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BATTERED WOMEN HAVE MORE SONS: A POSSIBLE EVOLUTIONARY REASON WHY SOME BATTERED WOMEN STAY*

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Abstract. Domestic violence severely decreases women's health and well-being, thus the question of why many battered women stay with their abusive mates is puzzling. I offer possible evolutionary logic behind battered women's decision to stay, by suggesting hitherto unrecognized potential reproductive benefits of staying in abusive relationships. The logic suggests that battered women should have more sons than daughters. A recent study indeed suggests that battered women may have more sons than other women.

Keywords: evolutionary psychology, domestic violence, selfish genes, offspring sex ratio, generalized Trivers-Willard hypothesis (gTWH)

THE PUZZLE

Domestic violence against women reduces their health and well-being tremendously. According to the National Violence Against Women Survey in the United States (TJADEN and THOENNES 2000, p. 26), 22.1% of a large (n = 8,000) representative sample of women have been victimized by their intimate partners at least once in their lifetimes. This means that 22.3 million women over 18 suffer from domestic violence in the United States, 1.6% (or 1.3 million women) in any given year. Forty-two percent of these women sustain some injury, ranging from scratches and bruises to broken bones and dislocated joints to knife and bullet wounds (p. 49). Occasionally, of course, women are killed by their abusive mates.

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In fact, one of the strongest predictors of whether or not a female victim of violence sustains an injury is whether the attacker is an intimate (p. 53).

Given the enormous health and somatic costs of spousal abuse, the question of why many battered women stay with their abusive husbands or boyfriends is a puzzling one. While most battered women eventually leave their abusers, a substantial minority of them (estimates range from a quarter to a third) remain in their abusive relationships (GONDOLF 1988; SNYDER and SCHEER 1981). LABELL (1979) notes that three-quarters of women living in a shelter (n = 512) have returned to their abusive mates at least once. BARNETT and LAVIOLETTE (1993, p. 137) estimate that the average length of abusive relationships is no different from the average length of all marriages.

The empirical literature on why battered women stay and what causes them to leave is replete with contradictory findings. For instance, FRISCH and MACKENZIE (1991) and RUSBULT and MARTZ (1995) find that the severity of physical injuries sustained by the women correlates negatively with the length of the abusive relationship, while PAGELOW (1981) finds that they correlate positively. NURIUS, FURREY and BERLINER (1992) and TRUMAN-SCHRAM et al. (2000) find that whether the women blame themselves or their mates for the abuse is crucial in their decision to leave their relationships, while CASCARDI and O'LEARY (1992) find that it makes no difference. HORTON and JOHNSON (1993) find that the battered women's social support networks of friends are instrumental in their decision to leave their abusive relationships, while TAN et al. (1995) find that they make no difference.

If social sciences are branches of biology (DALY and WILSON 1999; KANAZAWA 2004; van DEN BERGHE 1990), and if nothing in biology makes sense except in the light of evolution (DOBZHANSKY 1973), then an otherwise puzzling social phenomenon like why so many battered women stay in their abusive relationships might begin to make sense in light of evolutionary logic. I suggest that an evolutionary psychological perspective might highlight hitherto unrecognized costs of leaving abusive relationships and even some reproductive benefits of mating with abusive husbands.

I believe the application of evolutionary psychological logic to the problem of why battered women stay is particularly important because it underscores the conflict between the interest of the individual and that of her genes for which she is but a vehicle (DAWKINS 1989). There is absolutely no question that physical abuse inflicts tremendous health costs to the victim. If it turns out that her decision nonetheless to stay in her abusive relationship benefits her genes at the cost to her physical well-being, then it simultaneously provides an explanation for this puzzling phenomenon and underscores the power of evolutionary logic.

RHODES and MCKENZIE (1998, p. 403; emphasis added) note that "part of the reason that it has been so difficult to conduct research into why battered women resist leaving their partners is because *most are mystified by their own choices*." When pressed, however, many respond by saying "because I love him"; emotional

attachment to the abuser is one of the primary reasons battered women give for why they choose to stay (BAKER 1997; GRIFFING et al. 2002). From an evolutionary psychological perspective, love and other emotions are proximate mechanisms that compel actors to engage in behavior that, in the context of the ancestral environment, would have increased their inclusive fitness. The fact that the women themselves are mystified by their own choices when they follow their emotions and stay with their violent partners seems to suggest the possible operation of evolutionary logic to which they do not have complete conscious access. What, then, are the reproductive benefits that staying with violent mates would have brought, at least in the context of the ancestral environment?

AN EVOLUTIONARY PSYCHOLOGICAL PERSPECTIVE ON BATTERED WOMEN'S DECISION TO STAY

While there is evidence that men's violence against women may be better predicted by the characteristics of the *victims* rather than those of the perpetrators (for example, the women's age, rather than the men's; DALY and WILSON 1988; KANAZAWA and STILL 2000; THORNHILL and PALMER 2000), there are clear individual differences in the extent to which men engage in violent behavior; some men are decidedly more aggressive and violent than others (ELLIS and WALSH 1997; MOFFITT 1993; ROWE, VAZSONYI and FIGUEREDO 1997). Further, given the generality of violence and antisocial behavior (GOTTFREDSON and HIRSCHI 1990; HIRSCHI and GOTTFREDSON 1994), men who are violent in one context are expected also to be violent in others. Thus, on average, men who physically abuse their wives and girlfriends should be more aggressive and violent toward their intrasexual rivals than men who do not abuse their mates. This conclusion is not inconsistent with the finding that women's age predicts men's violence toward them. Men who are married to 25-year-old wives are on average expected to be more violent toward them than men who are married to 45-year-old wives. However, not all men married to 25-year-old wives abuse them. Those who do are expected to be more violent toward their intrasexual competitors than those who don't.

Aggression and violence, while they exact enormous physical tolls on the women in the context of spousal abuse, are at the same time important determinants of the outcomes of intrasexual competitions among men, especially in the ancestral environment where most, if not all, dominance contests were at least partly physical. And women often seek out dominant men of high status as their ideal mates. For instance, REDMOND (1994, p. 125) makes the following observations on South American hunter-gatherer societies.

> Yanomamo men who have killed tend to have more wives, which they have acquired either by abducting them from raiding villages, or by the usual marriage alliances in which they are considered more attractive as mates. The same is true of Jivaro war leaders, who might

> have four to six wives; as a matter of fact, a great war leader on the Upano River in the 1930s by the name of Tuki or José Grande had eleven wives. Distinguished warriors also have more offspring, due mainly to their greater marital success.

The most prolific father in recorded history, with at least 1,042 children, was the emperor of Morocco in the late 16th and early 17th century named Moulay Ismail *the Bloodthirsty*. He was reputed to have killed 30,000 people by his own hands.

Even today, men's testosterone levels, which predict their aggression and violence (BOOTH and OSGOOD 1993; DABBS and MORRIS 1990), also predict their dominance ranks in such a modern yet intrasexually competitive hierarchy as the US Army (MUELLER and MAZUR 1996). While DABBS (1992) finds a negative correlation between testosterone and men's occupational achievement in the U.S., and Figueredo (FIGUEREDO and MCCLOSKEY 1993; FIGUEREDO et al. 2001) finds that physically abusive men in the U.S. and Mexico are "competitively disadvantaged," both of these findings probably stem from the fact that virtually all occupations in industrial economies are evolutionarily novel, and do not require (or are even incompatible with) violence and aggression. Men's (and women's) psychological mechanisms are adapted to the conditions of the ancestral environment, not necessarily to the current environment in which they live. *Ceteris paribus,* men who batter their wives on average would therefore have been intrasexually more competitive *in the ancestral environment* and would have attained higher dominance ranks than men who don't.

In species characterized by high male parental investment, like *Homo sapiens,* males in higher dominance ranks on average make better fathers because of their greater ability to invest in their offspring (and their children are therefore better off) than men in lower dominance ranks. Further, if the battered woman already has children with the batterer, she may not be able to find a superior alternative mate and father for her children, because stepfathers represent probably the greatest physical danger to children (DALY and WILSON 1985). Thus, as terrible as living with a batterer might be for the physical welfare of the mother, the alternative (leaving him and living with another man who is not the genetic father of her children) might even be worse for the physical and reproductive welfare of *her children* (and thus her genes).

There may be an additional reproductive benefit to mating with a batterer. Given that aggression and violence are conducive to dominance in the ancestral environment, that domestic violence is largely a function of men's testosterone levels (SOLER, VINAYAK and QUADGNO 2000), and that the tendency toward aggression and violence, measured by baseline testosterone levels, is highly heritable (HARRIS, VERNON and BOOMSMA 1998; RUSHTON et al. 1986), women who mate with batterers can expect to produce sons who are also aggressive and violent and would therefore do well on average in intrasexual competition for dominance. It is therefore not entirely unreasonable to posit that women may have

been selected to tolerate a certain level of nonlethal violence in their mates in order to produce intrasexually competitive (if also wife-battering) sons.

Evolutionary psychologists have previously proposed explanations of domestic violence. For instance, BUSS and SHACKELFORD (1997; PETERS, SHACKELFORD and BUSS 2002) suggest that men may use domestic violence (or a threat of it) as a mate retention tactic, in order to keep their mates and prevent them from leaving. Buss and Shackelford's theory explains why some men engage in domestic violence, while mine explains why some battered women stay in their abusive relationships. My explanation is therefore complementary to Buss and Shackelford's, not alternative to it.

I am emphatically *not* suggesting that women have a preference to mate with violent abusers instead of gentle, kind and resourceful millionaires. Given the choice, any sane woman would prefer the latter to the former. However, the process of mating is far from random or unrestricted; no woman has an entire range of potential mates to choose from (BLAU 1977). Due to the highly socially structured and constrained nature of meeting people, which results in assortative (nonrandom) mating, the choice some women unfortunately face is often between unemployed, uneducated, unintelligent, unmotivated, alcoholic men who are violent, and unemployed, uneducated, unintelligent, unmotivated, alcoholic men who are not. My suggestion is merely that, under some circumstance, women may have been selected to prefer the former to the latter. Some (present-day) losers may be better than others, especially in the context of the ancestral environment. There is even some evidence from field experiments in four American cities that employed men are more likely to batter their wives than unemployed men (BERK et al. 1992).

This line of logic leads to one novel empirical hypothesis. Aggression and violence only help men in their intrasexual competition for dominance (and thus for mates); they do not help women's intrasexual competition for mates and might even hurt their reproductive interest in taking care of their offspring (CAMPBELL 1999, 2002). Therefore, exactly for the same reasons as the logic behind the Trivers-Willard hypothesis[1] (TWH: TRIVERS and WILLARD 1973), *women who stay and mate with violent batterers at a personal cost to their physical welfare should produce more sons than daughters with their abusers.* My prediction provides a nice contrast with the prediction derived from the TWH because spousal abuse is

[1]The TWH predicts, among humans, that wealthy families should have more sons than daughters, and poor families should have more daughters than sons. This is because, among the offspring of the wealthy, sons, who inherit their fathers' wealth, are expected to have much greater reproductive success than their sisters, but, among poor families, sons without resources are expected to have much less reproductive success than their sisters. The TWH has been supported with data from a wide variety of human societies, including the contemporary United States (BETZIG and WEBER 1995; GAULIN and ROBBINS 1991; KANAZAWA 2001), although ELLIS and BONIN (2002), FREESE and POWELL (1999) and KELLER, NESSE and HOFFERTH (2001) offer counterevidence. CRONK (1991) provides a comprehensive review of the empirical evidence in support of the hypothesis.

generally concentrated in lower socioeconomic classes (HOLTZWORTH-MUNROE, SMUTZLER and BATES 1997), for which the TWH predicts a surplus of daughters, not sons.

BATTERED WOMEN HAVE MORE SONS

A recent study, testing a theoretical extension of the TWH called the generalized Trivers-Willard Hypothesis (gTWH) (KANAZAWA 2005; KANAZAWA and VANDERMASSEN 2005), finds that battered women have a statistically significantly higher offspring sex ratio (more sons) than the population average (KANAZAWA 2006). A meta-analysis of published studies of battered women and their children shows that the proportion of boys among the children of battered women is .5286, which is significantly ($p < .05$) higher than the population mean of .5122 (KANAZAWA 2006, Table 1). Further, an analysis of the National Child Development Study and British Cohort Study demonstrates that, even after controlling for education, income, social class, and current marital status, the number of abusive husbands that women have had increases the number of boys that they have ($p < .001$), while it has no effect on the number of girls (KANAZAWA 2006, Table 2). The unstandardized coefficient for the number of abusive husbands in the multiple regression model ($b = .1324$) suggests that women have more than one-eighth of a boy for each abusive husband they have.

Figure 1 shows the mean number of boys and girls that women have by the experience of having had at least one abusive husband. (Note that these are bivariate comparisons without any statistical controls as in the multiple regression model discussed above.) The top figure shows that the mean number of boys that women with at least one abusive husband have (.7912) is significantly larger than the mean number of boys that women who have never had an abusive husband have (.7007) ($t = –2.6977$, $p < .01$). In contrast, the mean number of girls for women with at least one abusive husband (.6787) is no different from the mean number of girls for women who have never had an abusive husband (.6836) ($t = .1648$, *ns*). Consistent with the prediction derived from an evolutionary psychological perspective on why some battered women may stay, the analyses in KANAZAWA (2006) show that battered women in the United States and the United Kingdom have more sons (but no more daughters) than women in general.

The difference in the mean number of sons between abused and nonabused wives (about one-eighth of a son) is admittedly very small. However, evolutionary biological models show that even a 1% advantage in reproductive success is sufficient for the trait to spread within a relatively short period of time (JONES 1999, pp. 844–848; NILSSON and PELGER 1994; TRIVERS 1985, pp. 28–29). So even a small advantage of having a one-eighth of a son carrying his father's violent genes and thus outcompeting other men in intrasexual competition for mates might be sufficient for the tendency for women to stay with abusive husbands to evolve.

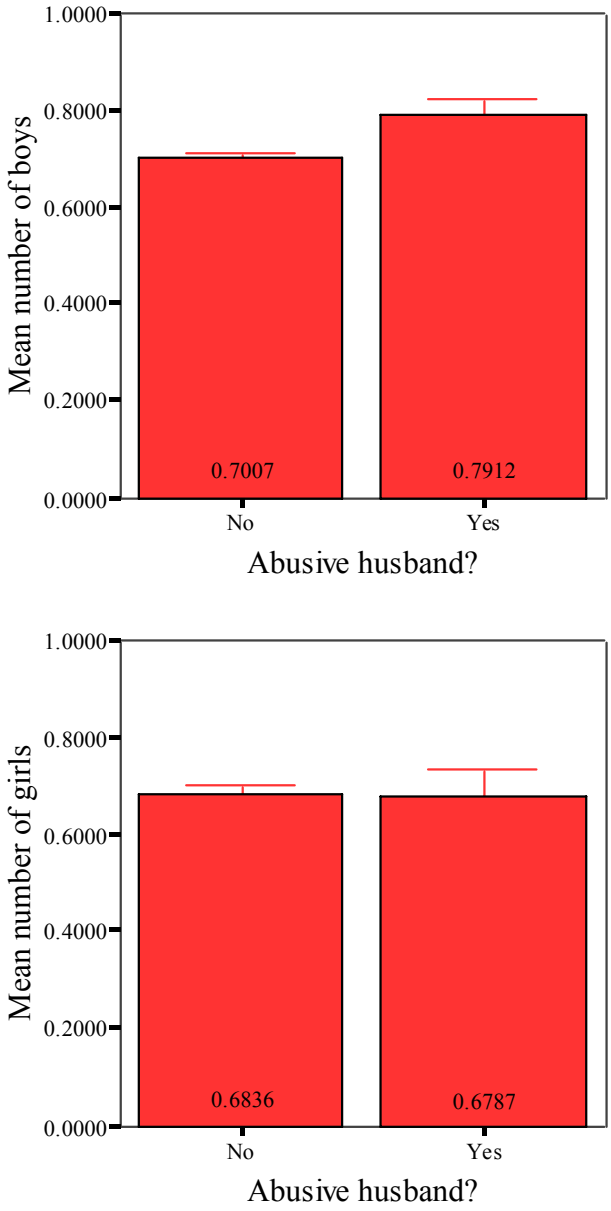

Figure 1. Mean number of boys and girls by the experience of spousal abuse

Note: Error bars denote the 95% confidence intervals the mean.

CONCLUSION

Evolved psychological mechanisms, such as the one behind the TWH or the one proposed in this paper, are adapted to the conditions of the ancestral environment, not to the current environment. In the ancestral environment, violent men often eliminated their intrasexual rivals through physical competition, attained high status and achieved great reproductive success. Given that the current environment of the contemporary United States or the United Kingdom, where the criminal justice system effectively punishes and imprisons violent men, is vastly different from the ancestral environment, it is remarkable that the proposed evolved psychological mechanism has *any* designed effect at all today.

There does, however, appear to be a weak but statistically significant tendency for battered women to have more sons than daughters (an eighth of a boy but no girls per abusive husband). This tendency could easily have been much stronger in the ancestral environment. I suggest that this may be a potential evolutionary reason why some of them choose to stay with their abusive mates. I believe this finding, if robust, underscores the power of the Dawkinsian genecentric view of life.

However, I emphasize that my hypothesis that some battered women choose to remain in their abusive relationship unconsciously to produce more sons who will grow up to be intrasexually competitive remains highly speculative, despite the initial empirical support for the hypothesis. I merely aim to stimulate further research and data collection on the possible relationship between spousal abuse and offspring sex ratio. The potential contribution of this brief theoretical note is to present one possible explanation of the otherwise puzzling phenomenon of why some battered women stay with their abusive husband.

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