

# Sexual selection under parental choice: the role of parents in the evolution of human mating

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## Abstract

Much of the evolutionary literature on human mating is based on the assumption of extensive female choice during the history of our species. However, ethnographic evidence from foraging societies reveals that, in societies thought to be akin to those of our ancestors, female choice is constrained by the control that parents exercise over their daughters. Data from 190 hunting and gathering societies indicate that almost all reproduction takes place while the woman is married and that the institution of marriage is regulated by parents and close kin. Parents are able to influence the mating decisions of both sons and daughters, but stronger control is exercised with regard to daughters; male parents have more say in selecting in-laws than their female counterparts. In light of the fact that parental control is the typical pattern of mate choice among extant foragers, it is likely that this pattern was also prevalent throughout human evolution. Because daughters' preferences can be expected not to fully coincide with those of their parents, research to date may thus have simultaneously overestimated the contribution of female preferences to processes of sexual selection and underestimated the contribution of parental preferences to such processes. © 2007 Elsevier Inc. All rights reserved.

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## 1. Introduction

Evolutionary psychology combines evolutionary theory with evidence from preindustrial societies in an attempt to reconstruct the ancestral environment and to make valid claims about the evolution of human behavior (Pinker, 1997). Since most of human evolution took place in an environment where subsistence was based on hunting and gathering (Lee & DeVore, 1968), particular emphasis is placed on evidence from modern foragers. Patterns of behavior and social organization that are typical among hunter–gatherers are also assumed to be typical of ancestral human societies (but see Kelly, 1995). However, much of the existing theory about the evolution of mating behavior has not taken into account the typical patterns in hunting and gathering societies (Ember, 1978). This fact makes many evolutionary claims problematic.

Over the last few years, a substantial literature on the evolution of human mating has emerged. Research in this

area is commonly based on the assumption of extensive female choice during the period of human evolution (e.g., Buss, 1995, 2003; Daly & Wilson, 1983; Miller, 2000; Symons, 1979). However, the ethnographic record indicates that female mate choice is far from free. To the contrary, it demonstrates that the mating decisions of females are heavily controlled by their parents (Broude & Green, 1983; Minturn, Grosse, & Haider, 1969; Whyte, 1978b). Consequently, present models that do not incorporate the influence of close kin in mating decisions are inadequate for the study of human mating (Cronk, 1991). Accordingly, the first aim of this article is to provide an evolutionary model that incorporates the control over mate choice that is exercised by close kin and better accounts for the mating patterns observed in foraging societies. Secondly, data from an extensive sample of modern hunters and gatherers are surveyed and presented here, and the typical patterns of mating in these societies are identified.

### 1.1. The model of parental choice

The theory of parental investment (Bateman, 1948; Trivers, 1972) states that the female, by investing more in

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her offspring, becomes a scarce reproductive resource to which males are seeking access. As a consequence, the parents of the female find themselves in possession of a valuable resource that they can manipulate to their own advantage. By controlling their daughters' mating decisions, parents can select in-laws with characteristics that maximize their own inclusive fitness. For example, parents may choose mates for their daughters based on the male's willingness to provide resources and long-term support to the parents and their family in return. The parents can use these resources to increase the probability of survival and reproduction for themselves and their kin, including their daughter. Males also invest in their offspring; thus, parents have an incentive to control their sons' mating decisions as well. However, due to the asymmetry in parental investment, the model predicts that there will be less parental control aimed at the mating choices made by male versus female offspring since females are the scarcer commodity. Note that if parents leave mate selection to their offspring, the offspring will make choices that maximize their own (and not necessarily their parents') inclusive fitness. Because parents and offspring are not genetically identical and, thus, do not always have identical genetic interests, parents' and offspring's preferences may differ (Hamilton, 1964; Trivers, 1974).

Parental control over mating is possible in settings where the offspring are dependent on their parents for food and protection and where parents are able to use their physical strength over their offspring to impose their will. Certain aspects of human sociality, like the long period of parental investment, potential heritability of resources, and extensive networks of kinship and reciprocity, also facilitate parental control (Alexander, 1974; Flinn & Low, 1986; Trivers, 1974). In certain settings, parents have the power to seize mating control from the hands of their offspring. Furthermore, by means of greater physical strength, exclusive use of weaponry, and control of political institutions (Flinn & Low, 1986; see also Smuts, 1992, 1995), male parents may have more influence over offspring mate choice than do their female spouses.

However, the offspring are not simply pawns in their parents' hands. Offspring may evolve adaptations to psychologically manipulate their parents toward their own ends (Trivers, 1974). On the other hand, parents may also evolve adaptations to counterbalance such manipulation (Stamps, Metcalf, & Krishnan, 1978). Consequently, the balance tilts in favor of the parents, who still control parental investment and are physically stronger (Dawkins, 1989). Still, parental control over the offspring's mating has its limits: parents, for instance, cannot always be present to guard their offspring. In addition, the successful manipulation of the offspring requires at least some consideration of their preferences by their parents. Such consideration reduces conflict and increases the effectiveness of parental control. However, parental control wanes as offspring grow older; with age, the offspring become more experienced in

subsistence activities and less dependent upon their parents. In later marriages, parents and close kin may be absent due to death or at least less able to impose their choices due to old age. Likewise, if offspring change their group affiliations upon marriage, then geographic and social distance may reduce parental influence in the event of subsequent remarriage. Since this model predicts that parental control will be asymmetrically biased toward the female offspring, increased autonomy with age will have a more noticeable effect on female versus male mate choice. The precise impact of such changes will depend on timing. Given that female residual reproductive potential declines with age, the effects of increasing autonomy on female reproduction should be tempered by decreasing fertility. This may be one reason why control over women is relaxed in their post-childbearing years (Brown, 1982).

Overall, in this model of human reproduction, mate choice is controlled by the parents, particularly where female offspring are concerned. In addition, male parents have more decision-making power than female parents. Despite parental control, there is still sufficient space in this model for offspring to exercise some mate choice, either independently or through their parents. The next step is then to identify the mating patterns that are typical among foragers and examine the degree to which this model of parental choice accounts for the observations.

## 2. Methods

In cross-cultural research, random sampling is usually employed for the construction of a sample. However, random sampling in this case is not appropriate since it might result in the inclusion of many societies for which sufficient description is not available, as well as the exclusion of a number of societies for which rich description exists (Murdock, 1957). Similarly, certain geographic areas contain only a small number of foraging societies and a random sampling process would result in the exclusion or limited representation of these areas. Therefore, an extensive sample of 190 societies is employed instead. This sample includes almost all modern hunting and gathering societies for which reliable mating pattern data exist.

A society is categorized as a hunting and gathering group if its people base at least 75% of their subsistence on hunting and gathering, according to the *Ethnographic Atlas* (Murdock, 1967). If a society is not coded in the *Atlas*, it is classified as a hunting and gathering society if it is reported as such in the anthropological sources employed here. The majority of the societies in the sample are exclusively hunters and gatherers. Ideally, a geographically balanced sample of societies is desirable, but since hunting and gathering societies are not equally distributed across the globe, this is not possible (Murdock, 1967). For instance, there are no societies from Europe in the sample, but North American societies are overrepresented. In all,

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