

# Pet rabbits need freedom to exercise, study finds

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A young rabbit looking through the grass. Credit: Ksd5/Wikipedia

Pet rabbits have higher levels of the stress hormone—corticosterone—and show activity rebound when kept in small hutches with restricted exercise, new research led by the University of Bristol Vet School has found. The research highlights the importance that pairs of pet rabbits should have the freedom to exercise

outside their home enclosure even when they are kept in hutches larger than the traditional size.

Rabbits are a popular choice for many families, with an estimated 900,000 rabbits kept as pets in the UK. Several studies have looking at the housing needs of rabbits kept in laboratories and for meat, but very few studies have explored the housing needs of pet rabbits and these studies have only focused on single rabbits. Animal welfare organizations recommend pet rabbits live in pairs.

The aim of the study, published in *Applied Animal Behaviour Science*, was to investigate the effects of common hutch sizes and access to an [exercise](#) area on the welfare of pet rabbits kept in pairs.

Twenty pre-established pairs of adult neutered rabbits (one male, one female) were kept for eight weeks in standard housing. Ten pairs were in small wooden hutches (0.73 square meter) and ten in large hutches (1.86 square meter). The exercise area was a run—measuring  $3 \times 1$  meter—attached to the hutches, and the rabbits had either unlimited access to it, or access was restricted to three hours at midday.

Each pair had access to each run for three weeks. Behavior was observed at dawn, dusk and midday, and fecal samples were collected for corticosterone analysis at the end of each access period.

In a subsequent study, ten of the [rabbit](#) pairs were given 24 hours access to the run, and their behavior recorded.

The study showed rabbit pairs were more active when run access was restricted to three hours. Irrespective of the hutch size, [physical activity](#) including play jumps increased significantly when the pairs with restricted access were released into the run. The researchers suggest this activity rebound demonstrates the rabbits' need to move every day, and

their welfare is compromised when they can only do so at midday.

The research team found there is a significant interaction between hutch size and run access on activity and stress hormone levels, which were highest in the pairs kept in small hutches with restricted run access. When rabbits had unrestricted access to the run, midday was the rabbits' least active time.

Drs Nicola Rooney and Suzanne Held, senior authors of the paper from the University of Bristol Veterinary School, said, "Rabbits are active and need to be able to hop, run, jump, dig and stretch out fully when lying down. Restricting rabbits' opportunity to get away from each other and to move to times of day, when they would not naturally be as active, is likely to contribute to the activity peaks and high stress hormone levels in the pairs in the smaller hutches with limited access to a run.

"Housing guidelines for rabbits need to highlight the importance of allowing pet rabbits the freedom to exercise in the morning and afternoon, even if they are kept in hutches larger than the traditional hutch size."

The study suggests hutch sizes of around a 0.75 square meter floor area should not be recommended for rabbit pairs, even if they have access to an exercise area for three hours per day during the middle of the day.

The research's recommendations have been incorporated in RSPCA and other animal charities rabbit care advice on housing.

RSPCA rabbit welfare expert Dr. Jane Tyson said, "The findings of this research are highly welcomed confirming what many of us have known for so long, that keeping rabbits in small hutches with limited opportunities to exercise compromises their welfare."

"Rabbits are often misunderstood animals but the findings from the study show that housing rabbits in an enclosure consisting of a sheltered area with constant access to a larger space is critical."

"Not only does this allow rabbits to have more room for exercise, it provides them with choice and control over their environment so they can perform the behaviors they want to, when they want to."

The findings of the study have also influenced the UK Rabbits Strategy for rabbit welfare that will be published later this year.

**More information:** Nicola J. Rooney et al, Run access, hutch size and time-of-day affect welfare-relevant behaviour and faecal corticosterone in pair-housed pet rabbits, *Applied Animal Behaviour Science* (2023).

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