MRes 2017 entry

Project Title: Give a Dog a Bad Name. Processes involved in identifying signs of aggression in dogs.

Supervisors: Dr Claire McDowell  Dr David Shaw, School of Psychology
Contact Details: ce.mcdowell@ulster.ac.uk

Background to the project:

Epidemiological data confirms that in the United States alone an average of 4.5 million people are attacked by dogs every year. National Health Service statistics in the UK have shown a 40% increase in dog-bite figures based on Accident and Emergency admissions (NHS, 2008). In a study involving around 400 preschool children, about 10% had been bitten. Of these, 65% were under five (Lakestani, Donaldson & Waran, 2006). Most bite incidents occurred with familiar dogs. A significant correlation has been found between the age of the child victim and the incidence. Younger children aged between 5 and 9 years old are the most frequent victims, with boys being more frequent victims than girls (Kahn, Bauche & Lamoureux, 2003). In a study of familiar dogs that bit children, the most common stimuli associated with biting were resource-guarding, and petting, hugging, or other ‘benign’ interactions. Child–dog interactions such as approaching the dog while eating or surprising it while sleeping seem to trigger up to 86% of accidents at home.

Recently, it was found that young children do not discriminate a dog’s body signals, such as aggressive posturing (raised hackles and lowered head) but look mainly at the dog’s face instead. However, they often do not understand the dog’s facial expression and can confuse a fearful or angry dog with a friendly one (Lakestani et al., 2006). Research at Ulster University involving adult and child participants found that children in the 4-6-year-old category made more incorrect responses when looking at images of a dogs showing aggressive facial expressions than any of the other age categories. Overall, children made more incorrect responses to the visual stimuli than the adult control group. (McDowell, Kennedy & Shaw, 2014). These findings support previous research that suggests that attacks on children by dogs may be in part caused by children’s’ inability to recognise warning signals that a dog is becoming aroused or defensive, and their inability to act accordingly when a dog signals that it is about to attack (Meints, Racca & Hickney, 2010). It also provides more evidence of the need for education aimed at increasing awareness of dog behavior, posture and facial expression to reduce the risk of attacks.

Using recent advances in biopsychology, such as eyetracking technology, may lead to better understanding of the skills and strategies used by older children and adults in recognising signs of aggression in dogs. Eye tracking methodology has been used to investigate visual attention to both dog and human faces with children who have Autism Spectrum Disorder (ASD) (Guillon, Hadjikhani, Baduel, Kruck, Arnaud & Roge, 2014), and has shown
that children may employ faulty scanning behaviour leading them to incorrectly interpret dog facial expression (Meints, Allen, & Watson, 2010). Therefore, this research aims to combine biopsychological methods with behavioural methods to test and develop skills in young children who may be more at risk of attacks from dogs.

**Methods to be used:** The research will combine more traditional methods used to examine how well children (both typically developed and those with Intellectual Disabilities) and adults recognize and identify aggressive signalling in dogs. Newer methods using eye tracking technology will be used to identify key skills used in accurate identification, while behavioural training techniques will be explored as a method to develop education and training to help those more at risk improve recognition of key signals in dog behaviour.

**Objectives of the Research:** The aim of the proposed research is to design and implement a series of experiments that investigates the performance of different cohort and ages of children and adults. We will also examine whether different eye movement strategies are involved and explore whether training using behavioural techniques can improve recognition skills.

**Skills required of applicant:** Training will be offered in physiological measurement techniques, the position would suit a student with an interest in behavioural, physiological and experimental psychology along with an interest in animal behaviour.

**References**


