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What Are We? — How Characteristics of Relationships determine their stability in Barbary macaques

Dominance hierarchies are a fundamental feature of primate social organisation, and the stability of these rank relationships has consequences for individual fitness and group cohesion. While relationship instability has been studied in terms of its proximate causes — particularly coalitionary dynamics — less is known about how properties of individual relationships shape the expression of instability behaviours. This study examines whether rank difference, kinship, and bond strength predict relationship instability in female Barbary macaques (*Macaca sylvanus*), a moderately tolerant primate with matrilineally inherited female dominance hierarchies. Using behavioural observation data collected over ten weeks from a semi-free-ranging group, I quantify rank instability across known female dyads using five measures: proportion of counter-aggression, subordinate-initiated conflicts, dominant's unprovoked submission, decided conflicts won by the subordinate, and unprovoked submission by the subordinate. I predict that relationships characterised by smaller rank differences, weaker social bonds, and lower relatedness will show greater instability across all five measures. Additionally, I assess the group's females' dominance style via hierarchical steepness and counter-aggression rates, comparing these to published values for this species. At the time of submission, the results are not yet available. Data will be analysed using a Generalized Linear Mixed Model while accounting for random effects. Through this, I attempt to answer the question of how multiple relationship dimensions jointly structure agonistic behaviour at the individual relationship level in a tolerant primate species.