

Wife Killings Committed in the Context of a Lovers Triangle

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The killing of women by their husbands poses an enigma for social scientists. Why do relationships presumably characterized by love sometimes result in death? A variety of hypotheses have been offered to explain this puzzling pattern. Among the most prominent are (a) sheer proximity and opportunity, (b) epiphenomenal by-products of a male psychology designed for coercive control of women, and (c) evolved mate-killing mechanisms. One way to test these hypotheses is to examine the contexts in which wife killings occur. We secured access to a homicide database that included 345 spouse killings perpetrated by husbands in the context of a lovers triangle, a context that signifies sexual infidelity. Results indicated that a woman's age, and hence reproductive status, predicts vulnerability to being killed in the context of a lovers triangle. Discussion focuses on alternative explanations for this finding, as well as findings not explained by existing theories of homicide.

Most cross-sex killings involve the killing of a spouse (Daly & Wilson, 1999). With occasional exceptions, men far outnumber women as the killers and women outnumber men as the victims (Daly & Wilson, 1988; Dobash & Dobash, 1979). These killings present a puzzle for social scientists: Why would the relationship most frequently characterized by love result in the highest risk of death? Several hypotheses have been advanced to account for these findings. One hypothesis invokes sheer proximity (Daly & Wilson, 1988). According to this hypothesis, the risk of getting killed is a function of the frequency of interaction. Because spouses interact with each other frequently, the risk of spousal homicide is commensurately high.

A second hypothesis, which may be called the "killing-as-by-product hypothesis," invokes an evolved male psychology of sexual proprietariness that involves the use of violence as a means of coercive control of female sexuality:

In attempting to exert proprietary rights over the sexuality and reproduction of women, men walk a tightrope. The man who actually kills his wife has usually overstepped the bounds of utility, whether utility is assessed in fitness or in more proximate currencies. Killing provokes retribution by the criminal justice system or the victim's relatives; at the least, murdered wives are costly to replace. But killing is just the tip of the iceberg: For every murdered wife, hundreds are beaten, coerced, and intimidated.... There is brinkmanship and risk of disaster in any such contest, and homicides by spouses of either sex may be considered slips in this dangerous game. (Daly & Wilson, 1988, p. 205; for overviews of evolutionary psychology, in general, and of evolutionary psychological applications to homicide, in particular, see Daly & Wilson, 1997, 1999).

In short, according to the by-product hypothesis, humans do not possess evolved psychological mechanisms designed to kill their mates. Rather, "...the fatal outcome in these homicides [spousal killings] is hypothesized to be *an epiphenomenal product of psychological processes that were selected for their nonlethal outcomes* [italics added]" (Wilson, Daly, & Daniele, 1995).

According to the by-product hypothesis, an evolved psychology of male sexual jealousy lies at the root of coercive

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control (Daly & Wilson, 1988, 1996, 1999; Wilson & Daly, 1992; see also Buss, 2000). Men use violence to deter their wives from adultery or defection, and sometimes the violence inadvertently results in death. A woman's real or suspected sexual infidelity, according to this hypothesis, would be a key context placing a woman at risk for violence and hence death. The context of a lovers triangle—in which a man suspects or discovers his wife's sexual infidelity—would constitute a key risk factor.

A third hypothesis, derived from evolved homicide theory (Buss & Duntley, 1998), suggests that many spousal homicides result from evolved male mechanisms specifically designed by natural selection to motivate killing under certain circumstances—notably, a wife's real sexual infidelity or permanent defection from the relationship. According to this theory, over human evolutionary history there have been some contexts in which the benefits of killing a defecting spouse outweighed the costs. A wife's sexual infidelity, for example, places a husband at risk of losing access to his wife's reproductive capacity, can result in catastrophic reputational damage, and can result in a man devoting two or more decades of his life and resources to the children of an intrasexual rival. Similarly, an outright defection by the wife could have resulted in a double fitness cost to the original husband—his loss is an intrasexual rival's gain.

According to evolved homicide theory, many wife killings are intentional and designed outputs of evolved male psychology, not slipups or epiphenomena (Buss & Duntley, 1998). Under certain very delimited circumstances, the benefits of killing would have outweighed the costs to the killer. According to evolved homicide theory, mate killing would be far too costly to cuckolded husbands under most circumstances (Buss & Duntley, under review). The close presence of kin of the wife, for example, would increase the risk to the would-be killer of retaliation—costs that themselves require explanation. Nonetheless, the fitness benefits of killing must have exceeded the costs in some circumstances for a psychology of killing to have evolved. These fitness benefits, according to this theory, included depriving an intrasexual rival of access to a reproductively valuable resource, killing the embryonic children of the rival, deterring polygynous co-wives from defecting, and cultivating a social reputation that deterred other rivals from encroaching (Buss & Duntley, under review). The theory that men have evolved specialized mechanisms to kill mates under certain circumstances, of course, does not mean that there is some sort of killer instinct that is manifested invariantly across contexts. Precisely the opposite. The evolved psychology of killing is proposed to be highly sensitive to perceived costs and benefits, and under most circumstances, the costs of killing are likely to be too high.

According to this theory, a lovers triangle is precisely the risk factor highly linked with wife killing, because it signals the husband's loss (either temporary or permanent) and a rival's gain—benefits to rivals that would be eliminated by

spousal killing. Since selection is the result of the relative reproductive fitness of competing designs (Dawkins, 1982), damaging an intrasexual rival's fitness effectively enhances one's own. Furthermore, the younger the age, and hence the higher the reproductive value (expected future reproduction, Fisher, 1930/1958) of the wife, the more costly is the loss to the husband and the more beneficial to the encroaching rival. Thus, younger women suspected by their husbands of involvement in a lovers triangle are predicted to be more vulnerable to being killed than are older women.

Spouses are similar in age, so that reproductive-age women tend to be married to relatively younger men (Buss, 1989, 1994). Younger men, in turn, commit the majority of homicides (Daly & Wilson, 1990; Messerschmidt, 1993; Polk, 1994; Wilson & Daly, 1985). Perhaps reproductive-age women, relative to post-reproductive-age women, are more likely to be killed for a suspected infidelity because they are married to younger, more violent men. We address this potential confound in the present research by controlling for husband's age. We secured access to a large database of wife killings or uxoricides that coded the woman's age, her husband's age, and the circumstance of the murder. This database allowed us to test the hypothesis that the probability of being murdered by a sexually jealous husband in the context of a lovers triangle increases with the decreasing age of the wife, even after controlling for husband's age.

METHOD

Database

The United States Federal Bureau of Investigation (FBI) requests information from each state on criminal homicides. Supplementary Homicide Reports (SHRs) include incident-level data on every reported homicide, including the relationship of the victim to the offender, the ages of the victim and offender, and the circumstance of the homicide. The database analyzed for this project includes SHRs for the years 1976 to 1994 (Fox, 1996), providing information on 429,729 homicides.

Procedures

Of the over 400,000 cases of homicide included in the database, 13,670 were cases in which a husband killed the woman to whom he was legally married. All analyses were restricted to these cases. The average age of uxoricide victims was 39.41 years ($SD = 15.40$ years), ranging from 15 to 95 years. The average age of uxoricide perpetrators was 43.29 years ($SD = 15.67$ years), ranging from 16 to 98 years. Husband's age and wife's age were strongly positively correlated, $r(13,668) = .89, p < .001$.

We created a variable coding the circumstance of the uxoricide. The FBI SHR database includes 19 different codes

for the circumstance of the murder. Table 1 shows the frequency and percentage of uxoricides attributed to each of the circumstance codes. One of these codes is lovers triangle. This circumstance code includes 345 wife killings, about 41% of the wife killings for which some information is available about the circumstance of the murder. This analyses include only cases in which a man killed the woman to whom he was legally married. Under these conditions, a lovers triangle refers to cases in which the man suspected or discovered wifely infidelity. Although a few of these cases might be cases in which the murdered woman suspected or discovered her husband’s infidelity, most are cases in which the murdered woman was killed by a husband who suspected or discovered her infidelity (see Buss, 2000; Daly & Wilson, 1988). The new circumstance variable was coded 1 for uxoricides attributed to a lovers triangle, and 0 for all other circumstances.

RESULTS

We conducted a hierarchical logistic regression analysis in which the dichotomous circumstance variable (lovers triangle vs. other than lovers triangle) was the dependent variable. In the first step, we entered wife’s age and husband’s age. Prior to entry into the analysis, we centered wife’s age and husband’s age (i.e., subtracted their respective means from the raw ages) to reduce multicollinearity with the product

TABLE 1
Frequency and Percentage of Uxoricides by Circumstance and Information Available

<i>Circumstance of Uxoricide</i>	<i>Frequency</i>	<i>Percentage</i>
Some information available		
Lovers triangle	345	4
Brawl due to alcohol	250	2
Argument over money	158	1
Arson	32	< 1
Narcotics and drug laws	15	< 1
Brawl due to drugs	15	< 1
Other sex offense	10	< 1
Robbery	5	< 1
Rape	4	< 1
Burglary	4	< 1
Gambling	2	< 1
Gangland killing	2	< 1
Abortion	1	< 1
Child killed by babysitter	1	< 1
Little information available		
Other arguments	7774	57
Other	3872	28
Unknown	1001	7
Other felony	123	1
Suspected felony	56	< 1
Total	13670	100

Note. Actual total percentage exceeds 100 due to rounding.

variables entered on subsequent steps to test for interactions (see the following). Table 2 displays the results of the full hierarchical logistic regression analysis.

The results of the first step show that wife’s age uniquely and negatively predicted the probability of uxoricide in a lovers triangle. Younger wives were more likely to be killed in a lovers triangle, after controlling for husband’s age. Husband’s age, in contrast, did not uniquely predict the probability of uxoricide in a lovers triangle. Figure 1 displays the relationship between wife’s age and the probability of uxoricide in the context of a lovers triangle.

The results of the second step show that the quadratic function of wife’s age uniquely predicted the probability of uxoricide in a lovers triangle. This quadratic function is such that, as women age, they become precipitously less likely to be killed by their husbands in the context of a lovers triangle. Neither the quadratic function of husband’s age nor the interaction of wife’s age with husband’s age uniquely predicted the probability of uxoricide in a lovers triangle. Figure 2 displays the relationship between the quadratic function of wife’s age and the probability of uxoricide in the context of a lovers triangle.

TABLE 2
Results of Hierarchical Logistic Regression of Uxoricide Circumstance (Lovers Triangle vs. Other Than Lovers Triangle) on Wife’s Age and Husband’s Age

<i>Predictor</i>	<i>B × 1000</i>	<i>SE_B × 1000</i>	<i>Wald^a</i>
Step 1			
Wife’s age	-35.00	8.00	19.33**
Husband’s age	14.00	7.00	3.46
Step 2			
Wife’s age × Husband’s age	> 0.00, < 0.45 ^b	1.00	0.01
(Wife’s age) ²	-2.00	1.00	4.94*
(Husband’s age) ²	> 0.00, < 0.45 ^b	> 0.00, < 0.45 ^b	0.04
Step 3			
(Wife’s age) ³	> 0.00, < 0.45 ^b	> 0.00, < 0.45 ^b	2.18
(Husband’s age) ³	> 0.00, < 0.45 ^b	> 0.00, < 0.45 ^b	4.89*
(Wife’s age) ² × Husband’s age	> 0.00, < 0.45 ^b	> 0.00, < 0.45 ^b	0.02
Wife’s age × (Husband’s age) ²	> 0.00, < 0.45 ^b	> 0.00, < 0.45 ^b	1.37

Note. Total N = 13,670. Wife’s age and husband’s age were centered prior to entry into Step 1, and were centered prior to each transformation (see text). Circumstance of uxoricide was coded 1 for lovers triangle, and 0 for all other contexts. Model summary for Step 1: $\chi^2(2, N = 13,670) = 35.62, p < .001$; Model summary for Step 2: $\chi^2(5, N = 13,670) = 63.40, p < .001$; $\Delta\chi^2(3, N = 13,670) = 27.78, p < .001$. Model summary for Step 3: $\chi^2(9, N = 13,670) = 78.20, p < .001$; $\Delta\chi^2(4, N = 13,670) = 14.80, p < .01$.

^aFor each test, *df* = 1; the *Wald* statistic is calculated as $(B/SE_B)^2$, the square of the standardized regression coefficient. ^bThe actual value provided by the statistical package (SPSS 10.0 for Windows) is .000. After multiplying this value by 1000, the resulting product must be less than approximately 0.45 (otherwise the actual value would have been reported as .001), but greater than 0 (otherwise the actual value would have been reported as -.000).

p* < .05. *p* < .001.

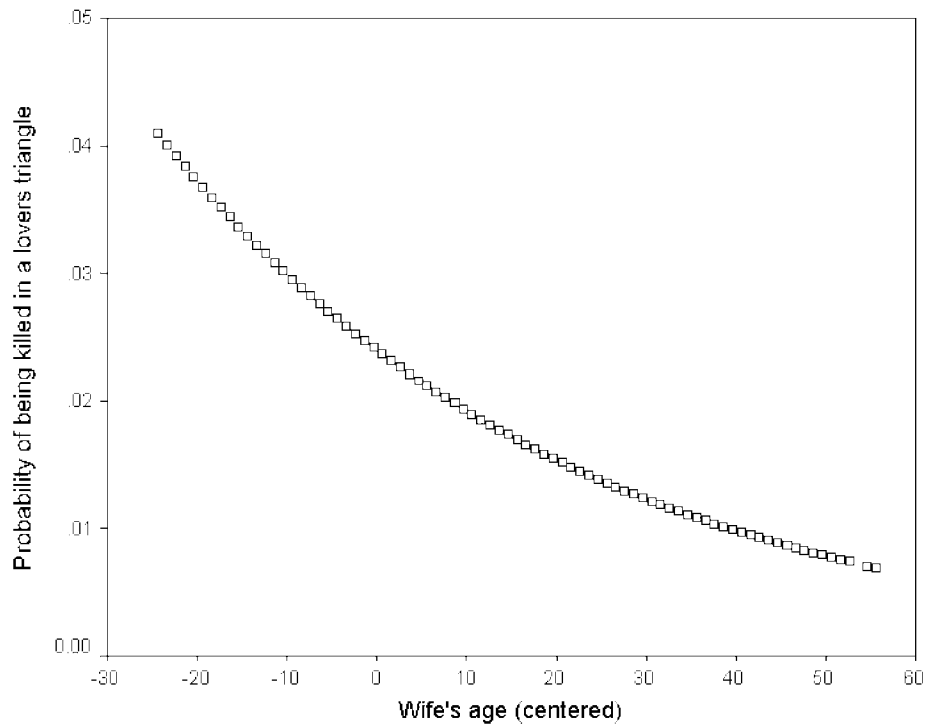


FIGURE 1 Probability of wife being killed by husband in the context of a lovers triangle as a linear function of wife's age (centered; see text).

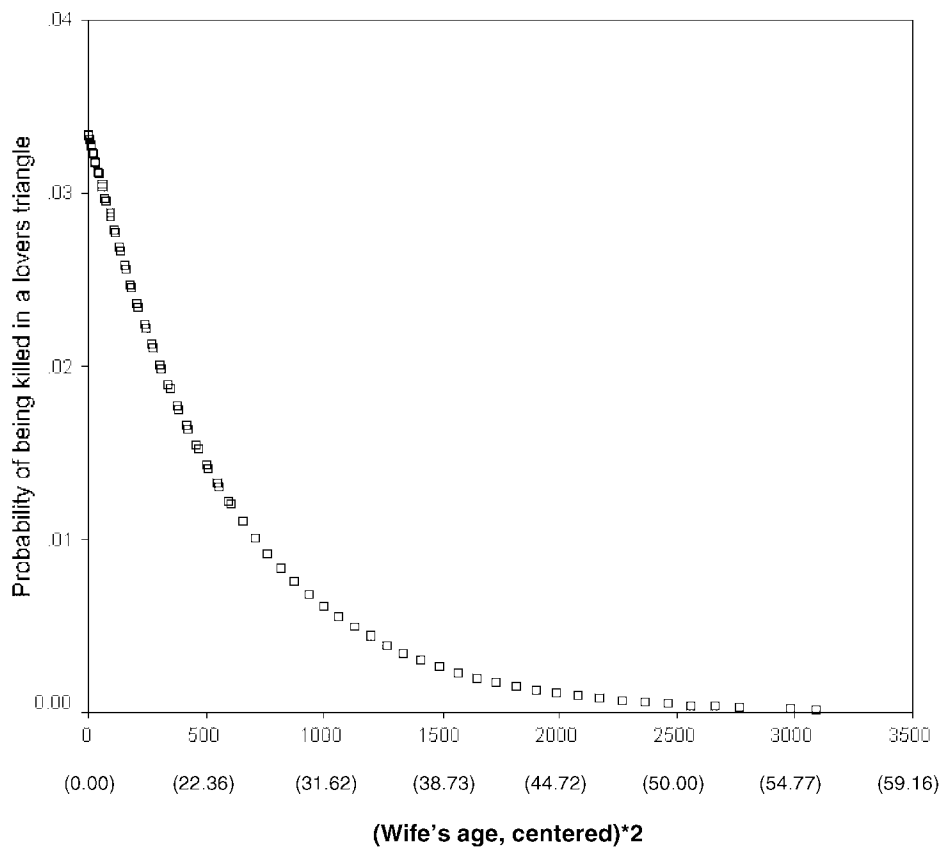


FIGURE 2 Probability of wife being killed by husband in the context of a lovers triangle as a quadratic function of wife's age (centered; see text). Squared values for wife's age (centered) are shown just below the x axis; original values for wife's age (centered) are shown in parentheses below the corresponding squared values.

The results of the third step show that the cubic function of husband's age uniquely predicted the probability of uxoricide in a lovers triangle. This cubic function is such that the probability of committing uxoricide in the context of a lovers triangle initially decreases precipitously with husband's age and then levels off for middle aged and older husbands. None of the remaining terms entered in this step uniquely predicted the probability of uxoricide in a lovers triangle. Figure 3 displays the relationship between the cubic function of husband's age and the probability of uxoricide in the context of a lovers triangle.

DISCUSSION

The key finding of this study is that the probability of a woman being murdered by a sexually jealous husband in the context of a lovers triangle increases with the decreasing age of the woman. Younger women and, therefore, women with greater reproductive value, are at greater risk for being murdered in this context. Of the three hypotheses proposed for wife homicide, the proximity hypothesis fails to explain this pattern of uxoricides, unless one proposes that younger

wives share proximity with their husbands at concomitantly higher rates than do older wives.

In addition to the linear relationship between wife's age and the probability of uxoricide in the context of a lovers triangle, the current research documents a quadratic relationship, indicating that the risk of wife killing in a lovers triangle decreases precipitously as a function of a woman's age. This quadratic relationship is consistent with the hypothesis that younger women are at greater risk for wife killing in a lovers triangle precisely because they are of reproductive age. As a woman reaches the end of her reproductive years, the possibility that a sexually jealous husband will murder her becomes strikingly less likely with each passing year.

Finally, these results indicate a cubic relationship between husband's age and the probability of committing uxoricide in the context of a lovers triangle. This cubic relationship reveals that young men are particularly likely to kill their wives in the context of a lovers triangle, but that this increased risk levels off as men age. This result is consistent with other work indicating that women married to young men are at greater risk for uxoricide than are women married to older men (see, e.g., Daly & Wilson, 1988; Shackelford, Buss, & Peters, 2000). A key finding of this research, however,

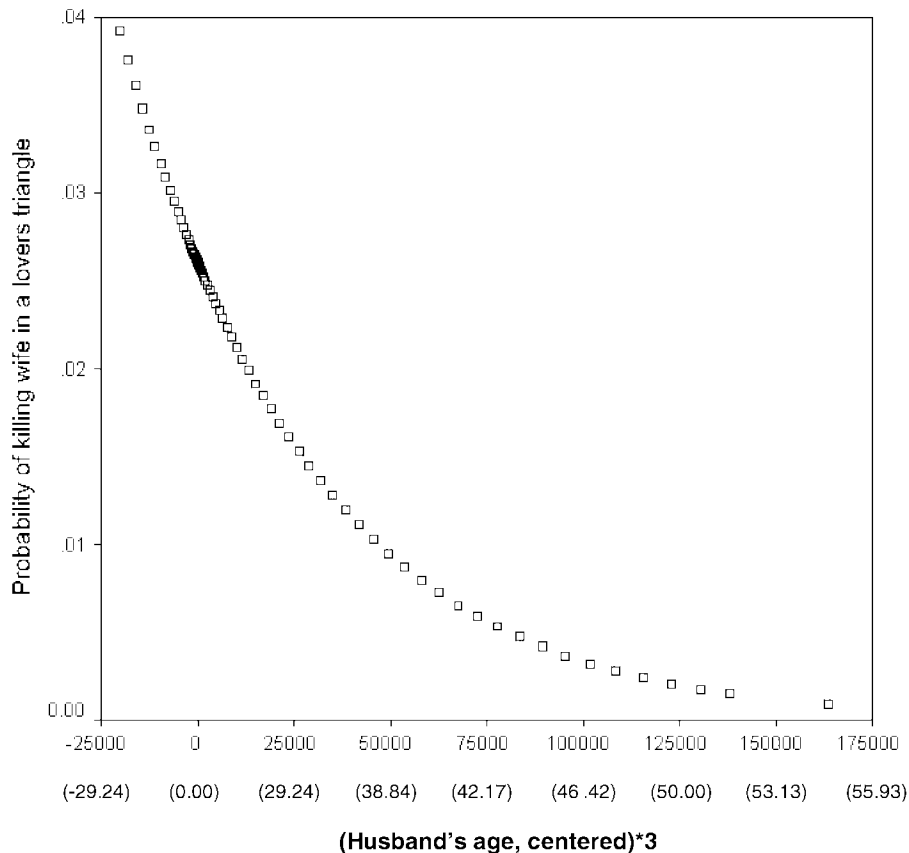


FIGURE 3 Probability of killing wife in the context of a lovers triangle as a cubic function of husband's age (centered; see text). Cubed values for husband's age (centered) are shown just below the x axis; original values for husband's age (centered) are shown in parentheses below the corresponding cubed values.

is that husband's age does not uniquely predict the probability that he will kill his wife in a lovers triangle, after controlling statistically for wife's age.

This research provides the first empirical test of the hypothesis that younger women are more likely to be killed by a sexually jealous husband in the context of a lovers triangle. Previous empirical work—much of it inspired by an evolutionary psychological perspective (see, e.g., Daly & Wilson, 1988, 1996; Daly, Wilson, & Weghorst, 1982; Shackelford et al., 2000) has tested related hypotheses, such as whether younger women are at greater risk for uxoricide than are older women and whether male sexual jealousy is a more frequent cause of wife killing than other causes. This previous work indicates that younger women are at greater risk for uxoricide than are older women and that male sexual jealousy is one of the most frequent causes of wife killings, cross-culturally. This research uniquely contributes to this literature by testing the novel hypothesis that younger women are at greater risk for uxoricide in the specific context of a lovers triangle.

COMPETING THEORIES OF MATE HOMICIDE

These findings are compatible with both of the remaining explanations—the by-product hypothesis (Daly & Wilson, 1988) and evolved homicide theory (Buss & Duntley, under review). Both hypotheses predict an evolved psychology of male coercive control. Both predict male sexual jealousy as a key risk factor. Both predict that a wife's suspected or discovered infidelity, signaled by a lovers triangle, will put a wife at risk of violence and death. And both predict that suspected or actual infidelity or defection by younger wives, who are higher in reproductive value, will result in relatively more killings than equivalent infidelities or defections by older wives.

Future studies are needed to differentiate these alternative evolutionary explanations. Evolved homicide theory predicts that some of the circumstances that lead to nonlethal coercion will differ from those that lead to mate homicide. The existence of children of the couple known to be sired by the husband, for example, should lower the odds of the husband killing an unfaithful spouse. By killing the mother of his children, the would-be killer would be inflicting a substantial cost on his children. The reproductive benefits that would have flowed to the would-be killer in the form of depriving intrasexual rivals of access to his mate would be likely to be far outweighed by fitness costs he would suffer in the form of inflicting damage to his children. In contrast, there is nothing in the by-product hypothesis of mate killing that would predict a differential likelihood of mate killing as a function of existing children.

A second empirical test of the competing theories could come from examining homicidal thoughts and fantasies (Buss & Duntley, under review). Evolved homicide theory

predicts that recurrent thoughts of mate killing, which serve hypothesized functions of scenario building, cost-benefit calculation, and motivation, would be commonly evoked by a partner's infidelity or outright defection. In contrast, the by-product hypothesis contains no premises to explain the existence of cognitively costly recurrent homicidal thoughts. Indeed, the existence, recurrence, and predictability of such homicidal thoughts would be theoretically puzzling on the pure violence-as-coercion account.

It is quite possible, of course, that the by-product and evolved homicide theories are both correct in some form. Men might possess an evolved psychology of using violence to coerce and control their spouses, which occasionally results in an accidental spousal homicide, and men might possess an evolved psychology designed to kill mates under certain circumstances. Each theory might account for a fraction of mate homicides. Given the dangers to women of both possible forms of male psychology, research on these issues is urgently needed. Future tests must be conducted that directly pit the competing evolutionary hypotheses of mate killings against each other, with the above qualifications in mind.

LIMITATIONS AND QUALIFICATIONS

Several additional limitations, qualifications, and complexities posed by these findings require further research. This study, by itself, cannot distinguish between two possibilities: (a) Younger women are more likely to get involved in lovers triangles than are older women, which makes them more vulnerable to homicidal violence from their husbands; or (b) a lovers triangle, if it occurs, is statistically more likely to result in a wife being killed if she is younger rather than older. According to some studies, reproductive-age wives are indeed more likely to be sexually unfaithful than are post-reproductive-age wives (Kinsey, Pomeroy, Martin, & Gebhard, 1953), suggesting that the first explanation is more likely. On the other hand, men show more intense mate guarding of younger women than older women (Buss & Shackelford, 1997), suggesting that a lovers triangle is more likely to evoke intense male sexual jealousy if the wife is young. Although future research is needed to differentiate these two causal possibilities, the available evidence suggests that both factors might operate in concert. Reproductive-age women may be both more likely to get involved in a lovers triangle and, other things being equal, a lovers triangle may be more likely to trigger homicidal violence in men if the unfaithful wife is within her more fertile years.

Another limitation pertains to the limited scope of the FBI SHR data, which do not permit ruling out an alternative interpretation for the current findings. Perhaps it is not the reproductive status of younger women that makes them more vulnerable to being killed by their husband in the context of a lovers triangle. Instead, it may be the length of the marriage that places some women at greater risk for uxoricide in a

lovers triangle. Younger women are likely to have been married for a shorter duration than are older women. Perhaps conflicts about infidelity in marriages of a shorter duration are more intense, or more frequent, than are conflicts about infidelity in marriages of a longer duration, and this may account for why younger women are more likely to be killed in the context of a lovers triangle. This interpretation is incompatible with previous empirical work that shows that men married to younger women are more controlling of their wife's sexuality and more vigilant about her possible infidelity than are men married to older women, even after statistically controlling for the length of the marriage (Buss & Shackelford, 1997). Without information on the length of the marriage, we cannot, however, decisively rule out the possibility that the key risk factor is the length of the marriage, and not the wife's age, that places younger women at greater risk for being killed in the context of a lovers triangle.

Although reproductive-age women are more vulnerable to being killed by their husbands, a substantial number of women murdered by their husbands are postreproductive age. Post-reproductive-age women comprise about 25% of the 13,670 uxoricides in the FBI SHR database. These results suggest that uxoricide is unlikely to be exclusively attributable to male mechanisms designed to generate behaviors that reduce the risk of cuckoldry. Are some older women killed for money that is then used by men to secure a replacement mate? Are some of these deaths attributable to euthanasia or "mercy killings," where older wives with incurable diseases are killed either by mutual consent or by a man who cannot bear to see his wife of many years suffer any longer (Cohen, Llorente, & Eisdorfer, 1998; Daly & Wilson, 1988)? The FBI SHR database does not provide the data necessary for testing these and other alternative explanations for uxoricides of post-reproductive-age women.

Spousal homicide constitutes an important and recurrent problem in modern America as well as worldwide (Daly & Wilson, 1988, 1992, 1999; Wilson & Daly, 1993). Using one of the largest homicide databases in the world, this study contributes to a growing body of work indicating that reproductive-age women (relative to post-reproductive-age women) married to men who suspect wifely infidelity may be at special risk of uxoricide. Future research could profitably pit competing theories of spousal homicide against each other in critical empirical tests to develop a more comprehensive theory of spousal homicide and a more precise understanding of the circumstances in which this form of conspecific killing occurs.

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