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Universal dimensions of human mate preferences

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Abstract

To identify the universal dimensions of long-term mate preferences, we used an archival database of preference ratings provided by several thousand participants from three dozen cultures [Buss, D. M. (1989)]. Participants from each culture responded to the same 18-item measure. Statistical procedures ensured that ratings provided by men and women were weighted equally, and that ratings provided by participants from each culture were weighted equally. We identified four universal dimensions: Love vs. Status/Resources; Dependable/Stable vs. Good Looks/Health; Education/Intelligence vs. Desire for Home/Children; and Sociability vs. Similar Religion. Several standard sex differences replicated across cultures, including women's greater valuation of social status and men's greater valuation of physical attractiveness. We present culture-specific ratings on the universal dimensions across-sex and between-sex to facilitate future cross-cultural work on human mating psychology.

Keywords: Mate preferences; Cross-cultural analyses; Sex differences

1. Introduction

A great deal of research has examined the characteristics that men and women desire in a long-term mate (for reviews, see Buss, 1998, 2003; Gangestad & Simpson, 2000; Okami & Shackelford,

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2001). This research routinely shows that men and women differ in several mate preferences. For example, across several decades of assessments, across different methodologies, and across different cultures, men more than women value physical attractiveness in a long-term mate, whereas women more than men value good financial prospects in a long-term mate (Buss, 1989; Buss, Shackelford, Kirkpatrick, & Larsen, 2001; Hill, 1945; Hoyt & Hudson, 1981; Hudson & Henze, 1969; Kenrick, Groth, Trost, & Sadalla, 1993; McGinnis, 1958; Wiederman & Allgeier, 1992). There also are similarities—across time, methodologies, and cultures—in the importance that men and women place on characteristics in a mate. For example, both men and women place a premium on the characteristics of "pleasing disposition" and "emotional stability" (Buss, 1989).

The existing literature on mate preferences relies on participants' valuations of specific characteristics, with each characteristic rated as a single item. Unfortunately, the number and quality of items varies across studies, as do the sampling and demographic attributes of participants. The most widely used mate preference listing includes 18 characteristics, first administered to a college sample in 1939 (Hill, 1945) and used subsequently to assess the mate preferences of college students and community members in many studies over the past six decades (e.g., Buss et al., 2001; Hoyt & Hudson, 1981; Hudson & Henze, 1969; McGinnis, 1958), including a cross-cultural study of nearly 10,000 participants in 37 samples (Buss, 1989). Other lists of mate preferences also have become popular, ranging in size from 15 to over 75 individually rated items (Buss & Barnes, 1986; Goodwin & Tang, 1991; Simpson & Gangestad, 1992).

A few studies have investigated whether a smaller set of dimensions might underlie larger sets of preferences. Researchers usually address this issue by submitting ratings of numerous mate preference characteristics to factor analyses or principal component analyses. For example, Simpson and Gangestad (1992) factor analyzed ratings of 15 characteristics and identified two dimensions of mate preference, which they labeled Personal/Parenting Qualities and Attractiveness/Social Visibility. Goodwin and Tang (1991) also used ratings on 15 preferences and found that three dimensions best explained variability in preference ratings, which they labeled Kindness/Consideration, Extraversion, and Sensitivity.

Other researchers have analyzed larger lists of characteristics in hopes of finding a basic structure of mate preferences. Buss and Barnes (1986) and Fletcher, Simpson, Thomas, and Giles (1999) submitted ratings on more than 75 attributes to factor analyses. Buss and Barnes identified nine dimensions of mate preference, including Kind–Considerate, Socially Exciting, and Easygoing–Adaptable. Fletcher et al. found only three dimensions were needed to explain mate preference variability: Warmth–Trustworthiness, Vitality–Attractiveness, and Status–Resources.

Much of the previous work that sought to identify a core set of underlying mate preference dimensions has varied in terms of which preferences are rated, how many preferences are rated, the nature and size of the samples assessed and, consequently, the nature and number of underlying dimensions identified. Despite these differences, a few dimensions identified in this methodologically diverse research share common features. Several studies have identified, for example, dimensions of "kindness, warmth" (e.g., Buss & Barnes, 1986; Fletcher et al., 1999; Goodwin & Tang, 1991; Regan, Levin, Sprecher, Christopher, & Cate, 2000), "social status, financial resources" (e.g., Buss & Barnes, 1986; Fletcher et al., 1999; Kenrick, Sadalla, Groth, & Trost, 1990; Parmer, 1998; Regan et al., 2000), and "attractiveness, health" (e.g., Fletcher et al., 1999; Kenrick et al., 1990; Parmer, 1998; Regan et al., 2000; Simpson & Gangestad, 1992).

The recurrent emergence of qualitatively similar factors or components suggests the possibility of a core set of universal mate preference dimensions. We sought to determine with greater certainty than has been afforded by previous research whether a smaller set of dimensions underlie ratings to a large set of mate preferences. The current research used an archival database of preference ratings provided by several thousand participants located on six continents and five islands (Buss, 1989).

2. Method

2.1. Participants

Participants were 4499 men and 5310 women from 37 cultures located on six continents and five islands. Men ranged in age from 17 to 30 years, with a mean age of 23.3 years. Women ranged in age from 17 to 30 years with a mean age of 22.6 years. Eighty-six percent of men and of women were currently not married.

2.2. Materials and procedure

The survey used to assess mate preferences was developed by Hill (1945). In this survey, participants rate the importance of 18 mate characteristics (see Table 1) on the following 4-point scale: *3 points = indispensable*, *2 = important*, *1 = desirable, but not very important*, and *0 = irrelevant or unimportant*. Instructions were provided to each collaborator for translating the instrument into the appropriate language for their sample (see Buss, 1989, for further details).

3. Results

A goal of this research was to identify universal mate preference dimensions. We identified these dimensions following the analysis strategy outlined by Bond (1988), which is ideal for identifying a universal structure that might underlie item-level data provided by participants from different cultures. Importantly, Bond's strategy helps to identify an underlying structure that is equally applicable to both sexes and to each culture represented by participants. All analyses referred to but not presented in the Results are available upon request.

The analysis strategy begins by identifying the smallest number of participants of either sex who provided data from a single sample. This sample size is then used to select data from participants of each sex and from each sample for inclusion in subsequent analyses. The smallest number of participants in any one sample and of either sex was 44 (excluding one sample, Iran, which included just 27 males. Excluding Iran does not change substantively the resulting underlying structure. By excluding Iran from this initial step, we increased by 63% the sample size on which the principal component analyses are based, from 1998 to 3168). The second step is to select at random from each sample the number of participants identified in the first step. We selected at random 44 males and 44 females from each of the 36 samples. This produced a sample of $44 \times 2 \times 36 = 3168$ (1584 participants of each sex). The third step is to standardize each

Table 1
Mean factor scores (standard deviations) for mate preference components

Sample	Sample size	Mate preference component			
		1	2	3	4
Africa					
Nigeria					
Men	120	1.50 (0.47)*	1.41 (0.41)*	1.44 (0.54)*	2.07 (0.61)
Women	57	1.14 (0.37)	1.85 (0.36)	1.72 (0.35)	1.96 (0.52)
Across sex	177	1.32 (0.42)	1.63 (0.39)	1.58 (0.45)	2.02 (0.57)
South Africa: Whites					
Men	48	2.00 (0.42)*	1.84 (0.26)*	1.61 (0.48)	2.11 (0.56)
Women	81	1.61 (0.40)	2.00 (0.29)	1.79 (0.39)	2.22 (0.46)
Across sex	129	1.81 (0.41)	1.92 (0.28)	1.70 (0.44)	2.17 (0.51)
South Africa: Zulus					
Men	46	1.78 (0.43)	1.74 (0.33)*	1.53 (0.35)	2.22 (0.61)
Women	51	1.78 (0.40)	2.01 (0.27)	1.53 (0.34)	1.94 (0.55)
Across sex	97	1.78 (0.42)	1.88 (0.30)	1.53 (0.35)	2.08 (0.58)
Zambia					
Men	70	1.65 (0.45)*	1.60 (0.31)*	1.30 (0.45)*	2.14 (0.57)
Women	51	1.36 (0.39)	1.87 (0.33)	1.50 (0.41)	1.92 (0.60)
Across sex	121	1.51 (0.42)	1.74 (0.32)	1.40 (0.43)	2.03 (0.59)
Asia					
China					
Men	265	1.73 (0.49)*	1.51 (0.14)*	1.03 (0.35)*	1.91 (0.47)*
Women	235	1.41 (0.42)	1.71 (0.13)	1.21 (0.29)	2.08 (0.41)
Across sex	500	1.57 (0.46)	1.61 (0.14)	1.12 (0.32)	2.00 (0.44)
India					
Men	54	1.61 (0.53)*	1.48 (0.32)	1.26 (0.50)*	1.99 (0.43)
Women	97	1.30 (0.42)	1.56 (0.42)	1.48 (0.44)	1.89 (0.53)
Across sex	151	1.46 (0.48)	1.52 (0.37)	1.37 (0.47)	1.94 (0.48)
Indonesia					
Men	88	1.80 (0.44)*	1.58 (0.25)*	1.26 (0.39)*	1.83 (0.44)
Women	56	1.32 (0.36)	2.00 (0.22)	1.52 (0.46)	1.76 (0.32)
Across sex	144	1.56 (0.40)	1.79 (0.24)	1.39 (0.43)	1.80 (0.38)
Iran					
Men	28	1.57 (0.49)	1.71 (0.29)*	1.30 (0.36)	1.95 (0.55)
Women	27	1.29 (0.40)	2.05 (0.25)	1.57 (0.47)	2.19 (0.42)
Across sex	55	1.43 (0.45)	1.88 (0.27)	1.44 (0.42)	2.07 (0.49)
Israel: Jewish					
Men	206	1.80 (0.58)*	1.78 (0.33)*	1.57 (0.52)*	2.12 (0.60)
Women	271	1.46 (0.49)	1.97 (0.30)	1.78 (0.41)	2.12 (0.47)
Across sex	477	1.63 (0.54)	1.88 (0.32)	1.68 (0.47)	2.12 (0.54)

Table 1 (*continued*)

Sample	Sample size	Mate preference component			
		1	2	3	4
Israel: Palestinian					
Men	54	1.68 (0.52)	1.66 (0.32)*	1.44 (0.50)*	2.19 (0.50)
Women	56	1.47 (0.46)	1.99 (0.29)	1.90 (0.44)	1.98 (0.39)
Across sex	110	1.58 (0.49)	1.83 (0.31)	1.67 (0.47)	2.09 (0.45)
Japan					
Men	106	2.08 (0.42)*	1.56 (0.21)*	0.96 (0.35)*	2.23 (0.43)
Women	153	1.38 (0.33)	1.89 (0.22)	1.37 (0.36)	2.32 (0.42)
Across sex	259	1.73 (0.38)	1.73 (0.22)	1.17 (0.36)	2.28 (0.43)
Korea					
Men	100	1.98 (0.41)*	1.67 (0.28)*	1.37 (0.48)	2.09 (0.55)
Women	102	1.42 (0.41)	1.84 (0.24)	1.51 (0.33)	2.22 (0.48)
Across sex	202	1.70 (0.41)	1.76 (0.26)	1.44 (0.41)	2.16 (0.52)
Taiwan					
Men	288	1.82 (0.43)*	1.65 (0.24)*	1.30 (0.38)*	2.08 (0.50)
Women	280	1.28 (0.36)	1.95 (0.21)	1.58 (0.33)	2.15 (0.48)
Across sex	568	1.55 (0.40)	1.80 (0.23)	1.44 (0.36)	2.12 (0.49)
Europe: Eastern					
Bulgaria					
Men	127	1.92 (0.49)*	1.53 (0.28)*	1.62 (0.42)	2.29 (0.49)
Women	142	1.60 (0.46)	1.76 (0.28)	1.73 (0.46)	2.27 (0.60)
Across sex	269	1.76 (0.48)	1.65 (0.28)	1.68 (0.44)	2.28 (0.55)
Estonia					
Men	155	1.73 (0.38)	1.50 (0.31)*	1.27 (0.42)*	2.31 (0.44)
Women	153	1.67 (0.39)	1.78 (0.28)	1.44 (0.42)	2.26 (0.47)
Across sex	308	1.70 (0.39)	1.64 (0.30)	1.36 (0.42)	2.29 (0.46)
Poland					
Men	122	1.99 (0.46)*	1.71 (0.30)*	1.37 (0.47)*	2.03 (0.54)
Women	120	1.61 (0.48)	1.96 (0.27)	1.66 (0.46)	2.05 (0.55)
Across sex	242	1.80 (0.47)	1.84 (0.29)	1.52 (0.47)	2.04 (0.55)
Yugoslavia					
Men	66	1.91 (0.46)*	1.68 (0.31)*	1.65 (0.35)*	2.31 (0.54)
Women	74	1.66 (0.43)	1.96 (0.28)	1.88 (0.33)	2.42 (0.47)
Across sex	140	1.79 (0.45)	1.82 (0.30)	1.77 (0.34)	2.37 (0.51)
Europe: Western					
Belgium					
Men	55	2.01 (0.47)	1.77 (0.29)*	1.73 (0.43)	2.00 (0.59)*
Women	91	1.85 (0.50)	2.00 (0.31)	1.67 (0.42)	2.25 (0.46)
Across sex	146	1.93 (0.49)	1.89 (0.30)	1.70 (0.43)	2.13 (0.53)

(*continued on next page*)

Table 1 (*continued*)

Sample	Sample size	Mate preference component			
		1	2	3	4
Finland					
Men	55	2.23 (0.47)*	1.78 (0.27)*	1.60 (0.43)	2.40 (0.49)
Women	149	2.03 (0.50)	1.92 (0.27)	1.64 (0.44)	2.35 (0.47)
Across sex	204	2.13 (0.49)	1.85 (0.27)	1.62 (0.44)	2.38 (0.48)
France					
Men	100	2.02 (0.58)*	1.64 (0.30)*	1.43 (0.42)	2.59 (0.45)
Women	93	1.79 (0.57)	1.87 (0.28)	1.58 (0.49)	2.53 (0.43)
Across sex	193	1.91 (0.58)	1.76 (0.29)	1.51 (0.46)	2.56 (0.44)
Great Britain					
Men	46	2.28 (0.41)*	1.58 (0.33)*	1.74 (0.55)	2.17 (0.59)
Women	85	2.04 (0.45)	1.77 (0.25)	1.80 (0.43)	2.23 (0.48)
Across sex	131	2.16 (0.43)	1.68 (0.29)	1.77 (0.49)	2.20 (0.54)
Greece					
Men	68	1.96 (0.58)*	1.61 (0.40)	1.83 (0.50)*	2.41 (0.50)
Women	65	1.65 (0.55)	1.75 (0.35)	2.10 (0.42)	2.35 (0.52)
Across sex	133	1.81 (0.57)	1.68 (0.38)	1.97 (0.46)	2.38 (0.51)
Ireland					
Men	55	2.21 (0.48)*	1.77 (0.28)*	1.13 (0.42)	2.22 (0.51)
Women	67	1.87 (0.47)	1.92 (0.25)	1.16 (0.41)	2.14 (0.40)
Across sex	122	2.04 (0.48)	1.85 (0.27)	1.15 (0.42)	2.18 (0.46)
Italy					
Men	46	2.23 (0.37)*	1.77 (0.32)	1.81 (0.44)	2.40 (0.42)
Women	56	1.96 (0.50)	1.88 (0.26)	1.98 (0.36)	2.52 (0.46)
Across sex	102	2.10 (0.44)	1.83 (0.29)	1.90 (0.40)	2.46 (0.44)
Netherlands					
Men	179	2.25 (0.49)	1.80 (0.30)	1.84 (0.42)	2.58 (0.43)
Women	240	2.16 (0.50)	1.83 (0.32)	1.80 (0.40)	2.55 (0.45)
Across sex	419	2.21 (0.50)	1.82 (0.31)	1.82 (0.41)	2.57 (0.44)
Norway					
Men	69	2.09 (0.48)	1.81 (0.29)	1.62 (0.44)	2.14 (0.50)
Women	67	1.91 (0.52)	1.83 (0.27)	1.67 (0.46)	2.11 (0.54)
Across sex	136	2.00 (0.50)	1.82 (0.28)	1.65 (0.45)	2.13 (0.52)
Spain					
Men	44	1.93 (0.56)	1.38 (0.23)*	1.84 (0.44)	2.02 (0.49)
Women	80	1.85 (0.51)	1.62 (0.31)	1.92 (0.39)	2.11 (0.49)
Across sex	124	1.89 (0.54)	1.50 (0.27)	1.88 (0.42)	2.07 (0.49)
Sweden					
Men	89	2.03 (0.48)*	1.76 (0.30)	1.67 (0.36)	2.22 (0.55)
Women	83	1.83 (0.45)	1.83 (0.32)	1.59 (0.45)	2.39 (0.51)
Across sex	172	1.93 (0.47)	1.80 (0.31)	1.63 (0.41)	2.31 (0.53)

Table 1 (*continued*)

Sample	Sample size	Mate preference component			
		1	2	3	4
West Germany					
Men	364	2.11 (0.50)*	1.68 (0.29)*	1.80 (0.45)*	2.33 (0.48)
Women	388	1.80 (0.55)	1.91 (0.28)	1.94 (0.44)	2.31 (0.48)
Across sex	752	1.96 (0.53)	1.80 (0.29)	1.87 (0.45)	2.32 (0.48)
North America					
Canada					
Men	56	2.01 (0.44)*	1.71 (0.27)	1.44 (0.36)*	2.24 (0.47)
Women	45	1.53 (0.46)	1.81 (0.21)	1.67 (0.42)	2.33 (0.48)
Across sex	101	1.77 (0.45)	1.76 (0.24)	1.56 (0.39)	2.29 (0.48)
United States: Mainland					
Men	641	1.96 (0.47)*	1.71 (0.26)*	1.55 (0.45)*	2.17 (0.47)
Women	855	1.51 (0.45)	1.90 (0.25)	1.73 (0.40)	2.20 (0.48)
Across sex	1,496	1.74 (0.46)	1.81 (0.26)	1.64 (0.43)	2.19 (0.48)
United States: Hawaii					
Men	66	1.76 (0.47)*	1.63 (0.25)*	1.42 (0.40)*	2.25 (0.48)
Women	113	1.49 (0.42)	1.85 (0.26)	1.60 (0.44)	2.12 (0.50)
Across sex	179	1.63 (0.45)	1.74 (0.26)	1.51 (0.42)	2.19 (0.49)
Oceana					
Australia					
Men	78	2.22 (0.43)*	1.72 (0.26)*	1.49 (0.52)	2.20 (0.50)
Women	202	1.85 (0.48)	1.89 (0.28)	1.58 (0.45)	2.26 (0.46)
Across sex	280	2.04 (0.46)	1.81 (0.27)	1.54 (0.49)	2.23 (0.48)
New Zealand					
Men	75	1.90 (0.46)	1.69 (0.31)*	1.47 (0.41)	2.16 (0.51)
Women	76	1.85 (0.40)	1.84 (0.28)	1.46 (0.49)	2.13 (0.47)
Across sex	151	1.88 (0.43)	1.77 (0.30)	1.47 (0.45)	2.15 (0.49)
South America					
Brazil					
Men	277	2.01 (0.50)*	1.72 (0.28)*	1.62 (0.45)*	2.34 (0.51)
Women	355	1.62 (0.48)	1.86 (0.31)	1.83 (0.43)	2.37 (0.48)
Across sex	632	1.82 (0.49)	1.79 (0.30)	1.73 (0.44)	2.36 (0.50)
Colombia					
Men	66	1.46 (0.52)	1.46 (0.31)*	1.54 (0.39)*	2.23 (0.61)
Women	79	1.36 (0.47)	1.66 (0.32)	1.94 (0.35)	2.18 (0.49)
Across sex	145	1.41 (0.50)	1.56 (0.32)	1.75 (0.37)	2.21 (0.55)
Venezuela[a]					
Men	90	1.65 (0.52)*	1.52 (0.30)*	1.47 (0.39)*	N/A
Women	98	1.35 (0.45)	1.77 (0.32)	1.66 (0.44)	N/A
Across sex	188	1.50 (0.49)	1.65 (0.31)	1.57 (0.42)	N/A

(*continued on next page*)

Table 1 (*continued*)
Note: See text for a full description of how the components were generated. Component 1 = Love vs. Status/Resources, Component 2 = Dependable/Stable vs. Good Looks/Health, Component 3 = Education/Intelligence vs. Desire for Home/Children, Component 4 = Sociability vs. Similar Religion.
[*] $p < .0125$ (two-tailed), indicating a statistically significant sex difference in mean composite score, as calculated by independent means *t*-test. To reduce the Type I error rate, α was reduced from .05 to .05/4 (four tests per sample) = .0125.
[a] For the Venezuelan sample, all participants are missing data for "sociability" and for "pleasing disposition," two of the three preferences that comprise component 4. Sums for component 4 therefore are not computed for the Venezuelan sample.

participant's 18 ratings, which eliminates individual-level and sample-level response sets, while retaining the ordering of preference importance. The fourth step is to "deculture" the data by standardizing responses to each mate preference within each sample separately.

We then conducted principal components analyses (followed by varimax rotation) on the now doubly-standardized ratings for the 18 mate preferences provided by the cross-cultural sample of 3168 participants. An interpretable solution emerged when we extracted and rotated four components that accounted for about 35% of the variance in ratings. Each preference loaded at least |0.30| on one and only one component. Each component includes at least one preference that loads positively and at least one preference that loads negatively. We therefore labeled the components as if each described a dichotomy (following Bond, 1988). Each component therefore can be described as a "trade-off" between one set of preferences and another.

Component 1 (eigenvalue = 2.02; factor loadings in parentheses) accounts for 10.0% of the inter-item variance in preference ratings, and includes "good financial prospects" (−0.65), "favorable social status or ratings" (−0.62), and "ambition and industriousness" (−0.41), each of which loads negatively. This component also includes "mutual attraction—love" (0.49), which loads positively. We labeled this component "Love vs. Status/Resources." The emergence of this dimension suggests that people make psychological trade-offs between searching for mutual love (e.g., a "Communion" style of romance) and searching for someone with status and resources (e.g., an "Instrumental" style of romance; Hendrick & Hendrick, 1987).

Component 2 (eigenvalue = 1.62) accounts for 8.6% of the inter-item variance in preference ratings, and includes "good looks" (−0.65), "good cook and housekeeper" (−0.45), and "good health" (−0.41), each of which loads negatively. This component also includes "dependable character" (0.39), "emotional stability and maturity" (0.39), and "refinement, neatness" (0.30), each of which loads positively. We labeled this component "Dependable/Stable vs. Good Looks/Health." The emergence of this dimension suggests that people make psychological trade-offs between physical appearance and a stable personality.

Component 3 (eigenvalue = 1.32) accounts for 8.6% of the inter-item variance in preference ratings, and includes "education and intelligence" (0.68), "similar educational background" (0.56), and "similar political background" (0.37), each of which loads positively. This component also includes "desire for home and children" (−0.55) and "chastity" (−0.38), each of which loads negatively. We labeled this component "Education/Intelligence vs. Desire for Home/Children." The emergence of this dimension suggests that a trade-off is sometimes made between educational factors and family matters.

Component 4 (eigenvalue = 1.27) accounts for 7.4% of the inter-item variance in preference ratings, and includes "sociability" (0.54) and "pleasing disposition" (0.53), each of which loads positively. This component also includes "similar religious background" (−0.56), which loads negatively. We labeled this component "Sociability vs. Similar Religion." Apparently, a psychological trade-off exists between preferring someone who is sociable and preferring someone who is religiously compatible.

We calculated component scores by a unit-weighted summation of ratings on the constituent preferences. The four components are relatively independent of one another, with absolute values for component inter-correlations ranging from a low of 0.01 between components 1 and 2 to a high of 0.15 between components 3 and 4. Table 1 presents mean scores and standard deviations for the mate preference components across-sex and separately for men and for women, for each of the samples in the database. We use these data to investigate sample-specific sex differences in valuation of the mate preference dimensions. Buss (1989) used this database to assess sex differences along each of the 18 constituent mate preferences. Our goal in the current research is to investigate whether the sexes differ along a broader-based set of mate preference dimensions.

We began the investigation of sample-specific sex differences by first conducting a 2 (sex of participant) × 37 (sample) Multivariate Analysis of Variance (MANOVA) in which mean scores for the four mate preference components were entered as a set of dependent variables. This analysis revealed significant multivariate effects for sex [$F(4, 9662) = 423.34$] and sample [$F(36, 9665) = 111.00$], and an interaction between sex and sample [$F(36, 9665) = 10.29$, all ps < .001]. Tests of component-level between-subjects effects for sex and for sample revealed significant effects for sex on the first three components [component 1: $F(1, 9665) = 585.09$; component 2: $F(1, 9665) = 844.66$; component 3: $F(1, 9665) = 244.36$; all ps < .001]. Men provided higher ratings than did women on the first component, whereas women provided higher ratings than did men on the second and third components [mean (standard deviation) for men and women, respectively, for component 1: 1.93 (0.51), 1.62 (0.52); for component 2: 1.66 (0.30), 1.87 (0.29); for component 3: 1.49 (0.49), 1.68 (0.45)]. Men and women did not differ significantly in ratings provided on the fourth component [mean (standard deviation) for men and women, respectively: 2.19 (0.55), 2.22 (0.52); $F(1, 9665) = 0.22$, $p > .05$].

We next investigated whether the sexes differed in valuation of the mate preference dimensions for some samples but not others. We present in Table 1 the results of these sample-specific tests of sex differences for all four dimensions, recognizing that the omnibus tests for sex differences yielded significant effects only for the first three dimensions. To reduce the Type I error rate, we reduced α from .05 to .05/4 (four tests per sample) = .0125 (two-tailed). For 27 of the 37 samples, the sexes differed significantly in the importance placed on the first dimension—Love vs. Status/Resources. In each case, men provided higher importance ratings than did women. For 30 of the 37 samples, the sexes differed significantly in the importance placed on the second dimension—Dependable/Stable vs. Good Looks/Health. In each case, women provided higher importance ratings than did men. For 20 of the 37 samples, the sexes differed significantly in the importance placed on the third dimension—Education/Intelligence vs. Desire for Home/Children. In each case, women provided higher importance ratings than did men. Finally, for just two of the 37 samples, the sexes differed significantly in the importance placed on the fourth dimension—Sociability vs. Similar Religion. In both cases, women provided higher importance ratings than did men.

4. Discussion

Using an archival database of preference ratings provided by several thousand participants from several dozen samples located on six continents and five islands (Buss, 1989), we identified four universal mate preference dimensions. Participants varied tremendously along demographic variables such as educational level, ethnicity, religious background, and in the political and economic systems in which they live and work (see Buss, 1989). The statistical analysis strategy we used (following Bond, 1988) ensured that the resulting dimensions are applicable to both sexes and to people residing in each culture represented in this large database. The four dimensions are largely independent and account for about 35% of variance in inter-preference ratings. The degree to which the pancultural solution approximates any particular within-culture solution will vary, of course. Researchers interested in conducting analyses *within* a particular culture might first conduct within-culture analyses to identify the specific dimensions and constituent preferences that best capture the preference ratings for that particular culture.

Across the samples in this database, the sexes differed along three of the four dimensions. Men provided higher ratings than did women on Love vs. Status/Resources, indicating that women more than men value social status and financial resources in a long-term mate, consistent with previous work (reviewed in Buss, 2003; Okami & Shackelford, 2001). Women provided higher ratings than did men on Dependable/Stable vs. Good Looks/Health and on Education/Intelligence vs. Desire for Home/Children. These sex differences indicate that, consistent with previous work (reviewed in Buss, 2003; Okami & Shackelford, 2001), women around the world value dependability, stability, education, and intelligence in a long-term mate more than do men. Conversely, men more than women value in potential mates their good looks, health, and a desire for home and children.

The four dimensions parallel several factors that have emerged recurrently in smaller-scale attempts to identify the underlying structure of mate preferences. The ''Status/Resources'' pole of the first dimension is similar in quality to a dimension of ''social status, financial resources'' identified in previous work (e.g., Buss & Barnes, 1986; Fletcher et al., 1999; Kenrick et al., 1990; Parmer, 1998; Regan et al., 2000). The ''Good Looks/Health'' pole of the second dimension is similar to an ''attractiveness, health'' dimension identified in previous work (e.g., Fletcher et al., 1999; Kenrick et al., 1990; Parmer, 1998; Regan et al., 2000; Simpson & Gangestad, 1992). Finally, the ''Sociability'' pole of the fourth dimension is similar in quality to a dimension of ''kindness, warmth'' identified in previous work (e.g., Buss & Barnes, 1986; Fletcher et al., 1999; Goodwin & Tang, 1991; Regan et al., 2000). The correspondence between the dimensions of mate preferences identified in the current work and several dimensions identified recurrently in smaller-scale studies suggests that all of this work is tapping at least a few robust dimensions of mate preferences. The current research relied on a database of mate preference ratings unprecedented in size and cross-cultural representation. The four dimensions identified in the current research, therefore, may be the best available approximation of universal mate preference dimensions.

The current research was not intended to extend theoretical analyses of human mate preferences (for reviews, see Buss, 1998, 2003; Buss & Schmitt, 1993; Gangestad & Simpson, 2000), but instead was designed to determine with greater certainty than has been afforded by previous work whether a small set of dimensions underlie human mate preferences. This research is the first

to identify the cross-culturally universal structure of human mate preferences, using a database that includes the preference ratings of several thousand men and women from around the world. Prior to this research, researchers interested in investigating mate preferences across different cultures had to rely on unstandardized listings of individual preferences, or on a set of underlying dimensions identified in small-scale samples comprised primarily of American college students. The current research rectifies these methodological problems by identifying a small set of mate preference dimensions derived from the preference ratings of several thousand men and women residing in more than three dozen cultures. Finally, the results of the current research allow for across-nation or across-culture analyses in which societal predictors (for example, Gross National Product/capita) are linked to the average male-female scores on each of the preference dimensions to thus begin providing insights into why one end of a particular preference dimension is emphasized more in one nation or culture than in another.

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