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DYNAMICS OF SOCIAL BEHAVIOUR AT PARTURITION IN A GREGARIOUS UNGULATE

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Highlights

- Pregnancy and births in sheep affect social interactions of mothers and non-mothers
- Births increase the distance between sheep, especially between mothers
- Mothers occupy peripheral positions within the flock, mainly after births
- Births hampered individual communication, especially between mothers
- Results support selection for maternal imprint and against nursing alien offspring

Group living is the behavioural response that results when individuals assess the costs vs benefits of sociality, and these trade-offs vary across an animal's life. Here we quantitatively assess how periparturient condition (mother/non-mother) and births affect the dynamics of social interactions of a gregarious ungulate, and how such can help to explain evolutionary hypotheses of the mother-offspring bond. To achieve this we used data of the individual movement of a group of Scottish blackface sheep (*Ovis aries*) marked with GPS collars and properties of mathematical graphs (networks). Euclidean pair-wise distance between sheep were threshold at different percentiles to determine network links, and these thresholds have a profound effect on the connectivity of the

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