The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

Animal Welfare 2022, 31: 175-186
ISSN 0962-7286
doi: 10.7120/09627286.31.2.002

Pre-exposure via wire-mesh partition reduces intraspecific aggression in male, wild-type Norway rats

R Stryjek and K Modlinska*

Institute of Psychology, Polish Academy of Sciences, Warsaw, Poland
* Contact for correspondence: rstryjek@wp.pl

Abstract

*There are instances when animals are introduced and expected to live alongside unfamiliar conspecifics within zoos, laboratories and wildlife sanctuaries. These pairings of unfamiliar animals may result in stress, trauma, or even death, in addition to reduced confidence in data resulting from these subjects. For species that communicate relatedness, sex, social status, and emotional state through olfactory cues (eg pheromones), one means of counteracting aggression may involve a period of partial separation — where animals are close enough to become acquainted — while a permeable barrier maintains separation. For our study, we evaluated the use of a novel, autoclavable, wire-mesh partition to separate potential aggressors. We tested different pairs of 24 wild-type male Norway rats (*Rattus norvegicus*), previously kept in social isolation for seven days. Each control pair were merged directly into one cage, while pairs from the experimental groups underwent three pre-exposure sessions that lasted two to four days. We used continuous video recordings to assess five common threat displays: lateral threat, keep down, upright posture, chase, and clinch attack. We used two types of bedding: new (unscented) bedding and recently used bedding that conveyed scents from both merged rats. We found that rats subjected to pre-exposure demonstrated lower aggression levels across three of the five metrics (lateral threats, upright postures, and keep downs). We conclude that permeable partitions show promise as a humane mechanism to mix new individuals into pre-existing colonies. Further research may explore whether partitions could be helpful with other species that communicate social information by pheromones or direct visual inspection.*

Keywords: *animal welfare, olfaction, pre-exposure,* Rattus norvegicus*, resident-intruder aggression, social isolation*