

# Using Evolutionary psychology to analyze criminal behavior between male and female

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## Abstract:

This article proposes an evolutionary psychological explanation of male and female criminal behavior. The paper hypothesizes that the psychological mechanisms underlying male and female criminal behavior are context-sensitive solutions to specific social adaptive problems. The study used a hybrid approach, combining insights from quantitative survey data and literature analysis. The study includes two researcher designs, one focuses on testing gender theories and the other aims to testify the hypothesis revolving bullying. Both samples include 200 participants who provided detailed data on predictions of male and female tendency to commit crime after being bullied. Through descriptive statistics and correlation analysis, it is found that there is a certain degree of association between being bullied and violent crime or non-violent crime. The article Outlines how men and women respond to these bullying issues and explores why, in certain situations, men are more likely than women to be violent in predicted crimes.

**Keywords:** Evolutionary psychology, criminal behavior, hybrid approach, bullying

## 1. Evolutionary Theories

### 1.1 Male Reproductive Strategies and Status Competition

The human brain, like the rest of the body, has developed specific functions over a long period of evolution. The human body (including the brain) evolved in the African savanna over millions of years during the Pleistocene, adapting to the environment of the time. Although the current environment is very different from previous environments, our mental mechanisms remain the same and produce the same

behaviors as when we were in previous environments. This may result in our behavior in the current environment being completely maladaptive. In Kanazawa and Still's study, it was noted that humans have actually been polygamous throughout their evolutionary history, and that this system of reproduction has resulted in intense competition between males. Sex differences in parental responsibility only exacerbates this competition: Male's non-involvement in the gestation process allows them to have a greater number of offspring compared to females, suggesting that the number of offspring of males are exclusively limited by their access to females. Existence of

polygamous creates an uneven distribution of productive resources (access to females); in certain ancient societies, it was observed that 5% of males are responsible for 85% of offspring (Bosserman, 1985). In primitive societies, young males often have difficulty obtaining material resources through legal means because these resources required for mating tend to be concentrated in the hands of older males. As a result, they may use illegal means such as theft to obtain resources in order to attract females and increase their chances of reproductive success (Kanazawa & Still, 2000).

This psychological mechanism of using illegal means was even shaped before the emergence of informal norms against violence and theft. This psychological mechanism causes males to commit crimes in some cases in order to seek reproductive success, although they themselves may not be aware of the evolutionary logic behind this.

Theft originally constituted a byproduct of the social distribution of mating resources that was a defining feature of ancient human society. Nevertheless, this risk-taking behavior confers a significant evolutionary advantage, as it facilitates broader access to mating resources. Conversely, the unequal distribution of reproductive resources may result in reproductive failure for young males who fail to utilize risk-taking behavior to secure reproductive resources. (Buss, 2019) A comparison of the advantages and disadvantages of risk-taking behavior reveals that natural selection favors individuals who take aggressive action when mating opportunities are limited. As a consequence, the males who lack this risk-taking trait would become increasingly marginalized within the overall population. Therefore, even if risk-taking mechanisms initially emerged as a byproduct, they would have been selected for and become an adaptation inherited by males in the present day.

The inheritance of risk-taking adaptation can be observed through the association between mating resources and criminal behavior. The evolution of moral and behavioral guidelines since ancient times has led to a greater emphasis on ethical conduct and the establishment of legal and social norms. Consequently, risk-taking behaviors that were previously accepted in ancient societies are now often regarded as criminal acts. Given the violent and unpredictable nature of such risk-taking behavior, which often involves physical aggression, it is not uncommon for risk-taking behavior to manifest itself in serious injuries or homicide. Indeed, as demonstrated by (Daly & Wilson, 1997), the proportion of unmarried males among male homicide perpetrators in the Detroit area is 73%, which is significantly higher than their representation in the total male population (43%). Therefore, it can be inferred that a lack of resources and an inability to attract a long-term

mate may be associated with male-to-male homicides.

## **1.2 Female Competition and Indirect Aggression: Bullying as a Risk Factor for Future Crime**

This relationship extends beyond mating resources and violence to encompass bullying, a more subtle factor that contributes to an individual's future behavior. In addition to the well-documented consequences of verbal and physical abuse, bullying has also been linked to an individual's mating resources. As posited by (Gallup et al., 2009), males who are subjected to aggression during their middle and high school years tend to experience a decline in status and a reduction in the number of sexual partners they engage with by the time they reach college. Given these findings and the established link between access to mating resources and criminal involvement, we hypothesize that males who have experienced bullying in middle school or high school may be more likely to engage in criminal activities as adults.

In contrast, females prefer indirect aggression, which includes making others hate someone, excluding peers from the group, giving the "silent treatment," spreading rumors, and using contemptuous body gestures and facial expressions, all of which are designed to hurt others and tend to be more circuitous, with many of the tactics focusing on weakening the victim's social relationships. According to Vaillancourt and Krems, girls and women tend to use indirect aggression rather than more direct methods because indirect aggression is less risky and minimizes harm to others while minimizing personal dangers such as avoiding retaliation or third-party reprisals, as the identity of the perpetrator is often unknown, thus avoiding potential backlash or social condemnation (Vaillancourt & Krems, 2018).

The female's desire to minimize personal risk can be explained by the 'theory of obligate parental investment'. This theory suggests that in most species, females typically invest more time and energy into conceiving and raising their offspring than males. This investment is critical to the survival and reproductive success of the offspring. Specifically, in humans, females experience longer gestation and lactation periods to conceive and give birth to their offspring, and typically take on more caretaking and nurturing responsibilities during the child's development. In contrast, males have relatively little direct input into the reproductive process (Trivers, 1972). Historically, the survival of the mother has been critical to the survival of offspring, making the avoidance of direct conflict more important for women.

On the other hand, indirect aggression plays an important role in women's social interactions and competition, and

can be used both to reduce the competitor's competence and mate's value, and to help an individual achieve and maintain a higher social status, which in turn affects their reproductive and survival adaptations. First, indirect aggression reduces the social status of the victim, which in turn affects his or her mate value. This is because social status is associated with sexual attractiveness and reproductive success in humans and other animals. For example, it has been found in a number of studies that victims may experience problems such as substance abuse and increased criminal behavior, all of which may further reduce their social status and mate value. From an evolutionary perspective, females indirectly increase their own reproductive success by indirectly attacking to put their competitors at a social disadvantage, thereby reducing their competitors' chances in mating competition. It should be noted, however, that these behaviors and results are analyzed within the theoretical framework of evolutionary psychology, and the actual situation may be complicated by various factors.

## 2. Experiment Designs

*Experiment 1. The Impact of Social Status and Mating Competition on Gender-Specific Aggressive Behaviors*

### 1. Participants

Random sampling of 200 people (100 males 100 females) aged 18 – 30

### 2. Procedure

Participants would first be randomly allocated into two conditions: high social status and low social status conditions. People in high status groups are placed in a simulated environment where they receive rewards, resources and leadership roles. Participants in Low-status group are placed in an environment where they receive negative feedback and less resources. Furthermore, half of the participants in each conditions are then exposed to images or descriptions of potential partners who are highly desirable, encouraging them to think about mating strategies. They will be asked on levels of attraction in order to confirm their desirability towards the person. Furthermore, each participant would be provided with a questionnaire that presents hypothetical scenarios that could be responded by either choosing violent/risky behavior (eg. physical confrontation, engaging in high-stake high-rewards decisions) or non-violent behaviors (eg. Avoiding conflict), or indirect violence (eg. verbal). The frequency of each choice selection is used to determine whether participants have violent/risk taking tendencies.

## 3. Measures

Data collected would first be divided by genders in order to observe general differences in response between males and females. Using statistical method (ANOVA test), we would examine whether data collected has strong statistical power. A baseline personality test (using the Big Five personality test) would be conducted prior to the experiment in order to assess traits like dominance, agreeableness and aggressiveness. Participants that score excessively high on these traits would be excluded from the experiment. This is to prevent individual variability influencing the accuracy of results. Furthermore, they would be presented with

Results:

For Males: Higher likelihood of choosing direct violent or risky behaviors, especially when in the low social status group and exposed to mating competition.

For Females: Preference for indirect aggression, particularly when in the low social status group, consistent with parental investment theory.

## 4. Discussion

Baseline test being used ensures that the study has high degree of internal validity. However, the design is slightly artificial since giving people scenarios aren't realistic enough/ difficult to evoke fully true response. (Low generalizability to people with high/low social status)

Potential Improvements: Changing the lab experiment to a Quasi experiment to assess people with different social status in real life would be a better approach to gather generalizable data.

*Experiment 2. Longitudinal Study on Bullying and Criminal Behavior*

Aiming to testify the hypothesis we've established on bullying based on theories targeting genders, experiment 2 aims to testify whether there's causality between teenage experience of bullying and criminality in adulthood.

### 1. Participants

200 teenagers (13-18 years old) from 5 public schools

### 2. Procedure:

Participants would complete a questionnaire assessing their experience of encountering bullying (duration, type of bullying). They would also be assessed on their mental health status (sign of depression/ anxiety)

Participant who performs certain violent crime in adulthood (age 20-50) is asked to self report their criminal record.

Qualitative analysis: Individuals response would be analyzed based on correlations between bullying experience and criminal act conducted.

Quantitative analysis: researchers would conduct statistical tests to determine whether the correlation is strong enough.

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