Chinese mate preferences: Cultural evolution and continuity across a quarter of a century

Lei Chang [a], Yan Wang [b], Todd K. Shackelford [c], David M. Buss [d,*]

[a] Department of Educational Psychology, The Chinese University of Hong Kong, Hong Kong SAR, China
[b] Fudan University, Shanghai, China
[c] Department of Psychology, Oakland University, Rochester, Michigan 48309-4401, United States
[d] Department of Psychology, University of Texas, Austin, TX 78712, United States

ARTICLE INFO

ABSTRACT

Expressed mate preferences provide unique windows into the cultural evolution of values and evolved mating psychology. The current study used two research instruments—one ranking procedure and one rating procedure—to examine mate preferences in mainland China. We compared modern Chinese ($n = 1060$) with Chinese studied a quarter of a century earlier ($N = 500$). Results revealed several cultural changes in values – a dramatic decrease in the importance of *virginity*, and an increase in the importance of *good financial prospects* – changes that occurred for both men and women. In contrast to those cultural changes, gender differences in mate preferences for cues to fertility (youth, physical attractiveness) and resources (good financial prospects, social status) remained invariant. Discussion highlights limitations of the study, and stresses the importance of both cultural evolution and evolved mate preferences.

© 2010 Elsevier Ltd. All rights reserved.

1. Introduction

Mate preferences acquire scientific importance for several key reasons. First, mate preferences influence who is chosen and who is excluded from mating, thus influencing the current direction of sexual selection (Darwin, 1871). Second, mate preferences of one sex determine which members of the opposite sex are considered to be high and low in mate value, which influences variables ranging from the desirability of the mate one can attract to social status within the group (Buss, 2003). Third, mate preferences of one sex influence which mate attraction and mate retention tactics will be effective in members of the opposite sex—tactics that embody the desires of the individual a person is trying to attract or retain (Buss & Shackelford, 1997; Schmitt & Buss, 1996). Fourth, some mate preferences may be evolved psychological adaptations, representing important solutions to cardinal problems of mating such as choosing a mate who is fertile or a mate willing and able to invest in offspring (Buss, 1989). Fifth, mate preferences reveal important cultural values, and when examined over time, can be used to assay the cultural evolution of values (Buss, Shackelford, Kirkpatrick, & Larsen, 2001). For all these reasons, the study of human mate preferences represents an exceptionally important and necessarily ongoing scientific endeavor.

China is especially interesting for studying mate preferences because it has undergone dramatic cultural changes over the past 25 years. Prior to 1989, China was relatively closed to Westerners; since then, it has become increasingly open. Economically, wages and variance in wages were low compared to those in Western cultures. Wages have risen as a majority of businesses have shifted from being state-owned to becoming privately owned. Consequently variance in wages has increased. In the mating domain, sexuality has become less restricted and premarital sex more common. A key question is whether Chinese mate preferences have changed to reflect these dramatic cultural changes. Has the increased variance in economic resources across individuals led to increased importance attached to a mate's resource capacity? Has the loosening of sexual restrictions led to decreased importance Chinese individuals attach to virginity in mates? These are key questions addressed by the current study, which seeks to contribute to knowledge about cultural evolution as well as cultural continuity and universality (Heine & Norenzayan, 2006).

The dramatic cultural changes in China also make it a scientifically interesting culture for testing key evolutionary hypotheses about gender differences in mate preferences. Because fertility cannot be observed directly, evolutionary psychologists hypothesized that men value physical appearance in mates because appearance provides a wealth of observable cues to fertility (Buss, 1989; Symons, 1979). Because human fertility is sharply age-graded, evolutionary psychologists hypothesized that men have evolved preferences for young mates (Symons, 1979). Because reproductive

* Corresponding author.
E-mail address: dbuss@psy.utexas.edu (D.M. Buss).

biology involves the heavy obligatory parental investment of nine months of pregnancy, evolutionary psychologists have hypothesized that women have evolved preferences for mates able to acquire resources and willing to invest resources in them. These sex differences are hypothesized to be universal across cultures (e.g., Badahdah & Tiemann, 2005; Buss, 1989; Gottschall, Martin, Quish, & Rea, 2004; Khallad, 2005). This study was partly designed to examine whether these sex differences persist in a culture that has undergone dramatic changes over the past quarter of a century.

2. Methods

2.1. Participants

This study consisted of two groups of participants. The modern sample, with data gathered in 2008 in the city of Shanghai, totaled 1060 individuals—475 males and 585 females. These data were collected from 30 different work units—companies, factories, and universities. Participation was voluntary. This sample was compared with a Chinese sample gathered from four major cities (including Shanghai) in the mid-1980s, consisting of 500 individuals—265 males and 235 females—who were part of the 37-culture International Mate Selection Project (see Buss, 1989; Buss et al., 1990 for details). The relationship status of the two samples was comparable. For the 1980s sample, 15.2% were married, with the rest single or dating. For the 2008 sample, 15.1% were married.

2.2. Research instruments

Two research instruments were used – *Preferences Concerning Potential Mates* and *Factors in Choosing a Mate*. The first is a ranking procedure in which participants received this instructional set:

Instructions: Below are listed a set of characteristics that might be present in a potential mate or marriage partner. 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 desired characteristic in a potential mate. Rank these 13 characteristics from Most (1) to Least (13) Desired in a Mate. Following these instructions were 13 characteristics derived from a previous factor analysis of a larger set of 76 characteristics (see Buss & Barnes, 1986).

Factors in Choosing a Mate, initially developed by Hill (1945), requested information about age, sex, the age at which the participant preferred to marry, and the age differences they preferred between themselves and their spouse. This was followed by a rating procedure: Please evaluate the following factors in choosing a mate. If you consider it

indispensable, give it . . . . .3 points
important, but not indispensable . . . .2 points
desirable, but not very important . . . .1 point
irrelevant or unimportant . . . .0 points

These instructions were followed by 18 characteristics. Both instruments were translated into Chinese by a bilingual speaker; back-translated by a second bilingual speaker; and discrepancies resolved by a third bilingual speaker.

3. Results

3.1. Age and mate preferences in a partner

Table 1 shows the participants' ages, the ages at which they preferred to marry, and the age difference preferred between self and spouse. The 2008 sample was approximately three years older than the 1983 sample. We correlated age with mate preferences for the 2008 sample (we were unable to perform these correlations for the earlier sample due to the manner in which the data were transcribed prior to sending them to the last author). The correlations were uniformly low; only two exceeded .20. Older people expressed a slightly stronger preference for good housekeeper ($-.21$, $p < .001$) and wants children ($-.23$, $p < .001$).

There was no sex difference in the 1983 sample in the age participants preferred to marry (26.73 and 27.72 for men and women, respectively). In 2008, men expressed a preference to marry about a year and a half later than women (28.98 and 27.46; $t = -4.24$, $p < .001$).

The age differences preferred between self and spouse strongly support the hypothesis that men have an evolved preference for young fertile partners. In 1983, men preferred partners 2.15 years younger than themselves; in the 2008 sample, men preferred spouses 3.41 years younger. Chinese women preferred spouses older than themselves—3.45 and 4.15 years older for the 1983 and 2008 samples, respectively. These sex differences have large effect sizes, with *d*s of -2.61 and -3.67. These are among the largest psychological sex differences ever documented in the psychological literature (see, e.g., Geary, 2009).

3.2. Validity check for preferred age difference between self and spouse

Conceptually, mate preferences cannot be invariantly translated into actual mating decisions. Individuals cannot always get what they want. They are limited by their own personal mate value and by the existing pool of available mates (Buss & Schmitt, 1993). Nonetheless, mate preferences cannot have evolved unless they influenced actual mating behavior during the time period during which they evolved.

Table 1
Age and age preferences for marriage.

Age variable		1983	2008	Sex diff. 1983		Sex diff. 2008		Cross-time dift	
				t	*d*	*t*	*d*	*t*	*d*
Age of participants	Male	23.37 (4.87)	26.65 (5.97)	1.93[*]	0.18	3.79[***]	0.24	-8.05[***]	-0.60
	Female	22.46 (5.29)	25.34 (5.09)					-7.21[***]	-0.56
Age prefer to marry	Male	26.73 (8.06)	28.98 (2.55)	-0.16	-0.10	7.58[***]	0.65	-4.24[***]	-0.38
	Female	27.72 (10.98)	27.46 (2.10)					1.01	0.03
Age difference preferred between self and spouse	Male	-2.15 (2.49)	-3.41 (2.17)	-28.66[***]	-2.61	-37.34[***]	-3.67	5.40[***]	0.54
	Female	3.45 (1.73)	4.15 (1.94)					-4.16[***]	-0.38

Note: Means for age, age prefer to marry, and age differences preferred between self and spouse are expressed as years. For age difference preferred between self and spouse, negative values reflect a preference for a younger partner; positive values reflect a preference for an older partner. *d* = Cohen's (1988) effect size index, with |0.20| = small, |0.50| = medium, |0.80| = large.
[*] Significance level = *p* < .05 (all two-tailed).
[**] Significance level = *p* < .01 (all two-tailed).
[***] Significance level = *p* < .001 (all two-tailed).

One validity check on preferred age differences between self and spouse involves examining the actual ages at which men and women marry. Chinese census data from 1982 reveal that the average age at first marriage for women was 22.4, whereas the average age at first marriage for men was 25.2 (Li, 1984). Chinese brides were approximately 2.80 years younger, on average, than Chinese grooms. These demographic data correspond reasonably well to the expressed preferences by men and women for age differences preferred (in 1983, men preferred their brides to be 2.15 years younger, and women preferred grooms to be 3.45 years older). Thus, mate preferences correspond reasonably well with actual age differences at marriage, providing validity for these measures of mate preferences.

The average marriage age has now increased to between 28.6 and 29.2 for men and between 26.4 and 27.1 for women (Jia, 2006; Xin, 2008). Thus, the age difference between brides and grooms remains roughly 2 years, consistent with the preferred age difference obtained in the 1983 and 2008 samples.

3.3. Cultural changes in mate preferences

Tables 2 and 3 show the findings for sex differences and cross-time differences in mate preferences for the ranking instrument (Table 2) and the rating instrument (Table 3)—means, standard deviations, t-tests for sex differences, t-tests for cross-time differences, and d statistics for magnitudes of effect. Because the two samples are not strictly comparable, being samples of convenience rather than random samples, we err on the conservative side and interpret only cross-time differences that show moderate or large effect sizes.

3.3.1. Mate preferences increasing in cultural valuation

In 1983, both sexes ranked "religious" as the least desired quality out of 13 qualities, with rankings of 12.27 and 12.29 for men and women. By 2008, "religious" rose in importance more than two ranks to 9.97 and 9.73. The rise in religiosity may reflect a substantive cultural change, possibly linked to the greater toleration of religious expression in modern China. This change is paralleled in the rating instrument, which found a rise in the desirability of a mate with a similar religious background, although the magnitude of effect was modest (−.33 for both sexes).

"College graduate" shows a rise in the rankings from 9.09 to 6.42 for men and from 7.40 to 5.63 for women. Because education is a strong predictor of income, it is interesting to note parallel changes for "good earning capacity" and the rated variable "good financial prospect." Both rose in importance, with an especially dramatic rise for women (ds showing 1.04 and −0.87 for women).

"Dependable character" also increased in importance. Although important for both sexes in 1983 (2.25 and 2.60 for men and women), it rose to "indispensable" by 2008 (2.78 and 2.89).

3.3.2. Mate preferences decreasing in valuation

"Chastity," defined "no previous sexual intercourse," decreased in value. Both sexes viewed virginity as nearly indispensable in 1983 (rated as 2.54 and 2.61 for men and women). It dropped in importance to 1.70 and 1.36 by 2008. These changes parallel a similar drop in the importance of chastity within the United States over the 20th century (Buss et al., 2001).

Four other changes with relatively high magnitudes of effect are decreases in the importance of "good heredity," "pleasing

Table 2
Sex and cross-time differences in mate preferences: ranking instrument.

Mate preference		1983	2008	Sex diff. 1983		Sex diff. 2008		Cross-time diff.	
				t	d	t	d	t	d
Kind & understanding	Male	1.86 (1.68)	2.18 (2.12)	−0.19	−0.02	−3.47***	−0.22	−2.07*	−0.17
	Female	1.89 (1.73)	2.68 (2.37)					−4.61***	−0.38
Religious	Male	12.27 (1.75)	9.74 (3.71)	−0.14	−0.01	0.22	0.00	10.22***	0.87
	Female	12.29 (1.67)	9.73 (3.95)					9.54***	0.84
Exciting personality	Male	8.33 (3.21)	6.81 (3.65)	5.64***	0.51	3.25***	0.21	5.61***	0.44
	Female	6.66 (3.38)	6.06 (3.54)					2.21*	0.17
Creative & artistic	Male	8.11 (3.13)	7.54 (3.45)	5.63***	0.52	0.71	0.03	2.22*	0.17
	Female	6.45 (3.28)	7.45 (3.68)					−3.43***	−0.29
Good housekeeper	Male	4.98 (2.63)	5.30 (3.09)	−10.77***	−0.97	−7.89***	−0.51	−1.41	−0.11
	Female	7.57 (2.73)	6.98 (3.50)					2.29*	0.19
Intelligent	Male	3.99 (2.38)	5.08 (3.02)	3.24***	0.29	0.06	0.00	−5.00***	−0.40
	Female	3.33 (2.13)	5.07 (3.09)					−7.82***	−0.66
Good earning capacity	Male	9.91 (2.22)	8.94 (3.70)	3.73***	0.33	13.93***	0.89	3.90***	0.32
	Female	9.06 (2.90)	5.82 (3.32)					12.94***	1.04
Wants children	Male	6.94 (2.56)	6.89 (3.42)	−4.37***	−0.39	−2.55*	−0.17	0.20	0.02
	Female	7.91 (2.37)	7.48 (3.71)					1.65	0.14
Easygoing	Male	7.01 (3.11)	3.49 (2.57)	−2.05*	−0.20	−1.27	−0.10	16.51***	1.23
	Female	7.62 (3.12)	3.76 (2.75)					17.28***	1.31
Good heredity	Male	7.34 (3.04)	9.42 (3.52)	1.58	0.14	2.90**	0.18	−8.01***	−0.63
	Female	6.89 (3.30)	8.78 (3.68)					−6.69***	−0.54
College graduate	Male	9.08 (2.82)	6.42 (3.29)	6.25***	0.56	3.75***	0.24	10.97***	0.87
	Female	7.40 (3.14)	5.63 (3.26)					7.06***	0.55
Physically attractive	Male	7.39 (3.05)	5.65 (3.63)	−9.00***	−0.81	−10.80***	−0.70	6.53***	0.52
	Female	9.66 (2.55)	8.25 (3.84)					5.22***	0.43
Healthy	Male	4.08 (2.25)	4.06 (2.93)	−1.69	−0.15	3.11**	0.20	0.08	0.01
	Female	4.40 (2.06)	3.49 (2.81)					4.51***	0.37

Note: Mate preferences were ranked from 1 (most desirable) to 13 (least desirable); hence, low means reflect high desirability. d = Cohen's (1988) effect size index, with |0.20| = small, |0.50| = medium, |0.80| = large.
* Significance level = p < .05 (all two-tailed).
** Significance level = p < .01 (all two-tailed).
*** Significance level = p < .001 (all two-tailed).

Table 3
Sex and cross-time differences in mate preferences: rating instrument.

Mate preference		1983	2008	Sex diff. 1983		Sex diff. 2008		Cross-time diff.	
				t	d	t	d	t	d
1. Good cook and housekeeper	Male	2.27 (0.78)	1.91 (0.76)	6.09***	0.55	6.27***	0.46	5.58***	0.48
	Female	1.84 (0.78)	1.56 (0.78)					4.47***	0.36
2. Pleasing disposition	Male	1.37 (1.00)	2.63 (0.61)	−0.06	−0.01	−2.08*	−0.16	−17.80***	−1.52
	Female	1.38 (0.96)	2.72 (0.53)					−19.78***	−1.73
3. Sociability	Male	1.72 (0.84)	1.55 (0.82)	−7.73***	−0.69	−6.25***	−0.47	2.45*	0.21
	Female	2.26 (0.71)	1.92 (0.75)					5.67***	0.47
4. Similar educational background	Male	1.17 (0.88)	1.66 (0.91)	−8.22***	−0.74	−6.13***	−0.45	−6.54***	−0.55
	Female	1.81 (0.85)	2.06 (0.87)					3.60***	−0.29
5. Refinement, neatness	Male	2.32 (0.73)	2.25 (0.74)	4.60***	0.41	1.09	0.08	1.06	0.10
	Female	1.99 (0.87)	2.19 (0.74)					−3.20***	−0.25
6. Good financial prospect	Male	1.10 (0.98)	1.34 (0.86)	−5.33***	−0.48	−16.00***	−1.21	−3.23***	−0.26
	Female	1.56 (0.94)	2.27 (0.67)					−10.28***	−0.87
7. Chastity (no previous sexual intercourse)	Male	2.54 (0.82)	1.70 (1.02)	−1.02	−0.09	4.45***	0.33	11.04***	0.91
	Female	2.61 (0.77)	1.36 (1.03)					17.68***	1.38
8. Dependable character	Male	2.35 (0.79)	2.78 (0.52)	−3.69***	−0.34	−3.34***	−0.24	−7.48***	−0.64
	Female	2.60 (0.70)	2.89 (0.41)					−5.78***	−0.51
9. Emotional stability & maturity	Male	2.46 (0.68)	2.27 (0.70)	−6.92***	−0.60	−7.54***	−0.57	3.21***	0.28
	Female	2.80 (0.43)	2.63 (0.56)					4.40***	0.34
10. Desire for home and children	Male	2.69 (0.63)	2.37 (0.72)	−0.61	−0.04	−2.35*	−0.17	5.67***	0.47
	Female	2.71 (0.52)	2.49 (0.71)					4.63***	0.35
11. Favorable social status	Male	1.27 (0.81)	0.94 (0.85)	−6.74***	−0.62	−9.37***	−0.71	4.81***	0.40
	Female	1.78 (0.84)	1.52 (0.79)					4.04***	0.32
12. Good looks	Male	2.06 (0.81)	1.79 (0.80)	8.13***	0.63	6.48***	0.48	4.50***	0.34
	Female	1.59 (0.67)	1.41 (0.77)					2.91***	0.25
13. Similar religious background	Male	0.35 (0.77)	0.61 (0.83)	−0.62	−0.07	−0.80	−0.07	−3.86***	−0.33
	Female	0.40 (0.70)	0.67 (0.91)					−4.16***	−0.33
14. Ambition & industriousness	Male	2.22 (0.85)	0.63 (0.81)	−6.41***	−0.56	−11.22***	−0.82	23.04***	1.92
	Female	2.63 (0.59)	1.34 (0.91)					22.08***	1.68
15. Similar political background	Male	0.95 (0.97)	0.63 (0.88)	0.17	0.01	−0.59	−0.05	4.41***	0.35
	Female	0.94 (0.95)	0.67 (0.81)					3.59***	0.31
16. Mutual attraction–love	Male	2.51 (0.77)	2.64 (0.64)	−1.20	−0.13	−2.57**	−0.19	−2.14*	−0.18
	Female	2.60 (0.76)	2.75 (0.52)					−2.74**	−0.23
17. Good health	Male	2.74 (0.46)	2.51 (0.63)	1.38	0.13	−5.43***	−0.42	5.00***	0.42
	Female	2.68 (0.49)	2.75 (0.51)					−1.64	−0.14
18. Education & intelligence	Male	2.27 (0.71)	1.86 (0.66)	−7.12***	−0.63	−6.73***	−0.50	7.11***	0.60
	Female	2.67 (0.55)	2.20 (0.70)					9.60***	0.75

Note: Mate preferences were rated from 0 (*irrelevant or unimportant*) to 3 (*indispensable*). *d* = Cohen's (1988) effect size index, with |0.20| = small, |0.50| = medium, |0.80| = large.
* Significance level = *p* < .05 (all two-tailed).
** Significance level = *p* < .01 (all two-tailed).
*** Significance level = *p* < .001 (all two-tailed).

disposition," "ambition and industriousness," and "education and intelligence."

3.4. Sex differences in mate preferences

3.4.1. Resources

Evolutionary psychological hypotheses predicted sex differences in the importance attached to "good earning capacity," "good financial prospects," and the qualities linked with resource acquisition, such as "social status" "ambition and industriousness," and "education and intelligence." These were among the largest sex differences at both times; women placed substantially more importance on these qualities than men. Indeed, these sex differences have increased from 1983 to 2008. The magnitude of the sex difference on "good earning capacity" rose from 0.33 to 0.89 over the quarter of a century. The magnitude for "good financial prospect" rose from −0.48 to −1.21 over time. The sex difference in the importance of social status showed a similar increase in magnitude, whereas "ambition and industriousness" showed only

a small increase in magnitude. Taken together, modern Chinese appear to show more dramatic gender differences in resources in a mate compared to those a quarter of a century before them.

3.4.2. Physical attractiveness and good housekeeper

Another evolutionary hypothesis centered on physical attractiveness as a cue to fertility. The prediction was confirmed in both samples (*ds* = −0.81 and −0.70 for the "physically attractive" ranking, and 0.63 and 0.48 for the "good looks" rating). Together with men's preference youth, these findings support the evolutionary hypothesis about the importance men place on observable cues to fertility.

Significant sex differences occurred for "good housekeeper" for both time periods. The magnitude of the sex difference decreased substantially from 1983 (*d* = −0.97) to 2008 (*d* = −.51). This appears to result from both sexes converging. Men place less importance on a spouse who is a good housekeeper over time, whereas women place more importance on it. These changes may reflect changing cultural norms toward greater sexual equality in doing

household chores, although the magnitude of the modern sex difference remains in the medium range.

3.4.3. Personality variables

Several interesting sex differences, not hypothesized in advance, were found at both time periods. These all involved personality traits. Women more than men placed greater value on mates who have "exciting personality," "sociability," "dependable character," and "emotional stability and maturity." The magnitudes of the sex differences were especially pronounced for "emotional stability and maturity," reflecting a sex difference found in many, but not all, cultures (Buss et al., 1990).

4. Discussion

Several limitations must be noted. First, the samples are not representative of the vast and diverse country of China. Second, the 2008 sample was roughly three years older than the 1983 sample, so differences between the two samples could be partly due to age rather than to actual cultural change. Given the exceptionally low magnitudes of the correlations between mate preferences and age within the 2008 sample noted earlier, however, there is no reason to believe that this affected the results in a way that would alter the central conclusions. Although the ages of our two samples are in some ways ideal, in the sense that the 20s are precisely the ages at which most Chinese contemplate marriage and actually get married, future studies could explore mate preferences over the lifespan. Finally, ratings and rankings have inherent limitations that are partially circumvented by budget allocation methods (Li, Bailey, Kenrick, & Linsemeier, 2002). With these limitations in mind, we turn to the two central results of the study—the cultural evolution of values and the continuity of gender differences.

4.1. Cultural changes over time

At least three key cultural changes are noteworthy—an increase in the importance placed on *religiosity*, an increase in the importance of *good earning capacity*, and a decrease in the importance placed on *virginity*. The increase in the importance of religion may reflect a larger cultural change in religiosity and religious tolerance. Except for the Uygurs and a few other ethnic minorities, few Chinese practiced religion in China a quarter of a century ago. It has been estimated that close to 100 million Chinese citizens practice or believe in religion today, with over 20 million practicing Christianity and over 20 million practicing Islam (Wang, 2008).

The dramatic increase in the importance of good earning capacity also may reflect the extraordinary economic changes in China over the past quarter of a century. According to the National Bureau of Statistics of the People's Republic of China (http://www.stats.gov.cn), in the period of 1978–1984, the GDP was 508 Yuan. GDP for the year 2007 was 19,524 Yuan, an increase of over thirtyfold. Average personal annual income was 497 Yuan (urban) and 235 (rural) for the 1978–1984 period and was 14,908 Yuan (urban) and 5791 (rural) in 2007, increases of more than twentyfold.

Before 1978, the urban economy in China was almost 100% state owned. With almost zero unemployment, everyone was a state employee compensated according to the same salary scale, ranging from 31 Yuan per month for entry-level skilled workers and clerical staff to 590 Yuan per month for the president and other top government officials and military generals. Although economic reforms began in 1978, they did not begin to produce large economic changes until the late 1980's, after our first sample was studied. Today, state ownership represents only 12% of China's economy (Hu, 2009). Wealth distribution has become increasingly variable,

ranging from the unemployed to billionaires, the number of which ranked fifth (excluding Hong Kong and Taiwan) in the world (Davies, Sandstrom, Shorrocks, & Wolff, 2009). In short, the increase in importance of economic resources in a mate may reflect the broader cultural changes in a rising standard of living and an increase in variance in economic resources of potential mates. This conclusion must be qualified by the finding that the variables "ambition and industriousness" and "education and intelligence"—variables typically linked with resource acquisition—decreased in valuation over time. Exploration of the reasons for this apparent empirical puzzle must be resolved by future studies that examine these variables in greater depth.

Sex surveys show that young adults in China are becoming increasingly open to premarital sex, and roughly three-fourths indicate that there are advantages to living together out of wedlock prior to marriage as a means of gaining knowledge about a potential spouse (http://english.peopledaily.com.cn/200311/08/eng20031108_127861.shtml). The sharp drop in the importance of virginity discovered in the current study likely reflects this broader cultural change of an increase in openness to premarital sex.

4.2. Sex differences in mate preferences

The current study found strong support for the evolutionary psychological hypotheses about sex differences in mate preferences. Despite dramatic cultural changes in some values, men more than women continue to prefer mates who are younger, physically attractive, and good looking. Youth is a known correlate of female fertility, which declines predictably with increasing age. Standards of physical attractiveness, which include smooth unwrinkled skin, white teeth, lustrous hair, symmetrical features, and low waist-to-hip ratio, are known to be linked to youth, health, and female fertility (Sugiyama, 2005). Thus, the current study supports the rapidly growing body of research that supports the hypothesis that men across cultures have evolved mate preferences for female cues to fertility.

Women more than men in both samples valued resources in a mate, whether this was expressed as "good earning capacity" or "good financial prospects." Furthermore, women more than men in both samples desired qualities known to be linked with resource acquisition—social status, education and intelligence, and ambition and industriousness. Interestingly, the magnitude of the sex differences for the resource variables increased over time. For example, the magnitude of the sex difference for "good financial prospect" rose from −0.48 in 1983 to −1.21 in 2008. These results, combined with a growing body of other empirical findings (Buss, 2008), supports the hypothesis that women have an evolved mate preference for mates who have the resources and resource-acquisition abilities to provide for them and their children.

Two other sex differences are noteworthy. Men more than women valued "good housekeeper" in a potential mate, although the size of this sex difference appears to have decreased over time. Women more than men valued the personality traits of sociability, dependability, emotional stability, and "exciting personality" at both time intervals. Although dependability and emotional stability may be linked with the continuity of resource provisioning over time and lower levels of conflict within marriage, we know of no current theory that can explain why these sex differences in preferences for mates with these personality variables would occur in some cultures, but not in others (cf. Buss et al., 1990).

5. Conclusions

China is a country that has undergone substantial cultural changes over the past quarter of a century—economically,

religiously, and sexually. The current study suggests that some mate preference changes, such as an increase in the importance of resources and religiosity in a mate and a decrease in the importance of virginity in a mate, may be hallmarks of these cultural changes. In addition to demonstrating the evolution of cultural values, the current study provides robust support for several key hypotheses about evolved sex differences in mate preferences. Despite the many cultural changes, women substantially more than men continue to value resources and resource acquisition potential in a mate. Men continue to value key cues to fertility in a mate, notably youth and physical attractiveness. In short, this study of mate preferences in one culture over a quarter of a century provides a unique window into evolved mating psychology and the evolution of cultural values.

References

Badahdah, A. M., & Tiemann, K. A. (2005). Mate selection criteria among Muslims living in America. *Evolution and Human Behavior, 26*, 432–440.

Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12*, 1–49.

Buss, D. M. (2003). *The evolution of desire: Strategies of human mating.* New York: Basic Books.

Buss, D. M. (2008). *Evolutionary psychology: The new science of the mind* (3rd ed.). Boston, MA: Allyn & Bacon.

Buss, D. M., Abbott, M., Angleitner, A., Asherian, A., Biaggio, A., Blanco, A., et al. (1990). International preferences in selecting mates: A study of 37 cultures. *Journal of Cross-Cultural Psychology, 21*, 5–47.

Buss, D. M., & Barnes, M. F. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology, 50*, 559–570.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review, 100*, 204–232.

Buss, D. M., & Shackelford, T. K. (1997). From vigilance to violence. Mate retention tactics in married couples. *Journal of Personality and Social Psychology, 72*, 346–361.

Buss, D. M., Shackelford, T. K., Kirkpatrick, L. A., & Larsen, R. J. (2001). A half century of American mate preferences: The cultural evolution of values. *Journal of Marriage and the Family, 63*, 491–503.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences.* Hillsdale, NJ: Erlbaum.

Darwin, C. (1871). *The descent of man and selection in relation to sex.* London: John Murray.

Davies, J. B., Sandstrom, S., Shorrocks, A., & Wolff, E. (2009). The global pattern of household wealth. *Journal of International Development, 21*, 1111–1124.

Geary, D. (2009). *Male, female: The evolution of human sex differences.* Washington: American Psychological Association.

Gottschall, J., Martin, J., Quish, H., & Rea, J. (2004). Sex differences in mate choice criteria are reflected in folktales from around the world and in historical European literature. *Evolution and Human Behavior, 25*, 102–112.

Heine, S. J., & Norenzayan, A. (2006). Towards a psychological science for a cultural species. *Perspectives on Psychological Science, 1*, 251–269.

Hill, R. (1945). Campus values in mate selection. *Journal of Home Economics, 37*, 554–558.

Hu, Y. M. (2009). Observation and reflection on China's private ownership of the past 30 years. *Taxation and Economy, 22*, 12–15.

Jia, X. (November 11, 2006). Marriage age from 10 cities. *Beijing Daily.*

Khallad, Y. (2005). Mate selection in Jordan: Effects of sex, socio-economic status, and culture. *Journal of Social and Personal Relationships, 22*, 155–168.

Li, J.M. (1984). Age at marriage in China. *POPLINE Document Number: 042686.*

Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsemeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology, 82*, 947–955.

Schmitt, D. P., & Buss, D. M. (1996). Mate attraction and competitor derogation: Context effects on perceived effectiveness. *Journal of Personality and Social Psychology, 70*, 1185–1204.

Sugiyama, L. (2005). Physical attractiveness in adaptationist perspective. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 292–342). New York: Wiley.

Symons, D. (1979). *The evolution of human sexuality.* New York: Oxford.

Wang, Z. (2008). Current status and changes of China's religions. *Journal of the Central Institute of Socialism, 21*, 51–56.

Xin, W. (2008). Marriage age increased in Shanghai. *Chinese Journal of Reproductive Health, 19*, 192.