

Abstract

Numerical competences include the number of abilities as representation of the quantity and transformations or operations with quantity. Many species of animals can use these abilities for example during searching for food, sexual partners and also for detection of number of competitors or predators. Numerical abilities such as counting or estimating quantity can increase the chance of survival and reproduction.

In this work, I summarize some previous studies of numerical competences in primates and humans and I also mention experiments in other species. I divide the competences into chapters: estimating of the numbers (relative and absolute), counting, summation, conservation of quantity, proportion, ordinality and transitivity.

The aim of this study was to study the ability of macaques (*Macaca mulatta*) to distinguish between the quantities of two sets. In the following part of experiment I observed the preference of monkeys for size or the number of stimuli. This preference was studied also in children.

The results confirm the ability of relative numerosness judgment of monkeys. The results demonstrate that with increasing difference of quantity between the two sets the ability of distinguish between the two quantities also increase.

Other experiment studied preference of larger number of smaller pieces or smaller number of larger pieces. The results demonstrate that monkeys don't prefer quantity of pieces or size of reward. Children prefer a larger number of pieces.

Key words: numerical competences, relative numerosness judgment, Weber law, preference, primates, rhesus masque, children