

# Future Directions in Wolf Aggression

## Initial Follow-up Research Conducted in 2001

by Annie B. White

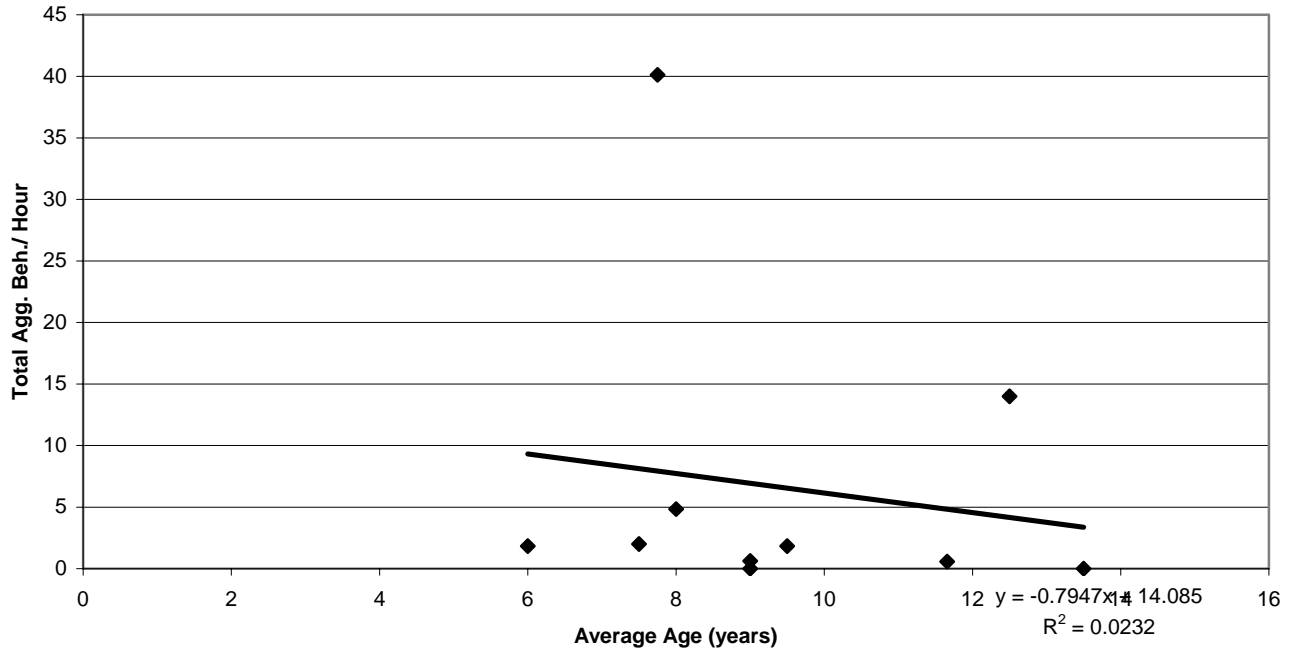
**For original research, please refer to:** White, A.B. 2001. Wild and captive wolf (*Canis lupus*) aggression in relation to territory availability and pack size. Honors thesis - University of Colorado, Boulder. (Also to be seen at [http://www.anniebwhite.com/Wolf\\_Content/wolf\\_information/Thesis.pdf](http://www.anniebwhite.com/Wolf_Content/wolf_information/Thesis.pdf)).

Why does the number of wolves in the pack affect aggression the most? My best hypothesis is that as the number increases, so does the complexity of relationships between the pack members. While a male and female living together have a simple relationship where both are alphas, a pack with 4 males and one female has many more complex and dynamic relationships. Wild wolves are capable of maintaining their hierarchy because of the nature and makeup of even a large pack. It is usually the oldest adults acting as alphas with their offspring acting as subordinates. Since they all grew up together and bonded at an early age, wild alphas do not often need to implement aggression in order to uphold their status. Captive wolves, on the other hand, are usually not introduced to each other until long after the bonding period has ended. Also, many captive wolves have come from different places, ultimately meaning pack members are not related to each other.

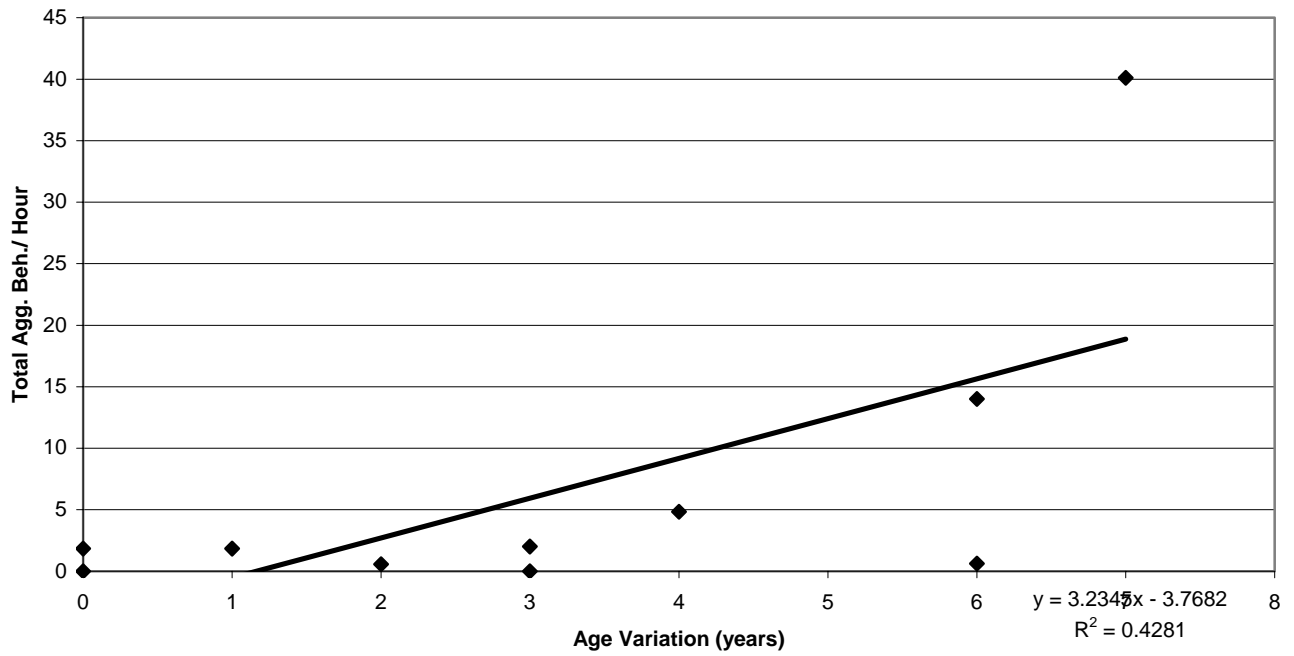
In considering all of this, I was able to break these new factors into 4 variables: average age of the pack, variation in age, years spent living together and the relatedness of pack members. The relatedness was calculated by assigning a number (1, 2 or 3) to degrees of familial relationship (cousin, parent/offspring or siblings, respectively). Then the numbers for each relationship between pack members were added up and the sum was used as an index.

The initial results for these analyses are included below. The research is incomplete at this time, but I hope to continue along these same lines in the future when additional funding is available. Please contact me with any questions, comments or suggestions.

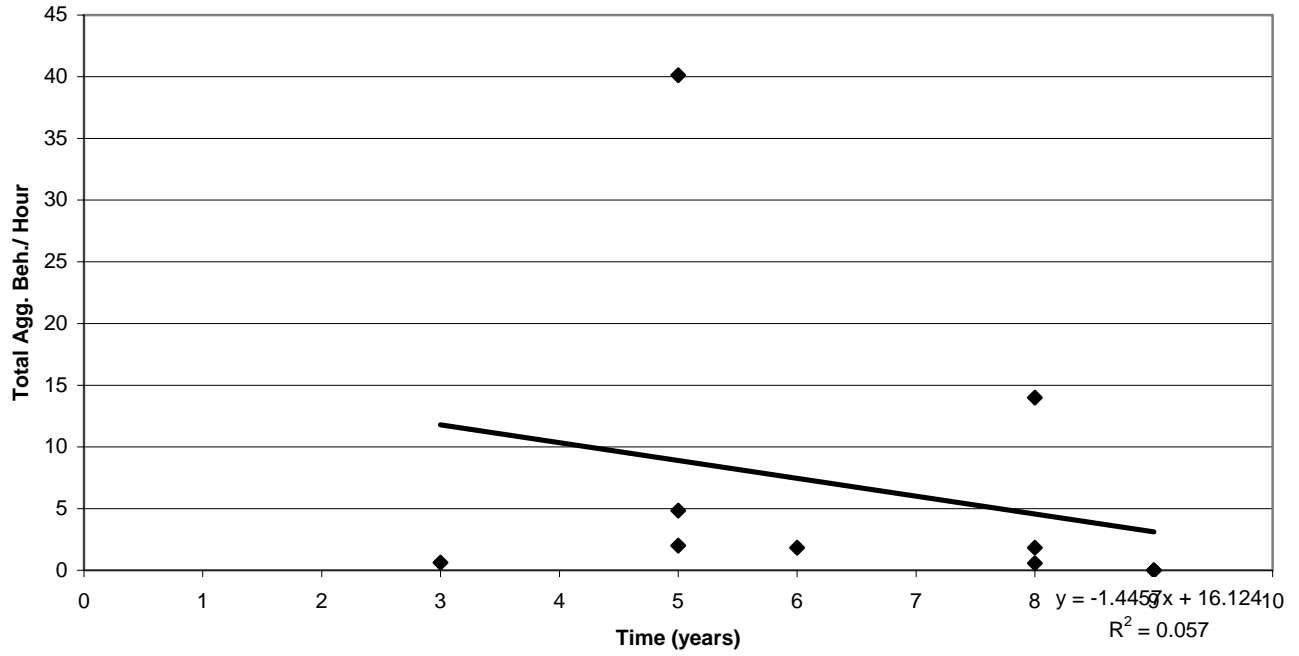
Average Age of Wolves in Enclosure



Variation in Age Between Wolves



Time Spent Together



Relatedness of Wolves

