

Dynamics of dominance of females relative to males in a group

13- 19 January 2020 @Oort

The aim of the workshop has been to generate the latest insights into the determinants of inter-sexual dominance relations in animals and humans, and to set up a new scientific field of studying this. Major questions regarding intersexual dominance concerned its causes, benefits, and evolution. As to its causes the main questions were to what degree inter-sexual dominance relations in influenced by sexual dimorphism in body size, the self-reinforcing effects of winning and losing fights, agonistic (also called coercive) strategies, and prosocial strategies (such as grooming, coalition formation and strategies to gain a good reputation). Benefits of female dominance relative to males concern protection of females against males in terms of safety for their offspring, autonomous choice of mating partner, priority of access to food sources, and in humans also career opportunities and equity in payment. As to evolution of inter-sexual dominance, a particular focus concerned sexual control by males of females.

It became clear from the range of animal species (mostly primates) surveyed by the speakers, that the causes of inter-sexual dominance differed per taxon. Whereas in some species of, for instance baboons and the common chimpanzee, sexual coercion (helped by male biased sexual dimorphism in body size) keeps females completely subordinate to all males, in other species of baboons and the pygmy chimpanzee also the bonobo, females sometimes dominate males (a degree of co-dominance). In other taxa (such as macaques, vervet monkeys and capuchin monkeys), despite males being much larger in body size than females, males do not completely dominate all females. Instead, females are more dominant over males in those groups the higher the percentage of males in the group, probably due to the self-reinforcing effects of winning and losing fights. Effects of sexual dimorphism in body size on inter-sexual dominance relations were weak or absent among species of lemuridae and indriidae. In hyenas intersexual dominance depends on support and alliance formation. Further, in promoting women in leadership in humans, dominance may also derive from prestige and respect, and organizational norms and structures, instead of being only based on coercion. Our overview leads to evolutionary questions regarding what evolutionary trajectories led to all these different patterns.

The format of the workshop was praised by many of the participants. It consisted of about three key note lectures in the morning related to the main questions posed above and extensive topical discussions in self-selected sub groups in the afternoon. Discussions of sub-groups were fed back to a plenary meeting each afternoon while keeping track of the main points of discussion in the form of bullet lists. Topics involved, and were not confined to, pluriformity of causes of female dominance, methodological issues of dominance, confusion about jargon between scientist studying humans and those studying animals, absence or presence of behavioral differences between the sexes in humans. On Thursday, a number of participants chose to take some time off during the afternoon to tour the city of Leiden.

Tangible outcomes of the workshop were the creation of several collaborations, either setting up collaborative projects for Master Theses, collaborative papers, for instance on definitions and methods of measuring dominance, and exploring the possibility of a large communal grant proposal. To facilitate the continuation of the group's collaboration after the workshop, we have set up a shared Google Drive depository for the exchange of ideas and group-wide updates of manuscript drafts.

Joey Cheng (York, Canada)

Charlotte Hemelrijk (Groningen, the Netherlands)

Peter Kappeler (Goettingen, Germany)