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THE GAMBIT OF THE GROUP: EXPLORING SPATIAL ASSOCIATION AND INTERACTION PATTERNS OF CAPTIVE CHIMPANZEES USING SOCIAL NETWORK ANALYSIS

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Primate researchers often rely on recording spatial association as a proxy for interaction when the latter cannot be observed closely or reliably. This approach is known as the 'gambit of the group' and can be problematic when shared use of the same location is misinterpreted as 'friendship'. I investigated whether spatial association and interaction provide a similar 'map' of the social organization of a community of chimpanzees (*Pan troglodytes*). 11 captive chimpanzees were studied over a six-week period at Edinburgh Zoo, UK. Matrix correlation tests demonstrated a significant positive correlation between spatial association and affiliative index values: individuals spent significantly more time with close affiliates and avoided those with whom they had strong agonistic relationships. Furthermore, cluster analyses showed that the community formed distinct associative subgroups (parties) related to maternal kinship, and agonistic subgroups related to sex and dominance. This study suggests that while spatial association between two individuals can be used as a proxy for their affiliative bond, this is likely to be highly context specific and assumes that individuals actually have sufficient space to avoid each other. I warn other researchers about 'networks within networks' where the community-wide proxy may not hold: over the course of my study, male competition over dominance meant that some males spent more time in spatial proximity to their agonistic partners.

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