men | Women | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|-------|-------|------|------|-------|-------|-------|-------|-------|------|-------|------|
| Austria | 999 | 1,143 | .33* | .36* | -.02 | -.02 | -.06 | -.29* | -.29* | .20* | -.19* | .03 |
| Belgium | 885 | 832 | .28* | .18* | -.04 | -.12* | -.10 | -.12 | -.22* | .13* | -.03 | .13* |
| Czech Republic | 559 | 633 | .56* | .33* | -.17* | -.23* | -.30* | -.37* | -.38* | .25* | .15* | .29* |
| Denmark | 726 | 712 | .32* | .11 | -.05 | -.12 | -.06 | -.11 | -.29* | .15* | -.08 | .22* |
| Finland | 812 | 926 | .55* | .46* | -.13* | -.19* | -.10 | -.43* | -.51* | .14* | .08 | .24* |
| Germany | 1,306 | 1,420 | .36* | .40* | -.01 | -.08 | -.24* | -.30* | -.27* | .09 | .00 | .09 |
| Greece | 953 | 1,320 | .29* | .16* | -.34* | -.22* | -.23* | -.25* | .09 | .24* | .14* | .24* |
| Hungary | 710 | 766 | .37* | .28* | -.12 | -.16* | .00 | -.31* | -.38* | .17* | .05 | .21* |
| Ireland | 798 | 944 | .31* | .19* | -.12 | -.14* | -.08 | -.30* | -.19* | .27* | .03 | .14* |
| Israel | 948 | 1,086 | .23* | .20* | -.09 | -.09 | -.08 | -.03 | -.21* | .21* | -.10 | .04 |
| Netherlands | 985 | 1,263 | .43* | .26* | .00 | -.08 | .05 | -.28* | -.44* | .07 | -.03 | .14* |
| Norway | 949 | 844 | .43* | .30* | -.13* | -.33* | -.15* | -.24* | -.38* | .27* | .11* | .15* |
| Poland | 876 | 960 | .36* | .36* | -.17* | -.23* | -.36* | -.14* | -.27* | .34* | .25* | .18* |
| Portugal | 557 | 792 | .31* | .18* | -.14* | -.17* | -.07 | -.20* | -.20* | .22* | -.02 | .20* |
| Slovenia | 604 | 669 | .32* | .21* | -.12 | -.07 | -.13* | -.20* | -.33* | .27* | -.03 | .15* |
| Spain | 740 | 816 | .15* | .14* | -.04 | .01 | -.13* | -.22* | -.26* | .22* | -.01 | .24* |
| Sweden | 810 | 856 | .49* | .34* | -.14* | -.27* | .07 | -.25* | -.45* | .14* | -.09 | .16* |
| Switzerland | 940 | 1,017 | .32* | .22* | -.02 | -.11* | -.05 | -.18* | -.24* | .18* | -.08 | .06 |
| United Kingdom | 788 | 922 | .41* | .16* | -.04 | -.13* | -.15* | -.28* | -.37* | .28* | .08 | .10 |
| Weighted mean | | | .36 | .26 | -.10 | -.14 | -.11 | -.24 | -.29 | .20 | .01 | .15 |
| Unweighted mean | | | .36 | .25 | -.10 | -.14 | -.11 | -.24 | -.29 | .20 | .01 | .16 |
| No. of $d \geq .25$ in dominant direction | | | 17 | 9 | 1 | 2 | 2 | 10 | 13 | 6 | 1 | 1 |

Note. PVQ = Portrait Values Questionnaire; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

* $p < .05$, two-tailed.

(Appendixes continue)

Appendix B

Sex Differences in Value Importance (Cohen's d) in Seven Adult Samples With the PVQ40 Value Survey

| Country | Men | Women | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|-------|-------|------|------|------|-------|-------|-------|-------|------|------|------|
| Argentina | 256 | 253 | .38* | .12 | .07 | -.04 | -.04 | -.19 | -.15 | .10 | -.18 | -.03 |
| France | 1,193 | 1,210 | .32* | .18 | .01 | -.08 | -.13* | -.21* | -.28* | .06 | .02 | .09 |
| Germany | 860 | 1,001 | .35* | .23* | -.15 | -.18* | -.13 | -.35* | -.45* | .18* | .19* | .29* |
| Israel | 35 | 78 | .38* | .11 | -.20 | -.33 | .35 | .31 | -.30* | .33* | .02 | -.07 |
| Italy | 898 | 967 | .29* | .16 | -.04 | -.28* | .05 | -.17* | -.30* | .33* | .02 | .23* |
| Poland | 70 | 111 | .29 | .04 | -.29 | -.46* | .31 | .14 | -.28 | .40 | -.09 | -.01 |
| Seychelles | 35 | 78 | .33 | .28 | -.15 | -.14 | -.16 | -.26 | -.34 | -.06 | .30 | .32 |
| Weighted mean | | | .33 | .18 | -.06 | -.17 | -.05 | -.22 | -.33 | .12 | .05 | .17 |
| Unweighted mean | | | .33 | .16 | -.11 | -.22 | .05 | -.10 | -.30 | .16 | .04 | .12 |
| No. of $d \geq .25$ in dominant direction | | | 7 | 1 | 1 | 3 | 2 | 2 | 6 | 3 | 1 | 2 |

Note. PVQ = Portrait Values Questionnaire; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

* $p < .05$, two-tailed.

Appendix C

Sex Differences in Value Importance (Cohen's d) in 15 Adult Samples With the Schwartz Value Survey

| Country | Men | Women | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Australia | 132 | 171 | .17 | .58* | -.13 | -.46* | -.19 | -.28 | -.52* | -.07 | -.12 | -.23 |
| Chile | 149 | 155 | .26 | .37* | -.30* | -.31* | -.26 | -.28 | -.27 | -.08 | -.04 | .12 |
| China | 123 | 83 | .08 | .02 | -.11 | -.45* | -.09 | -.30 | -.10 | .37* | .08 | -.20 |
| Finland | 1,522 | 1,725 | .34* | .32* | -.10* | -.22* | -.17* | -.14* | -.41* | -.14* | .05 | -.10* |
| France | 1,868 | 2,655 | .13* | .05 | -.07 | -.10* | -.19* | -.14* | -.18* | .07 | .05 | -.00 |
| Germany, East | 131 | 162 | .41* | .14 | -.41* | -.11 | -.31* | -.34* | -.22 | .14 | .06 | .15 |
| Germany, West | 90 | 121 | .41* | .28 | -.34 | -.46* | -.18 | -.33 | -.32 | .22 | .14 | -.17 |
| Israel | 179 | 221 | .22 | .31* | -.25 | -.29* | -.21 | -.34* | -.40* | .13 | -.01 | .04 |
| Japan | 95 | 112 | .37* | .15 | -.39* | -.53* | -.21 | -.34 | -.25 | .44* | .19 | .26 |
| Netherlands | 38 | 119 | .21 | .06 | -.19 | -.32 | -.04 | -.00 | -.11 | .09 | -.21 | .04 |
| New Zealand | 44 | 97 | .42 | .43 | .03 | -.45* | -.02 | .01 | -.41 | -.07 | -.29 | -.35 |
| Peru | 94 | 88 | .49* | .12 | -.08 | -.42* | -.20 | -.30 | -.27 | .03 | .18 | .33 |
| Russia | 66 | 122 | .48* | .25 | -.47* | -.20 | -.26 | -.31 | -.48* | .33 | .39* | -.01 |
| Sweden | 783 | 791 | .33* | .23* | -.12 | -.31* | -.09 | -.40* | -.39* | .12 | -.04 | -.08 |
| United States, Japanese American | 786 | 623 | .18* | .20* | -.03 | -.09 | -.07 | -.21* | -.42* | -.02 | -.17* | -.01 |
| Weighted mean | | | .24 | .19 | -.11 | -.20 | -.16 | -.20 | -.31 | .03 | .01 | -.03 |
| Unweighted mean | | | .30 | .23 | -.20 | -.31 | -.17 | -.25 | -.32 | .11 | .02 | .01 |
| No. of $d \geq .25$ in dominant direction | | | 9 | 9 | 6 | 10 | 3 | 10 | 11 | 3 | 1 | 1 |

Note. BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

* $p < .05$, two-tailed.

Appendix D

Sex Differences in Value Importance (Cohen's d) in 67 Student Samples With the Schwartz Value Survey

| Country | Men | Women | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---------------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Argentina | 148 | 203 | .35* | .10 | -.17 | -.30* | -.27 | -.30* | -.58* | -.04 | .03 | .34* |
| Australia | 146 | 235 | .41* | .22 | -.09 | -.32* | -.24 | -.05 | -.52* | .08 | .14 | -.09 |
| Austria | 38 | 75 | .41 | .49 | .26 | -.30 | .09 | -.15 | -.54* | -.25 | -.78* | -.50 |
| Belgium | 115 | 377 | .48* | -.03 | -.38* | -.15 | -.19 | -.16 | -.44* | .33* | .08 | -.06 |
| Bosnia Herzegovina | 61 | 172 | .48* | .17 | .34 | -.26 | -.20 | -.22 | -.42* | -.18 | -.29 | -.33 |
| Brazil | 345 | 395 | .19* | .17 | -.13 | -.35* | -.43* | -.16 | -.41* | .13 | .11 | .16 |
| Bulgaria | 188 | 226 | -.00 | .22 | -.15 | -.06 | -.33* | -.21 | -.33* | .07 | .32* | .03 |
| Canada | 81 | 193 | .20 | .49* | -.10 | -.22 | -.25 | -.26 | -.52* | .11 | -.33 | -.05 |
| Chile | 129 | 205 | .25 | .32* | -.18 | -.19 | -.11 | -.34* | -.43* | -.15 | -.04 | -.04 |
| China | 169 | 231 | -.10 | -.03 | -.16 | -.31* | .04 | .08 | .08 | .14 | -.15 | .24 |
| Croatia | 76 | 122 | .31 | .33 | .30 | -.17 | -.14 | .07 | -.45* | -.28 | -.63* | -.39* |
| Cyprus | 71 | 68 | .17 | .56* | .01 | -.06 | -.32 | -.30 | -.43 | -.11 | -.26 | -.19 |
| Czech Republic | 80 | 80 | .06 | .14 | -.35 | .06 | -.26 | -.21 | -.21 | .26 | -.00 | -.03 |
| Estonia | 131 | 242 | .30* | .07 | -.00 | .01 | -.36* | -.07 | -.39* | -.34* | -.12 | .02 |
| Ethiopia | 68 | 33 | .66* | -.64* | -.28 | -.01 | .03 | -.12 | -.34 | -.05 | .70* | .43 |
| Finland | 564 | 591 | .32* | .59* | -.19* | -.22* | -.18* | -.27* | -.54* | -.08 | -.17* | -.36* |
| France | 230 | 379 | .17 | .03 | -.12 | -.42* | -.39* | -.06 | -.26* | .29* | .09 | .04 |
| Georgia | 77 | 129 | .43* | .21 | .04 | -.25 | -.28 | -.40* | -.35 | -.15 | -.10 | .09 |
| Germany, East | 162 | 332 | .32* | -.10 | -.10 | -.37* | -.21 | -.09 | -.32* | .24 | .17 | -.27* |
| Germany, West | 313 | 440 | .23* | .22* | .14 | .06 | -.06 | -.07 | -.48* | -.15 | -.33* | -.34* |
| Ghana | 112 | 98 | .13 | -.13 | -.45* | -.09 | .19 | .02 | -.30 | .01 | .01 | .04 |
| Greece | 65 | 245 | .38* | .07 | -.07 | -.31 | -.04 | -.16 | -.61* | .35 | .08 | -.15 |
| Hong Kong | 165 | 251 | .09 | -.05 | -.15 | -.21 | -.15 | -.14 | -.14 | .04 | .20 | .22 |
| Hungary | 125 | 197 | .20 | .08 | -.15 | -.00 | -.18 | -.22 | -.37* | .40* | .06 | -.01 |
| India | 25 | 88 | -.04 | .38 | -.41 | .23 | -.17 | .04 | -.13 | .13 | .14 | .14 |
| Indonesia | 63 | 200 | -.07 | -.10 | -.14 | -.17 | -.00 | -.30 | -.45* | .25 | .05 | .32 |
| Iran | 147 | 27 | .16 | .06 | -.10 | -.07 | -.51 | .09 | -.51 | -.40 | -.11 | -.01 |
| Ireland | 102 | 129 | .08 | .11 | -.27 | -.18 | -.07 | .09 | -.16 | .03 | -.13 | -.00 |
| Israel | 208 | 226 | .17 | .21 | -.13 | -.01 | -.27* | -.04 | -.42* | -.03 | -.19 | -.07 |
| Italy | 187 | 494 | .29* | .01 | -.22* | -.23* | -.32* | -.07 | -.28* | .19* | .04 | -.04 |
| Japan | 846 | 559 | .16* | .10 | -.05 | -.22* | -.31* | -.11 | -.39* | .19* | .12 | -.04 |
| Korea, South | 79 | 134 | -.49* | .19 | .30 | .08 | -.13 | .09 | .04 | .06 | -.53* | -.20 |
| Macedonia | 46 | 153 | -.14 | -.05 | -.06 | -.09 | .09 | -.04 | -.09 | -.03 | -.01 | .08 |
| Malaysia | 79 | 122 | .04 | .19 | .13 | -.17 | -.34* | -.01 | -.42* | .25 | -.08 | -.15 |
| Mexico | 52 | 87 | .42* | .27 | -.34 | -.11 | -.52* | -.17 | -.24 | .04 | -.11 | .17 |
| Namibia | 132 | 116 | -.01 | -.29 | -.05 | -.08 | -.00 | -.02 | -.09 | -.04 | -.06 | .19 |
| Nepal | 505 | 234 | .04 | .12 | -.17 | -.03 | -.05 | -.04 | -.24* | -.07 | .16 | -.09 |
| Netherlands | 242 | 249 | .23* | .19 | -.05 | -.19 | -.24* | -.14 | -.38* | -.15 | .08 | -.12 |
| New Zealand | 76 | 125 | .59* | .11 | .09 | -.44* | -.27 | -.01 | -.48* | .03 | -.06 | -.18 |
| Nigeria | 57 | 44 | -.15 | -.38 | -.05 | .02 | -.34 | -.04 | -.01 | .08 | -.06 | .33 |
| Norway | 137 | 187 | .12 | .28 | .10 | -.08 | -.13 | -.12 | -.47* | .03 | -.12 | -.34* |
| Peru | 127 | 115 | .29 | .18 | -.02 | -.10 | -.05 | -.05 | -.47* | .09 | .01 | -.13 |
| Philippines | 244 | 329 | .13* | .18* | -.26* | -.23* | -.47* | -.10 | -.30* | .12 | .32* | .25* |
| Poland | 49 | 142 | .35 | .40 | -.30 | -.55* | -.49* | -.31 | -.40 | -.06 | .07 | .19 |
| Portugal | 54 | 143 | .25 | .15 | -.11 | -.49* | -.58* | -.26 | -.57* | .26 | .31 | .08 |
| Romania | 82 | 105 | .19 | .16 | -.07 | .12 | -.33 | -.17 | -.22 | -.09 | -.17 | .06 |
| Russia | 62 | 180 | .13 | .08 | -.05 | -.16 | .15 | -.10 | -.22 | -.04 | -.14 | -.26 |
| Senegal | 111 | 33 | .02 | -.24 | .07 | -.49 | -.16 | .46 | -.04 | -.03 | .14 | -.25 |
| Singapore | 46 | 131 | -.21 | .10 | -.07 | .22 | -.28 | -.10 | -.27 | .20 | -.07 | -.09 |
| Slovakia | 122 | 312 | .27 | .27 | -.28* | -.13 | -.29* | -.27 | -.40* | .16 | .14 | -.00 |
| Slovenia | 97 | 115 | .14 | .56* | -.24 | -.12 | -.57* | -.37* | -.52* | .15 | .08 | -.00 |
| South Africa | 142 | 300 | .37* | .21 | -.08 | -.22 | -.25 | -.10 | -.41* | -.02 | -.02 | .11 |
| Spain | 100 | 297 | .06 | -.13 | -.14 | -.03 | -.31* | -.13 | -.41* | .31* | .01 | .18 |
| Sweden | 188 | 292 | .18 | .58* | -.04 | -.58* | -.03 | -.37* | -.59* | -.18 | -.33* | .02 |
| Switzerland | 114 | 259 | -.10 | -.02 | -.18 | -.15 | -.00 | .08 | -.18 | .33* | .07 | -.27* |
| Taiwan | 40 | 94 | -.11 | -.26 | -.21 | -.04 | -.06 | .15 | .03 | -.12 | .18 | -.12 |
| Turkey, Ankara | 124 | 116 | -.24 | .35* | .34* | -.03 | .29 | -.02 | -.10 | -.03 | -.27 | -.63* |
| Turkey, Istanbul | 70 | 38 | -.13 | -.31 | -.02 | -.29 | .03 | .38 | .41 | -.35 | .31 | .18 |
| United States, African American | 33 | 66 | .30 | -.11 | .13 | .07 | -.04 | -.17 | -.48 | -.19 | .11 | -.24 |
| United States | 592 | 930 | .36* | .18* | -.12 | -.38* | -.20* | -.11 | -.37* | -.09 | .06 | .05 |
| Uganda | 141 | 42 | .16 | -.25 | .27 | .10 | .05 | -.35 | -.63* | -.03 | -.19 | .22 |
| Ukraine, East | 46 | 221 | .10 | .19 | -.29 | .02 | -.41 | .05 | -.25 | .26 | .19 | -.08 |
| Ukraine, West | 83 | 150 | .36* | .69* | -.07 | -.34 | -.64* | -.65* | -.81* | .15 | .35 | .57* |
| United Kingdom | 54 | 97 | .31 | -.29 | -.05 | -.13 | -.04 | .21 | -.02 | -.06 | -.04 | .07 |
| Venezuela | 45 | 126 | .22 | .22 | .01 | -.08 | -.34 | -.00 | -.59* | .22 | .34 | -.10 |
| Yugoslavia, Serbia | 73 | 262 | .04 | -.13 | .04 | -.21 | -.17 | .32 | -.24 | .24 | -.08 | -.13 |

(Appendixes continue)

Appendix D (continued)

| Country | Men | Women | BE | UN | SD | ST | HE | AC | PO | SE | CO | TR |
|---|-----|-------|-----|------|------|------|------|------|------|-----|------|------|
| Zimbabwe | 106 | 97 | .23 | -.06 | -.11 | -.25 | -.33 | .09 | -.26 | .28 | .33 | .21 |
| Weighted mean | | | .19 | .15 | -.10 | -.19 | -.21 | -.11 | -.36 | .05 | -.01 | -.03 |
| Unweighted mean | | | .17 | .11 | -.08 | -.16 | -.20 | -.10 | -.33 | .04 | -.01 | -.02 |
| No. of $d \geq .25$ in dominant direction | | | 25 | 15 | 12 | 17 | 30 | 14 | 46 | 11 | 8 | 10 |

Note. BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power; SE = security; CO = conformity; TR = tradition.

* $p < .05$, two-tailed.

Received September 27, 2004

Revision received June 17, 2005

Accepted July 28, 2005 ■

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