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Original Article

# Elements of Parental Choice: The Evolution of Parental Preferences in Relation to In-Law Selection

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**Abstract:** With the exception of modern post-industrial societies, parents have primarily been in control of the mating decisions of their offspring. The selection of in-laws has important fitness consequences for parents. It is hypothesized, therefore, that parents have evolved specific preferences that enable them to select in-laws that will maximize their inclusive fitness. To test this hypothesis, data from 297 parents were collected. It is found that parents place differential emphasis on different in-law traits and that their preferences vary according to the sex of the in-law. In addition, parents are in agreement when they are selecting an in-law and their preferences are not contingent upon their sex.

**Keywords:** parental in-law preferences, parental choice, mating preferences, mate choice

## Introduction

A substantial literature on human mating has been developing in the last few decades, and which is based on the assumption of free female choice in the mate selection process over the period of human evolution (i.e., Buss and Barnes, 1986; Buss et al., 1990; Buss, 1995, 2003; Daly and Wilson, 1983; Gangestad and Simpson, 2000; Symons, 1979, 1989; see also Buss, 2004, 2005 chapters on mating). The theoretical framework of this literature is based on the parental investment (Bateman, 1948; Trivers, 1972) theory of sexual selection (Darwin, 1871), which stipulates that the female, by investing more in her offspring, becomes the scarce resource to which males are seeking access. The female, therefore, is in the position to exercise choice and to select those males who will maximize her fitness. It is theorized, for instance, that females have evolved preferences for specific male traits such as the ability to acquire resources that would be beneficial for them and their offspring (Buss, 2003; Symons, 1989). Because some of these traits are unobserved, it is also hypothesized that males have evolved adaptations to reliably signal these traits to females (Miller, 2000).

This line of reasoning relies on the assumption that males and females are free to interact with one another when selecting mating partners. However, the ethnographic record points to a different conclusion. In pre-industrial societies, free mate choice was an exception to the general rule of mating being controlled by close kin, rather than the individuals themselves (Broude and Greene, 1983; Frayser, 1985; Stephens, 1963;

Westermark, 1925; Whyte, 1978). It seems, therefore, that free female choice may not be the appropriate model for studying the evolution of human mating behavior (Cronk, 1991).

By investing more in her offspring, the female becomes a valuable reproductive resource for males (Trivers, 1972). Parents can then manipulate this resource to maximize their inclusive fitness (Hamilton, 1964). As mating is a matter of arrangement between families rather than between offspring, an effective manipulation of the female offspring also demands a degree of manipulation of the male offspring. Additionally, because males also provide parental investment, parents have an incentive to control their male offspring. Furthermore, the large amount and extensive time of parental investment, along with the fact that parents are physically stronger than their offspring, are some of the reasons why the former can effectively control the mating of the latter (Alexander, 1974; Flinn and Low, 1986; Trivers, 1974). However, the offspring are not pawns in the hands of their parents, and they can evolve adaptations to psychologically manipulate their parents as well (Trivers, 1974). But parents can also evolve adaptations to counterbalance such manipulation (Stamps, Metcalf, and Krishnan, 1978). Consequently, the balance tilts in favor of the parents who can still control parental investment and are still physically stronger (Dawkins, 1989). Nevertheless, parental choice has its limits and the offspring can still exercise choice even under strong parental control. Such mating choice can be exercised mainly within the institution of marriage, where the offspring can divorce the partners that their parents have selected for them. Extramarital relations is another way by which offspring choice can be exercised (Apostolou, 2006).

This model of parental choice fits the mating patterns found among modern foragers. In a sample of 190 such societies, in only 4% of them were individuals free to select their mate with little or no influence from their parents (Apostolou, 2006). Because most of human evolution took place when all humans where living as hunters and gatherers, a period often called the Environment of Evolutionary Adaptness (EEA) (Lee and DeVore, 1968; Tooby and Cosmides, 1990), a systematic study of modern hunters and gatherers can provide ecologically valid information for life during that period (Ember, 1978). Consequently, because parental control over female mating is typical of these societies, it was inferred that parental choice rather than female choice has been the primary sexual selection mechanism in the humans (Apostolou, 2006).

The evidence from modern foragers places under question the research on human mating, which is based on the assumption of free female choice. But, a revision of previous research and the advancement of research require a more thorough understanding and description of the parental choice mechanism. Towards this objective, the present research explores the preferences that parents have when they are selecting in-laws.

### *The evolution of parental preferences*

An adaptive problem that parents have to solve is to select in-laws that will maximize their inclusive fitness. Evolutionary pressures over in-law selection were substantial during human evolution, because the selection of an in-law could bring tremendous survival and reproduction advantages to the parents and their family. For example, in most of the pre-industrial societies, for the marriage to proceed, the son-in-law gives to the bride's family a substantial amount of wealth (bridewealth) or works for the parents for one or two years (brideservice) (Murdock, 1967). Apart from these immediate

benefits, the son-in-law has long-term obligations to provide food and support to his parents-in-law, sometimes for as long as they live (i.e. the Seri in Central America: Felger and Moser, 1985, p. 6). Additionally, a marriage is an alliance between families, and such alliances can bring substantial benefits to the parents and their family. Last but not least, the selection of an in-law who has high genetic quality, for example resistance to parasites, or genes that make him or her attractive to the opposite sex, can bring genetic benefits to the parents in terms of higher survival or reproductive success of their grandchildren.

Potential in-laws vary in all these dimensions (some are hard working, some are not; some have good genetic quality. some do not, etc.), so they will also differ in their value as in-laws to the parents. Parents are expected to have evolved preferences for selecting as in-laws those individuals with the most beneficial traits for them. For example, parents who have a preference for an in-law who is a good provider are more likely to choose such an individual, and thus are more likely to acquire a valuable resource for themselves and their kin. Because of the fitness gain that this preference has generated for the parents and their kin, it increases in frequency in future generations. Eventually, parents who have such preferences replace those who do not. Thus, the first hypothesis to be tested is that parents, when selecting in-laws, have stronger preferences for some traits and weaker preferences for others.

The second hypothesis to be tested is that parental preferences are contingent upon the sex of the in-law. Because males and females have different specializations and roles, parents will value different properties in a son-in-law than in a daughter-in-law. For example, in the majority of pre-industrial societies, females are responsible for housekeeping; thus, qualities associated with maintaining a household will be more valued in a female than in a male. Furthermore, males and females differ in their post-marriage obligations towards their parents-in-law and this will affect the latter's preferences. Because of the asymmetry in parental investment, parents, by controlling their female offspring, can extract resources from their son-in-law on a long-term basis. They cannot do the same with their male offspring. It follows that parents will place more emphasis on the resource acquisition capacities of their son-in-law. Finally, males and females are biologically different. A female's reproductive capacity is highly constrained by her age, but this constraint is much more relaxed in males. Consequently, parents will look for younger daughters-in-law than sons-in-law.

Parents are expected to differentiate their preferences according to the sex of their in-law, but their preferences may also be dependent upon their own sex. However, most of the traits that an in-law may have are equally beneficial to both parents and their kin. It is hypothesized therefore that parents will not differ in their in-law preferences.

In summary, three main hypotheses are tested: first, parents prefer certain characteristics more than others in an in-law; second, parental preferences differ according to the sex of the in-law; and, finally, parents do not differ in their in-law preferences.

## Methods

A total of 297 participants, 225 women and 72 men, almost all UK nationals and residents, completed an online survey. A private company was employed specializing in recruiting participants for online research in psychology. The participants were selected from a large database of people willing to participate in online psychological research and

have registered through the company's web site. The survey was forwarded to those participants. All parents received payment for completing the survey in the form of credit (about US$5) that could be used to purchase goods from online stores. Most of the participants were married (63%), followed by single (16.8%), engaged (10.8%) and divorced (9.4%). Data from parents with adopted children were included in the survey as long as they also had at least one genetic child. The age of the children of the participants was not recorded.

The survey was divided into two parts. In the first part of the survey, demographic data were collected (Table 1) and then the following hypothetical scenario was given: "You have two children, one male and one female, and you live in a society where marriages are arranged. It is your duty as a parent, through negotiations with other parents, to find an appropriate spouse for both your daughter and your son." Then, the participants were asked to rate a set of characteristics in a potential daughter-in-law and son-in-law. In the second part of the survey, a similar scenario was presented, but the participants rated a different set of characteristics. Additionally, the participants were asked the following set of questions: how many grandchildren you desire; how old you would prefer your daughter to get married; how old you would prefer your son to get married; would you prefer your son-in-law to be older, younger, same age, no preference, as your daughter; would you prefer your daughter-in-law to be older, younger, same age, no preference, as your son.

Two instruments were used to assess parental preferences. The first one was initially developed by Hill (1945) and was later used by Buss et al. (1990) and by Buss, Shackelford, Kirkpatrick, and Larsen (2001) to assess mate preferences. This instrument was employed in the first part of the survey in which participants rated 18 characteristics (see Table 2). Because this instrument was developed to measure mate preferences rather than in-law preferences, certain adjustments were made. Love and attraction develops through courtship, but courtship does not exist or it is limited in arranged marriages. Thus, in the scenario in which parents choose the marriage partners for their offspring, it is not a valid option for them to choose in-laws on the basis of whether their offspring loves them. The "mutual attraction-love" item used in previous surveys was dropped because it applies only when individuals select their own partners. Additionally, the wealth item was added to test specific hypothesis. Each characteristic was rated in the following four-point Likert scale: 3 = *indispensable*, 2 = *important*, 1 = *desirable, but not very important*, and 0 = *irrelevant or unimportant*.

The second instrument was developed by Buss and Barnes (1986) and is based on a larger instrument developed by Gough (1973) to study family planning. Additional items were added to test specific hypotheses, and a "compatibility" item was dropped because it was not directly applicable in the current research. The final instrument included 16 items (see Table 3). Each item was rated in the following six-point Likert scale: +2 = *very desirable*; +1 = *somewhat desirable*; 0 = *inconsequential, or neutral*; -1 = *somewhat undesirable*; -2 = *very undesirable*.

Missing values accounted for no more than 1.5% of the responses for any item. The missing values were replaced by the mean or the mode (in frequency data) of the series. Finally, online responses have been found to be as reliable as laboratory-based responses (Birnbaum, 2000; Kraut et al, 2004).

Table 1
*Demographic information for part one and part two of the survey*

| | *Males* | | *Females* | | *Total* | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Part One | | | | | | |
| Age | 43.33 | 11.89 | 35.41 | 10.32 | 37.33 | 11.22 |
| Number of Children | 2.07 | 1.07 | 2.02 | 1.11 | 2.03 | 1.09 |
| Male Children[a] | 1.28 | .91 | 1.12 | .80 | 1.16 | .83 |
| Female Children[b] | 1.02 | .89 | 1.03 | .90 | 1.03 | .90 |
| Part Two | | | | | | |
| Age | 42.85 | 11.97 | 35.48 | 10.47 | 37.32 | 11.30 |
| Number of children | 2.09 | 1.14 | 2.01 | 1.09 | 2.03 | 1.09 |
| Male Children[a] | 1.28 | .90 | 1.13 | .812 | 1.17 | .84 |
| Female Children[b] | 1.08 | .89 | 1.01 | .852 | 1.03 | .86 |

*Note*. Some participants who completed the first part of the study did not complete the second part, so the demographics for each sample are presented here separately.
[a] Three parents in the sample had male adopted children.
[b] Five parents in the sample had female adopted children.

## Results

Not all parents in the sample had children of both sexes. Although there was no specific hypothesis about whether the sex of the offspring affects parents' ratings, this is a possibility. As such, it was tested with a series of ANOVAs and chi-squares, which indicated that the ratings that parents have given are not affected by the sex of the children they have.

To assess whether parental preferences are contingent on the sex of the in-law, a series of paired-sample *t*-tests was conducted on each item of the two instruments and on the age items in part two of section two. To examine the importance that parents attach to the specific items, these items were ranked according to their means. Bonferroni correction for alpha inflation was applied by decreasing alpha from .05 to .003 (.05/18), two-tailed, in part one and from .05 to .003 (.05/16), two-tailed, in part two. Also in the sub-section of part two, alpha was reduced with the same method from .05 to .01 (.05/5), two-tailed.

Table 2

*Means and ranks of preferences concerning potential in-laws for the first part of the survey*

| | *Son-in-law* | | | *Daughter-in-law* | | |
|---|---|---|---|---|---|---|
| Rank | Characteristics | Mean | SD | Traits | Mean | SD |
| 1 | Emotional stability | 2.46 | .59 | Emotional stability | 2.38 | .55 |
| 2 | Dependable character* | 2.45 | .61 | Dependable character* | 2.37 | .62 |
| 3 | Good health | 2.03 | .65 | Good health | 2.06 | .66 |
| 4 | Pleasing disposition | 1.95 | .63 | Desire for home, children | 2.03 | .80 |
| 5 | Desire for home, children | 1.91 | .80 | Pleasing disposition | 1.98 | .60 |
| 6 | Ambition, industriousness* | 1.86 | .72 | Sociability | 1.76 | .68 |
| 7 | Education, intelligence* | 1.84 | .68 | Good cook, housekeeper* | 1.68 | .79 |
| 8 | Sociability | 1.83 | .61 | Education, intelligence* | 1.61 | .72 |
| 9 | Good financial prospect* | 1.59 | .69 | Ambition, industriousness* | 1.53 | .69 |
| 10 | Refinement* | 1.39 | .71 | Refinement* | 1.52 | .71 |
| 11 | Good cook, housekeeper* | 1.18 | .71 | Similar education background | 1.18 | .82 |
| 12 | Similar education background | 1.17 | .84 | Favorable social status | 1.17 | .78 |
| 13 | Wealth* | 1.12 | .68 | Good financial prospect* | 1.16 | .68 |
| 14 | Favorable social status | 1.10 | .75 | Good looks* | 1.05 | .73 |
| 15 | Similar religious background | 1.08 | 1.03 | Similar religious background | 1.00 | .99 |
| 16 | Good looks* | .90 | .68 | Wealth* | .92 | .67 |
| 17 | Similar political background | .71 | .79 | Chastity | .74 | .89 |
| 18 | Chastity | .59 | .85 | Similar political background | .66 | .77 |

* The rating of the trait differs significantly according to the sex of the in-law ($p<.003$).

*Parental preferences*

When selecting in-laws, parents prefer certain traits over others. For both in-laws, parents place keen emphasis on personality characteristics, such as dependable character (ranked 1st in Table 2), and kind and understanding (ranked 4th in Table 3). Similarly, strong emphasis is placed on being employed, which ranks 3rd for the son-in-law and 5th for the daughter-in-law (Table 3). Perception of compatibility of the in-laws with the parents also receives a high ranking (4th for the son-in-law and 3rd for the daughter-in-law in Table 3). Additionally, good health is strongly preferred in an in-law, ranking 3rd for both in-laws in Table 2 and 2nd in Table 3, again for both in-laws.

Traits associated with resource acquisition abilities, such as industry, intelligence, financial prospects, and good earning capacity rank near the middle of parental preferences. Physical attractiveness is among the least preferred characteristics in an in-law (ranks 16th for the male and 14th for the female in Table 2 and 12 for both in Table 3). Similarity in education, religion, and political background are at the bottom of parental preferences (Table 2). Likewise, being religious, and creative and artistic are traits that are not given much consideration by parents. Finally, being wealthy is ranked low in the hierarchy of parental preferences, 13th for the son-in-law and 16th for the daughter-in-law (Table 2).

*Sex differences between in-laws*

Parental preferences are contingent on the sex of the in-law (Table 4). More specifically, parental preferences for resource acquisition traits are stronger for a son-in-law than a daughter-in-law. This is the case in part one of the survey, in which parents place more emphasis on such traits of the son-in-law, like ambition and industry [$t(296) = 8.12$, $p<.001$ (two-tailed), $\eta_p^2 = .182$], education and intelligence [($t(296)=6.63$, $p<.001$ (two-tailed), $\eta_p^2=.130$)] and good financial prospects [($t(296)=10.79$, $p<.001$ (two-tailed), $\eta_p^2=.283$)]. This is corroborated in part two, in which significant differences were found in good earning capacity [($t(259)=11.35$, $p<.001$ (two-tailed), $\eta_p^2=.332$)], intelligence [($t(259)=3.42$, $p<.01$ (two-tailed), $\eta_p^2=.043$)], and college graduate [($t(259)=6.52$, $p<.001$ (two-tailed), $\eta_p^2=.141$)]. Consequently, in most of the traits correlated with resource acquisition capacity, the son-in-law receives a significantly higher rating than the daughter-in-law. Also, it seems that it is the potential to acquire resources rather than the resources *per se* that matters for the parents. In part one, although parents place more emphasis on the wealth of the son-in-law than that of the daughter-in-law [($t(296)=5.39$, $p<.001$ (two-tailed), $\eta_p^2=.090$)], wealth ranks low for both in-laws.

Furthermore, to be able to keep a household is valued more in a daughter-in-law than in a son-in-law. In part one, good cook and housekeeper is more important for the daughter-in-law than for the son-in-law [($t(296)=10.47$, $p<.001$ (two-tailed), $\eta_p^2=.270$)]. This is corroborated in the second part of the survey, in which good housekeeper is also rated as more important for the daughter-in-law than the son-in-law [($t(259)=7.58$, $p<.001$ (two-tailed), $\eta_p^2=.182$)]. Chastity is also valued more in females than males [($t(296)=4.19$, $p<.001$ (two-tailed), $\eta_p^2=.056$)], but ranks low in the preferences of the parents. In addition, in part one good looks matter more for females than males [($t(296=4.88$, $p<.001$ (two-tailed), $\eta_p^2=.075$)], but this is not corroborated in part two, because no significant difference was found for the physical attractiveness item.

Table 3
*Means and ranks of preferences concerning potential in-laws for the second part of the survey*

| | *Son-in-law* | | | *Daughter-in-law* | | |
|---|---|---|---|---|---|---|
| Rank | Characteristics | Mean | SD | Traits | Mean | SD |
| 1 | Kind and understanding | 1.60 | .60 | Kind and understanding | 1.58 | .59 |
| 2 | Healthy | 1.42 | .61 | Healthy | 1.43 | .58 |
| 3 | Have a job | 1.32 | .60 | Compatible with you as a parent-in-law | 1.30 | .78 |
| 4 | Compatible with you as a parent-in-law | 1.30 | .76 | Easygoing | 1.27 | .66 |
| 5 | Good earning capacity* | 1.30 | .65 | Have a job | 1.21 | .90 |
| 6 | Easygoing | 1.29 | .58 | Good family background | 1.19 | .91 |
| 7 | Intelligent* | 1.18 | .62 | Wants children | 1.08 | .75 |
| 8 | Good family background | 1.13 | .91 | Intelligent* | 1.06 | .59 |
| 9 | Wants children | 1.11 | .76 | Good housekeeper* | 1.05 | .66 |
| 10 | Exciting personality* | .89 | .55 | Exciting personality* | .80 | .58 |
| 11 | Good housekeeper* | .71 | .60 | Good earning capacity* | .74 | .61 |
| 12 | Physically attractive | .70 | .62 | Physically attractive | .67 | .62 |
| 13 | College/University graduate* | .67 | .74 | Good heredity | .54 | .69 |
| 14 | Good heredity | .64 | .67 | Creative and artistic | .51 | .64 |
| 15 | Creative and artistic | .56 | .61 | College/University graduate* | .40 | .62 |
| 16 | Religious | .11 | .79 | Religious | .05 | .79 |

* The rating of the trait differs significantly according to the sex of the in-law ($p < .003$).

Parents also have different age preferences when they are selecting a son-in-law than when they are selecting a daughter-in-law (Marginal Homogeneity = 89, $p < .001$). When selecting a son-in-law, 17.7% of the parents prefer someone who is older than their daughter, 28.1% of the same age as their daughter, and 54.2% indicated no specific preference. There was not a single case of parents preferring a son-in-law who is younger than their daughter. On the other hand, when selecting a daughter-in-law, 15.8% of the parents indicated a preference for a younger female than their son, 29.2% for one of the same age, 54.6% indicated no preference, and there was just one case in which an older daughter-in-law was preferred. Also, parents prefer their daughters to get married at an earlier age than their sons [$t(259) = 6.75$, $p<.001$ (two-tailed), $\eta_p^2 = .150$].

Table 4
*A summary of traits that are rated differently according to the sex of the in-law*

| Characteristics Part one | *Differences* | | | Characteristics Part two | *Differences* | | |
|---|---|---|---|---|---|---|---|
| | *t*(296) | *p* | $\eta_p^2$ [a] | | *t*(296) | *p* | $\eta_p^2$ [a] |
| Dependable character | 3.00 | .003 | .030 | Good earning capacity | 11.35 | .000 | .332 |
| Ambition, industriousness | 8.12 | .000 | .182 | Intelligent | 3.42 | .001 | .043 |
| Education, intelligence | 6.63 | .000 | .130 | Good housekeeper | -7.58 | .000 | .182 |
| Good financial prospect | 10.79 | .000 | .283 | College/University graduate | 6.52 | .000 | .141 |
| Refinement | -3.29 | .001 | .035 | Exciting personality | 3.52 | .000 | .046 |
| Good cook, housekeeper | -10.47 | .000 | .270 | Good heredity | 3.03 | .003 | .034 |
| Wealth | 5.39 | .000 | .090 | | | | |
| Good looks | -4.88 | .000 | .075 | | | | |
| Chastity | -4.19 | .000 | .056 | | | | |

[a] The effect size is indicated here by the partial eta-squared, which is the proportion of total variance attributable to the within-subjects factor.

*Parents want the same*

To test whether male and female parents differ in their in-law preferences, a series of 2x2 mixed ANOVAs was conducted with the sex of the in-law as a within-subjects factor and the sex of the parent as a between-subjects factor on each item of the two instruments in each study. In section two of part two, an independent samples *t*-test was conducted on the number of grandchildren desired. Also, a 2x2 mixed design ANOVA was conducted, with the preferred age of the offspring as the within-subjects factor and the sex of the parent as the between-subjects factor. Finally, a chi-square analysis was conducted to investigate the association between the sex of the parent and the age of son-in-law and the sex of the parent and the age of daughter-in-law, respectively. A Kolmogorov-Smirnov test was conducted on the difference in the ratings of the two in-laws and the sex of the parent. As before, Bonferroni correction for alpha inflation was applied.

In all the tests that were conducted, the sex of the parent did not achieve statistical significance, with the only exception of the good looks item in part one of the survey, in which there was a significant interaction between the sex of the in-law and the sex of the parents [($F(1,295)=10.58$, $p=.001$, $\eta_p^2=.035$)]. Nevertheless, this was not corroborated in part two, in which no such interaction was found for the physically attractive item. It can be concluded that male and female parents do not differ in their in-law preferences.

## Discussion

In summary, parents have stronger preferences for certain characteristics in an in-law and these preferences are contingent upon the sex of the in-law. Also, male and female parents are in agreement on what they are looking for in an in-law.

A possible criticism is that preferences measured here may simply reflect individual mating preferences rather than parental in-law preferences. Similarly, of course, it can be argued that given the indication of strong parental control over mating in our

evolutionary past, there was no pressure for mate preferences to evolve. So what was measured in previous studies on individual mate preferences was in-law preferences. From the present data, it is evident that in-law and individual mate preferences are distinct. More specifically, it is known from previous research that males and females differ significantly in their mate preferences (Buss, 2003). For example, females value earning capacity in a mating partner more than males. If in-law preferences were simply individual mating preferences, we would expect that male parents would rate earning capacity in a daughter-in-law less than female parents would in a son-in-law. In other words, we would expect significant interactions to exist between the sex of the parent and the sex of the in-law in at least six items (physical attractive, college/university graduate, good earning capacity, good looks, good financial prospects, ambition and industriousness), and up to 11 items, as indicated by previous research (Buss, 2003; Buss and Barnes, 1986; Buss et al., 2001). With the exception of good looks in the first instrument, such significant interactions were not found. It has to be then that the in-law preferences measured here are not simply individual mate preferences.

The results presented here are consistent with an evolutionary framework, but alternative explanations based, for example, on social learning, cannot be excluded at this stage, at least not before cross-cultural research has been conducted. More specifically, as this study is confined to only one culture, the specific cultural contributions in parental preferences cannot be controlled. Nevertheless, parental preferences have mainly been optimized by natural selection during the EEA and as such are likely be roughly consistent across cultures. This prediction awaits further research, but current evidence is consistent with this prediction. Specifically, parental in-law preferences in the UK are similar to those among modern hunter and gatherer societies. In hunter and gatherer societies, parents have specific preferences when they are selecting in-laws. Resource acquisition properties are important for both in-laws, but more emphasis is placed on those of the son-in-law. When parents are selecting a son-in-law, they are looking for a good hunter who is industrious and has a good family background. When they are selecting a daughter-in-law, parents are looking for an industrious individual from a good family. Parents prefer younger daughters-in-law and older sons-in-law. Physical attractiveness is less important as a selection criterion for the parents. Finally, although male parents are reported to have more decision making power than their wives, when it comes to marriage arrangements, both are in agreement on their selection criteria (Apostolou, 2006).

Parents may control whom their offspring will marry, but their offspring often have control over how long the marriage will last. Among hunters and gatherers, divorce, which applies to both males and females, is almost as universal as marriage (Apostolou, 2006). Betzig (1989) found that, across cultures, the third most frequent cause of divorce is cruelty and maltreatment, and bad temper is also frequently reported as a reason for divorce. There is no point to arrange a marriage that will be dissolved soon after it takes place. Thus, parents should prefer in-laws with personality characteristics that will increase the probability of a successful and lasting marriage. A marriage with a kind and understanding individual, who is emotionally stable and has a dependable character, will be more successful than a marriage with an individual who does not share these characteristics. Furthermore, love and attraction between partners is likely to decrease the probability of divorce. But parents cannot select an in-law based on such properties. What they can do instead is to select someone with such traits that will make feelings of love and

attraction more likely to develop between their offspring and the in-law. This is another possible reason why traits like kind and understanding, dependable character and emotionally stable are strongly preferred by parents in an in-law.

Although food is surprisingly abundant in many foraging societies (i.e. the !Kung: Lee, 1979), its supply is not as predictable as in non-foraging societies and hunters and gatherers often live in feast-or-famine conditions (i.e. the Cheyennes: Hoebel, 1960, p.67). Although ancestral hunters and gatherers may have lived in more food rich areas (Shostak, 1990), archaeological evidence indicates that they also faced frequent periods of food shortage (Yesner, 1994). An in-law that is good at providing food to his family and his in-laws is a valuable resource for the parents. Also, because personality characteristics, such as dependable character, are good indicators that resources will be provided consistently over time (Buss, 2003, p. 32), this may be another reason why such traits are strongly preferred by parents.

Moreover, parents may have an interest in forming an alliance between their family and a genetically unrelated family if such an alliance can be beneficial to them and their kin (Trivers, 1974). Marriage is an alliance between families. By selecting an in-law who comes from a good family background, parents will form new alliances or strengthen existing alliances between their kin and this family, which can provide a valuable source of support. Furthermore, the families of the in-laws will provide their offspring with support and resources, which in turn they could divert to their parents-in-law.

The health of a potential in-law is also a concern to parents, because it correlates with a number of important variables such as hunting or gathering productivity. An unhealthy individual is unlikely to be productive in subsistence activities which are physically demanding. Additionally, health correlates with life expectancy. It would not generally make sense for the parents to arrange a marriage with somebody who is likely to die soon. Finally, good health correlates with the fecundity of the in-law, which is also of substantial interest to the parents.

Parents desire grandchildren because grandchildren will transfer their genetic material to the future generations. When they were explicitly asked how many grandchildren they desire, they responded an average of 3.91 ($SD$ = 2.12). It follows that parents place emphasis on acquiring in-laws that are able and willing to have children. Moreover, age is an important factor that will affect fertility, especially in females who have a shorter reproductive period than males. Among 10 hunting and gathering societies, the average age of women at last birth was approximately 35 years (Kelly, 1995). Thus, parents look for daughters-in-law who are younger than their sons, because the latter have more reproductive years ahead of them.

Other traits, like chastity, beauty, and good heredity, may contribute less to the parents' inclusive fitness and that may be why they are less strongly preferred by them. Beauty, for example, although an indicator of genetic quality (Thornhill and Gangestad, 1993), does not rank high in parental preferences. If parents choose a physically attractive son-in-law, this will benefit approximately 25% of their genes that they share with their daughter. But, if they choose a son-in-law with high resource acquisition capacity, they can use the resources he provides to benefit a much larger number of their genes which they share with their kin, including their daughter. Ideally, then, parents might prefer an able and hard working man who is also physically attractive. But if they had to compromise between these two traits, they would compromise on beauty. For such a compromise to

take place, they should evolve weaker preferences for beauty than resource acquisition capacity in an in-law.

This argument also suggests that beauty can be an area of conflict between parents and offspring. The offspring will share with its partner 50% of its genes, which are only 25% of the genes of its parents; consequently, the offspring might value beauty in a partner more than its parents. Consistent with this, comparing the results from part one of this study with the Buss et al. (1990) study on mate preferences (to make the rankings comparable, the wealth item was dropped from this study and the mutual attraction love item was dropped from Buss et al. study, and the items were re-ranked), we find that males as well as females rank good looks higher ($9^{th}$ and $12^{th}$, respectively) than their parents ($14^{th}$).

To conclude, despite the bulk of anthropological data indicating that parents dominate the mating choices of their offspring, the evolution of parental behavior with relation to the manipulation of the mating of the offspring has received little empirical attention from evolutionary theorists. A possible reason for this is that most of the research on mating is conducted in the western world, where parents may have a lesser role in the mating decisions of their offspring. The current model of parental choice may provide a useful framework for understanding the evolution of human mating psychology and behavior. Parental preferences are an important component of this selection mechanism and this research is one of the first attempts to empirically investigate these preferences.

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