

The role of sociability in the social system of chacma baboons (*Papio hamadryas ursinus*)

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Many animals live in social groups due to the net fitness benefits sociality offers. Group members form tight social relationships, but differing behaviour of individuals may shape the nature and benefit of such relationships. Individuals that are more sociable have a greater tendency to seek companionship of others and engage in more social interactions. They therefore typically form and maintain stronger social relationships and thus may be better able to reap the benefits of group life.

This study quantified individual sociable behaviours in a primate species, the chacma baboon (*Papio hamadryas ursinus*), into a sociability index and analysed them in the context of the whole group using social network analysis. It evaluated the differences in individual sociability, its demographic influencers and temporal consistency and then determined its potential social benefits through network position and grooming behaviour.

The results showed that the baboons formed dense, cohesive and stable social networks based on highly structured individual social relationships. Individuals differed significantly in their sociability, and this was influenced by their sex, females being the more sociable gender. The effects of age, rank, troop identity and study year did not influence an individual's sociability. Differences in individual sociability were consistent over time and thus indicative of sociable personality types. Sociability was correlated with the direct network centrality measures of Out-degree, Strength and Eigenvector but not the indirect ones of Out-closeness and Betweenness. Thus, the results suggest that highly sociable individuals can benefit from their sociability at a local level by having more associates and stronger relationships with them, but that they are not more socially connected to all group members and therefore do not gain greater social benefits at the group level. Finally, sociability was not correlated with grooming behaviour, indicating that grooming and its associated rewards are not a direct benefit of sociability. These findings shed light on the important role sociability plays in primate networks and the adaptive advantages sociable behaviours can entail for social animals.