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Original Article

# The Daughter-Guarding Hypothesis: Parental Influence on, and Emotional Reactions to, Offspring's Mating Behavior

Carin Perilloux, Psychology Department, University of Texas at Austin, USA. Email: perilloux@mail.utexas.edu (Corresponding author)

Diana S. Fleischman, Psychology Department, University of Texas at Austin, USA.

David M. Buss, Psychology Department, University of Texas at Austin, USA.

**Abstract:** Scant research has examined how individuals attempt to influence others' mating decisions. Parents are a special case because of their genetic relatedness to, and power over, their children. This paper tests the Daughter-Guarding Hypothesis: humans possess adaptations that motivate (1) protecting their daughter's sexual reputation, (2) preserving their daughter's mate value, and (3) preventing their daughters from being sexually exploited. Using two data sources, young adults and their parents, we found that parents were more likely to control their daughters' mating decisions. Parents were more likely to control their daughters' sexual behavior; parents reported more emotional upset over daughters' sexual activity; parents controlled their daughters' mate choice more than their sons'. The results support several hypothesized design features of the Daughter-Guarding hypothesis.

**Keywords:** daughter-guarding, sex differences, parent-offspring conflict, parental influence

## Introduction

Human mating decisions do not occur in a social vacuum. An evolutionary perspective leads to the expectation that those whose reproductive success (RS) can be affected by another individual's mating decisions—such as close kin or coalitional allies—will attempt to influence those decisions when possible (Buunk, Park and Dubbs, 2008). Parents in particular are ideally positioned for exerting influence over the mating decisions of their children. First, parents and children have a coefficient of genetic relatedness of .50, so children's mating decisions can have profound effects on the RS of parents. Second, parents are typically in close proximity to their children and often control resources on which children depend, creating special leverage for exerting influence.

If guarding behavior influenced parental reproductive success equally whether it was directed at daughters or sons, we would predict no sex differences in the target of guarding behavior. However, there are several reasons to believe that parental guarding behaviors could

increase the RS of their daughters more than similar guarding behavior directed toward sons. Based on sexual asymmetries in human reproductive biology, there have been recurrent sex differences in the costs of untimely or unwanted pregnancy. Furthermore, rape and other forms of sexual victimization have undoubtedly posed more recurrent and costly adaptive problems for females. By engaging in guarding behavior designed to prevent damage to long-term mate value, prevent unwanted pregnancies, and prevent sexual victimization, parents could have significantly improved the RS of their daughters. Similar guarding behaviors would not have the same effect on the RS of sons.

*Preventing damage to mate value*

Because humans reproduce via internal female fertilization, women are always sure that their children are their own. Men, in contrast, experience uncertainty over the paternity of their putative offspring. Some studies have estimated that, within North America, between 9% and 13% of men unknowingly raise children who are not their biological offspring (Baker and Bellis, 1995; Cerda-Flores et al., 1999). Because the number of a woman's premarital sexual partners and her promiscuity, are key predictors of future infidelity (Thompson, 1983), when looking for a long-term mate, men prefer women with less-than-average sexual experience, few sexual partners, and those who display cues to fidelity (Buss and Schmitt, 1993). On the other hand, women do not value men's premarital sexual inexperience as highly in long-term mating decisions because men's sexual infidelity is not as costly to women as women's sexual infidelity is to men, unless the infidelity also represents a significant diversion of the man's resources away from the woman in question (Buss, 2000; Buss et al., 1999).

A decrement in a daughter's long-term mate value could harm the parents' RS if it prevents her from obtaining a high-quality mate who will invest in her and her children or confer direct economic or social benefits on the parents. Flinn (1988) first proposed a potential effect of daughter-guarding by fathers in a rural Trinidadian village who went so far as restricting their daughters' movements, forcing their daughters to take a chaperone, and threatening men who came to visit their daughters. A daughter's early sexual behavior could damage her mate value more than it would damage a son's. In short, we predict that parents will attempt to restrict their daughter's sexual contact more than their son's.

*Preventing untimely or unpropitious pregnancy*

In order to produce a viable child, a woman must invest nine months of metabolically costly gestation; a man, in contrast, can create a viable child in as little time as it takes to inseminate one fertile woman (Trivers, 1972). When pregnancy outside a pair bond does occur, men can more easily abandon a potential child and shirk paternal duties since they are not physically obligated to gestate and give birth. For this reason, parents have less incentive to restrict their son's sexual behavior. Indeed it may be in a parent's best interest to encourage mating effort in sons since doing so can increase the parent's inclusive fitness. While sons can experience costs associated with defecting from a pregnant spouse, such as reputational damage and potential physical harm from her family, these costs may not occur every time and may be circumvented. Daughters and their close kin, on the other hand, could not historically avoid the costs associated with her pregnancy without the father's paternal investment.

Parents should therefore have an interest in delaying the sexual activity of daughters to keep their costs as grandparents low relative to the genetic benefits accrued through inclusive fitness effects (DeKay, 1995; Euler and Weitzel, 1996). Consistent with this prediction, mothers' attitudes against premarital sex are associated with delayed sexual initiation for daughters but not sons (McNeely et al., 2002), sons are favored for use of the family car and girls have an earlier and more stringent curfew than boys their same age (Peters, 1994). Boys are given more freedom outside of the home at an earlier age while daughters experience restricted freedom across all age groups and different types of families such as single-parent homes and cohabiting biological parents (Bulcroft, Carmody, and Bulcroft, 1998). Some contextual factors appear to play a role in child socialization (Low, 1989). The degree of stratification in a society, i.e., disparity between socioeconomic classes, in a society predicts higher levels of socialization in girls of restrictive attitudes about sex. Because social stratification is associated with hypergamy, or "marrying up", daughter-guarding would be contingent upon the stratification of resources and the probability of any woman to marry up in status.

*Preventing sexual victimization*

Women are much more likely to be raped than men; prevalence studies find that between 7% and 25% of American female college students have been raped at some point in their lives (Brownmiller, 1975; Fisher and Sloan, 2003; Koss, Gidycz, and Wisniewski, 1987; Tjaden and Thoennes, 2000). Rape has likely been a recurrent aspect of our evolutionary history that has imposed severe fitness costs on women because it compromises mate choice, results in reputational damage, decreases mate value, and in some cases leaves the victim burdened with caring for a child without paternal investment (Gottschall and Gottschall, 2003). Rape can also impose costs on parents of rape victims. Parents whose daughters are raped (a) have no assurance of the genetic quality of the father of their grandchild, (b) may be co-opted to invest in children who have little if any other support and (c) may experience problems forging alliances through arranged marriages. Young women may have been especially vulnerable to rape due to inexperience in recognizing the warning signs of sexual coercion, as well as limited ability to defend themselves against physically formidable males. We therefore predict that parents should attempt to prevent exposure to situations which pose a risk for sexual victimization.

*The Daughter-Guarding hypothesis*

The above considerations converge to yield the Daughter Guarding Hypothesis: Parents possess adaptations with design features that function to defend their daughter's sexual reputation, preserve her mate value, and protect her from sexual victimization.

In our study, we obtained information about parenting practices from young adults as well as their parents. This yielded two separate and quasi-independent data sources for testing the following key predictions:

1. *Control over behavior*. Parents will allow their daughters to engage in fewer mixed-sex romantic and social activities than sons, as reported by parents as well as children, because these restrictions decrease daughters' chances of sexual contact and sexual victimization.

2. *Approval of behavior*. Parents will approve less of daughters than sons engaging in physical intimacy because disapproval functions to motivate parents to limit activities that may lead to sexual contact or sexual victimization.
3. *Emotional upset over sexual activity*. Parents will experience more emotional upset over learning that a daughter is sexually active, as compared to a son. Parents are psychologically compelled to be more vigilant in maintaining their daughter's sexual reputation and mate value than their son's. When a daughter does engage in sexual activity, parents will experience aversive emotions that function to motivate greater vigilance.
4. *Approval of mate choice*. Parents will report that approving of their daughter's mate is generally more important than approving of their son's mate and will be more likely to disapprove of a daughter's mate than a son's mate, on average. Parents have historically been able to increase their own status based on their daughter's mateship (Dickemann, 1981), and should therefore show greater concern over a daughter's mate choice than a son's.
5. *Control over curfew*. Daughters, more than sons, will report having a curfew. Parents can use this strategy as a means to control their daughter's likelihood of sexual contact by limiting the time she spends away from their supervision.
6. *Control over clothing*. Parents will try to influence the clothing choices of their daughters more than those of their sons. This may function to limit how sexually provocative or accessible their daughters appear via clothing choice. This form of influence is hypothesized to protect the daughter's sexual reputation by limiting signals of sexual promiscuity or sexual availability.

## Materials and Methods

### *Overview*

Participants, both students and their parents, responded to questions in survey format on a computer at any location of their choice. They responded to questions regarding parental influence experienced during their senior[1] year of high school, as well as some individual difference measures. The entire survey lasted approximately half an hour.

### *Participants*

Participants from two different psychology courses at a large southern university, 39 males and 134 females between ages 18 and 30, participated in this study. All students were recruited in upper-division psychology courses and received extra credit if they chose to participate. The mean age of all student participants was 21.2 years (*SD* = 1.5). Ethnically, 54% of the participants were White non-Hispanics, 19% were Hispanic, 16% East Asian, 4% South Asian, 3% Middle Eastern, 2% African-American and 2% chose "Other ethnicity." Most students indicated that their families were lower middle class (18%), middle class (34%), or

[1] In American high schools, students in their last, or senior, year are generally about 17 years old.

upper middle class (34%). Of these students, 55% had at least one parent who completed our parent survey.

Parents of a subset of the students, 84 fathers and 88 mothers, participated in the parent survey. The student participants received additional extra credit for parental participation in the survey. The mean age of all parent participants was 51.4 (*SD* = 5.4). Our participants consisted of 56% White non-Hispanics, 17% Hispanic, 15% East Asian, 4% South Asian, 4% Middle Eastern, 3% African-American and 1% chose "Other ethnicity." Most parents indicated that their income reflected middle class (32%) or upper middle class status (41%).

*Materials*

We designed a new instrument for this study to assess how parents selectively guard their children. Unless indicated otherwise, questions were rated on 10-point Likert scales. One section focused on *parental behaviors* related to guarding. When designing this section, we created a list of activities that varied in risk of sexual contact and that might reasonably be under the control of the parents of high-school seniors. We developed the items based on conversations with undergraduate assistants who indicated that these activities would most likely require a child to ask his or her parents for permission and ranged from as low-risk such as "driving alone during the day" to as high-risk as "sleep over at romantic partner's home." For each item, parents and students rated how likely the parents would have been to allow their child to engage in that behavior. The instrument also included several questions designed to gauge parental control specifically over clothing choice, mate choice, and curfews. Parental control over clothing was assessed by asking students to rate how much their parents controlled what they wore. Parents were asked to rate how important it was that they approved of their child's mate and both parents and students were asked whether the parents had ever disapproved of one of the child's mates. One question simply asked students whether or not they had a curfew.

The second section focused on *parental attitudes* related to guarding. The attitudinal components measured parental approval of varying degrees of their child's sexual activity. The four items within this part of the instrument reflected four levels of intimate contact with a romantic partner, ranging from holding hands to actually having sex. The items were chosen such that they reflected affectionate behaviors which adolescents would not necessarily ask permission to engage in, but should evoke some level of approval or disapproval by parents. Students and parents were asked to rate how much the parents would have approved of the child engaging in each behavior. This section also included a question to measure the level of emotional upset experienced by parents when they learned that their child was sexually active. Parents who did not know or did not believe their child was sexually active were instructed to imagine they had found out that their child was sexually active before answering the question. The responses on this scale ranged from +3, "extremely happy", to -3, "extremely upset". In sum, the instrument assessed parental guarding by measuring parental behaviors and attitudes surrounding the social and mating activities of their children.

*Procedure*

Student participants learned about our study during a psychology course and were given a direct link to access the survey online at a time and place of their choice. At the end of the survey, students filled out a separate webpage to receive credit in their class as well as to

optionally tell us the email addresses of their parents. Students could view a copy of the parent survey before deciding to permit us to solicit parental participation. Parents were then emailed a direct link to the parent online survey via the email addresses provided. Parents and students were not able to read or access one another's responses at any time. At the end of each instrument, participants read a debriefing document online about the nature and purpose of the study.

## Results

*Control over behavior*

One set of questions asked students how likely it was that they would have been allowed to engage in several activities during their last year of high school. A parallel instrument presented the same items to parents so that they could rate the likelihood that they would have allowed their child to engage in each activity during that same year. Where available, we calculated the correlation of the student's rating with their parent's rating. We found that of the nine activities on the instrument, the responses of the children and parents exhibited significant correlations on eight, the only exception was the item "allow child to attend a high school dance." Table 1 presents the correlations between parents' and children's ratings on the items within our instrument. Obtaining data from these two different data sources permitted two separate sets of tests of the key predictions.

**Table 1.** Correlations between ratings given by parents and children

| *Allow child to* | *r* |
|---|---|
| Drive alone during the day | 0.79** |
| Drive alone at night | 0.71** |
| Drive with same sex | 0.47** |
| Drive with opposite sex | 0.48** |
| Date without chaperone | 0.55** |
| Attend dance without chaperone | 0.09 |
| Spend the night, same sex | 0.65** |
| Spend the night, mixed sex | 0.45** |
| Spend the night at romantic partner's home | 0.53** |
| *Approve of child* | *r* |
| Holding hands with romantic partner | 0.66** |
| Kissing romantic partner | 0.32** |
| Having sex in own home | 0.22* |
| Having sex elsewhere | 0.43** |

*$p < 0.05$; **$p < 0.01$.

The ratings of individual items followed extremely non-normal distributions within both datasets with most items showing an extreme negative skew. Though *t*-tests are often robust to assumption violations, we did not want to lose power in our pair-wise comparisons by using the Student's *t*-test on data that did not meet assumptions. Instead we calculated Mann-Whitney rank sum tests for all non-normal pair-wise *a priori* comparisons and we report *z* scores and *p*-values accordingly.

*Participant reports of their parents' guarding behavior*.

Among the student participants, we found that child's sex was related to the guarding they experienced. Every item reflected the trend of sons being allowed to engage in more activities than daughters, and six of the nine activities exhibited these predicted sex differences at statistically significant levels. Table 2 contains the group means and test statistics for each item. Sons were significantly more likely to be allowed to drive alone at night, drive with a member of the opposite sex in the car, go on a date without a chaperone, spend the night at a same-sex friend's home, spend the night with a mixed-sex group, and spend the night at his romantic partner's home. The three items that did not exhibit a statistically significant sex difference were driving alone during the day, driving with a member of the same sex, and attending a school dance without a chaperone.

*Parental reports of their guarding behavior.*

Our parent dataset revealed similar results. Of the nine items, parents were significantly more likely to allow their sons to engage in five of them. The means and test statistics for each item are presented in Table 2. Parents indicated that they would have been more likely to allow sons to drive alone during the day, drive alone at night, drive with a member of the opposite sex in the car, spend the night at a same-sex friend's home, and spend the night at a romantic partner's home. Going on a date and attending a mixed-sex sleepover were both in the predicted direction but only approached significance, $p = 0.07$ and $p = 0.08$ respectively. Surprisingly, parents indicated that they would be more likely to allow daughters to attend a school dance without a chaperone than sons, though not significantly so. This is the only result in either dataset that does not conform to the prediction that sons will be allowed to engage in more mating-related activities than daughters.

**Table 2.** Guarding behaviors from children's and parents' perspectives

| | Children mean ratings | | | Parent mean ratings | | |
|---|---|---|---|---|---|---|
| Allow child to | Sons | Daughters | *z* | Sons | Daughters | *z* |
| Drive alone during the day | 9.38 | 9.15 | 1.57 | 9.64 | 9.04 | 1.95* |
| Drive alone at night | 9.21 | 7.55 | 4.46** | 9.12 | 7.61 | 3.14** |
| Drive with same sex | 9.72 | 9.40 | 1.80 | 9.45 | 9.16 | 1.61 |
| Drive with opposite sex | 9.56 | 8.45 | 3.98** | 9.00 | 8.14 | 2.53* |
| Date without chaperone | 9.38 | 8.20 | 3.34** | 8.55 | 7.95 | 1.81 |
| Attend dance without chaperone | 9.56 | 9.35 | 1.13 | 8.20 | 8.98 | -1.71 |
| Spend night, same sex | 9.63 | 8.58 | 2.29* | 9.16 | 8.42 | 2.00* |
| Spend night, mixed sex | 7.79 | 4.52 | 5.47** | 5.42 | 4.45 | 1.77 |
| Spend night at romantic partner's home | 5.44 | 2.48 | 5.58** | 2.65 | 2.07 | 2.57** |

*Note.* Higher means indicate greater likelihood to allow the behavior. All comparisons were evaluated using the non-parametric Mann-Whitney Rank Sum test.

*$p < 0.05$; **$p < 0.01$.

*Approval of behavior*

After evaluating the likelihood that these activities would be allowed, students and parents rated how much they believed, or knew, their parents would approve of each romantic activity if the students had engaged in it during their final year of high school. We found that the responses of the children and parents exhibited significant correlations on all four items relating to approval of behavior, as presented in Table 1. We predicted that parents would show less approval of daughters engaging in each of these activities than sons. Once again, the individual item ratings were extremely non-normally distributed: two possessed large positive skew one possessed large negative skew and the remaining item showed high kurtosis. Therefore, all *a priori* pair-wise comparisons were conducted using the Mann-Whitney rank sum statistic.

*Participants' reports of parental approval of sexual behavior*.

Among student participants, a significant effect of their own sex on parental approval of intimate contact emerged. As predicted, female students reported significantly less parental approval on all four behaviors than male students: holding hands with their romantic partner, kissing their romantic partner, having sex with their romantic partner in their own home, and having sex with their romantic partner somewhere else. The means and test statistics are presented in Table 3.

*Parents' reports of their approval of sexual behavior.*

Parents reported somewhat less approval of daughters engaging in each activity compared to sons. Parents' mean ratings and test statistics are presented in Table 3. Parents were significantly less likely to approve of their daughter having sex with her romantic partner somewhere besides her home as compared to sons. The remaining three items only approached significance ($p < .10$) but were in the predicted direction, with parents approving less of daughters engaging in each activity compared to sons.

**Table 3.** Guarding attitudes from children's and parents' perspectives

| | Children mean ratings | | | Parent mean ratings | | |
|---|---|---|---|---|---|---|
| Approve of child | Sons | Daughters | *z* | Sons | Daughters | *z* |
| Holding hands with romantic partner | 8.36 | 7.1 | 2.24* | 8.42 | 7.39 | 1.83 |
| Kissing romantic partner | 7.18 | 5.01 | 3.68** | 6.3 | 5.23 | 1.68 |
| Having sex in own home | 3.03 | 1.57 | 5.24** | 1.64 | 1.36 | 1.70 |
| Having sex elsewhere | 4.15 | 2.22 | 5.06** | 2.55 | 1.8 | 3.19* |

*Note.* Higher means indicate greater likelihood to approve of the behavior. All comparisons were evaluated using the non-parametric Mann-Whitney Rank Sum test.

*$p < 0.05$; **$p < 0.01$.

*Emotional upset over sexual activity*

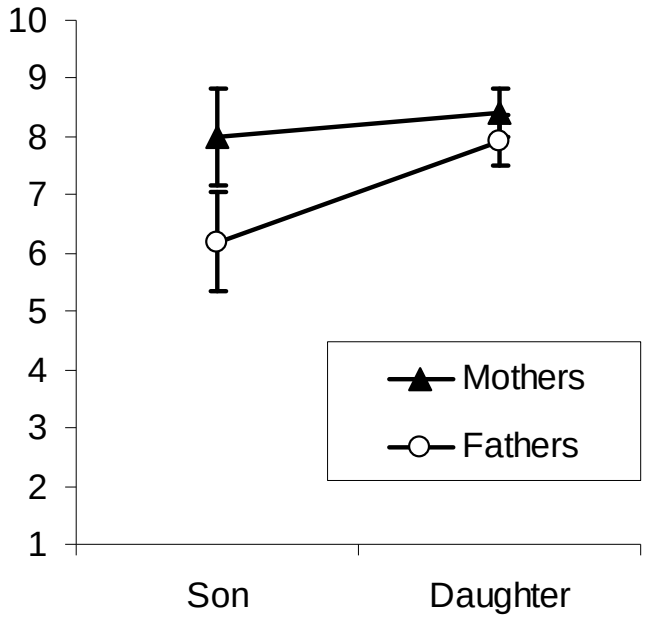
Parents rated how they felt or would feel when they found out that their son or daughter was sexually active. A 2x2 ANOVA with parent sex and child sex factors revealed that neither the interaction nor the parent sex factor was statistically significant, $F(1, 145) = 0.65$ and $F(1, 145) = 2.65$, respectively, but that the child sex factor was significant, $F(1, 145) = 17.12$, $p < 0.001$. As predicted, parents indicated significantly more upset if they learned that their daughter was sexually active ($M = -1.65$, $SD = 1.34$) than if they found out that their son ($M = -0.58$, $SD = 1.25$) was, Mann-Whitney Rank Sum test, $z(148) = 3.93$, $p < 0.001$.

*Approval of mate choice*

As predicted, parents reported higher levels of importance for approving of their daughter's mates than their son's mates, Mann-Whitney Rank Sum test $z(164) = 2.53$, $p = 0.012$. An ANOVA revealed a significant interaction of parent sex and child sex, $F(1, 161) = 4.07$, $p = 0.045$, displayed in Figure 1. Tukey's HSD post-hoc tests revealed that fathers found it significantly less important to approve of their son's mates ($M = 6.19$, $SD = 2.48$) than daughter's mates ($M = 7.94$, $SD = 1.66$), and significantly less important than mothers reported for both sons ($M = 8.00$, $SD = 1.58$) and daughters ($M = 8.41$, $SD = 1.57$), the latter three means did not significantly differ. The data also indicated more instances of parents disapproving of daughters' mates than sons' mates; this pattern was found both in the child dataset, $\chi^2(1, N=115) = 7.50$, $p = 0.006$, as well as the parent dataset, $\chi^2(1, N=112) = 10.21$, $p = 0.001$. In the child dataset, 59% of daughters reported parental disapproval of their mates compared to only 30% of

sons. Of the parents themselves, 61% of the parents of daughters reported disapproving of their child's mate compared to only 26% of the parents of sons.

**Figure 1.** Parents' ratings of the importance of approving of their child's mate. Possible values ranged from 1 ("Not at all important") to 10 ("Extremely important").




*Control over curfew*

Students were asked whether or not they had a curfew during their last year in high school as an additional measure of parental influence over their children's behavior. As predicted, more daughters (60%) reported having a curfew than sons (36%), $\chi^2(1, N=172) = 7.54$, $p = 0.006$.

*Control over clothing*

A single question assessed parental influence over the clothing that children wore during their final year of high school. As predicted, female students ($M = 2.87$, $SD = 1.66$) indicated that their parents had significantly more influence over their clothing than male students ($M = 1.85$, $SD = 1.25$), $z(170) = 3.72$, $p < 0.001$.

**Discussion**

The findings from this study provided support for the Daughter-Guarding Hypothesis. Using two separate data sources, participants and their parents, we found that parents guarded

daughters more than sons. Predictions based on each proposed design feature were largely supported by the results.

*Control over behavior*

Women are inherently sensitive to their risk of sexual victimization to some extent (Broder and Hohmann, 2003; Chavanne and Gallup, 1998; Petralia and Gallup, 2002), and our data reveal that parents may share this awareness in regard to their daughters. As predicted, daughters were significantly more prohibited than sons from engaging in those activities that exposed them to greater potential sexual contact or victimization, such as interacting with many new peers over the course of a given evening in a mixed sex gathering. Driving alone during the day or with a member of the same sex, and attending a high school dance without a chaperone were the three activities that sons and daughters were equally allowed to engage in. These activities are inherently low in risk for sexual contact or victimization and thus should show the lowest magnitude of sex differences. Only one item showed a sex difference in the opposite direction than predicted, though not significantly so: parents reported that they would be somewhat more likely to allow their daughter to attend a high school dance without a chaperone ($p$ = 0.09). It is not clear why this particular item showed a reversal of the predicted sex difference, given the direction of the other indicators, but the lack of correlation between children and parents on this variable, as shown in Table 1, suggests that the item may have been interpreted differently by parents and their offspring.

*Approval of behavior*

The four items on our instrument which assessed level of approval of romantic and sexual behavior on the part of sons and daughters provided support for the Daughter-Guarding hypothesis. All four items showed large sex differences in the child dataset, while only one item, "child having sex elsewhere", showed a significant sex difference in the parent dataset. The remaining three items were in the predicted direction but only approached significance (all $p$s < 0.10). These would have been considered significant had we used a one-tailed test for *a priori* predictions, so it is likely that the effect does exist among parents as well. Especially according to their children, parents do not approve of their daughters engaging in sexual or romantic activities at this age. As for why the sex differences were greater among the children's reports as compared to the parents' reports, parents may have been attempting to appear more liberal or progressive in their responses or children may have been more acutely sensitive to unequal treatment.

*Upset over sexual activity*

As predicted by the Daughter-Guarding hypothesis, parents reported greater upset over a daughter's sexual activity than a son's. Emotional upset has been hypothesized to function to alert individuals to "strategic interference," marking interfering events for memorial storage and retrieval, and motivating action designed to reduce strategic interference (Buss, 1989). In the current context, emotional upset may promote further vigilance on the part of parents and heightened sensitivity to their daughter's sexual activity, thereby increasing guarding and constraints on the daughter. In these ways, parents may reduce interference with their preferred

strategy of maintaining their daughter's sexual reputation, preserving their mate value, and preventing sexual victimization.

*Approval of mate choice*

Parents deemed it necessary to approve of daughters' romantic partners more than sons', but there was an interaction of sex of parent and sex of child. Mothers cared equally about having a positive evaluation of their children's mates whereas fathers cared much more about approving of a daughter's than a son's mate. The reason for the parent sex difference is not clear. Perhaps fathers have more to gain via their daughter's mates in terms of resources, alliances or other benefits than son' mates. In some cultures, daughter's marriages have been used to elevate their father's resource accrual and social status (Flinn, 1988; Hart and Pilling, 1960). An alternative explanation is that mothers and fathers may have selectively focused on different aspects of a child's mate choice when answering the question. Future studies could obtain parents' ratings of the importance of specific characteristics in their children's mates to determine if parents are making a distinction in specific traits. As it stands, this interaction is open to interpretation and further research. Parents may be attempting to influence their daughters against certain types of mates and encourage the type of mate-choice that would benefit their daughter or themselves in the long-term.

*Control over curfew*

As predicted, daughters indicated having a curfew during their final year of high school more often than sons did. Parents may use curfews to decrease the amount of time that children are physically away and therefore more likely exposed to sexual activity and sexual coercion. Curfews represent one method by which parents exert more control over daughters' lives.

*Control over clothing*

Women signal their mating strategy and fertility with their clothing choices (Grammer, Renninger, and Fischer, 2004; Haselton, Mortezaie, Pillsworth, Bleske-Rechek, and Frederick, 2006). We predicted that parents attend more to their daughter's clothing choice than their son's, in order to prevent daughters from advertising sexual accessibility or fertility. Our data showed this predicted pattern with more daughters reporting parental control over their clothing than sons. One limitation of this instrument is that we did not ask children about the particular ways in which their parents tried to control their clothing choice. We would further predict a sex difference in the *type* of control exerted over children's clothing choices. We predict that when parents exert influence over their son's clothing choices, they will encourage clothing that is cleaner, neater, or displays their resources more effectively. Daughters, on the other hand would be encouraged to dress more conservatively (e.g., clothes that show less skin and are less tight-fitting).

*Limitations and future directions*

Both sets of participants, students and their parents, revealed the same sex differences inherent in the way that parents guard their children. There may have been some selection bias within the parent dataset due to only 55% of the students having parents who participated in the survey; future studies could use a different sampling method in order to avoid this limitation. We

have no reason to suspect that participants were dishonest in their responses since all responses were kept completely secured, the instrument was administered online, and the subjects presumably participated alone. The timeframe, though in the past, was on average only about three years prior to participation. A student's final year in high school represents a time in which adolescents can legally consent to sexual intercourse in most states (Norman-Eady, Reinhart and Marino, 2003) and represents a transition in the amount of parental control from high school to college. It is possible that even larger sex differences would be found in younger samples who are subjected to greater parental controls—a speculation that awaits future research.

The current study cannot unambiguously distinguish between the several hypothesized adaptive problems daughter-guarding may have evolved to solve: (1) decreasing daughter's risk of sexual victimization, (2) protecting daughter's sexual reputation so that she can obtain a high quality mate, and (3) influencing daughter's mate choice in ways that historically (and perhaps currently) would have benefited the parent's fitness. Many acts of daughter-guarding may simultaneously solve all three adaptive problems. Restricting a daughter's ability to drive alone with a member of the opposite sex or spend the night in mixed-sex company, for example, are acts that could simultaneously reduce her risk of sexual victimization, protect her sexual reputation, and retain the parent's ability to influence her choice of a mate.

Future studies could attempt to identify design features of daughter-guarding that are distinctly targeted toward each of these adaptive problems. If the key adaptive problem is the daughter's risk of sexual victimization or poor mate choice, for example, parents might show more guarding behavior when she is most fertile (i.e., just prior to or at ovulation) to prevent coerced or consensual conception of low quality offspring to the extent they can somehow detect it. If the key adaptive problem is to influence the daughter's mate choice to increase the parent's fitness or maintain her sexual reputation, we should find evidence that high-quality male mates find sexually inexperienced women more desirable as long-term mates, and that parents monitor their daughters' sexual reputation.

Another future direction centers on the guarding behaviors of siblings. Because they are on average genetically related by 50%, siblings are predicted to be invested in one another's RS. We therefore posit the Sister-Guarding Hypothesis: that siblings, like parents, will allocate more guarding to sisters, especially after they reach puberty. Both the Daughter-Guarding Hypothesis and the Sister-Guarding Hypothesis are supported by the same logic. That one's mating behavior influences the reproductive success of one's parents and siblings implies that we may also see adaptations in parents for enlisting the assistance of their other children in guarding daughters as well as utilizing their other children as informants as to the efficacy of their daughter-guarding behaviors.

Daughter-guarding requires effort which represents a cost. Therefore, we predict that biological relatives will be more likely to engage in daughter-guarding and may allocate their effort based on their degree of genetic relatedness (Hamilton, 1964). For instance, step-fathers should generally be less likely to engage in guarding their step-daughters compared to biological fathers. Because of their lack of genetic relatedness, stepfathers pose risks for step-daughters, including an elevated risk of sexual exploitation. Several key predictions follow from this: step-daughters, lacking the daughter-guarding that would have been provided by the true biological father, would suffer higher rates of rape, would suffer lower perceived mate value as a

consequence of sexual conduct, and would make poorer mate choices—predictions testable by future research.

We did not find any differences between fathers and mothers in the magnitude of daughter-guarding with the exception of approval of mates. Presumably, fathers who are relatively certain of their paternity have as much incentive to guard their offspring as mothers, and fathers have the additional quality of being more physically formidable in the face of persistent male suitors. Perhaps time spent with daughters exerts an effect on this dimension with fathers less likely to get full custody of children in divorce cases, fathers relegating more of their energy to remating after a divorce, or fathers being less aware of cues to sexual activity in their daughters due to traveling for work. In the future, researchers could assess the degree to which father's daughter-guarding is dependent on cues to paternity certainty or amount of time spent together.

Parents clearly differ from each other in the intensity of effort they devote to daughter-guarding. These individual differences are reflected in the positive correlations among the various types of guarding: parents' average correlations among the guarding behaviors and among the approval ratings were $r = 0.46$ and $r = 0.45$, respectively. Future research could profitably explore the sources of these parental differences. One source of variance could stem from the offspring. Some daughters, for example, may possess physical traits (e.g., early sexual maturation) or behavioral traits (e.g., overly trusting of strangers) that pose an increased risk of sexual victimization or increased likelihood of sexual activity, thus evoking more intense guarding from their parents. Parents, on the other hand, may vary in the amount of effort they will expend on daughter-guarding based on the number and sex of their children, whether they are currently devoting more of their finite resources to mating or to parenting, or how effectively they can help their daughters either financially or socially. Because time and effort budgets are finite, parents with several daughters, for example, may not be able to devote as much effort to guarding each one compared to parents who have only one daughter. Future studies could examine these and other hypotheses about individual differences among parents in daughter-guarding.

Future research could also explore predictable cross-cultural differences (Low, 1989). The degree of daughter-guarding in a society should vary based on differential distributions of capital as well as cultural differences in mating systems. Fathers may engage in more intense daughter-guarding to protect their economic and mating interests in societies characterized by higher levels of competition among available women for high quality suitors. Degree of daughter-guarding in a society may also be predicted by the importance that men place on the virginity of their wives. Those societies in which virginity is more highly prized and in which parents benefit more from their daughters' mateships should show higher levels of daughter-guarding, like cloistering, use of burkas and other more extreme forms of control.

*Conclusions*

The Daughter-Guarding Hypothesis received substantial empirical support from two separate data sources. Both children and parents reported significant sex differences indicating that parents guard daughters more than sons. In domains that encompass a great deal of adolescent life, parents restricted their daughters more than their sons: they allowed their daughters to engage in fewer social and romantic activities, they disapproved more of their

daughters' sexual contact, they expressed greater upset over their daughters' sexual activity, they expressed greater attempts to control their daughters' mate choice, they more frequently instated curfews for their daughters, and they exerted more control over their daughters' clothing choices. In short, the behavioral, attitudinal, and emotional assays all converged to support the Daughter-Guarding Hypothesis.

Daughters and sons both constitute valuable reproductive assets for parents. Because of the profound sex differences in human reproductive biology—specifically internal female fertilization, heavy obligatory female parental investment, and uncertainty of paternity but not maternity—effective utilization of those reproductive assets differs greatly for daughters and sons. The current study documents a half-dozen design features, ranging from emotional upset about specific sexual activities of daughters versus sons to manifest guarding behaviors, that point to distinct daughter-guarding adaptations in parents. Future research can gainfully explore a wider array of psychological design features and the differing social and cultural contexts in which they are activated.

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