Number of children desired and preferred spousal age difference: context-specific mate preference patterns across 37 cultures

David M. Buss[a,*], Todd K. Shackelford[b], Gregory J. LeBlanc[b]

[a]*Department of Psychology, University of Texas, Austin, TX 78712, USA*
[b]*Florida Atlantic University, Boca Raton, FL, USA*

Abstract

Men universally express a preference for youth in a long-term mate, presumably an evolved desire originating from the close and recurrent statistical association between a woman's age and her residual reproductive value (future reproductive potential). As a consequence, we hypothesized a positive correlation for men (but not women) between the number of children desired and preferred spousal age difference—a context-specific shift in mate preference depending on whether the man is pursuing a "quality" or "quantity" reproductive strategy. We tested this hypothesis with data provided by 9809 participants from 37 cultures located in six continents and five islands. Between-culture analyses confirmed the hypothesis, even after statistically controlling for preferred age at first marriage, current age of participant, and current marital status. Discussion notes limitations and focuses on other possible context-sensitive shifts in mate preferences. © 2000 Elsevier Science Inc. All rights reserved.

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A large body of cross-cultural research shows that men and women differ in the importance they place on several qualities in a long-term mate. Among the most robust findings, now documented in over 50 cultures by a number of different researchers, is that men judge youth to be more desirable in a long-term mate than do women (Buss, 1989, 1994; Kenrick & Keefe, 1992; Symons, 1979, 1995). Men appear to place a

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* Corresponding author. Tel.: +1-512-475-8489.
E-mail address: dbuss@psy.utexas.edu (D.M. Buss).

premium on youth because, over human evolutionary history, a woman's age has been strongly and recurrently associated with her residual reproductive value (Fisher, 1930; Williams, 1975). Alternative hypotheses—such as that men value youth because they have been reinforced by it, because of gender economic inequality, or because such women are more easily controlled—have not been supported by empirical evidence (e.g., Buss, 1994; Kenrick, Keefe, Gabrielidis, & Cornelius, 1996).

Despite the powerful and apparently universal desire of men for young partners, there exists considerable variation in the age differences men prefer between themselves and a potential mate. Thus far, only one source of this variation has been examined—the age of the man. As men get older, they appear to desire women who are increasingly younger than they are (Kenrick & Keefe, 1992). Males in their mid-teens, in contrast, show a reversal of this trend, expressing a desire for women several years *older* than they are (Kenrick et al., 1996). Fifteen-year-old males, for example, tend to prefer 18-year old females, despite the fact that these males can neither control, nor are they reinforced by, the females they desire. The 18-year-old women instead prefer to mate with men several years older than themselves, and typically shun the younger adolescent males, despite the latter's yearnings (Buss, 1994).

Aside from the age of the man, however, no other sources of variation in the age difference preferred between self and potential partners have been examined. This article explores a new, and theoretically important, source of variation in such preferences—the reproductive strategy a man pursues, as indicated by the number of children desired. Men may opt to strive for a large number of children, each of whom receives relatively little investment, or a smaller number of children, each of whom receives a large amount of investment—sometimes referred to as "quantity" and "quality" strategies, respectively (e.g., Belsky, 1997; Pianka, 1970). There are relatively straightforward reproductive "trade-offs" between quality and quantity strategies. Those who produce a larger number of children, for example, typically have children who suffer lower rates of survival, whereas the reverse is true of those producing a smaller number of children (Hill & Kaplan, 1988; see also Gangestad & Simpson, in press for a general discussion of reproductive trade-offs). We hypothesized that men pursuing a "quantity" strategy will exhibit a psychological design feature that facilitates success at the pursuit of this strategy; compared to men pursuing a "quality" strategy, such men will exhibit a stronger preference for mates who are considerably younger than they are. Such a preference, other things being equal, would afford a higher probability of producing a larger number of children because men mating with a younger woman would thereby gain access to a wife of higher residual reproductive value, i.e. one who can bear a larger number of future offspring.

Based on this reasoning, we hypothesized that men who desire a greater number of children (a clear indication of a quantity strategy) will express a greater preference than men who desire a smaller number of children (quality strategy) for women who are substantially younger than they are. This hypothesized effect should not occur for women's preferences in a partner, since a man's age is less closely linked with his ability to produce offspring. We tested this hypothesis with

data collected from 9809 people from 37 cultures located in six continents and five islands.[1]

Three variables might confound the hypothesized sex-differentiated relationship between the number of children desired and preferred spousal age difference. One potential confound is preferred age at first marriage. Cross-culturally, men report a desire to be older in absolute years at first marriage than is reported by women (Buss, 1989, 1994). An observed correlation between number of children desired and preferred spousal age difference for men but not women might therefore be attributable to men's desire to marry for the first time at a later age than women. A second potential confound is current age. As Kenrick and Keefe (1992) have documented, as men get older they prefer women who are increasingly younger than they are, presumably reflecting an adaptation that historically promoted the selection of a more reproductively valuable partner. A third potential confound is marital status. It may be that respondents who are currently single respond differently than do respondents who are currently married, given the focus of the questions on preferred spousal age difference. Although respondents who are currently married can still provide a response about their preferred age at marriage and about their preferred age difference between self and spouse, the nature of these responses might differ in some unknown way from the responses of those who are not currently married. We examined the hypothesized sex-differentiated relationship between the number of children desired and preferred spousal age difference, controlling for preferred age at first marriage, current age, and current marital status.

1. Method

1.1. Participants

Participants were 4499 men and 5310 women from 37 cultures located in 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. Participants in 32 of 37 samples reported their current marital status. Eighty-six percent of men and of women were currently not married.

1.2. Materials and procedure

Participants completed a short survey as part of a larger project on human mating. Relevant to the current research, participants reported their current age, their preferred age at first marriage, their preferred age difference between themselves and their

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[1] The current database includes a tremendous diversity of participants, from the Zulu tribe of South Africa to the mainland Chinese to the Iranians to the Japanese to the Italians to the Soviet Estonians, Gujarati Indians, and inner city Santa Caterina Brazilians. By using the phrase ''cross-cultural'' and the term ''culture,'' we do not mean to imply that that each of the 37 samples is entirely distinct, separate, or uninfluenced by one another.

Table 1
Number of children desired by sample and by sex

Sample	Men			Women		
	Mean	SD	_N_	Mean	SD	_N_
Africa						
Nigeria	4.79	3.52	149	3.74	1.08	61
South Africa: Whites	2.41	0.99	48	2.56	1.03	81
South Africa: Zulus	3.24	1.26	46	2.52	0.87	51
Zambia	4.46	2.75	70	3.69	1.05	52
Asia						
China	1.65	0.58	265	1.37	0.68	235
India	2.06	0.92	55	1.96	0.64	52
Indonesia	3.09	1.57	88	2.95	0.90	56
Iran	3.29	1.41	28	2.52	1.26	27
Israel: Jewish	3.31	2.33	208	3.30	1.41	272
Israel: Palestinian	3.87	1.85	54	2.94	1.14	57
Japan	2.45	0.74	106	2.39	0.64	153
Taiwan	2.23	1.04	288	1.84	0.81	280
Korea	2.17	1.47	100	1.92	0.75	102
Europe: Eastern						
Bulgaria	2.26	0.94	127	2.13	0.65	142
Estonia	2.54	0.80	155	2.51	0.79	153
Poland	2.41	1.03	122	2.34	0.80	120
Yugoslavia	2.14	0.68	66	2.20	1.01	74
Europe: Western						
Belgium	2.02	1.18	55	2.42	1.22	91
France	2.54	1.05	100	2.52	1.20	93
Finland	2.46	1.01	55	2.70	2.29	149
Great Britain	2.42	1.16	46	2.55	1.16	86
Greece	2.52	1.37	68	2.38	0.96	65
Ireland	3.70	0.91	55	4.08	1.96	67
Italy	2.11	0.88	46	2.29	1.26	56
Netherlands	2.23	1.51	179	2.55	1.43	240
Norway	2.07	1.04	70	2.44	0.92	67
Spain	2.37	1.12	44	2.28	1.24	81
Sweden	2.35	1.08	89	2.42	1.07	83
West Germany	2.12	1.31	366	2.39	1.25	390
North America						
Canada	2.53	1.00	56	2.43	0.99	45
United States: Mainland	2.51	1.12	642	2.51	1.08	855
United States: Hawaii	2.65	1.47	67	2.41	1.12	113

(continued on next page)

Table 1 (*continued*)

Sample	Men			Women		
	Mean	SD	N	Mean	SD	N
Oceana						
Australia	2.67	1.03	78	2.77	1.27	204
New Zealand	2.39	1.10	75	2.46	1.26	76
South America						
Brazil	2.57	1.03	277	2.47	1.03	355
Colombia	2.76	1.74	66	2.27	0.89	79
Venezuela	2.69	1.13	90	2.46	1.31	98
Summary	2.65	1.27	4499	2.53	1.09	5310

Note: SD=standard deviation; N=sample size.

spouse, and the number of children that they desired. Participants in 32 samples reported their current marital status (married or not married). The instruments were administered in the native language of each culture by a native resident of each culture (see Buss, 1989 for further details about the procedures).

2. Results

Table 1 displays descriptive statistics for the number of children desired by sample and by sex. To test the hypothesis that men, but not women, who desire more children will prefer a greater spousal age difference, we calculated the correlation between the number of children desired and preferred spousal age difference separately for men and women. As hypothesized, a significant positive correlation was obtained for men ($r=0.65$, $p<0.001$, $n=37$) but not for women ($r=0.15$, $p>0.10$, $n=37$).

We next calculated the partial correlations between the number of children desired and preferred spousal age difference controlling for preferred age at first marriage, controlling for current age, controlling for current marital status, and controlling simultaneously for preferred age at first marriage, current age, and current marital status. These partial correlations support the hypothesized sex-differentiated relationship between the number of children desired and preferred spousal age difference (see Table 2). By Fisher's r-to-z transformation, each correlation for men is significantly greater than the respective correlation for women (all z's>2.50, all p's<0.01). Figs. 1 and 2 show the zero-order correlation between number of children desired and preferred spousal age difference for men and women, respectively.

To examine whether the sex-differentiated correlations replicated within cultures, we conducted a parallel set of correlational analyses for each of the 37 samples. Of the 37 zero-order correlations conducted, 20 of 37 were positive for men, and 20 of 37 were positive for women. With alpha set to 0.01, six of these positive correlations were statistically significant for men, and one was statistically significant for women. For men and for women, one of the

Table 2
Correlations between number of children desired and preferred spousal age difference

	Men	Women	N
Zero-order correlation	0.65*	0.15	37
Partial correlation, controlling for preferred age at marriage	0.63*	0.12	34
Partial correlation, controlling for current age	0.67*	0.19	34
Partial correlation, controlling for current marital status	0.65*	0.16	34
Partial correlation, controlling for preferred age at marriage, current age, and current marital status	0.65*	0.15	32

Note. *N* refers to the number of samples on which the respective analyses were based. For correlations and partial correlations without an asterisk, *p*>0.10. By Fisher's *r*-to-*z* transformation, each correlation for men is significantly greater than the respective correlation for women (all *z*'s>2.50, all *p*'s<0.01).

* *p*<0.001.

17 negative correlations reached statistical significance. Of the 32 partial correlations (controlling for current age of respondent, preferred age at first marriage, and current marital status), 20 were positive for men and 22 were positive for women. For men, three of these 20 positive partial correlations reached statistical significance; for women, none of the 22 partial correlations reached statistical significance. None of the negative partial correlations for men or for women reached statistical significance (all analyses are available from the second author upon request). These results suggest that the between-culture sex-differentiated relationship between number of children desired and preferred spousal age difference does not hold within cultures.
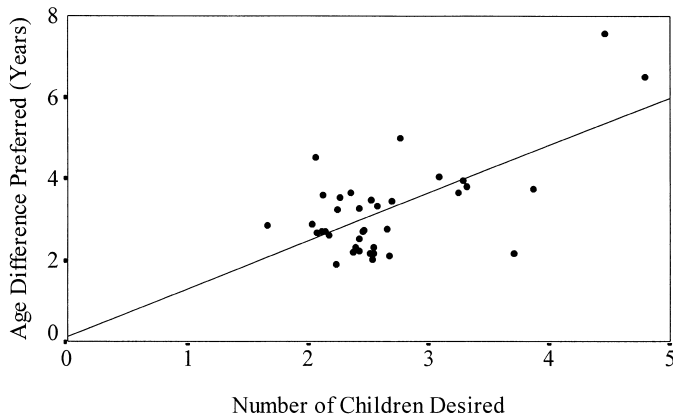

Fig. 1. Zero-order correlation between the number of children desired and preferred spousal age difference for men, *r*=0.65, *N*=37, *p*<0.001.
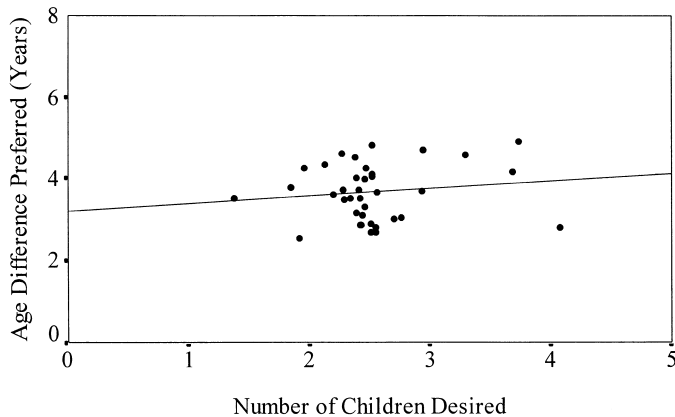
Fig. 2. Zero-order correlation between the number of children desired and preferred spousal age difference for women, $r = 0.14$, $N=37$, $p>0.10$.

Looking at Fig. 1, it appears that the large positive between-culture correlation for men between number of children desired and preferred spousal age difference might be attributable to the inclusion of just two cultures—Nigeria and Zambia, in the upper right corner of the figure. When these two data points are removed from the analyses, the zero-order correlation for men decreases to $r=0.23$, and for women to $r=-0.04$ (both p's>0.05). And the partial correlations (controlling for current age, preferred age at first marriage, and marital status) decrease to $r=0.26$ for men and $r=-0.04$ for women (both p's>0.05). The large between-culture zero-order and partial correlations for men between number of children desired and preferred spousal age difference therefore are attributable to the inclusion of the Nigerian and Zambian data. The sex difference between these correlations also is attributable to the inclusion of these two data points.

3. Discussion

Using data provided by 9809 participants residing in 37 cultures, this research documents a strong positive between-culture relationship between the number of children desired and the preferred spousal age difference expressed by men. Also as hypothesized, women do not show this between-culture correlational pattern. This sex-linked pattern of associations remains robust even after controlling for preferred age at first marriage, current age, and marital status. Men wanting many children express a stronger desire for a younger, and hence more reproductively valuable, marriage partner. This association was theoretically predicted based on the hypothesis that men's mate preferences shift as a function of the reproductive strategy they pursue.

We conducted additional analyses to attempt to replicate within cultures the sex-differentiated between-culture relationship between the number of children desired and preferred spousal age difference. These results reveal that the sex-differentiated relationship generally does not hold within cultures. Furthermore, additional analyses that exclude the

data for Nigeria and Zambia reveal that the large positive between-culture correlation for men depends on the inclusion of the data from these two cultures. It is likely not a coincidence that Nigeria and Zambia are the only samples in our database in which polygyny is still practiced widely (Buss, 1994). Taken together, these results suggest that we may be tapping into a sex-differentiated psychological design in which male psychology, but not female psychology, is sensitive to the relative polygyny practiced within the resident culture. The between-culture analyses suggest that, when they reside in a culture in which there is some prospect for polygyny, men want more children and desire a concomitantly larger age difference between themselves and their spouse or spouses. This same relationship does not hold for women, as hypothesized.

Several limitations and future directions are worth noting. The current study is based on self-report, and hence, carries limitations due to this method. Nonetheless, self-report is an appropriate method for examining certain types of desires, and this method attains validity by examining actual age differences between brides and grooms within a subset of 28 cultures for which such demographic data were obtainable. Using culture as the unit of analysis, the correlation between the mean age difference preferred in our study and the actual mean age difference at marriage within each culture is $r=0.68$ ($p<0.001$, $n=28$) for men and $r=0.71$ ($p<0.001$, $n=28$) for women, suggesting that expressed preferences correspond well to actual mating behavior, at least for this limited variable.

Expressed preferences for number of children are more difficult to validate, since good data are lacking on the actual number of children produced per married couple. Nonetheless, the correlation between the birth rate within culture and the mean number of children desired within culture is $r=0.73$ ($p<0.001$, $n=34$) for men and $r=0.42$ ($p=0.013$, $n=34$) for women. Although further validity checks are needed on the expressed desire for children number, this evidence suggests that we need not be pessimistic about the validity of these expressed preferences.

The test of the central hypothesis was based on the assumption that men who pursue a "quantity" reproductive strategy will shift their preferred age of a spouse to one who is younger and hence, higher in residual reproductive value. Although the pattern of between-culture correlational findings supports this hypothesis, causality, of course, cannot be determined with the current data. It is possible that some third variable, currently unknown, may be responsible for the link between number of children desired and the age of a preferred partner. Future research could examine whether men who shift ontogenetically from a quantity to a quality strategy, or vice versa, show commensurate changes in the age differences preferred between self and partner. An additional direction for future work pertains to identifying who is successful at fulfilling their desires. Men who are higher in mate value, for example, may be predicted to succeed in attracting a younger spouse than men who are lower in mate value (Buss, 1994; Symons, 1979).

The current research adds to a growing body of work documenting theoretically predicted context-sensitive shifts in mate preferences (e.g., Buss & Schmitt, 1993; Gangestad & Buss, 1993; Gangestad & Simpson, in press; Kenrick, Groth, Trost, &Sadalla, 1993). Future research could contribute to this trend, toward the eventual goal of developing a more comprehensive theory of human mating.

Acknowledgments

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