

## **Abstract**

Mirror neurons are very specific nerve cells that are both motor and sensory in nature. Mirror neurons are a relatively new discovery first identified by a team of neurophysiologists at the University of Parma. These neurons were first observed in primates, and then later in humans in several regions of the cerebral cortex. A large amount of research on mirror neurons have shown that they play an important role in imitation, language acquisition and empathy. The theoretical part of this work summarizes what is currently known about mirror neurons. It emphasizes the relationship between mirror neurons, autism, empathy, and its training. This theoretical framework is followed by pilot research, which consists of two components: the quantitative part consisted of a questionnaire survey to ascertain the level of empathy of the participants using the Index of Interpersonal Reactivity. The participants were the parents of autistic children who were compared with a control group. A statistically significant difference in empathy levels between the two groups was not observed but there was a tendency for higher scoring in some questionnaire scales in experimental group. The second part of this work is an analysis of observations of the interactions between parents and autistic children. Additionally, two observations involved attempts to activate mirror neurons. Theoretical models and findings from pilot research have become the bases of the design of empathic trainings by attempting to use the activation of mirror neurons.

## **Keywords**

mirror neurons, empathy, empathic training, autism spectrum disorders