

## NEWS



# Introvert or extrovert? Lemur Center study looks into lemurs' social interactions

By Claire Ballentine | 01/15/2018

Ever find that friendship dynamics are complicated? You're not the only one—lemurs also have to navigate social networks.

Ipek Kulahci, a postdoctoral researcher at University College Cork in Ireland, studied ring-tailed lemurs at the Duke Lemur Center and the St. Catherine's Island Lemur Program in Georgia for several years, noticing that the primates have distinctive personalities and variation in social behavior. Some were more outgoing, while others tended to prefer being alone.

“We demonstrated that some lemurs are highly social while others are not as social,” Kulahci wrote in an email. “This variation persists across years and across different types of behaviors, such as grooming, aggression and communication.”

Her research group observed four groups of lemurs over the course of two years using a method called social network analysis. This involved recording their behavior at least four times a week for at least two months.

The scientists also tracked the number of social connections each lemur had, who they bonded

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with and how strong this relationship was. In addition, they looked at which lemurs were most influential because of their number of friends.

Daniel Rubenstein, co-supervisor of the study and professor of zoology at Princeton University—where Kulahci received her Ph.D.—explained that they created graphs and visualizations depicting how central the individuals were in their respective social networks.

“This paper was looking at your social personality,” he said. “Are you a wallflower or are you a social butterfly?”

Their findings indicated that the lemurs behave consistently over time, regardless of factors like the specific social situation. The more socially active lemurs were more likely to pick fights with others, as well as to seek connection and reinforce their relationships by responding to their friends’ calls.

However, they all had a certain group of buddies that they kept in touch with more than others, even if they were more introverted.

“Some pairs frequently engage in affiliative behaviors such as grooming and playing,” Kulahci noted. “These pairs also frequently respond to each other’s vocalizations and scent marks and keep in touch even when they are physically separated from each other.”

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She added that she was impressed to find that lemurs’ social preferences carried over across different behaviors. The social individuals were not just the ones making socially positive connections but also the ones initiating aggressive interactions.

“It seems that some individuals are just very socially active, regardless of the type of social interaction they are engaged in,” she wrote.

Rubenstein said that the consistency of lemurs’ behavior was unexpected to him as well.

Next up, Kulahci plans to investigate the relationship between social connections and

learning among lemurs. Previous research has shown that species’ social connections influence how new information spreads throughout the group and that animals tend to learn from the group members they frequently interact with.

Kulahci explained that research on lemurs is especially crucial because their wild populations in Madagascar are declining. Understanding their social behavior could help us better support their survival.

“Social bonds influence health and survival, and they play a fundamental role in many aspects of life,” she wrote.