Dogs play important roles in human society as companion animals or working dogs, e.g., guide dogs, rescue dogs, with their high social cognitive abilities. Dogs acquire social cognitive abilities to interact with human beings in their developmental processes. However, it is still unclear whether a mother dog mediates adaptation of her young offspring to human society. The purpose of this study is to verify the mediation effect of a mother dog.

We compared the distances between the owner and the young dogs between the condition with the mother and that with the other adult dog (control condition). As results, we found that the distance between the owner and young dogs under mother condition was smaller than that of the control condition. This result suggests that the mother dog mediates adaptation of young offsprings to human society. Since the distances at multiple times have been averaged in our study, there is a possibility that our result cannot detect the dynamic change of relationship. I would like to propose a new approach using dynamic network analysis.

We compared the existing method and the proposed method using artificial data and actual stray dog data. As a result, the accuracy of cluster division was better in the proposed method than in the existing research for both artificial data and the stray dog data. Our result suggests that this flexibility is actually beneficial in dynamic community detection.