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## Meet the parents: Parent-offspring convergence and divergence in mate preferences

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### ABSTRACT

The current study provides the first evolutionarily-informed direct comparison of actual parents' and offspring's mate preferences. We compared students' ( $N = 300$ ) average rankings of 13 traits for desirability in an ideal mate with their parents' ( $N = 238$ ) rankings of the same traits for their offspring's ideal mate. Parents ranked religion higher than offspring, whereas offspring ranked physical attractiveness higher than parents. Parents preferred earning capacity and college graduate more in daughters' mates than sons' mates. In the offspring sample, significant sex differences replicated those previously documented (e.g., attractiveness, resource acquisition). Parent-offspring differences may reflect evolved psychological mechanisms in parents that functioned to increase inclusive fitness by influencing offspring's mate choice.

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### 1. Introduction

Much is known about human mate preferences: how they vary by sex (Buss, 1989; Buss & Barnes, 1986; Kenrick, Sadalla, Groth, & Trost, 1990; Wiederman, 1993), how some are considered necessities and others luxuries (Li, Bailey, Kenrick, & Linsenmeier, 2002), how they change based on individual differences and context (Buss & Schmitt, 1993; Gangestad, Thornhill, & Garver, 2002; Kenrick, Neuberg, Zierk, & Krones, 1994; Li & Kenrick, 2006), how they show temporal stability over time (Shackelford, Schmitt, & Buss, 2005), and how some remain consistent over generations (Hill, 1945; Hudson & Henze, 1969) while others have changed (Buss, Shackelford, Kirkpatrick, & Larsen, 2001). However, there are other individuals whose fitness historically was affected by the mate choices of genetic relatives, such as parents, about whose preferences less is known. The current study explored this context using the first direct comparison of parent and offspring preferences from an evolutionary perspective.

The theory behind parent-offspring conflict over mate preferences has been explained in detail elsewhere (e.g., Apostolou, 2007a; Buunk, Park, & Dubbs, 2008), so we summarize it only briefly. Parents and offspring are genetically related by 50%. Consequently, parents can increase their inclusive fitness by improving the fitness of their offspring (Hamilton, 1964), possibly through influencing their mate selection. Given this partial commonality

in genetic interests, parents and offspring are predicted to agree on some of the traits in a desirable mate. This overlap is not complete, however, and parent and offspring diverge when their adaptive goals differ, leading to conflict (Trivers, 1974). Individuals, for example, can obtain different benefits from a mate than their parents can obtain from a son-in-law or daughter-in-law. An individual will share more genetic overlap with his or her own children (50%) than will that person's parents (25%). Therefore, parents and their offspring might all prefer the offspring to choose a mate with good genes indicators, but the offspring will reap the greatest genetic benefit from good genes traits because he or she will share 50% of genes with their own children, whereas the parents will only share 25% with those same children (their grandchildren). Most traits show moderate heritability (Plomin, DeFries, McClearn, & McGuffin, 2008), so this prioritization would apply to traits that provide genetic benefits (Gangestad, Thornhill, & Yeo, 1994; Thornhill & Gangestad, 1993). The benefits provided by the offspring's mate may also differ by sex. For example, a son-in-law may have been able to increase the parents' status by providing direct resources in a way that daughters-in-law could not (e.g., by providing meat through hunting).

Individuals and their parents should both prefer mates and in-laws who possess the best of all possible traits. Trade-offs, however, must be made when choosing an actual mate (Li et al., 2002), and the way in which parents and offspring make these trade-offs should differ for traits in which parent and offspring cost-benefit ratios diverge. Selection would have favored parental preferences that increased their inclusive fitness by controlling their offspring's mating behavior, particularly because parents are in a unique position to exert influence (Apostolou, 2007a, 2007b; Perilloux, Fleischman, & Buss, 2008).

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Many pre-industrial societies, taken as an imperfect proxy for ancestral conditions, exhibit parental control over offspring's long-term mate choice; sometimes offspring's desires are overridden entirely (e.g., Apostolou, 2007a, 2007b; Hart & Pilling, 1960), although individuals do tend to choose their own lovers (Beckerman, 2000; Okonjo, 1992). Reviews of the ethnographic literature reveal that parents play a large role in their offspring's mate choice (Broude & Greene, 1983; Minturn, Grosse, & Haider, 1969), particularly in the case of daughters (Apostolou, 2007a). If pre-industrial cultures can be taken as a proxy for ancestral conditions, parents would have been recurrently influential in offspring's mating decisions throughout human evolutionary history. Contemporary urban environments reveal similar patterns of parental involvement in the mating lives of offspring, with American parents reporting that they attempt to influence their offspring's mate choice by providing opportunities for their offspring to meet the type of mate preferred by the parents and persuading or punishing if the offspring chooses a mate deemed undesirable by the parents (Sussman, 1953).

The extant literature reveals processes by which parents invoke control over their offspring's mate choices and mating behavior, but only a handful of studies have thus far examined the content of parental preferences for in-laws (Apostolou, 2007b, 2008a, 2008b; Baber, 1936; Buunk et al., 2008; Hynie, Lalonde, & Lee, 2006). Apostolou has recently published several studies interpreting, from an evolutionary perspective, differences between preferences for one's own mate and preferences for in-laws. In each of these studies, parents rated several traits on desirability in an ideal in-law and in their own ideal mate. Mothers and fathers generally agreed on in-law preferences; they preferred attractiveness and positive personality characteristics significantly more in a spouse than an in-law, and preferred a good family background and other resource acquisition traits in an in-law more than a spouse. But within in-laws, attractiveness was preferred more in a daughter-in-law, while resource acquisition traits were preferred more in a son-in-law (Apostolou, 2007b, 2008a, 2008b). These studies compared parental preferences for offspring's mates to the parents' preferences for their own mates. In contrast, the current study compared parents' preferences for their offspring's mates with the preferences expressed by their actual offspring.

Another recent evolutionary analysis approached this phenomenon from the offspring's perspective (Buunk et al., 2008). Students from three countries rated how unacceptable various undesirable mate traits would be to themselves or their parents. As hypothesized, students ranked heritable traits (e.g., attractiveness, exciting personality) as more important to them than to their parents, while they ranked traits indicative of parental investment and harmonious group relations (e.g., shared religion, shared ethnicity) as being more important to their parents. This study provided preliminary evidence of the universality of these differences, but only collected data from one half (offspring) of the parent-offspring dyad.

Other than the current study, only two other investigations have surveyed both individuals and their parents, though neither incorporated an a priori evolutionary perspective. Over seventy years ago, Baber (1936) documented that parents preferred traditional traits such as religion, morality, respectable family, and health more than their offspring. A more recent study directly compared parental mate preferences to those of their offspring and replicated the effect that parents preferred more traditional traits than offspring in a sample of Chinese-American and Chinese-Canadian students (Hynie et al., 2006). The findings of these direct comparisons, combined with recent studies based on evolutionary principles, have begun to dissect parent-offspring conflict over mate preferences. The current research adds to this literature by providing a *direct* comparison between a sample of college stu-

dents and their parents. Students ranked traits in an ideal mate, while the students' parents ranked the same set of traits for their offspring's mate. This study attempted to replicate the effects documented by past studies in addition to exploring results made possible by this unique sample.

## 2. Method

### 2.1. Participants

Students from psychology courses at a large university in the southern United States, 100 men and 217 women, participated in this study in exchange for extra credit. The mean age of the student participants was 22.24 years ( $SD = 5.38$ ). Ethnically, 59% of the participants were Caucasian, 17% were Hispanic, 11% East Asian, 5% South Asian, 4% African-American, 2% Middle Eastern, and 2% chose "other ethnicity." Their mean family income was "Middle class" on a 7-point Likert scale ranging from "Poor" to "Wealthy" ( $M = 4.19$ ,  $SD = 1.04$ ). Participants self-identifying as bisexual (9 women) or homosexual (4 men and 4 women) were removed from the sample prior to data analysis because there were too few bisexual and homosexual individuals to test group differences. This left the student sample with 300 participants.

Approximately half of the students (40% of men, 52% of women) had at least one parent who completed the parent survey, and 30% of the students had both parents complete the survey. After removing parents (3 mothers and 4 fathers) of bisexual and homosexual students, the parent sample consisted of 117 fathers and 121 mothers ranging in age from 36 to 66 ( $M = 51.66$ ,  $SD = 4.92$ ). The parents were 57% Caucasian, 19% Hispanic, 11% East Asian, 6% South Asian, 3% African-American, 2% Middle Eastern, and 2% chose "Other ethnicity." On the same Likert scale as the student sample, the parents rated themselves as approximately "Middle class" ( $M = 4.54$ ,  $SD = 1.04$ ).

### 2.2. Materials

As part of another study of parental influence over offspring's social and romantic behaviors, we included an instrument to assess the relative importance of traits of an ideal long-term mate. This list of traits comes from Buss and Barnes (1986) Study 2 (1986) and is comprised of the following: "kind and understanding," "religious," "exciting personality," "creative and artistic," "good housekeeper," "intelligent," "good earning capacity," "wants children," "easygoing," "good heredity," "college graduate," "physically attractive," and "healthy." Students ranked these traits in order of how desirable the trait would be in a potential long-term mate or marriage partner, using each rank only once. Parents ranked the traits in order of how desirable they would find that trait in *their offspring's* long-term mate or marriage partner, using each rank only once.

### 2.3. Procedure

Student participants learned about the study during their psychology course and were given a web address to access the survey online. The website first provided an informed consent document, followed by the short survey. After completing the survey, students could choose whether to provide us with their parents' email addresses and could preview the questions we were going to ask their parents. If the students chose to solicit their parents' participation, parents received an email with a web address for the parent survey. Parents and students were not able to read one another's responses.

### 3. Results

All ranks were reverse-scored for ease of interpretation, such that higher numbers indicate greater importance of the trait. Table 1 presents the average rank assigned to each trait by sons, daughters, fathers, and mothers for an overall picture of preferences. The top three traits for every group included intelligent and kind and understanding, while good housekeeper was generally ranked lowest. There was much agreement between the groups in terms of the general order of rankings (all  $r_s \geq .59$ ), with several important exceptions.

We first looked at results within samples: comparing sons to daughters, mothers to fathers, and parents of sons to parents of daughters. Then we analyzed differences between the sample of students and the sample of parents: comparing parents to offspring, parents to sons, and parents to daughters. These comparisons were conducted using *t*-tests, but non-parametric Mann-Whitney and Wilcoxon tests revealed the same patterns (analyses available from the first author upon request). A more conservative two-tailed  $\alpha = .01$  was used as each analysis was conducted for all traits.

#### 3.1. Sons and daughters

Sons and daughters differed in the relative importance of traits in their ideal mate. Of the 13 traits, 8 were significantly different between sons and daughters based on independent groups *t*-tests at the  $p < .01$  level (see Table 2). Sons ranked attractiveness, good housekeeper, easygoing, creative and artistic, and healthy significantly higher than daughters. Daughters ranked good earning capacity, college graduate, and kind and understanding higher than sons.

#### 3.2. Fathers and mothers

Paired samples *t*-tests revealed only one significant difference between parents: mothers ranked wants children higher ( $M = 6.26$ ,  $SD = 2.85$ ) than fathers ( $M = 5.01$ ,  $SD = 2.66$ ),  $t(93) = 3.41$ ,  $p = .001$ . There was also a trend for fathers ( $M = 5.12$ ,  $SD = 3.21$ ) to rank creative somewhat higher than mothers ( $M = 4.43$ ,  $SD = 2.80$ ),  $t(93) = 1.97$ ,  $p = .05$ . The full set of results comparing mothers and fathers is available from the first author upon request, all other  $t_s < 2.00$ .

#### 3.3. Parents of sons and parents of daughters

The rankings of parents of daughters should differ from the rankings of parents of sons if parents obtain different benefits from sons-in-law than daughters-in-law. To address this comparison,

**Table 2**

Mean trait rankings of sons and daughters.

Trait	Sons ( <i>SD</i> )	Daughters ( <i>SD</i> )	<i>t</i> (292)
Kind	10.01 (2.66)	11.57 (2.03)	5.55***
Religious	3.48 (3.85)	3.93 (3.92)	0.93
Personality	8.88 (2.95)	8.97 (3.11)	0.21
Creative	5.66 (2.83)	4.64 (2.97)	2.80**
Housekeeper	3.98 (2.54)	2.81 (1.96)	4.33***
Intelligent	10.39 (2.49)	10.40 (2.31)	0.01
Earning capacity	4.26 (2.50)	7.42 (2.99)	8.88***
Wants kids	5.65 (3.04)	6.09 (3.37)	1.08
Easygoing	8.63 (2.42)	7.59 (2.86)	3.06**
Heredity	5.16 (2.49)	4.58 (2.34)	1.96*
College graduate	5.46 (2.80)	6.99 (3.04)	4.13***
Attractive	10.66 (2.81)	8.08 (2.72)	7.51***
Healthy	8.79 (2.59)	7.97 (2.56)	2.54**

\*  $p \leq .05$ .

\*\*  $p \leq .01$ .

\*\*\*  $p \leq .001$ .

we averaged each offspring's parents together to get a mean parent ranking for each trait for that offspring. Several traits were ranked significantly differently by parents of sons than parents of daughters; the results of these *t*-tests are presented in Table 3. Parents of sons ranked physically attractive higher than parents of daughters. Parents of daughters, in turn, ranked good earning capacity higher than parents of sons, and there was a trend in the same direction for college graduate ( $p = .03$ ).

#### 3.4. Parents and offspring

We then compared parents' average rankings to offspring's average rankings to determine whether parents differ in trait rankings from offspring. Paired-sample *t*-tests revealed multiple significant differences, as shown in Table 4. Offspring ranked physically attractive and exciting personality significantly higher than their parents. Parents ranked religious, good housekeeper, healthy and kind and understanding higher than offspring. Fig. 1 provides a graphical display of the magnitudes of these differences between parent and offspring rankings.

#### 3.5. Parents and offspring – by offspring's sex

To evaluate more specific relationships, we compared parents to their sons and parents to their daughters, as shown in Table 5. Compared to their parents, sons preferred physically attractive more, while their parents preferred religious, kind and understanding, and good earning capacity more than sons. Sons showed a trend for preferring exciting personality more than parents ( $p = .05$ ). Compared to their parents, daughters preferred physically

**Table 1**

Overall rankings of mate traits.

Sons ( <i>Mean</i> )	Daughters ( <i>Mean</i> )	Fathers ( <i>Mean</i> )	Mothers ( <i>Mean</i> )
Attractive (10.70)	Kind (11.57)	Kind (11.50)	Kind (11.62)
Intelligent (10.40)	Intelligent (10.40)	Intelligent (10.56)	Intelligent (10.36)
Kind (10.00)	Exciting personality (8.97)	Healthy (9.22)	Healthy (9.00)
Exciting personality (8.88)	Attractive (8.08)	Earning capacity (7.43)	Easygoing (7.79)
Health (8.79)	Healthy (7.97)	Easygoing (7.29)	College graduate (7.29)
Easygoing (8.63)	Easygoing (7.59)	College graduate (6.85)	Earning capacity (7.28)
Creative (5.66)	Earning capacity (7.42)	Exciting personality (6.75)	Religious (6.64)
Wants kids (5.94)	College graduate (6.99)	Religious (6.52)	Wants kids (6.40)
College graduate (5.46)	Wants kids (6.09)	Attractive (5.91)	Exciting personality (6.07)
Heredity (5.16)	Creative (4.64)	Heredity (5.31)	Attractive (5.66)
Earning capacity (4.25)	Heredity (4.58)	Wants kids (5.09)	Heredity (5.24)
Housekeeper (3.98)	Religious (3.93)	Creative (4.99)	Creative (4.37)
Religious (3.48)	Housekeeper (2.81)	Housekeeper (3.58)	Housekeeper (3.27)

**Table 3**  
Mean trait rankings among parents based on their offspring's sex.

Trait	Parents of sons (SD)	Parents of daughters (SD)	t(142)
Kind	11.42 (1.94)	11.65 (2.07)	0.60
Religious	5.63 (4.19)	6.92 (4.08)	1.65
Personality	7.21 (3.27)	6.11 (2.85)	1.96*
Creative	4.63 (2.31)	4.61 (2.54)	0.05
Housekeeper	3.88 (2.79)	3.22 (2.21)	1.47
Intelligent	10.62 (1.82)	10.32 (1.79)	0.87
Earning capacity	5.38 (2.39)	8.16 (2.54)	5.89***
Wants kids	5.99 (2.57)	5.78 (2.42)	0.44
Easygoing	8.34 (2.88)	7.29 (2.69)	2.02*
Heredity	5.04 (2.68)	5.32 (2.69)	0.54
College graduate	6.33 (2.20)	7.40 (2.72)	2.18*
Attractive	7.04 (2.89)	5.34 (2.79)	3.19**
Healthy	9.49 (1.97)	8.88 (2.28)	1.45

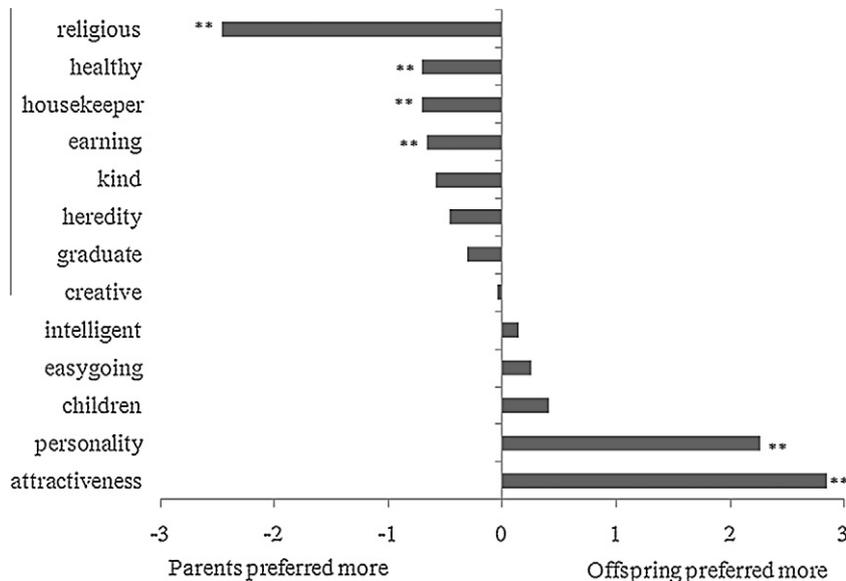
\*  $p \leq .05$ .  
\*\*  $p \leq .01$ .  
\*\*\*  $p \leq .001$ .

**Table 4**  
Mean trait rankings of parents and offspring.

Trait	Parents (SD)	Offspring (SD)	t(143)
Kind	11.59 (2.04)	11.01 (2.28)	2.52**
Religious	6.58 (4.13)	4.11 (4.00)	7.42***
Personality	6.40 (2.99)	8.67 (3.14)	6.44***
Creative	4.61 (2.47)	4.58 (2.87)	0.13
Housekeeper	3.40 (2.38)	2.69 (1.91)	3.29***
Intelligent	10.40 (1.80)	10.54 (2.38)	0.59
Earning capacity	7.43 (2.78)	6.77 (3.35)	2.31*
Wants kids	5.84 (2.45)	6.24 (3.31)	1.30
Easygoing	7.57 (2.77)	7.83 (2.81)	0.85
Heredity	5.24 (2.68)	4.78 (2.29)	1.67
College graduate	7.11 (2.63)	6.81 (3.03)	1.02
Attractive	5.79 (2.91)	8.64 (3.05)	9.50***
Healthy	9.04 (2.21)	8.34 (2.31)	3.04**

\*  $p \leq .05$ .  
\*\*  $p \leq .01$ .  
\*\*\*  $p \leq .001$ .

attractive and exciting personality more, while their parents preferred religious, good housekeeper, and healthy more than daughters. There was a trend for parents to prefer good heredity more



**Fig. 1.** Differences between offspring's mean trait rankings and their parents' mean trait rankings. NOTE: Values greater than 0 indicate offspring preferred the trait more; values less than 0 indicate parents preferred the trait more. \*\* $p < .001$ .

**Table 5**  
Mean differences in trait rankings between parents and their sons or daughters.

Trait	Sons (SD)	t(37)	Daughters (SD)	t(105)
Kind	-1.71 (2.86)	3.69***	-0.18 (2.64)	0.70
Religious	-2.32 (3.46)	4.12***	-2.52 (4.17)	6.22***
Personality	1.42 (4.34)	2.02*	2.57 (4.16)	6.35***
Creative	0.89 (3.17)	1.74	-0.37 (3.61)	1.06
Housekeeper	-0.33 (2.73)	0.74	-0.83 (2.49)	3.45***
Intelligent	0.25 (2.84)	0.54	0.10 (2.94)	0.36
Earning capacity	-1.70 (2.87)	3.65***	-0.29 (3.55)	0.83
Wants kids	-0.41 (3.19)	0.79	0.70 (3.91)	1.84
Easygoing	0.74 (3.40)	1.33	0.08 (3.69)	0.24
Heredity	0.38 (2.91)	0.81	-0.77 (3.45)	2.29*
College graduate	-0.67 (3.48)	1.19	-0.18 (3.71)	0.50
Attractive	3.99 (3.04)	8.09***	2.44 (3.71)	6.77***
Healthy	-0.54 (2.59)	1.28	-0.76 (2.84)	2.75**

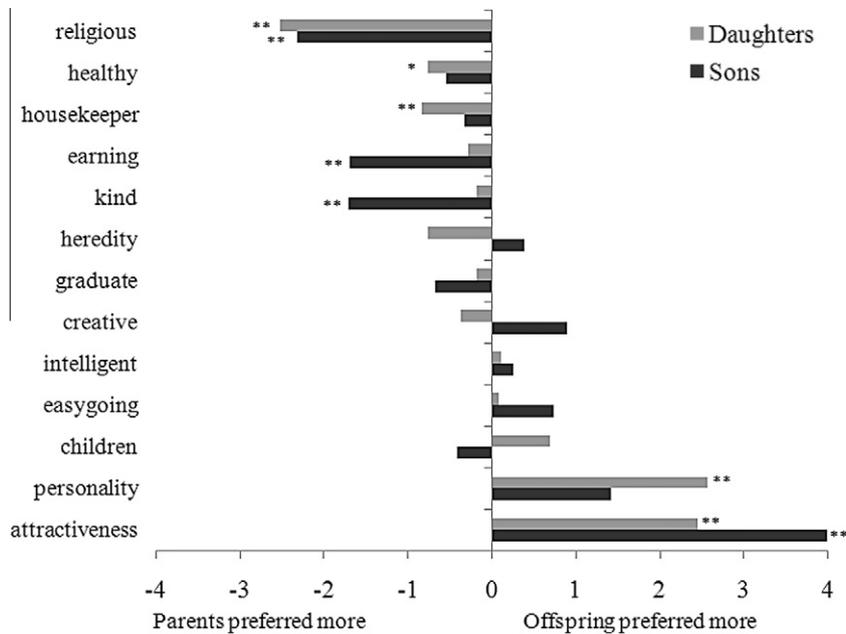
\*  $p \leq .05$ .  
\*\*  $p \leq .01$ .  
\*\*\*  $p \leq .001$ .

than daughters ( $p = .024$ ). Fig. 2 provides a graphical display of the magnitude of the mean differences between parents and their offspring.

**4. Discussion**

Based on these findings, some traits are preferred by parents or offspring overall while others are further differentiated by offspring sex. Regardless of offspring sex, parents prefer religious more than offspring, and offspring prefer physically attractive and exciting personality more than parents. Offspring sex determines parent-offspring disagreement for the remainder of the differences (sons: kind and understanding, good earning capacity; daughters: good housekeeper, healthy). The main differences predicted and documented by past research were replicated in our sample—parents preferred religious more than their offspring, while offspring preferred attractiveness and exciting personality more than parents (Apostolou, 2007b, 2008a, 2008b; Buunk et al., 2008).

As expected, mothers and fathers generally agreed about the traits they prefer in their in-laws (Apostolou, 2007b, 2008a,



**Fig. 2.** Differences between sons' and daughters' mean trait rankings and their parents' mean trait rankings. NOTE: Values greater than 0 indicate offspring preferred the trait more; values less than 0 indicate parents preferred the trait more. \* $p < .01$ ; \*\* $p < .001$ .

2008b, in press). While they agreed with one another, parents had distinct preferences based on the sex of their offspring: placing good earning capacity nearly three ranks higher for sons-in-law and physically attractive nearly two ranks higher for daughters-in-law, replicating past research (Apostolou, 2007b, 2008a, 2008b; Baber, 1936; Buunk et al., 2008; Hynie et al., 2006). Parents consistently ranked religious significantly higher than offspring, regardless of sex. Given the strength of this relationship, a difference of nearly 2.5 ranks between parents and offspring, as dramatically illustrated in Fig. 1, religion represents an important area of potential parent-offspring conflict over mate choice. Parents appear to prefer mates that are similar to themselves in values and coalition membership, supporting the hypothesis that in-laws may serve the purpose of extending parents' cooperative alliances and enhancing status (Hynie et al., 2006).

Perhaps surprisingly, traits indicative of genetic fitness such as health and good heredity, were not favored more by offspring than parents. Health may be a more salient adaptive problem for parents because health concerns generally increase over the lifespan. In-law health has been shown to be more important to parents than offspring in one other investigation (Baber, 1936), while showing no difference in others (Apostolou, 2008a, 2008b; Buunk et al., 2008). Future studies should also consider adding the good family background variable which parents have been shown to prioritize in their in-laws more than in their own mates (Apostolou, 2008a).

Unlike most previous studies of mate preferences which typically find sex differences mostly in resource holding potential and physical attractiveness (Buss, 2011), we documented a multitude of sex differences between the male and female students' trait rankings. Beginning with the similarities, sons and daughters ranked intelligent and exciting personality high, wants children and good heredity moderately low, and religious very low. We replicated the sex differences found by past studies of mate preferences, with men desiring physical attractiveness in a mate more than women, and women desiring a mate with good earning capacity and a college degree more than men (Buss, 1989). In addition, several other significant sex differences emerged. Daughters preferred a mate who was more kind and understanding than sons:

daughters ranked it at the top of their list while sons ranked it third. Sons, on the other hand, ranked creative and artistic, easygoing, healthy, and good housekeeper significantly higher than daughters.

#### 4.1. Limitations and future directions

One limitation is the inherent generational effect on values because parents are older than their offspring. People tend to endorse more traditional and religious values as they age (e.g., Le Gall, Mullet, & Shafiqhi, 2002) and previous generations hold more traditional values than the current generation (Crockett & Voas, 2006). These age and generational effects might explain some of the parent-offspring differences in this study, particularly parents' greater endorsement of the religious trait. Previous studies, however, have documented similar discrepancies between preferences for one's own mate and preferences for one's in-law, indicating that age differences cannot completely explain these effects (Apostolou, 2008a, 2008b). Another limitation was that the sample may have been biased toward parent-offspring dyads that were more emotionally close than average, based on their willingness to participate.

The results of the current study cannot speak to the universality of the expressed mate preferences that parents hold for the potential mates of their offspring. Other studies indicate universality of certain parental preferences, and have documented predictable context-dependent differences based on subsistence type (Apostolou, in press). Future studies could further investigate differences based on context. For example, given that the importance of physical attractiveness differs across cultures based on parasite prevalence (Gangestad & Buss, 1993; Gangestad, Haselton, & Buss, 2006), future studies could investigate whether parents and offspring agree on the high desirability of attractiveness in high parasite load environments while diverging on this preference in low parasite load populations such as the current sample.

Future studies could also move beyond the parent-offspring dyad to broader studies which focus on kin's interest, or even coalition members' interest, in an individual's mate choice. The parent-offspring dyad is an important one, but other kin also have

vested genetic interest in the individual's mate choice and show vigilance (Faulkner & Schaller, 2007). But even kin are not the only ones with an interest in an individual's mate choice; friends and coalition members may also represent important components of the mate choice process; their support predicts positive feelings toward, and length of, romantic relationships (Sprecher & Felmlee, 1992). The effects of an individual's mate choice may have broader consequences than currently recognized.

#### 4.2. Conclusions and implications

The current study addressed limitations of previous research into parent-offspring conflict over mate choice by utilizing an evolutionary perspective to analyze a novel sample type: parents and their offspring. The results replicated those of previous studies and also prompted several interesting future directions. Offspring preferred physical attractiveness more than parents who preferred religiosity. Parents preferred earning capacity and college graduate more in sons-in-law than in daughters-in-law. Parents, therefore, do possess different preferences for their offspring's ideal mate than their offspring do. Parents also possess distinct preferences based on in-law sex, as predicted by an evolutionary perspective. A key implication is that the different problems faced by offspring and parents over evolutionary history may have shaped somewhat different, and hence conflicting, mate preferences. As such, this work contributes to a growing body of empirical work that supports the broad formulation of parent-offspring conflict theory.

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#### References

- Apostolou, M. (2007a). Sexual selection under parental choice: The role of parents in the evolution of human mating. *Evolution and Human Behavior*, 28, 403–409.
- Apostolou, M. (2007b). Elements of parental choice: The evolution of parental preferences in relation to in-law selection. *Evolutionary Psychology*, 5, 70–83.
- Apostolou, M. (2008a). Parent-offspring conflict over mating: The case of family background. *Evolutionary Psychology*, 6, 456–468.
- Apostolou, M. (2008b). Parent-offspring conflict over mating: The case of beauty. *Evolutionary Psychology*, 6, 303–315.
- Apostolou, M. (in press). Parental choice: What parents want in a son-in-law and a daughter-in-law across 67 pre-industrial societies. *British Journal of Psychology*.
- Baber, R. E. (1936). Some mate selection standards of college students and their parents. *Journal of Social Hygiene*, 22, 115–125.
- Beckerman, S. (2000). Mating and marriage, husbands and lovers. *Behavioral and Brain Sciences*, 23, 590–591.
- Broude, G. J., & Greene, S. J. (1983). Cross-cultural codes on husband-wife relationships. *Ethnology*, 22, 263–280.
- 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. (2011). *Evolutionary psychology: The new science of the mind* (4th ed). Boston: Allyn & Bacon.
- Buss, D. M., & Barnes, M. L. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology*, 50(3), 559–570.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: A contextual evolutionary analysis of human mating. *Psychological Review*, 100, 204–232.
- 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.
- Buunk, A. P., Park, J. H., & Dubbs, S. L. (2008). Parent-offspring conflict in mate preferences. *Review of General Psychology*, 12, 47–62.
- Crockett, A., & Voas, D. (2006). Generations of decline: Religious change in 20th-century Britain. *Journal for the Scientific Study of Religion*, 45, 567–584.
- Faulkner, J., & Schaller, M. (2007). Nepotistic nosiness: Inclusive fitness and vigilance of kin members' romantic relationships. *Evolution and Human Behavior*, 28, 430–438.
- Gangestad, S. W., & Buss, D. M. (1993). Pathogen prevalence and human mate preferences. *Ethology and Sociobiology*, 14, 89–96.
- Gangestad, S. W., Haselton, M. G., & Buss, D. M. (2006). Evolutionary foundations of cultural variation: Evoked culture and mate preferences. *Psychological Inquiry*, 17, 75–95.
- Gangestad, S. W., Thornhill, R., & Garver, C. E. (2002). Changes in women's sexual interests and their partners' mate retention tactics across the menstrual cycle: Evidence for shifting conflicts of interest. *Proceedings of the Royal Society of London B*, 269, 975–982.
- Gangestad, S., Thornhill, R., & Yeo, R. (1994). Facial attractiveness, developmental stability, and fluctuating asymmetry. *Ethology and Sociobiology*, 15, 73–85.
- Hamilton, W. D. (1964). The genetical evolution of social behaviour I and II. *Journal of Theoretical Biology*, 7, 1–52.
- Hart, C. W. M., & Pilling, A. R. (1960). *The tiwi of North Australia*. New York: Holt, Rinehart, and Winston.
- Hill, R. (1945). Campus values in mate selection. *Journal of Home Economics*, 37, 554–558.
- Hudson, J. W., & Henze, L. F. (1969). Campus values in mate selection: A replication. *Journal of Marriage and the Family*, 31, 772–775.
- Hynie, M., Lalonde, R. N., & Lee, N. S. (2006). Parent-child value transmission among Chinese immigrants to North America: The case of traditional mate preferences. *Cultural and Ethnic Minority Psychology*, 12, 230–244.
- Kenrick, D. T., Neuberg, S. L., Zierk, K. L., & Krones, J. M. (1994). Evolution and social cognition: Contrast effects as a function of sex, dominance, and physical attractiveness. *Personality and Social Psychology Bulletin*, 20, 210–217.
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97–116.
- Le Gall, A., Mullet, E., & Shafiqhi, R. (2002). Age, religious beliefs, and sexual attitudes. *Journal of Sex Research*, 39, 207–216.
- Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology*, 82, 947–955.
- Li, N. P., & Kenrick, D. T. (2006). Sex similarities and differences in preferences for short-term mates: What, whether, and why. *Journal of Personality and Social Psychology*, 90, 468–489.
- Minturn, L., Grosse, M., & Haider, S. (1969). Cultural patterning of sexual beliefs and behavior. *Ethnology*, 8, 301–318.
- Okonjo, K. (1992). Aspects of continuity and change in mate-selection among the Igbo West of the River Niger. *Journal of Comparative Family Studies*, 23, 339–360.
- Perilloux, C., Fleischman, D. S., & Buss, D. M. (2008). The daughter-guarding hypothesis: Parental influence on, and emotional reactions to, offspring's mating behavior. *Evolutionary Psychology*, 6, 217–233.
- Plomin, R., DeFries, J. C., McClearn, G. E., & McGuffin, P. (2008). *Behavioral genetics* (5th ed.). New York: Worth Publishers.
- Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Mate preferences of married persons in the newlywed year and three years later. *Cognition and Emotion*, 19, 1262–1270.
- Sprecher, S., & Felmlee, D. (1992). The influence of parents and friends on the quality and stability of romantic relationships. *Journal of Marriage and the Family*, 54, 888–900.
- Sussman, M. B. (1953). Parental participation in the mate selection and its effect upon family continuity. *Social Forces*, 32, 76–81.
- Thornhill, R., & Gangestad, S. (1993). Human facial beauty: Averageness, symmetry, and parasite resistance. *Human Nature*, 4, 237–269.
- Trivers, R. L. (1974). Parent-offspring conflict. *American Zoologist*, 14, 249–264.
- Wiederman, M. W. (1993). Evolved gender differences in mate preferences: Evidence from personal advertisements. *Ethology and Sociobiology*, 14, 331–351.