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Background

- Grooming is a key component of sociality that strengthens social bonds, including mother-offspring bonds, in many species of nonhuman primates including baboons^{1,2}
- Social bonds positively affect fitness in both males and females¹⁻⁵ but female survival is more tightly linked to sociality in baboons⁵
- Males and females have different sociality patterns in adulthood: males only groom females, while females groom both sexes⁴
- Female female relationships, including mother daughter bonds, are especially important because females remain in natal groups throughout their lives, while males disperse at maturation⁴
- It is unknown how grooming patterns develop and if males and females differ in social development

Questions & Hypotheses

- 1. What predicts the age when baboons initiate their first groom?
- 2. Who do baboons first groom?
- 3. How does mother-offspring reciprocity change over time?
 - Mother-daughter relationships will have higher rates of mother initiating grooming during early age, then shift to equal rates of initiation (i.e. complete reciprocity)
 - Mother-son relationships will have higher rates of mother initiating grooming independent of the son's age

Methods

Collection Amboseli Baboon Research Project Database (BABASE)

Queried using PostgreSQL (N = 435)

| | Age at First Groom: Constraints Best fitting model selection | ox te C | Prop ed via riterio | oortic a AIC on) | onal J c (Ał | lazai aike | rd Mo Infor | odels matic | i >r |
|----|--|---------------|---------------------------|------------------------|-----------------|---------------|-----------------|-------------------|---------|
| | 2. Who Is Groomed | F | irst: | Chi | – Sq | uare | Test | in R _I | / |
| | 3 Mom Grooming Prone | rt | ion : | <i>m</i> | nother | initia | t i ng g | room | r |
| | 5. Mont Crooning riopo | | | tota | l num | ber of | grooi | ning e | !ľ |
| | Generalized li | ne | ear m | ixed | mod | els in | R | т | |
| | Re | | | | | | | | T. |
| 1. | Alberts, Susan C. "Social Influences on Surviv | | | | | | | - | - |
| 2. | Archie, Elizabeth A., et al. "Social Affiliation Ma Survival in Wild Female Baboons." <i>Proceeding</i> | | | | | | | | |
| 3. | Di Fiore, Anthony, and Peter S. Rodman. "Tim Lagotricha Poeppigii) in a Neotropical Terra Fi | | | | | | | | |
| 4. | Kulik, Lars, et al. "Sex Differences in the Deve Mulatta)." <i>International Journal of Primatology</i> 4. | | | | | | | | |
| 5. | Silk, J. B., et al. "Social Bonds of Female Bab 302, no. 5648, 2002, pp. 1231–1234., doi:10.1 | | | | | | | | |
| 6. | Snyder-Mackler, Noah, et al. "Social Determin Animals." <i>Science</i> , vol. 368, no. 6493, May 20 | | | | | | | | |

The Development of Grooming Behavior in Wild Baboons: Sex Differences in Mother-Offspring **Social Relationships** Madison Griffin¹



Offspring Age In Months

| Estimate ± SE |
|---------------------|
| -0.017 ± 0.005 |
| -0.805 ± 0.111 |
| 0.020 ± 0.080 |
| 0.004 ± 0.039 |
| -0.006 ± 0.044 |
| -0.008 ± 0.058 |
| -0.005 ± 0.037 |
| -0.006 ± 0.070 |
| 0.003 ± 0.031 |
| -0.0008 ± 0.045 |
| -0.0005 ± 0.032 |

Figure 3: Proportion of male or female offspring



Conclusions

Age of First Groom:

Males and females start to groom at different ages perhaps because males and females have different grooming patterns and males develop faster physically rather than socially

First Grooming Partner:

Offspring significantly grooming mothers first is consistent with the importance of mother-offspring bonds and how grooming strengthens them

Mother-Offspring Reciprocity:

- Mother-daughter relationships reach reciprocity as they get older, supporting the fact that female-female relationships are characterized by frequent grooming
- Mother-daughter relationships are more reciprocal than mother-son relationships suggesting that grooming is more important for females and that males display sociality in ways other than grooming

Future Studies:

Study how mother-offspring reciprocity changes during adulthood

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