

This study sought to identify the effects of culture and sex on mate preferences using samples drawn world-wide. Thirty-seven samples were obtained from 33 countries located on six continents and five islands ($N = 9,474$). Hierarchical multiple regressions revealed strong effects of both culture and sex, moderated by specific mate characteristics. Chastity proved to be the mate characteristic on which cultures varied the most. The preference ordering of each sample was contrasted with an international complement. Each culture displayed a unique preference ordering, but there were some similarities among all cultures as reflected in a positive manifold of the cross-country correlation matrix. Multidimensional scaling of the cultures yielded a five dimensional solution, the first two of which were interpreted. The first dimension was interpreted as Traditional versus Modern, with China, India, Iran, and Nigeria anchoring one end and the Netherlands, Great Britain, Finland, and Sweden anchoring the other. The second dimension involved valuation of education, intelligence, and refinement. Consistent sex differences in value attached to earning potential and physical attractiveness supported evolution-based hypotheses about the importance of resources and reproductive value in mates. Discussion emphasizes the importance of psychological mate preferences for scientific disciplines ranging from evolutionary biology to sociology.

INTERNATIONAL PREFERENCES IN SELECTING MATES A Study of 37 Cultures

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Mate preferences have been important in evolutionary biology since Darwin's classic 1871 treatise *The Descent of Man and*

Selection in Relation to Sex. The preferential choice of some mating partners over others, inter-sexual selection, is one of Darwin's two pivotal components of sexual selection. The other is competition between members of the same sex for access to members of the opposite sex, or intrasexual selection. Identifying mate preferences can provide two major forms of scientific insight: (1) clues to the reproductive histories of species, and (2) information about the current directions of sexual selection. For these reasons, the study of mate preferences has received increasing attention as a central evolutionary force (Bateson, 1983; Halliday, 1978).

Interest in mate preferences, however, transcends the boundaries of scientific disciplines. Sociologists have studied mate preferences because these preferences can affect the distribution of wealth in society (e.g., when the rich prefer to mate with the rich). Behavioral geneticists study the effects of mate preferences because certain patterns of assortment (e.g., where similar individuals become coupled) can affect heritability estimates, genotype-environment correlations, and correlations between genetically related individuals (Plomin, DeFries, & McClearn, 1980).

At a proximate level, however, mate preferences are intrinsically *psychological* phenomena. Thus, social psychologists have been interested in mate preferences from the vantage point of interpersonal attraction (e.g., Berscheid & Walster, 1974). Personality psychologists have studied mate preferences because the *content* of the preferences often consists of enduring dispositional characteristics of persons such as dominance or dependability (Buss & Barnes, 1986). In spite of their importance for these diverse disciplines, little is known about (1) which characteristics people value in potential mates, (2) how these values vary across cultures and sexes, and (3) whether there exist species-typical preferences that transcend cultures and the sexes.

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To explore these issues, we established the *International Mate Selection Project*. This project currently consists of a network of 49 research collaborators from 33 countries located on six continents and five islands. Through the use of two standardized instruments, translated into the languages and dialects appropriate to each sample, we collected basic descriptive data on the degree to which individuals value each of 31 characteristics in potential mates.

The major purposes of the research were: (1) to identify which *characteristics* individuals value in potential mates in samples world-wide; (2) to identify the *similarities* among countries in their values, and particularly to identify any species-typical mate preferences¹ that might exist; (3) to identify the major ways in which cultures *differ* in mate preferences; (4) to identify *clusters of countries* that are similar to each other, yet different from other clusters, with respect to mate preferences, and (5) to identify *sex differences* within each country on the degree of valuation of each mate characteristic. Thus, the major goals of the study were descriptive—to provide basic, and previously absent, knowledge about mate preferences in samples from around the world that differ from each other geographically, culturally, racially, religiously, ethnically, and politically.

The only *a priori* hypotheses concerned sex differences in valuation of characteristics signalling resource acquisition potential (females hypothesized to value more) and characteristics providing cues to reproductive capacity (males hypothesized to value more). These hypotheses and empirical tests of them are treated in detail elsewhere (Buss, in press).

METHOD

Samples. Subjects for this study were 9,474 individuals, composing 37 samples, drawn from 33 countries on six continents and five islands. As shown in Table 1, the samples range in mean age from 16.92 (New Zealand) to 29.56 (Australia), with an overall unit weighted mean of 23.15. Samples vary in *N* from lows of 43

TABLE 1
Sample Sizes and Mean Ages

Sample	SAMPLE SIZE			AGE OF MALES			AGE OF FEMALES		
	Total	Male		Female	Mean	SD	Mean	SD	
		Male	Female						
<i>African</i>									
Nigeria	172	117	55		23.36	3.39	21.13	1.38	
S. Africa—Whites	128	47	81		20.88	2.17	19.44	1.28	
S. Africa—Zulu	100	52	48		25.30	9.40	23.53	6.18	
Zambia	119	70	49		25.67	7.42	22.60	4.17	
<i>Asian</i>									
China	500	285	235		23.37	4.87	22.46	5.29	
India	247	103	144		30.46	12.46	24.90	10.92	
Indonesia	143	88	55		23.52	3.16	22.76	3.19	
Iran	55	28	27		24.14	5.14	22.74	5.70	
Israel-Jewish	473	205	268		25.52	4.26	23.29	3.65	
Israel-Palestinian	43	22	21		25.10	4.17	21.48	3.01	
Japan	259	106	153		20.05	1.50	19.37	0.88	
Taiwan	566	288	278		21.13	1.85	20.54	1.63	
<i>European-Eastern</i>									
Bulgaria	269	127	142		22.28	6.16	23.06	7.04	
Estonia	303	153	150		19.12	3.50	18.32	2.64	
Poland	240	122	118		21.98	1.97	21.44	1.51	
Yugoslavia	140	66	74		21.53	1.55	20.72	1.33	
<i>European-Western</i>									
Belgium	145	55	90		23.80	6.23	21.38	5.49	
France	191	100	91		25.27	7.29	25.83	7.95	
<i>Finland</i>	204	55	149		23.87	4.58	24.60	5.29	
Germany—West	750	363	387		28.29	10.81	29.14	12.40	
Great Britain	130	46	84		20.87	3.92	21.09	5.38	
Greece	132	67	65		20.72	2.50	18.71	1.46	
Ireland	122	55	67		19.60	1.50	19.27	1.31	
Italy	101	46	55		27.83	5.32	25.96	5.39	
Netherlands	417	177	240		22.74	3.86	21.65	3.31	
Norway	134	67	67		22.25	4.10	22.46	4.46	
Spain	124	44	80		22.89	2.58	22.75	3.59	
Sweden	140	66	74		29.79	9.88	26.70	8.20	
<i>North America</i>									
Canada-English	101	56	45		20.89	2.98	23.05	6.84	
Canada-French	105	34	71		26.00	6.32	25.17	8.16	
USA—Mainland	1491	639	852		19.98	3.45	20.37	4.63	
USA—Hawaii	179	66	113		23.79	7.23	22.76	6.20	
<i>Oceania</i>									
Australia	106	36	70		29.17	8.36	29.94	10.11	
New Zealand	151	75	76		17.00	0.79	16.92	0.81	
<i>South American</i>									
Brazil	630	275	355		22.84	4.59	21.72	4.47	
Colombia	139	61	78		25.89	6.76	24.34	6.03	
Venezuela	193	95	98		28.07	7.19	28.42	7.19	
SUMMARY	9,474	4,360	5,114		23.64	3.15	22.68	2.92	

(Palestinian Arabs) and 55 (Iran) to highs of 500 (mainland China), 566 (Taiwan, R.O.C.), 630 (Brazil), 750 (West Germany), and 1,491 (United States). All but two samples have samples exceeding 100. The mean sample size for the 37 samples is 256, with slightly greater representation of females (mean N per sample = 138) than males (mean N = 118).

Instructions were provided to each collaborator to obtain diverse and representative samples from their respective countries. We fell short of this goal. In general, rural, less educated, and lower levels of socioeconomic status are under-represented, although there are many exceptions (e.g., Estonian, Gujarati Indian, South African Zulu, Santa Catarina Brazilians). The samples represent a tremendous diversity of geographical, cultural, political, ethnic, religious, racial, and economic groups, and are the largest ever obtained on mate preferences.

For some countries, multiple locations are represented. In Brazil, for example, samples were obtained from Rio de Janeiro, Brazilia, São Paulo, Pôrto Alegre, Uberlândia, João Pessoa, and Santa Catarina. From mainland China, samples were obtained from Shanghai, Tianjin, Kunming, and Quijing. From India, samples were obtained from Bangalore and Ahamadabad. From Israel, samples were obtained from Haifa, Jerusalem, and Tel Aviv. From the United States, samples were obtained from Massachusetts, Michigan, California, Texas, and Hawaii. For some countries, only one location is represented. Further details about particular samples may be obtained from the authors.

MEASUREMENT INSTRUMENTS

Factors in choosing a mate. This instrument consisted of three parts. The first part requested biographical data, including age, sex, religion, marital status, number of brothers, and number of sisters. The second section requested information on the age at which the subject preferred to marry, age difference preferred between self and spouse, who is preferred to be older (self or spouse), and how many children are desired.

The third section requested subjects to *rate* each of 18 characteristics (e.g., dependable character, chastity, good health) on how important or desirable it would be in choosing a mate. A four-point scale was used, ranging from 3 ("indispensable") to 0 ("irrelevant or unimportant"). The 18 characteristics were drawn from a previously developed instrument used widely within the United States over the past 50 years (Hill, 1945; McGinnis, 1958; Hudson & Henze, 1969).

Preferences concerning potential mates. The second instrument was developed from factor analysis (Buss & Barnes, 1986) of a larger 76-item instrument (Gough, 1973). The highest loading items from this factor analysis were included (e.g., religious, kind and understanding, exciting personality), along with several additional items to test specific hypotheses about sex differences (e.g., good earning capacity, physically attractive).

In contrast to the rating procedure used in the first instrument, subjects were requested to *rank* each characteristic on its desirability in a mate. The instructional set was: "Below are listed a set of characteristics. Please *rank* them on their desirability in someone you might marry. Give a '1' to the most desirable characteristic in a potential mate; a '2' to the second most desirable characteristic in a potential mate; a '3' to the third most desirable characteristic, and so on down to '13' for the 13th most desirable characteristic in a potential mate."

It must be recognized that these instruments carry cultural limitations because they originated within the United States and were translated and adapted for other cultures. Future research could start within each culture to identify preferred mate characteristics that may have been missed by this procedure.

Translations. Instructions were provided to each research collaborator for translating the two instruments into the appropriate language for their sample. These included the use of three bilingual speakers who respectively (1) translated from English to native language, (2) back-translated from native language to English, and (3) resolved discrepancies between the first two translators. Instruc-

tions were provided to make all terms "sex-neutral" in the sense of being equally applicable to males and females. The phrase "physically attractive," for example, could be applied to either sex, while "handsome" or "beautiful" would be considered sex-linked.

Several difficulties were encountered in the translation process. Some languages use two terms, one masculine and one feminine, to refer to a given characteristic. Some characteristics had to be replaced with phrases to approximate fidelity in translation when no single term accurately captured the meaning. Although the instruments were modified to achieve semantic equivalence, it must be recognized that cultural and linguistic differences simply preclude strict equivalence. The general effect of deviations from semantic identity would be to exaggerate the appearance of cultural differences, while attenuating the appearance of similarities.

PROCEDURE

Most data were collected by native residents within each country and mailed to the United States for statistical analysis. The original protocols were requested, and in most cases these were sent. In a few cases, it proved impossible to send the original protocols. In these cases, the raw data were transcribed onto coding sheets, and sent to the United States.

Problems were encountered, and data collection proved difficult in some cases. In Sweden, Finland, and Norway, many couples do not get married, but instead live together without the official marriage certificate. The instruments had to be modified to reflect this cultural difference. In Nigeria, polygyny is practiced, and so questions had to be added to reflect the possibility of multiple wives. In South Africa, data collection was described as "a rather frightening experience." In several countries, sending the data was delayed for months, pending approval of central committees. In one country, after data collection was nearly completed, the study had to be terminated because of a lack of official approval. Data from this country were never received.

RESULTS

The results are presented in four parts. The first part presents a series of hierarchical multiple regressions that examine the overall effects of and the interaction between culture and sex on mate preferences. The second part describes the overall ordering of preferences for the entire international sample. This provides a standard against which the unique features of each country can be compared. The third part summarizes the major findings for each country, considered in six geographical blocks. This organization serves to illustrate the cultural diversity of samples located in spacial proximity. Particular attention is given to the degree of sexual dimorphism, major sex differences on specific characteristics, most and least preferred mate characteristics, and major unique deviations from the modal international sample. The fourth part presents results of a multidimensional scaling of the cross-country correlation matrix to depict, spacially and statistically, the similarities and differences among the countries when considered simultaneously.

OVERALL EFFECTS OF CULTURE AND SEX

To examine the overall effects of sample and sex on mate preferences, 31 hierarchical multiple regressions were computed, one for each mate characteristic. A series of 36 vectors were created that dummy-coded each sample by the remaining international complement contrast for each variable. These 36 vectors were entered simultaneously as the first step in the regression equation to assess the overall effect of culture on valuation of each mate characteristic.² Sex was entered as the second step to assess the overall effects of being male or female on valuation of each mate characteristic. Third, 36 sample-by-sex interaction vectors were computed and entered simultaneously as the third step in the regression equation. These interaction terms represent the degree to which cultures differ in the magnitude of sex difference for each

TABLE 2
Effects of Culture and Sex on Male Preference Ratings Summary of Hierarchical Multiple Regressions

Mate Characteristics	Culture		Sex		Interaction		Final	
	multiple R	R ²	zero order r	R ² change	R ² change	multiple R	R ²	
Good Cook and Housekeeper	.33	.11	.27	.06	.06	.48	.23	
Pleasing Disposition	.46	.21	-.07	.00	.00	.46	.22	
Sociability	.33	.11	-.12	.01	.01	.37	.14	
Similar Education	.42	.17	-.19	.03	.01	.47	.22	
Refinement, Neatness	.43	.19	.05	.00	.01	.44	.20	
Good Financial Prospect	.27	.07	-.33	.11	.02	.45	.21	
Chastity (no previous experience in sexual intercourse)	.61	.37	.15	.01	.01	.63	.40	
Dependable Character	.39	.15	-.12	.01	.01	.42	.17	
Emotional Stability and Maturity	.29	.09	-.19	.03	.01	.36	.13	
Desire for Home and Children	.45	.21	-.07	.01	.01	.47	.22	
Favorable Social Status or Rating	.32	.10	-.17	.03	.01	.38	.15	
Good Looks	.29	.09	.28	.07	.01	.41	.16	
Similar Religious Background	.40	.16	-.09	.01	.01	.42	.17	
Ambition and Industrious	.37	.14	-.20	.05	.01	.45	.20	
Similar Political Background	.24	.06	-.07	.01	.01	.27	.07	
Mutual Attraction—Love	.28	.08	-.08	.00	.01	.30	.09	
Good Health	.37	.14	.03	.00	.01	.38	.14	
Education and Intelligence	.26	.07	-.17	.03	.01	.33	.11	

TABLE 3
Effects of Culture and Sex on Male Preference Rankings Summary of Hierarchical Multiple Regressions

Mate Characteristics	Culture		Sex		Interaction		Final	
	multiple R	R ²	zero order r	R ² change	R ² change	multiple R	R ²	
Kind & Understanding	.28	.08	-.08	.01	.02	.32	.10	
Religious	.36	.13	-.01	.00	.01	.37	.14	
Exciting Personality	.44	.20	-.04	.00	.01	.45	.21	
Creative & Artistic	.28	.08	.00	.00	.02	.31	.09	
Good Housekeeper	.52	.27	.22	.04	.04	.59	.34	
Intelligent	.27	.07	-.08	.01	.01	.30	.09	
Good Earning Capacity	.20	.04	-.33	-.11	.03	.43	.18	
Wants Children	.28	.08	.01	.00	.01	.30	.09	
Easygoing	.46	.21	-.02	.00	.01	.47	.22	
Good Heredity	.38	.15	.04	.00	.01	.39	.16	
College Graduate	.34	.12	-.12	.02	.02	.39	.15	
Physically Attractive	.35	.12	.29	.09	.01	.47	.22	
Healthy	.32	.10	.04	.00	.01	.34	.11	

variable. A summary of these regression analyses are shown in Tables 2 and 3.

The two left-hand columns of Tables 2 and 3 show the effects of culture on each of the 31 mate characteristics. Given the sample size of over 9,000, even extremely small effects will achieve statistical significance. Indeed, *all* the *Rs* and *R*-square increments in these tables were highly significant. More important than statistical significance, however, is the magnitude of effect. These results suggest two general conclusions. The first is that the culture within which individuals reside has an effect on each of the 31 mate preferences. The second is that the magnitude of effect varies tremendously from characteristic to characteristic.

The largest effect of culture occurred for the variable of *chastity*, or desiring a mate with no previous experience in sexual intercourse. Samples from China, India, Indonesia, Iran, Taiwan, and Palestinian Arab placed great importance on chastity in a potential mate. Samples from Ireland and Japan placed moderate importance on chastity. In contrast, samples from Sweden, Finland, Norway, Netherlands, and West Germany generally judged chastity to be irrelevant or unimportant.

Two traditionally domestic characteristics, desire for *home and children* and *good housekeeper*, also showed large cultural differences in desirability. Samples from South Africa (Zulu), Estonia, and Colombia placed high value on good housekeeper in a potential mate. Samples that placed relatively low value on housekeeping skills included United States (mainland), Canada (both French and English speaking), and all Western European samples with the exception of Spain.

Next, strong cultural effects were found for a set of personality variables: *pleasing disposition*, *exciting personality*, and *easygoing*. For the variable exciting personality, for example, samples from France, Japan, Brazil, United States, Spain, and Ireland judged this to be highly desirable in a potential mate. Samples from South Africa (Zulu), China, India, and Iran generally placed less emphasis on exciting personality.

The next two columns of Table 2 and 3 show the results for the effects of sex on mate preferences. The zero-order correlations between sex and each variable are shown, along with the *R*-squared increment when entered as a second step in the regression equation. In general, the effects for sex are substantially lower than those for culture. This suggests that there may be more similarity between men and women from the same culture than between men and men or women and women from different cultures.

The largest sex difference occurs for the variables of *good financial prospect* (rating) and *good earning capacity* (ranking). Females generally value good earning capacity in a potential mate more than males. An associated characteristic, *ambition and industriousness*, also shows a substantial effect for sex. Next in magnitude are the effects of sex for *good looks* (rating) and *physical attractiveness* (ranking). Males generally value appearance in potential mates more than do females. Males also value *good cook and housekeeper* more than do females. Of smaller magnitude, but worth noting, females place somewhat greater value than do males on educational background, *emotional stability and maturity*, *favorable social status*, *education and intelligence*, and *college graduate*.

The fifth column in Table 2 and 3 shows the effects for the interaction between sample and sex. This term indicates the degree to which the magnitudes of sex difference vary across cultures. These effects are generally small. Good cook and housekeeper and good earning capacity show the largest interaction effects. The variables *kind and understanding*, creative and artistic, and college graduate also show interaction effects. The remaining variables show interaction terms that account for one percent or less of the total variance.

In sum, substantial effects were found for culture and sex. Cultural effects are generally larger than sex effects, and occur for what may be called traditional values such as chastity, good cook and housekeeper, and *desire for home and children*, as well as for an important set of personality variables. Substantial effects for sex occur for earning capacity, physical appearance, and housekeeping

skills. With the exception of good cook and housekeeper, the interaction terms generally accounted for little variance, suggesting that sex differences are relatively uniform across cultures.

ORDERING OF PREFERENCES FOR INTERNATIONAL SAMPLE

Tables 4 and 5 show the overall ordering of ratings and rankings, respectively, summing with unit weighting each of the 37 samples for males and females separately. Unit weighting was used so that countries with large sample sizes would not contribute disproportionately.

As shown in Table 4, the ordering of the 18 rated mate characteristics is highly similar for males and females. The Spearman rho correlation between the two sets of ranks is +.95, suggesting high sexual similarity. As in the ordering of the rated variables, males and females are similar in their ranked variables, (Table 5). The Spearman rho correlation between male and female mean ratings is +.92.

The overall ordering of the ratings for both sexes suggest that mutual attraction-love is the most valued mate characteristic. This is not so much a "characteristic" as it is a state of the relationship, one that signifies mutuality and, perhaps, reciprocity. The next three characteristics all signify what are traditionally considered to be personality dispositions. Both males and females rate *dependable character*, emotional stability and maturity and pleasing disposition as the next most highly valued mate characteristics.

The least valued characteristics in this set are chastity, *similar religious background*, and *similar political background*. Among these least valued characteristics, males and females indicate a different ordering. In general, females value similar religion more, while males value chastity more.

Table 5 shows the overall ordering of the 13 ranked characteristics. Males and females place the first four characteristics in the same order: kind and understanding, *intelligent*, exciting personality, and *healthy*. The first three refer explicitly to personality characteristics and appear to reflect the desire for a mate who is stimulat-

TABLE 4
Summary of Ratings by Sex Using Entire International Sample

Ranked Value	Ratings by Males			Ratings by Females		
	Variable Name	Mean	Std. Dev.	Variable Name	Mean	Std. Dev.
1.	Mutual Attraction—Love	2.81	0.16	Mutual Attraction—Love	2.87	0.12
2.	Dependable Character	2.50	0.46	Dependable Character	2.69	0.31
3.	Emotional Stability and Maturity	2.47	0.20	Emotional Stability and Maturity	2.68	0.20
4.	Pleasing Disposition	2.44	0.29	Pleasing Disposition	2.52	0.30
5.	Good Health	2.31	0.33	Educational and Intelligence	2.45	0.25
6.	Education and Intelligence	2.27	0.19	Sociability	2.30	0.28
7.	Sociability	2.15	0.28	Good Health	2.28	0.30
8.	Desire for Home and Children	2.09	0.50	Desire for Home and Children	2.21	0.44
9.	Refinement, Neatness	2.03	0.48	Ambition and Industrious	2.15	0.35
10.	Good Looks	1.91	0.26	Refinement, Neatness	1.98	0.49
11.	Ambition and Industrious	1.85	0.35	Similar Education	1.84	0.47
12.	Good Cook and Housekeeper	1.80	0.48	Good Financial Prospect	1.76	0.38
13.	Good Financial Prospect	1.51	0.42	Good Looks	1.46	0.28
14.	Similar Education	1.50	0.37	Favorable Social Status or Rating	1.46	0.39
15.	Favorable Social Status or Rating	1.16	0.28	Good Cook and Housekeeper	1.28	0.27
16.	Chastity (no previous experience in sexual intercourse)	1.06	0.69	Similar Religious Background	1.21	0.56
17.	Similar Religious Background	0.98	0.48	Similar Political Background	1.03	0.35
18.	Similar Political Background	0.92	0.36	Chastity (no previous experience in sexual intercourse)	0.75	0.68
	Mean	1.87	0.57	Mean	1.94	0.63

TABLE 5
Summary of Ranking by Sex Using Entire International Sample

Ranked Value	Rankings by Males			Rankings by Females		
	Variable Name	Mean	Std. Dev.	Variable Name	Mean	Std. Dev.
1.	Kind and Understanding	2.82	0.75	Kind and Understanding	2.51	0.67
2.	Intelligent	4.21	0.69	Intelligent	3.87	0.89
3.	Exciting Personality	5.07	1.74	Exciting Personality	4.94	1.77
4.	Healthy	5.40	0.92	Healthy	5.63	0.94
5.	Physical attractive	5.57	1.26	Easygoing	6.34	1.85
6.	Easygoing	6.44	1.67	Creative and Artistic	7.27	1.22
7.	Creative and Artistic	7.11	1.15	Physically Attractive	7.29	1.29
8.	Good Housekeeper	7.60	1.85	Wants Children	7.75	0.90
9.	Wants Children	7.75	0.87	Good Earning Capacity	7.97	1.01
10.	Good Heredity	9.34	1.27	College Graduate	8.73	1.29
11.	College Graduate	9.41	1.03	Good Housekeeper	8.79	1.89
12.	Good Earning Capacity	9.86	0.57	Good Heredity	9.49	1.26
13.	Religious	10.42	1.59	Religious	10.34	1.76

ing in intellect and social behavior, yet not aggressive, abrasive, or too self-centered.

What follows is a discussion of the unique features of each sample. The *F* and *p* values associated with the sample by complement (remaining international sample) contrasts are used for analysis of the unique properties of each sample. Because of the large sample size and large number of analyses, a conservative criterion is used. Space limitations preclude presentation of specific *F* and *p* values. All cultural effects noted, however, are significant with $p < .001$. To conserve space, only the data from the rated variables are presented.

THE AFRICAN SAMPLES

Table 6 shows the results for the four African samples. The *Nigerian* sample (samples from Kano and Lagos) departs from the international contrast in the relatively high value placed on *refinement-neatness*, desire for home and children, *good health* and *religious* and on the relatively low value placed on mutual attraction, dependable character, emotional stability and maturity, sociability, and creative and artistic. This sample shows the greatest sexual dimorphism among the 37 samples, with a sexual similarity index (rho correlation between males and females) of only .52. Since polygyny is permitted in Nigeria, this finding is interesting in light of the primatological finding that, across species, the magnitude of sexual dimorphism is positively correlated with the degree of polygyny (Short, 1981).

The *South African – White* sample shows great similarity to the international norms, but departs from them in placing somewhat less value on good health and *good looks*, and somewhat greater value on religious considerations.

The *South African – Zulu* depart from the international sample means in their relatively high emphasis given to creativity, religion, and housekeeping skills, and their relatively low value given to mutual attraction, physical appearance, college degrees, and interesting personality. Like the *Nigerian* sample, they show a higher

TABLE 6
African Countries Rank Ordering of Rated Variables

Mate Characteristics	Nigeria		South Africa Whites		South Africa Zulu		Zambia	
	Male	Female	Male	Female	Male	Female	Male	Female
Mutual Attraction—Love	4	4	1	1	10	5	3	1
Dependable Character	9	11	2	3	3	1	1	3
Emotional Stability and Maturity	8	1	3	2	1	2	5	2
Pleasing Disposition	7	5	4	4	4	3	8	10
Education and Intelligence	2	8	5	5	6	6	9	5
Good Health	1	7	9	10	5	4	4	7
Sociability	12	12	6	6	11	8	11	9
Desire for Home and Children	6	3	7	7	9	9	7	4
Refinement, Neatness	3	2	8	11	7	10	2	6
Ambition and Industrious	10	6	11	9	8	7	12	11
Good Looks	11	15	12	16	14	16	10	14
Similar Education	14	9	10	8	12	12	16	12
Good Financial Prospect	16	10	18	12	18	13	1	8
Good Cook and Housekeeper	5	16	13	17	2	15	6	16
Favorable Social Status or Rating	13	13	14	13	17	14	14	13
Similar Religious Background	15	14	15	14	16	11	17	15
Chastity (no previous experience in sexual intercourse)	17	18	16	18	13	18	13	17
Similar Political Background	18	17	17	15	15	17	18	18

NOTE: Bold numbers indicate a statistically significant difference between sexes. Sexes with bold numbers place greater value on that variable.

than average degree of sexual dimorphism, with a sexual similarity index of .79.

As a whole, the *Zambian* sample values refinement-neatness, desire for home and children, chastity, health, and favorable social status more than the international standard, but places less value on pleasing disposition, exciting personality, mutual attraction, and easygoing in potential mates. Zambia, like Nigeria, permits polygyny. Also like the Nigerian sample, the *Zambian* sample is one of the three most sexually dimorphic in mate preferences among the 37 international samples.

ASIAN SAMPLES

Table 7 shows the results for the Asian and Middle Eastern samples. The mainland *Chinese* sample departs from the international norms in placing greater value on the health, chastity, and domestic skills of potential mates. Especially interesting is the high value placed on *good heredity* in this sample, possibly a reflection of current legal restrictions on the number of children. Less value is given to *dependability*, mutual attraction, sociability, pleasing disposition, exciting personality, appearance, and religious similarity.

The *Taiwan* (Republic of China) sample, like the mainland Chinese sample, places greater than average value on chastity, health, housekeeping skills, and heredity, and less than average value on sociability and appearance in potential mates. Unlike the mainland Chinese, however, they place less than average value on a mate who *wants children*. The Taiwanese sample also valued dependability more than any other Asian sample.

The *Japanese* sample shows an average degree of similarity to the international means. They depart from those means primarily in placing greater value on health, dependability, desire for home and children, and chastity, and less value on refinement, neatness, similar religious background, and physical appearance. The Japanese sample also valued political background more than other Asian samples.

(Galilee), although these are the smallest samples in the study. Thus, conclusions based on these samples (except for the Jewish Israeli sample) must be regarded as tentative, awaiting replication on larger and more representative samples.

The *Iranian* sample shows the lowest commonality with the internationally based means. It differs strikingly in the high value placed on chastity, health, heredity, religion, refinement-neatness, ambition, and similar political background. The Iranian sample also placed considerably less emphasis on dependability, exciting personality, easygoing, intelligence, and mutual attraction-love.

The *Jewish Israeli* sample, obtained from Haifa, Tel Aviv, and Jerusalem, shows slightly above average commonality. It differs from the international complement in that it is one of only three countries (the others being Italy and Venezuela) where both sexes rank intelligence as the most valued characteristic in potential mates. Congruent with this finding is the greater than average value given to similar education. Also above average are good housekeeping skills, heredity, and religious similarity. Health, good looks, and kindness are the main characteristics that Jewish Israelis in this sample consistently place below the international means.

The *Palestinian Arab* sample shows a below average commonality, although this conclusion must be qualified by the fact that only data from the rating instrument was available. The most striking departure from the international norms is the high value placed on similar political background in potential mates. Also highly valued is a mate who desires home and children, and who is chaste and religious. Less valued than the normative sample are the mate characteristics of dependability and financial prospects. The sexual similarity index is .74, which suggests that Palestinian Arabs are among the most dimorphic.

EASTERN EUROPEAN COUNTRIES

Data were collected in four East European countries (Table 8). From Bulgaria and Estonian code sheets onto which the original protocols were transcribed were used. The original protocols were

TABLE 8
Eastern European Countries Rank Ordering of Rated Variables

Mate Characteristics	Bulgaria		Poland		Estonia		Yugoslavia	
	Male	Female	Male	Female	Male	Female	Male	Female
Mutual Attraction—Love	2	2	1	1	1	1	1	1
Dependable Character	1	1	2	2	4	4	3	3
Emotional Stability and Maturity	9	3	6	3	6	7	2	2
Pleasing Disposition	11	8	3	5	3	3	4	4
Education and Intelligence	8	5	7	7	7	6	6	5
Good Health	3	4	9	10	9	9	5	7
Sociability	10	10	12	9	12	10	7	6
Desire for Home and Children	4	6	5	6	2	2	10	10
Refinement, Neatness	6	7	4	4	11	8	9	9
Ambition and Industrious	12	9	11	8	8	5	11	8
Good Looks	5	11	10	12	10	12	8	12
Similar Education	14	16	14	11	16	14	12	12
Good-Financial Prospect	16	14	16	13	14	13	14	13
Good Cook and Housekeeper	7	12	8	15	5	11	13	15
Favorable Social Status or Rating	15	15	18	16	13	15	15	14
Similar Religious Background	18	17	13	14	18	18	16	16
Chastity (no previous experience in sexual intercourse)	17	18	15	18	15	17	18	18
Similar Political Background	13	13	17	17	17	18	17	17

NOTE: Bold numbers indicate a statistically significant difference between sexes. Sexes with bold numbers place greater value on that variable.

available for the samples from Poland and Yugoslavia. Collectively, these samples total to 952 subjects, which is slightly over 10% of this international sample.

The *Bulgarian* sample, from the city of Sofia, shows an average commonality with the international norms. The most striking difference is the high valuation placed on similar political background compared with most other countries. Also valued more are mates who are refined-neat, desire home and children, cook and keep house well, and show good health. Less valued than average are the characteristics of exciting personality, pleasing disposition, mutual attraction, religious similarity, and educational similarity.

The *Polish* sample, like the Bulgarian sample, shows an average degree of commonality. It departs from the average in placing greater value on mates who desire home and children, show good housekeeping skills, share similar religious orientation, and are refined and neat. Less valued than average are sociability, being easygoing, and health.

The *Estonian* sample showed an average degree of commonality. This sample tended to exceed the average in their desire for mates who possess good housekeeping skills, want children, and are ambitious and industrious. Less valued than average among this sample are similar education and the personality characteristics of emotional stability, sociability, intelligence, exciting personality, and creativity.

The *Yugoslav* sample showed the highest commonality with the international sample among the Eastern European countries. They departed primarily in placing higher value than average on having a college graduated mate, and in placing a lower than average value on chastity, exciting personality, and easygoing.

Are there general similarities among these countries that distinguish them from other countries? The answer can be a tentative "yes" only if the Yugoslav sample is excluded. As will be shown later through multivariate statistics, Bulgaria, Poland, and Estonia do share similarities. The most salient of these are the preference that both sexes in these samples express for mates strong on domestic functions such as cooking, housekeeping, and wanting

children. This triad places less emphasis on sociability than average. Nonetheless, within this group there are unique patterns of mate preferences that each sample expresses. Bulgaria stresses dependability more than the others; Poland gives greater value than the others to religious considerations; the Estonian sample desires ambition and industriousness in mates more than the others; and Yugoslavia emphasizes health and sociability more than the others. Thus, cultural differences pervade these results and must be considered along with the similarities.

WESTERN EUROPEAN SAMPLES

Tables 9 and 10 show the results for the Western European countries, as well as Great Britain, Ireland, Australia, and New Zealand, for ease of exposition.

The *Belgium* sample, drawn from several different cities and rural areas (all Dutch-speaking), has one of the highest commonalities in the study. It is expected, therefore, that the Belgian ordering should correspond closely to the overall ordering shown in Tables 2 and 3. This is indeed the case. Only five variables depart in moderate magnitude from this overall ordering. Easygoing, good heredity, and college degrees are valued somewhat more than average, while desire for home and children and similar education in potential mates are valued somewhat less than average.

The *Netherlands* sample also shows an above average commonality. The most striking deviation from average is the value given to political similarity in a potential mate. Sociability is also valued by the Netherlands sample more than average. In contrast, chastity, financial capacity, emotional stability, similar education, and desire for home and children are less valued than average. The Netherlands sample shows the greatest sexual similarity (.98) of any sample in the study.

The *French* sample shows both an above average commonality and a high degree of sexual similarity (.97). This sample departs from the international complement in expressing higher desire for mates who share political values and who are sociable, dependable,

TABLE 9
Western European Countries—Mainland Rank Ordering of Rated Variables

Mate Characteristics	Belgium		Netherlands		France		Germany		Greece		Italy		Spain	
	M		F		M		M		M		M		M	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Mutual Attraction—Love	1	1	1	1	1	2	1	1	1	1	1	1	1	1
Dependable Character	2	2	2	2	2	1	3	2	8	7	4	6	*	*
Emotional Stability and Maturity	4	3	5	5	5	5	4	4	2	2	3	5	4	3
Pleasing Disposition	5	6	3	3	4	2	3	3	4	8	2	2	12	9
Education and Intelligence	3	5	7	6	7	6	5	5	5	3	6	3	5	4
Good Health	6	7	6	7	6	7	6	6	3	4	9	8	7	6
Sociability	7	4	4	4	4	3	8	7	9	5	5	4	3	5
Desire for Home and Children	13	10	14	14	9	8	11	9	11	13	11	11	11	10
Refinement, Neatness	8	9	8	8	10	10	9	12	6	10	10	10	6	8
Ambition and Industrious	10	8	10	10	11	9	13	11	12	9	12	9	10	11
Good Looks	9	13	9	12	8	11	7	13	7	11	8	12	9	14
Similar Education	11	11	11	11	16	15	10	8	10	6	7	7	8	7
Good Financial Prospect	16	12	16	15	13	12	14	10	15	12	16	13	15	12
Good Cook and Housekeeper	12	15	13	9	12	13	12	16	13	16	13	15	13	15
Favorable Social Status or Rating	14	14	15	16	15	16	16	14	16	15	18	17	16	13
Similar Religious Background	15	16	17	17	18	17	17	17	18	17	14	16	17	17
Chastity (no previous experience in sexual intercourse)	18	18	18	18	17	18	18	18	17	18	17	18	18	18
Similar Political Background	17	17	12	13	14	14	15	15	14	14	15	14	14	16

NOTE: Bold numbers indicate a statistically significant difference between sexes. Sexes with bold numbers place greater value on that variable.

*Correct variable not available.

TABLE 10
Australian, British Isles, & Scandinavian Rank Ordering of Rated Variables

Mate Characteristics	Oceania				British Isles				Scandinavian			
	Australia		New Zealand		Ireland		Britain		Finland		Norway	
	M	F	M	F	M	F	M	F	M	F	M	F
Mutual Attraction—Love	1	1	1	1	1	1	1	1	1	1	1	2
Dependable Character	3	4	3	3	2	3	3	4	3	2	2	1
Emotional Stability and Maturity	2	2	2	2	3	2	4	3	4	4	4	4
Pleasing Disposition	4	3	4	4	4	4	2	2	2	3	3	3
Education and Intelligence	5	5	6	6	8	8	5	5	6	5	5	6
Good Health	7	9	5	5	5	7	8	7	7	8	7	7
Sociability	6	6	7	7	7	6	6	6	5	6	8	9
Desire for Home and Children	9	7	10	8	6	5	10	8	9	7	11	6
Refinement, Neatness	12	11	8	10	12	14	13	16	15	17	10	16
Ambition and Industrious	13	10	12	9	11	9	12	10	10	9	9	8
Good Looks	8	17	9	13	9	15	7	11	8	14	6	13
Similar Education	10	8	13	14	14	13	9	9	11	10	14	12
Good Financial Prospect	18	12	14	11	17	10	17	13	14	11	13	10
Good Cook and Housekeeper	11	13	11	12	13	16	11	14	12	12	12	11
Favorable Social Status or Rating	16	14	15	15	15	17	16	17	13	13	15	14
Similar Religious Background	14	15	16	16	16	11	15	15	16	16	16	17
Chastity (no previous experience in sexual intercourse)	17	18	17	17	10	12	18	18	18	18	18	18
Similar Political Background	15	16	18	18	18	18	14	12	17	15	17	15

NOTE: Bold numbers indicate a statistically significant difference between sexes. Sexes with bold numbers place greater value on that variable.

and easygoing. Less value than average among this French sample are the mate characteristics of emotional stability, chastity, kindness, intelligence, and similar education.

The *West German* sample is the largest ($N = 750$) among the Western European sample, and the second largest in the study. This sample shows both high commonality and high sexual similarity (.93). Thus, the ordering of the rated and ranked variables closely corresponds to the overall ordering shown in Tables 4 and 5. Only a few characteristics depart substantially from this pattern. West Germans in this sample place greater than average value on similar political background, similar education, easygoing, and good housekeeper. Less valued than average are sociability and emotional stability.

The *Greek* sample shows an average degree of commonality. They place greater than average value on health, similarity of education, and especially on the similarity of their mates' political views. This sample valued easygoing, dependability, intelligence, desire for home and children, and religious compatibility somewhat less than average. In contrast to most Western European countries, Greece shows sexual similarity that is lower than average (.82).

Like the Greek sample, the *Italian* sample shows an average degree of commonality. They stand out as being one of only three countries to rank intelligence as the highest among the 13 ranked characteristics. Congruent with this strong mate preference, the Italian sample expressed greater than average valuation on similar education and creative and artistic. Also above average for this sample were sociability, similarity of political views, and heredity. The Italians expressed less desire than average for exciting personality, easygoing, and desire for home and children.

The *Spanish* sample showed a commonality that was slightly above average. They agree with the Italian sample in placing a higher than average value on sociability, similar education, and similar political background. In addition, good housekeeping skills and creativity were valued more than average. In contrast, the mate characteristics of pleasing disposition, easygoing, and desire for home and children were desired somewhat less than average.

THE OCEANIAN SAMPLES

Table 10 shows the results for the ordering of the Australian and New Zealand samples. Because their history involves colonization by the British, the latter are located within the same table to facilitate comparison.

The *Australian* sample shows an extremely high commonality with the international means. Thus, they differ substantially from these averages on only a few characteristics. Easygoing mates and those with similar political backgrounds are valued more than average, while refinement-neatness, exciting personality, and health are valued less than average.

The *New Zealand* sample shows a commonality that is slightly above average. This sample departs from the international norms in placing less value on intelligence, creativity, and college degrees in potential mates.

Samples from the British Isles

The *Irish* sample, while showing an average commonality, is distinguished from other European sample in the high value expressed for mates who are chaste, religious, and desire home and children. Less than average value is placed among the Irish sample on education, intelligence, and refinement-neatness in potential mates.

The *British* sample, showing a slightly above average commonality, grants greater value to similarity of both education and political background in potential mates. They also value pleasing disposition, easygoing, and creativity more than average, while emphasizing refinement-neatness and ambition somewhat less than average.

The Scandinavian and Finnish Samples

Finland shows a slightly above average commonality. This sample values creativity and artistry in potential mates more than

average, while placing less emphasis on chastity, refinement, appearance, and ambition of mates.

Like Finland, *Norway* is slightly above average in commonality with the international norms. Norwegians in this sample show an above-average valuation for mates who are good cooks and housekeepers, easygoing, dependable and possess college degrees. Less than average value is given to health, sociability, religiosity, and chastity of potential mates.

The *Swedish* sample, with an average commonality, departs from the international means in ways different than the other Scandinavian samples in this study. More than average, they desire mates who are politically similar, dependable, and healthy. Less valued than average are mate characteristics of education, intelligence, religiosity, chastity, and social status. Like the other European samples, the Swedes show high sexual similarity (.94).

The North American Samples

North America (Table 11) is represented by two samples from Canada, one English speaking and one French speaking, and four samples from mainland United States (Massachusetts, Michigan, Texas, and California). Also included here is a sample from the island of Hawaii, which was analyzed separately from mainland United States because of its unique history and geographical separation.

The English-speaking *Canadian* sample shows one of the highest commonalities in the study. Thus, its preference ordering is nearly identical to that of the international means, differing only in a lower than average value given to similar education and similar religious background. The French-speaking Canadian sample has an average commonality, and differs from both the international means and the English-speaking Canadians in giving greater than average value to refinement-neatness. This sample also values easygoing more than average, and exciting personality, religiosity, and physical appearance less than average.

TABLE 11
The Americas Rank Ordering of Rated Variables

Male Characteristics	North America								South America							
	Canada				U.S.A.				Brazil				Colombia			
	English		French		Mainland		Hawaii		M		F		M		F	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Mutual Attraction—Love	1	1	2	2	1	1	1	1	1	1	3	3	1	1	1	1
Dependable Character	3	3	1	1	3	3	3	3	2	4	2	2	2	2	2	2
Emotional Stability and Maturity	2	2	6	4	2	2	2	2	3	1	1	1	1	1	6	3
Pleasing Disposition	4	4	3	5	4	4	4	4	3	4	10	10	4	4	8	8
Education and Intelligence	6	8	7	7	5	5	7	5	5	5	4	4	4	4	5	5
Good Health	5	5	8	9	6	9	5	9	8	8	6	8	6	8	5	5
Sociability	7	6	5	6	8	8	6	8	7	6	7	7	7	7	3	8
Desire for Home and Children	8	9	9	11	9	7	9	6	6	7	5	6	5	6	9	11
Refinement, Neatness	11	12	4	3	10	12	10	11	11	11	11	11	11	10	10	9
Ambition and Industrious	10	7	10	8	11	6	11	7	12	10	9	11	15	16	12	14
Good Looks	9	13	11	15	7	13	8	14	10	13	15	16	12	14	13	12
Similar Education	13	11	14	14	12	10	14	12	9	11	11	7	12	14	10	10
Good Financial Prospect	15	10	13	10	16	11	13	10	14	12	14	12	14	14	11	18
Good Cook and Housekeeper	12	15	12	12	13	16	12	15	13	14	12	14	12	14	11	18
Favorable Social Status or Rating	14	14	15	13	14	14	15	13	15	15	15	13	13	13	15	13
Similar Religious Background	16	16	16	16	15	15	16	16	17	17	17	17	17	15	16	15
Chastity (no previous experience in sexual intercourse)	17	18	17	18	17	18	17	18	16	18	16	18	16	18	17	18
Similar Political Background	18	17	18	17	18	17	18	17	18	16	18	17	18	17	18	17

NOTE: Bold numbers indicate a statistically significant difference between sexes. Sexes with bold numbers place greater value on that variable.
*Correct variable not available.

Both the mainland and Hawaiian *United States* samples show high commonality. Thus, their preference orderings are similar to the international means. The Hawaiian (Hilo) sample did not depart from these means substantially for any of the 31 mate characteristics. The Mainland sample departed in placing greater value on a college degree, earning capacity, and heredity, but less value than average on the intelligence of potential mates. These departures were relatively small.

South American Samples

The South American samples, also shown in Table 11, differ from each other and must be considered individually. *Brazil*, with one of the largest samples in the study ($N = 630$), shows an extremely high commonality with the international means. It differs only in placing greater than average value on heredity and similar education, and less than average value on college degrees. This Brazilian sample shows high sexual similarity (.94).

In contrast to the Brazilian sample, the *Colombian* sample shows only an average degree of commonality with other countries. It differs in desiring mates who are refined and neat, possess high earning capacity, have high social status, good domestic skills, and want home and children. Less than average emphasis is given to mutual attraction, pleasing disposition, looks, and easygoing.

The *Venezuelan* shows a commonality only slightly above average. This sample is one of only three in the entire study in which both sexes place intelligence in potential mates at the top of the rankings. Also valued more than average are the characteristics of desire for children, good housekeeping skills, and good heredity. Less desired than average are physical appearance and kindness.

CONCLUSIONS DRAWN FROM PREFERENCE ORDERINGS

Several general conclusions can be drawn from the orderings of the mate preferences in these 37 samples. First, in spite of the

unique cultural variability associated with each sample, there were substantial commonalities among all samples. Thus, the average between-sample correlation was +.78 for the ratings and +.74 for the rankings. This suggests that there is some unity to human mate preferences that may be regarded as species-typical.

Second, no country or sample is exactly like another country or sample. Each displays unique mate preference orderings. Third, the degree of commonality with other countries varies from sample to sample. In general, the African and Asian samples were the most distinct, differing substantially not only from the international-based means but also from other samples within their continent.

A fourth general conclusion is that the countries differ substantially in degree of sexual dimorphism. For some samples, the sexes ordered the variables so similarly that the correlations between the sexes were in the high .90's. For other samples, males and females differed radically in their ordering. One intriguing finding is that two of the countries with the highest degree of sexual dimorphism, Nigeria and Zambia, are also the two that practice polygyny. Across primate species, degree of sexual dimorphism in size and other physical features is positively correlated with degree of polygyny (Short, 1979). These findings suggest that *psychological* sexual dimorphism within humans might also be linked with degree of polygyny. Confirmation of this speculation must await replication on a wider array of polygynous samples.

A fifth general conclusion is that there are sex differences that appear in nearly every sample in this study (see Buss [in press] for a detailed discussion). More than females, males prefer mates who are physically attractive. More than males, females prefer mates who show ambition-industriousness and other signs of earning potential. These differences appear to be the most robust psychological sex differences of any kind to be documented across cultures (cf. Willerman, 1979; see also Williams, Giles, Edwards, Best, & Dowes, 1977).

Finally, there is substantial variation from sample to sample in precisely which other mate characteristics show sex differences. Some show strong sex differences for chastity, while others do not.

Some show strong sex differences for mates who are refined and neat, while others are sexually congruent on this variable. Thus, in spite of a few sex differences that appear to be species-typical of humans, there are a host of others that appear only in one or a few cultures.

CORRELATIONS AMONG SAMPLES

Table 12 shows the matrix of Spearman rho correlations among the 37 samples, based on the 18 rated characteristics. The most striking feature of this matrix is its general positive manifold—all samples are positively correlated with each other. This suggests a degree of psychological unity among *homo sapiens* that transcends differences in geography, culture, ethnicity, race and political system. The magnitudes of these correlations range from a low of .32 between China and the Netherlands to a high of .98 between the USA mainland and English-speaking Canadians. The mean correlation among samples is +.78.

MULTIDIMENSIONAL SCALING OF COUNTRIES

The correlation matrix shown in Table 12 was analyzed with a multidimensional scaling technique to identify the dimensionality of the samples and their relations to each other. This yielded a five dimensional solution, with an associated stress value of .07 using Kruskal's stress formula number 1. Figure 1 displays the locations of each sample within the first two dimensions.

Scrutiny of this figure suggests some intriguing relations between geographical proximity and proximity in this two dimensional space. Finland, Sweden, and Norway are geographically neighbors, and also form a small cluster in the lower left hand corner of the two dimensional space. The U.S.A. mainland and English-speaking Canadian samples are adjacent geographically and in this multidimensional space.

There are interesting juxtapositions that would not be anticipated on geographical grounds alone. Spain and Colombia are adjacent

TABLE 12

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
AFRICAN																																							
1 Nigeria	--																																						
2 S. Africa-Eng	71	--																																					
3 S. Africa-Zulu	70	75	--																																				
4 Zambia	81	78	75	--																																			
ASIAN																																							
5 China	58	48	49	49	--																																		
6 India	64	55	42	61	73	--																																	
7 Indonesia	61	73	67	73	49	54	--																																
8 Iran	74	70	69	69	57	65	61	--																															
9 Israel-Jewish	73	98	72	79	47	52	76	71	--																														
10 Israel-Palestin	69	83	80	80	59	60	78	74	81	--																													
11 Japan	69	79	72	86	72	64	74	64	77	79	--																												
12 Taiwan	68	81	71	78	72	66	67	71	78	67	82	--																											
OCEANIAN																																							
13 Australia	68	96	77	77	46	52	72	64	93	83	76	77	--																										
14 New Zealand	72	86	80	85	52	53	68	68	84	83	80	75	91	--																									
EUROPE EASTERN																																							
15 Bulgaria	73	73	70	88	69	55	44	58	71	79	86	70	77	83	--																								
16 Poland	82	87	76	87	56	56	74	80	89	80	81	77	85	84	85	--																							
17 USSR-Estonia	74	76	73	76	58	57	40	67	75	74	85	73	76	81	82	84	--																						
18 Yugoslavia	72	91	76	83	52	59	68	70	91	84	81	79	94	95	82	88	79	--																					

(continued)

(continued)

TABLE 12 Continued

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
TABLE 21 Continued																																					
EUROPEAN WESTERN																																					
14 Belgium	70	92	76	82	48	55	67	64	89	78	76	77	93	93	79	84	74	97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20 France	62	85	71	79	49	53	66	62	83	82	83	69	89	92	85	85	81	94	92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21 Finland	56	91	64	48	43	48	67	53	86	77	79	74	95	80	74	78	77	93	90	91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22 Germany-West	68	92	74	80	44	53	67	61	89	78	79	80	95	92	80	83	76	96	94	92	93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23 Great Britain	56	90	67	66	38	47	66	52	86	75	72	70	95	85	73	77	71	92	89	89	96	94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24 Greece	70	86	67	75	52	59	54	65	81	75	71	77	87	83	74	76	64	92	88	81	82	90	86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25 Ireland	61	86	70	80	64	66	82	69	85	85	84	79	87	86	74	80	75	87	82	86	94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
26 Italy	60	92	68	67	34	49	58	64	89	73	66	72	94	85	68	81	70	92	90	86	90	93	93	90	78	--	--	--	--	--	--	--	--	--	--	--	--
27 Netherlands	52	82	69	67	32	37	51	56	77	71	65	84	88	87	74	76	65	90	91	90	86	90	93	90	85	72	90	--	--	--	--	--	--	--	--	--	
28 Norway	64	87	73	77	49	47	65	59	84	76	63	79	92	81	88	93	90	92	94	94	90	81	85	85	87	--	--	--	--	--	--	--	--	--	--	--	--
29 Spain	69	86	67	75	48	55	50	60	82	74	65	64	82	75	74	61	88	91	79	77	86	78	90	67	87	83	75	--	--	--	--	--	--	--	--	--	
30 Sweden	59	84	71	74	43	46	67	62	81	74	80	70	86	90	79	83	76	92	91	96	90	87	79	83	85	90	93	75	--	--	--	--	--	--	--	--	
NORTH AMERICAN																																					
31 Canada-Eng.	70	94	75	82	55	58	71	67	91	82	89	82	94	93	81	86	81	97	94	93	95	94	91	88	90	89	86	95	82	93	--	--	--	--	--	--	--
32 Canada-French	66	81	72	80	45	60	70	81	72	72	68	82	80	75	85	71	89	90	87	78	84	74	78	73	81	88	81	80	86	85	--	--	--	--	--	--	--
33 USA-Mainland	72	96	71	82	54	59	73	69	95	82	84	82	95	92	80	89	81	97	94	91	95	95	92	88	90	91	84	94	82	91	98	84	--	--	--	--	--
34 USA-Hawaii	73	90	77	86	57	58	73	68	89	84	88	80	92	96	81	85	83	95	93	92	93	87	82	90	84	82	94	79	91	97	84	96	--	--	--	--	--
SOUTH AMERICAN																																					
35 Brazil	69	96	74	80	51	55	71	64	94	82	82	80	97	91	80	87	81	95	93	92	95	95	91	86	88	93	86	92	85	89	95	85	96	93	--	--	--
36 Colombia	77	86	71	84	59	61	56	67	85	76	71	70	83	79	74	80	64	84	86	75	72	79	69	86	69	78	72	71	91	69	80	81	80	79	85	--	--
37 Venezuela	86	79	62	74	66	69	60	67	78	73	70	76	76	79	69	74	72	81	75	72	72	75	66	81	65	71	58	71	85	68	82	67	81	83	79	88	--

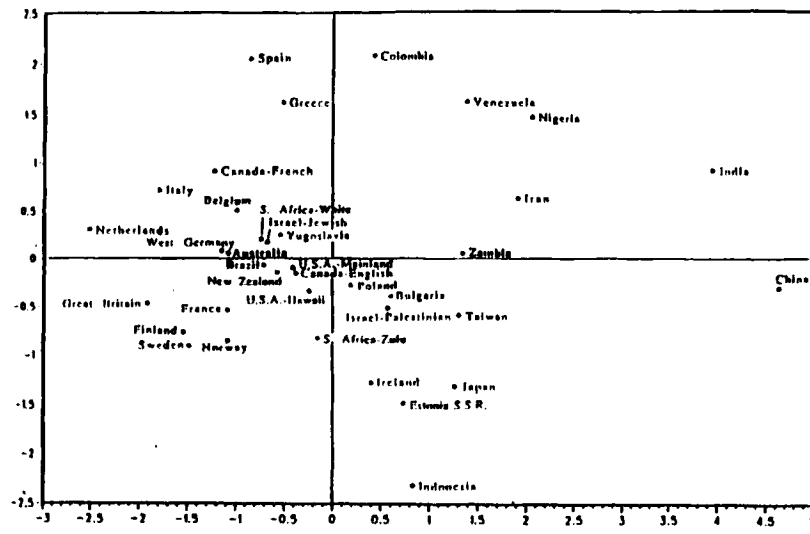


Figure 1: Multidimensional Scaling Using Ratings

in multidimensional space, yet distant geographically. This finding makes sense in light of the fact that Spain colonized Colombia, and because both samples speak Spanish.

Another interesting juxtaposition is the cluster consisting of Ireland, Japan, and Estonia. One speculation is that these samples are historically traditional, yet have felt some influence of technology and modernization. These three samples, for example, show neither the extremely high valuation of chastity shown by China and India, nor the extreme devaluation of chastity shown by most European countries. Instead, these three samples are intermediate on their valuation of this traditional mate characteristic.

More systematic insight into these dimensions can be gained by a close examination of the differences in valuation of mate characteristics among countries lying at opposite positions along each dimension. Along the horizontal dimension, samples from China, India, Nigeria, Iran, and Zambia differ from those from those of mainland Western Europe in placing high value on chastity, desire

for home and children, good cook and housekeeper, ambition and industry, good financial prospects, and favorable social status. Thus, this dimension appears to be one of traditional versus modern industrial values. This dimension appears to be similar to Hofstede's (1980) dimension of collectivism versus individualism (Triandis, Bontempo, & Villareal, 1988).

The vertical dimension shows high scores for Spain, Colombia, Greece, and Venezuela, and low scores for Indonesia, Estonia, Japan, and Ireland. Those scoring high on this dimension differ from those scoring low in the high value given to education and intelligence, similar education, and refinement. Examination of the ranked variables, which were not used in this multidimensional scaling, corroborate these findings. Intelligence and easygoingness are valued more by countries high than low on this second dimension. The remaining three dimensions were necessary to achieve a solution of low stress, but were not readily interpretable.

In sum, this multidimensional scaling is useful for depicting the relations of the countries to each other, as well as extracting major summary dimensions along which countries differ from one another. As illustrated in the preceding section on the preference orderings of each country, however, no two countries are identical, and each shows unique characteristics.

DISCUSSION

Several general conclusions can be drawn from this study. First, culture appears to exert substantial effects on mate preferences. Across all 31 mate characteristics examined, culture accounted for an average of 14% of the variance. There was substantial variation across mate characteristics in how much variance culture accounted for. Chastity showed the largest effects for culture, which accounted for 37% of the total variance. The characteristics of good housekeeper and desire for home and children also showed large effects of culture.

These cultural variations in degree of valuing "traditional" mate characteristics emerged clearly in the multidimensional scaling of samples. This traditional cluster formed the first major dimension of the five dimensional solution, with China, India, Iran, and Nigeria falling on the traditional end and Netherlands, Great Britain, Finland, and Sweden falling on the modern end. The second interpretable dimension, with Spain, Colombia, and Greece at one end and Indonesia, Estonia, Ireland, and Japan at the other, was characterized by valuation of education, intelligence, and refinement one side and pleasing disposition at the other.

Beyond these major dimensions of cultural variation, each sample displayed a unique preference ordering. Indeed, no two samples gave precisely the same preference ordering to characteristics in potential mates.

In spite of these cultural variations, strong commonalities emerged that transcended particular samples. In this sense, the results are similar to those of Osgood, Suci, and Tannenbaum (1957), who found invariance in affective meaning across cultures. Indeed, the cross-country correlation matrix was strongly positively manifold, with an average between-country correlation of $+ .78$ for the ratings and $+ .74$ for the rankings. Thus, there was what may be regarded as an internationally consistent ordering of mate preferences. Nearly all samples placed mutual attraction-love as the top rated characteristic. Nearly all samples placed tremendous value on the mate characteristics of dependability, emotional stability, kindness-understanding, and intelligence.

It is interesting to note that these four characteristics correspond closely to the most replicable-descriptive model of personality, known as the five factor model (Norman, 1963; Digman & Inoye, 1986; McCrae & Costa, 1987). In that model, the basic personality dimensions are represented by surgency, agreeableness, conscientiousness, emotional stability, and intellect-openness. The mate characteristics of kindness, dependability, emotional stability/maturity, and intelligence correspond to the last four. Perhaps directional sexual selection is currently occurring for these basic dimensions of personality.

Another important set of findings surrounded sex. In general, the effects of sex on mate preferences were small compared with those of culture. Across the 31 mate characteristics, sex accounted for an average of only 2.4% of the total variance in preferences. Several characteristics were predicted to show sex differences—those involving physical appearance (males predicted to value more) and earning potential (females predicted to value more). These characteristics were hypothesized to signify female reproductive value and male capacity for resource provisioning (Buss, in press), as predicted by several evolutionary accounts (Trivers, 1972; Williams, 1975). These were the characteristics that showed the largest effects for sex. Indeed, these sex differences were statistically significant within nearly every sample, and appear to be among the most robust sex differences yet documented across cultures (cf. Willerman, 1979).

Despite these sex differences, males and females within each sample showed a high degree of similarity in their preference ordering. The Spearman rho correlation between the male and female ratings averaged +.87; the same degree of similarity occurred for the ranking procedure. Individual cultures varied substantially, however, in how similar the two sexes ordered the mate characteristics. In general, the Asian and African samples showed the most sexual dimorphism; the Western European samples showed the least sexual dimorphism; and North and South American samples showed intermediate degrees of dimorphism.

There were several intriguing exceptions to these generalizations. The Israeli-Jewish sample and the South African—White sample showed greater similarity between the sexes than their geographical neighbors. Within Western Europe, Greece, Spain, and Ireland showed less similarity between the sexes than the neighboring countries. Within the Americas, the Canadian-French sample and the Brazilian sample showed more sexual similarity than their neighbors. Finally, within Eastern Europe, Estonia and Yugoslavia showed high similarity between the sexes; Poland showed an intermediate degree of similarity; and Bulgaria showed relatively low similarity.

It must be cautioned that these results are limited by the fact that the samples from each country are not representative. Differences in sampling procedures also preclude definitive statements about differences found between countries.

Given these cautions, what are the implications of these results? First, cultures appear to have strong effects on human mate preferences, and these effects can not be predicted simply from geographical proximity. The most pervasive difference between cultures appears to be a traditional versus modern orientation toward mating, with the former giving placing great value on chastity, home and children, domestic skills, and resource provisioning, and the latter devaluing these traditional attributes.

Second, sex has consistent connections with valuation of a few mate preferences such as appearance and resource potential, but the overall effects of sex for other mate preferences are small when viewed across all samples. Nonetheless, specific sex differences occurred that were unique to one or a few cultures, such as greater female valuation of emotional stability (Nigeria) and greater male valuation of refinement-neatness (China).

Despite these cultural and sexual variations, there were strong similarities among cultures and between sexes on the preference ordering of mate characteristics. This implies a degree of psychological unity or species-typicality of humans that transcends geographical, racial, political, ethnic, and sexual diversity. Future research could fruitfully examine the ecological and historical sources of diversity, while simultaneously searching for the adaptive functions of our species-typical mate preferences.

NOTES

1. The phrase "species-typical" is used here descriptively, and does not imply a causal explanation of apparent psychological unity.
2. An analogous set of hierarchical regressions was computed in which sex was entered first and culture second. The results were nearly identical, as culture and sex are nearly orthogonal. Results from these regressions may be obtained from the first author.

REFERENCES

- Bateson, P. (1983). *Mate choice*. Cambridge: Cambridge University Press.
- Berscheid, E., & Walster, E. (1974). Physical attractiveness. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 157-215). New York: Academic Press.
- Buss, D. M. (in press). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*.
- Buss, D. M. (1985). Human mate selection. *American Scientist*, 73, 47-51.
- Buss, D. M., & Barnes, M. F. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology*, 50, 559-570.
- Darwin, C. (1871). *The descent of man and selection in relation to sex*. London: Murray.
- Digman, J., & Inoye, I. (1986). Further specification of the five robust factors of personality. *Journal of Personality and Social Psychology*, 50, 116-123.
- Gough, H. G. (1973). Personality assessment in the study of population. In J. T. Fawcett (Ed.), *Psychological perspectives on population* (pp. 329-353). New York: Basic Books.
- Halliday, T. R. (1978). Sexual selection and mate choice. In J. R. Krebs & N. B. Davies (Eds.), *Behavioral ecology: An evolutionary approach* (pp. 180-213). Oxford: Blackwell Scientific Publications.
- Hill, R. (1945). Campus values in mate selection. *Journal of Home Economics*, 37, 554-558.
- Hofstede, G. (1980). *Culture's consequences*. Beverly Hills, CA: Sage.
- Hudson, J. W., & Henze, L. F. (1969). Campus values in mate selection: A replication. *Journal of Marriage and the Family*, 31, 772-775.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81-90.
- McGinnis, R. (1958). Campus values in mate selection. *Social Forces*, 36, 368-373.
- Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology*, 66, 574-583.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The measurement of meaning*. Urbana: University of Illinois Press.
- Plomin, R., DeFries, J. C., & McClearn, G. E. (1980). *Behavioral genetics: A primer*. San Francisco: Freeman.
- Short, R. V. (1981). Sexual selection in man and the great apes. In C. E. Graham (Ed.), *Reproductive biology of the great apes* (pp. 319-341). New York: Academic Press.
- Triandis, H., Bontempo, R., & Villareal, M. J. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, 54, 323-338.
- Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man: 1871-1971*. Chicago: Aldine.
- Willerman, L. (1979). *The psychology of individual and group differences*. San Francisco: Freeman.
- Williams, G. C. (1975). *Sex and evolution*. Princeton, NJ: Princeton University Press.
- Williams, J. E., Giles, J., Edwards, J. R., Best, D. L., and Daws, J. T. (1977). Sex-trait stereotypes in England, Ireland, and the United States. *British Journal of Social & Clinical Psychology*, 16, 303-309.

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