

# SURVIVAL OF THE AGGRESSIVE?

Behaviour and Beliefs Related to Male Aggression: Evidence of Intrasexual Selection in Humans?

**Co-author: Dr. Geoff Kushnick**

**Affiliations: College of Arts and Social Sciences**

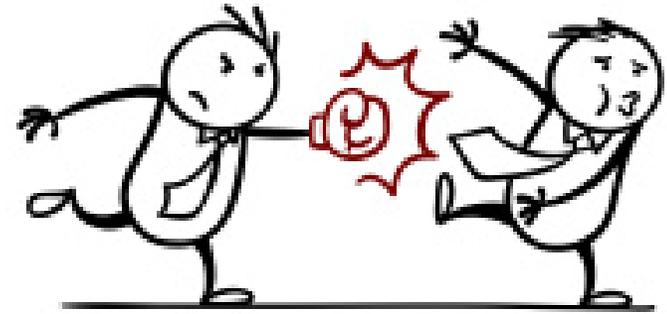


# SEXUAL SELECTION

- Inter vs Intra sexual selection
- Favours traits that increase reproductive success
- Ornaments vs Armaments



# HAS HUMAN MALE AGGRESSION BEEN SHAPED BY SEXUAL SELECTION?



- Greater prevalence of male aggression where intensity and strength of intrasexual selection is higher
- Specifically:
  - Higher levels of aggression will be associated with:
    - Increased mating competition when males more prevalent (male biased sex ratio)
    - Presence of polygyny, e.g. man takes multiple wives
  - Conversely, lower levels of aggression will be associated with:
    - Greater effort of males towards subsistence activities



# SIGNIFICANCE

- Not new ideas, but...
- Most research on sexual selection in humans has focused on intersexual selection
  - OR traits we've got to attract the opposite sex
- We have added to the body of research on intrasexual selection in humans using quantitative data from real societies



# METHODS

- Using the Standard Cross Cultural Sample 78 pre-industrial, small scale societies
- One composite measure of aggressiveness, used Principle Component Analysis
- Sex Ratio
  - A better measure is Operational Sex Ratio- hard to glean from SCCS
  - Used male mortality in war (high male mort = female biased sex ratio)
- Using number of wives and calculated the variance in number of wives
- Least-squares linear regression models (multivariate)
- Controlled for complexity of society, warfare and region (when appropriate)



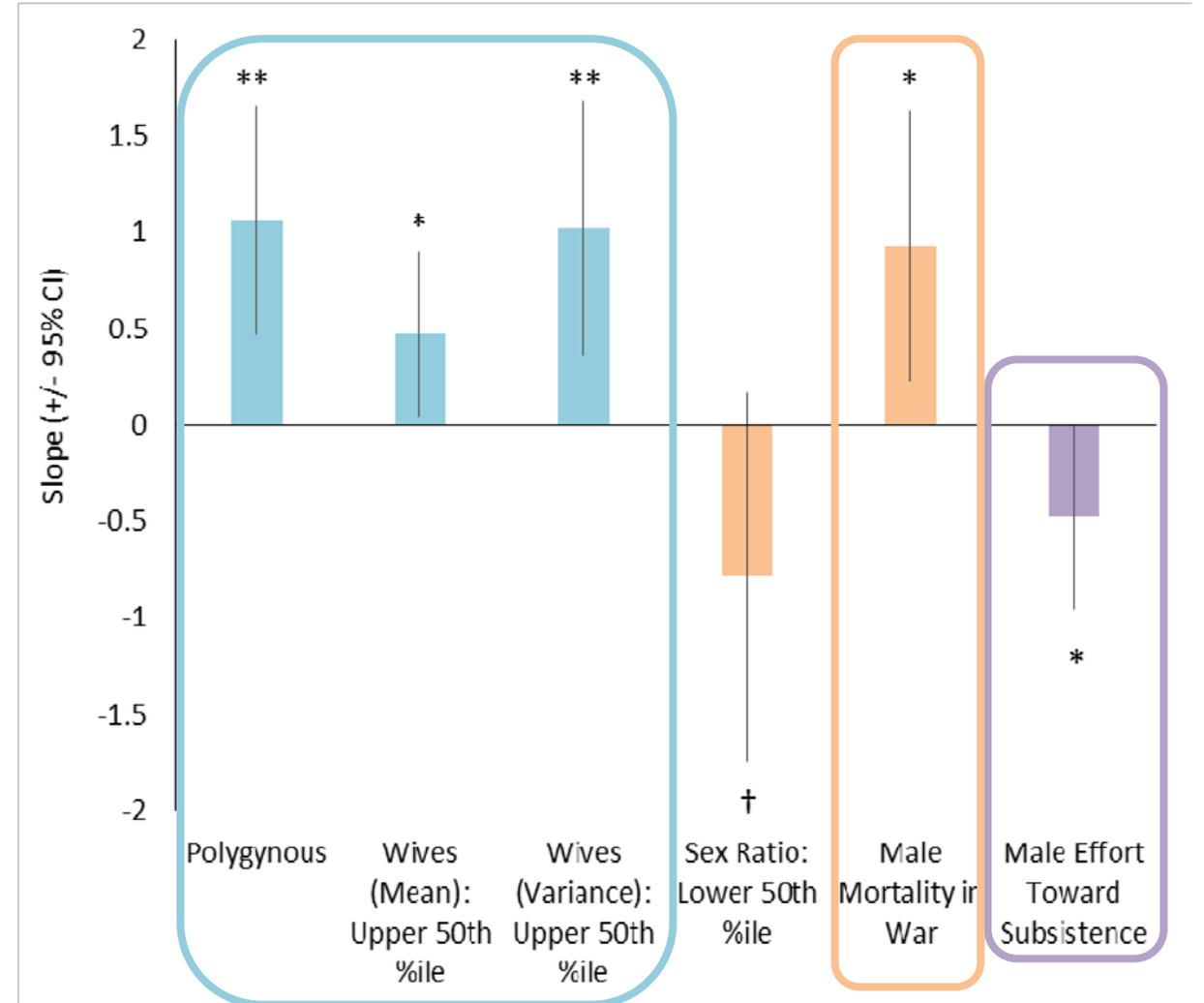
# INTRASEXUAL SELECTION CAN EXPLAIN AGGRESSION

- Strong support for the hypothesis that intrasexual selection explains the distribution of behaviour and beliefs related to male aggression!



# RESULTS

- Aggression higher in polygynous societies
  - Aggression is higher when there's contest competition, mean and variance in number of wives
- Aggression is lower when males expend more effort toward subsistence
- Excess females were associated with higher levels of male aggression



**Figure 1.** Factors that influence the strength of sexual selection on a composite measure of behaviour and beliefs related to male aggression. All estimates are from the multivariate linear regression models. (Note: †  $p < 0.10$ , \*  $p < 0.05$ , and \*\*  $p < 0.01$ .)

# LIMITATIONS

- Operational Sex Ratio measures
- We overlook within society variation



# ACKNOWLEDGEMENTS



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# CONTACT AND FURTHER INFO

Tara-Lyn Carter (Camilleri)

[u5604273@anu.edu.au](mailto:u5604273@anu.edu.au)

**Pre-print:** <https://anu-au.academia.edu/TaraLynCamilleri>

**BLOG:** [geokush.com](http://geokush.com)



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## **SYNOPSIS: BEHAVIOUR AND BELIEFS RELATED TO MALE AGGRESSION: EVIDENCE OF INTRASEXUAL SELECTION IN HUMANS?**

**TARA-LYN CARTER AND GEOFF KUSHNICK.**

Sexual selection favours traits that increase mating and, thus, reproductive success. As termed by Darwin: intersexual selection occurs between mates, i.e. a peacock's plumage is a result of females favouring these impressive and colourful feathers. Intrasexual selection however occurs between members of the same sex over mates and results in armaments, i.e. the horns on a stag give him an advantage when fighting other males for access to females. Some scholars have suggested that if intrasexual selection is driven by contest competition, this has shaped human male aggression. If this is the case, one testable hypothesis is that beliefs and behaviour related to male aggression should be more prevalent in societies where the intensity and strength of sexual selection is higher. Measured by factors such as the presence and scope of polygyny (one male mates with multiple females), the number of same-sex competitors relative to potential mates (sex ratio), and male contribution to subsistence activities. We used data from 78 societies from the Standard Cross Cultural Sample, a widely used ethnographic data set combining years of data collection from many societies around the world. We found strong support for this hypothesis. We discuss potential alternative explanations for the relationships, ruling out some using multivariate methods to control for confounding variables such as political complexity, warfare and geographic clustering.

