

Good research question research proposal example

[Environment](#), [Animals](#)



Introduction

Banded mongooses are small carnivorous animals which live in male-dominated groups of between 5-40 individuals. The 2 kg animal is of a great interest for scientific research because of their peculiar lifestyle in which they use the concept of social learning to pass their foraging traditions from one generation to another. As carnivorous animals, they feed on a variety of preys which require the use of extractive foraging techniques. Here, the pups which are entirely dependent on the adults are introduced into the foraging techniques as they grow up. In this situation, the young non-breeding male adults (escorts) spend their time with the pups, cater for them and teach them these foraging skills (Cant, M. A., 2000). After monopolizing their association with these escorts, these pups learn the foraging skills and utilize them as they mature up. This is quite interesting because it emulates the way human beings transmit their traditions to their offspring through a continued day to day learning. This research seeks to find out the role of contextual imitation in the passing of foraging skills from one generation to another amongst the banded mongooses.

Over the years, the concept of social learning has been associated with the human species. However, with the increasing research, it has been found out that such concepts are not limited to the humans, but are also applied by other primates and animals. In this regard, this research seeks to address the question of the success, reliability, consistency and success of social learning in the transmission of foraging skills from the adults to the

subsequent generations amongst the banded mongooses. It particularly focuses on the contributions of contextual imitation to this learning.

Research Methods

This research will adopt the scientific methods to carry out all the studies. Since banded mongooses are wild animals, it will be necessary to identify the right population to use while conducting the studies. The following are some of the methods to be used in this research:

Population Sampling

Since the main target population for this research is the banded mongoose, it will not be practically possible to study all individual animals. Hence, the research will adopt a population sampling to help in collecting a representative sample for the research. This will be quantitatively done not to produce any bias in the research. Meaning, proportionate samples of the adult escorts and pups will be selected to represent the white, black, grey and hatched categories. A part from the sample, there will be another set of banded mongoose used as a control group. They will freely operate without any restriction and interference under their natural setting.

Experimentation

Just like any other scientific research, this study can not be completed without conducting scientific experimentation. Since it will involve the study of behavior, it will be necessary to carry out an experiment. Meaning, all the samples will be introduced into an environment in which their behaviors will be studied (Cant, M. A., 2000). Precisely, the research will use a specially

made Kinder Egg Plastic Container to enclose a palatable food such as rice. Here, the different groups of mongoose will be expected to get access to the food either through the opening or smashing of the container. The experimentation method will be useful in determining the success of social learning concepts in the life of banded mongoose. It is the best way through which contextual imitation can be properly studied. This is due to the fact that it can help in knowing if the behavior can indeed be repeated and eventually transmitted to the young generations.

Direct Observations

After placing the Kinder Egg Plastic Container at strategic points, different groups of banded mongoose will be expected to use it. Here, the researcher will have to observe the behavior for each and every one of them. The researcher will have to find out whether they access they are interested in the food or not. At the same time, the researcher will have to determine the method used by each of them to get the food. These will be recorded to help in determining their consistency in the use of the chosen method. The use of direct observation can help the researcher to get first hand information about the behavior of these animals. This can be a more accurate way of collecting data.

Independent and Dependent Variables

The following are the variables for this research:

Dependent Variables

- Opening Preferences

This refers to the opening technique used by individual and categories of the

banded mongoose used in the experiment. The categories of opening the container are biting and smashing. This will be measured by looking at the consistency of these mongooses.

Independent Variables

- Interest

The banded mongooses used in the experiment are expected to demonstrate different interests in the food. While others will be interested, the rest will not be interested at all. It will be measured by determining if they are keen on smelling and trying to open the container to consume its contents.

Expected Results and Explanations

The following are the expected finding for this research:

- All the members of the same group will portray a similar behavior. This means that the choice of access used by each group will be used by all the group members. For instance, if the blacks decide to use smashing as their entrance method, they will all use it. The same will apply to the white, grey and hatched groups. This is a right prediction because it complies with the principles of the theory of social learning which argues in favor of homogeneity in behavior. The banded mongoose, just like human beings, shows a consistency in a learnt behavior.

- Members of different groups will adopt different behaviors. If the whites use the biting method, the blacks will use another alternative method such smashing or ignoring the opening of the container to retrieve its contents. This can be used to explain that organisms belonging in different groups can portray parallel behaviors although they are belonging to the same species.

This is what the banded mongoose in each category do.

- The behavior adopted by each of the group members will be copied by the pups which are closely associated with them. The pups will in turn maintain the behavior as they grow up. To them, this is the best way through which they can get food. This is a true prediction because the banded mongoose transmits their preferred traditions to their offspring who in turn use them for survival.

- There will be a vertical transfer of this behavior. Meaning, the adults will not influence fellow adults, but the pups. This justifies the reason why such behaviors are transmitted to the subsequent generations. The banded mongooses have a tendency of influencing the pups and juveniles who directly depend on them.

Predicted Results Graphs

Juveniles' Preference for Opening Technique

Pups Preference for Opening

Adult Preference for Opening Technique

Interests in Food for the Control Group

References

Cant, M. A. (2000). Social control of reproduction in banded mongooses. *Anim. Behav.* 59, 147-158.

Galef, B. G., and Laland, K. N. (2005). Social learning in animals: Empirical studies and theoretical models. *Bioscience* 55, 489-499.