evaluate the model by year across all years. (linear mixed effects model?)

David's Score ranking system having a range over positive and negative - biologically relevant?

using eigenvalues and eigenvectors to measure change in connectivity matrices through time

Kay:

controlling for these other variables

making some changes in matriline assignments

Here are my concerns.

The real assignments in the clan when we originally studied it in the late 1980s can be seen in Fig 1 of the attached Ethology paper. The kinds of mistakes I am seeing in the REU work include

Matriline Assignment Issues

1) matrilines I & K should be together in one matriline

2) Matrilines H & N should be together in one matriline

3) Matrilines L & D should be together in one matriline

4) Matrilines T & P should be together in one matriline

5) matrilines Q & S are not matrilines at all; instead they are merely young cubs who could never be assigned to mothers, & neither lasted more than a few weeks!

6) Matriline C emigrated from the Talek clan as a group in late 1989, so they didn't change ranks within talek, they just left en mass during a major clan fission event (the one described din the attached paper). Same goes for matrilines H & N. As you will see in the attached paper, matrilines I & K (ES & LG were sisters) left for about 6 months, then decided to return, and lost rank in a big way when they returned (they plummeted to the bottom of the hierarchy). In any case, I think all the analyses would need to be redone with these adjusted matrilines represented to be accurate.

On p 22 of the presentation, it says high-ranking matrilines have larger body size, but that is wrong. In fact low-ranking adult females are larger than high-ranking ones (see rcent paper by Swanson et al, attached). Because we know that body size affects fitness independent of rank, especially among low-ranking matrilines, it would be a good idea to control for mean body size among adult females within matrilines.

On p 29, you suggest that family trees might be useful, and I wholeheartedly agree. One of my former students, Russ Van Horn, created complete genealogies for several matrilines, but these would now need to be updated, as Riss did his back around a decade ago. I have his info stored on the server at MSU (I am working at home today), and can try to dig that up and send it to you if the REU students want to try to update it based on the "mom" & "birthdate" columns in tblhyenas.