

IMPACT OF KENNEL PORTAL SPACE AND GENTLE PETTING ON URINE OUTPUT IN SHELTER CATS

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INTRODUCTION

Cats living in animal shelters experience chronic and acute stress caused by removal from a familiar environment, handling from unfamiliar humans, and confinement to name a few [1]. Stress impacts the body systems and can cause various health concerns including upper respiratory infections (URIs) and inflammation of the urinary tract [1,2]. URIs have been the primary focus of illness research in shelter cats [3]. Gentling and the addition of a cat portal have been shown to improve immunity in shelter cats [4,5]. Recently, there has been increased interest in the urinary health of cats due to it being one of the leading reasons for owners to seek veterinary care for their cats [6]. Urine output can be reliably measured via clump weight in shelter cats and may be an indicator of wellbeing [7]. Thus, the present study aims to evaluate the impact of the addition of a cat portal or gentling on shelter cat stress and urine output measured via clump weight.

OBJECTIVES

1. Explore the addition of a portal and/or daily gentling on cat stress
2. Evaluate the ability of a behavioral evaluation to predict cat stress
3. Explore cat and shelter-specific predictors of cat stress

METHODS

Participants:

Cats of unknown breeds (N=55; that appeared to be approximately 5 months or older; 54% female) housed at LAS and RCACP were enrolled in the study from December 2021 to March 2023.

General Procedure:

Cats were pseudo-randomly assigned to an experimental condition: 1) Control, 2) Gentle, 3) Portal, 4) Gentle & Portal. Cats were enrolled in the study the day after they arrived at the shelter (Day 0) On day 0, a brief video was recorded of the cats and the cats were given a behavior assessment. For the following 5 days, food and water intake and urine output via clump weight were measured and a brief video of the cat was recorded. Additionally, cats in the gentling condition received 9 minutes of gentling daily.

Urinary measurement:

Urine output, measured using clump weight, was collected using the protocols outlined in Andrukonis et al., 2021.

Behavioral evaluation:

The behavioral evaluation was adapted from ASPCA's Feline Spectrum Assessment. This assessment involves a minute of the researcher passively standing in front of the cat's room, a minute of the researcher placing their hand in the cage, and a minute of the researcher dangling a string toy in the cage. All three sections of the assessment were filmed for later behavioral coding.

Cat Stress Score:

Cat Stress Score includes behavioral components such as postures of the body, stomach, legs, tail, head, eyes, pupils, ears, whiskers and activity levels and vocalizations. Ten second videos were recorded daily, and Cat Stress Score was coded from videos.

Gentling:

Gentling is a consent driven form of social enrichment. A familiar human placed their hand in the cat's kennel. If the cat made contact with the person's hand, then petting could occur. Petting stopped if the cat moved away.

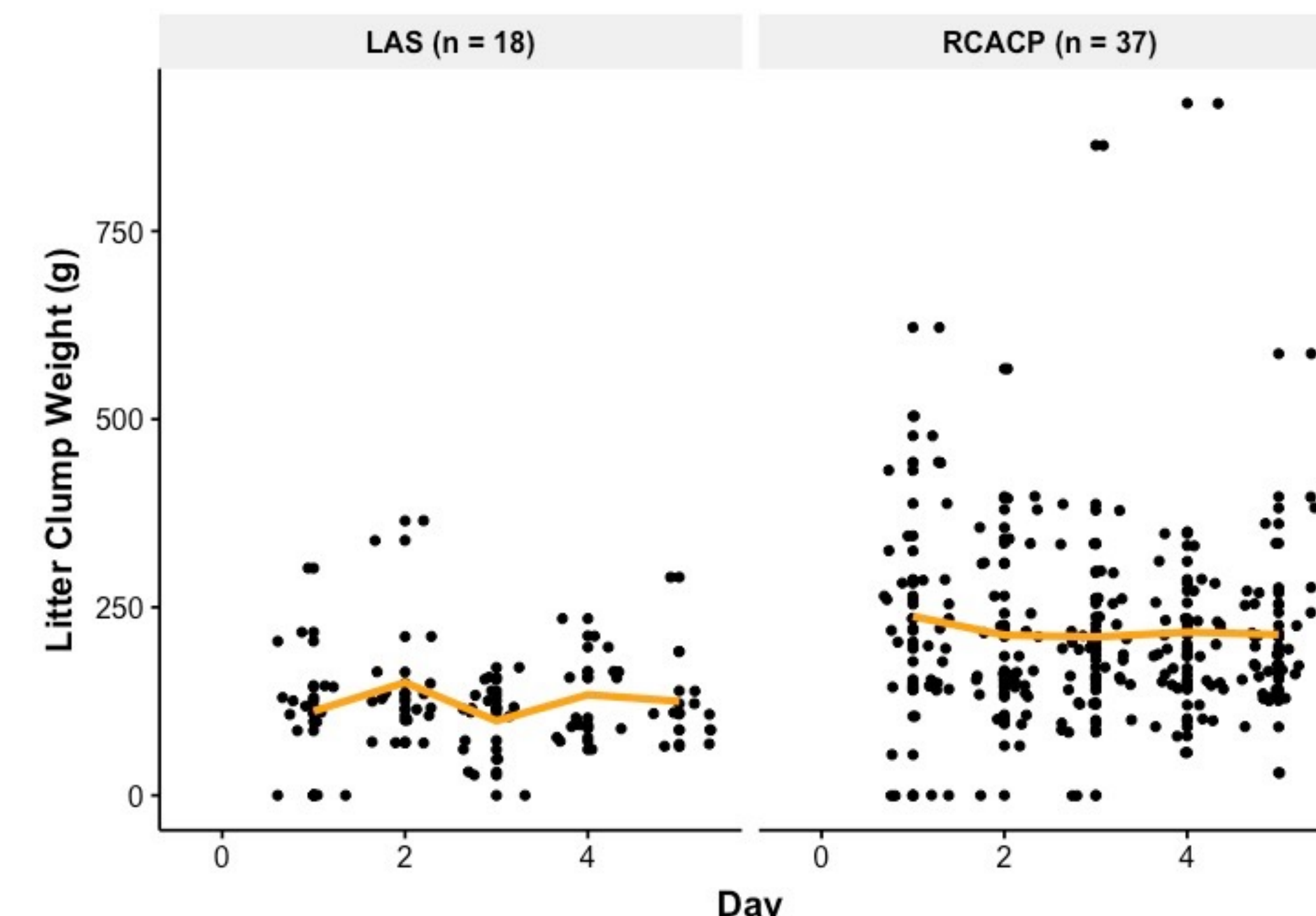


Figure 3. Urine output was significantly higher in cats housed at RCACP as compared to cats housed at LAS.

RESULTS

There were no significant differences in urine output across experimental conditions. However, urine output was significantly higher in stray cats as compared to owner surrender cats as well as cats housed at RCACP compared to LAS. Behavioral scores are still being coded and are not currently included in the data results.

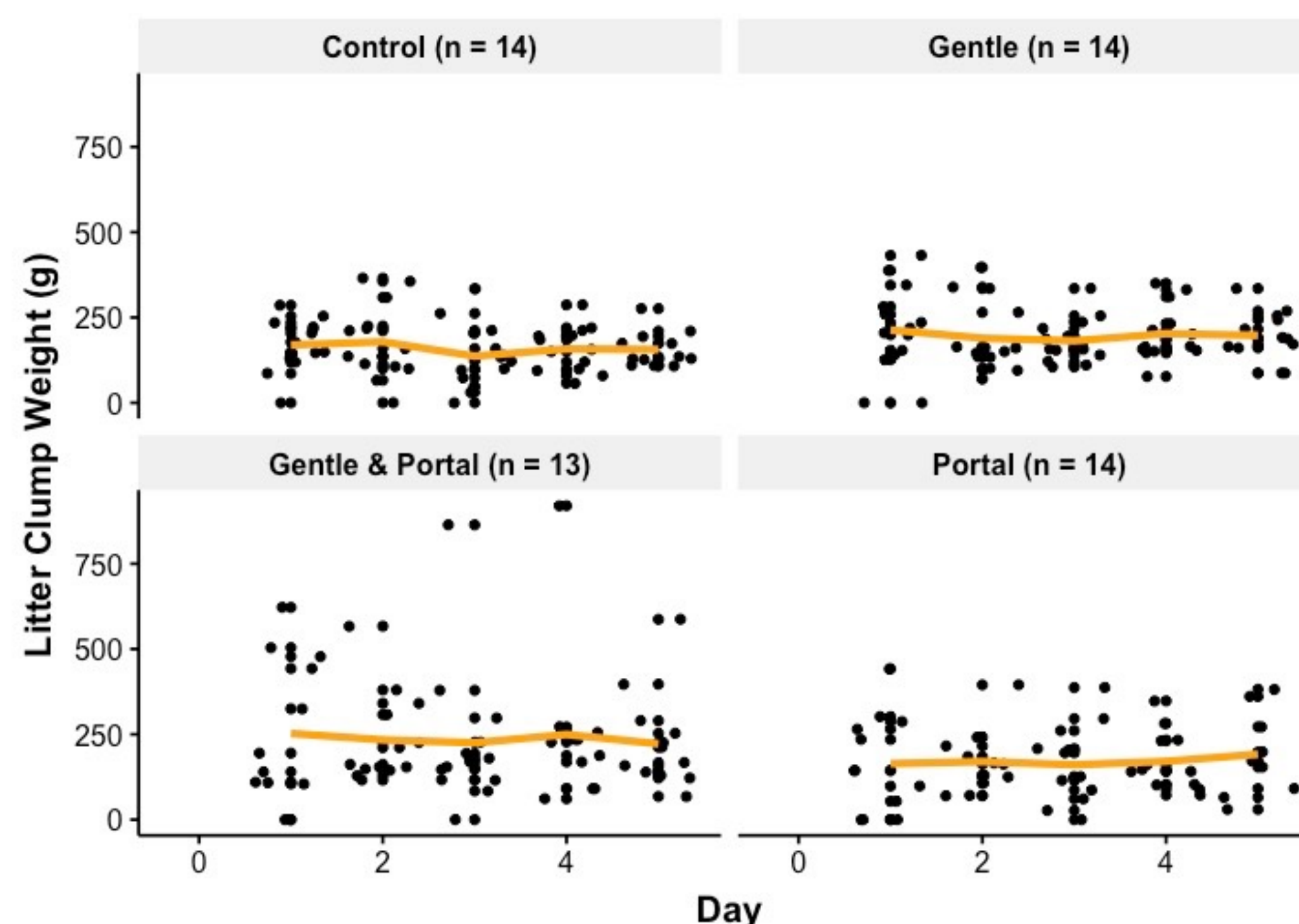


Figure 1. There were no significant differences in urine output by condition.

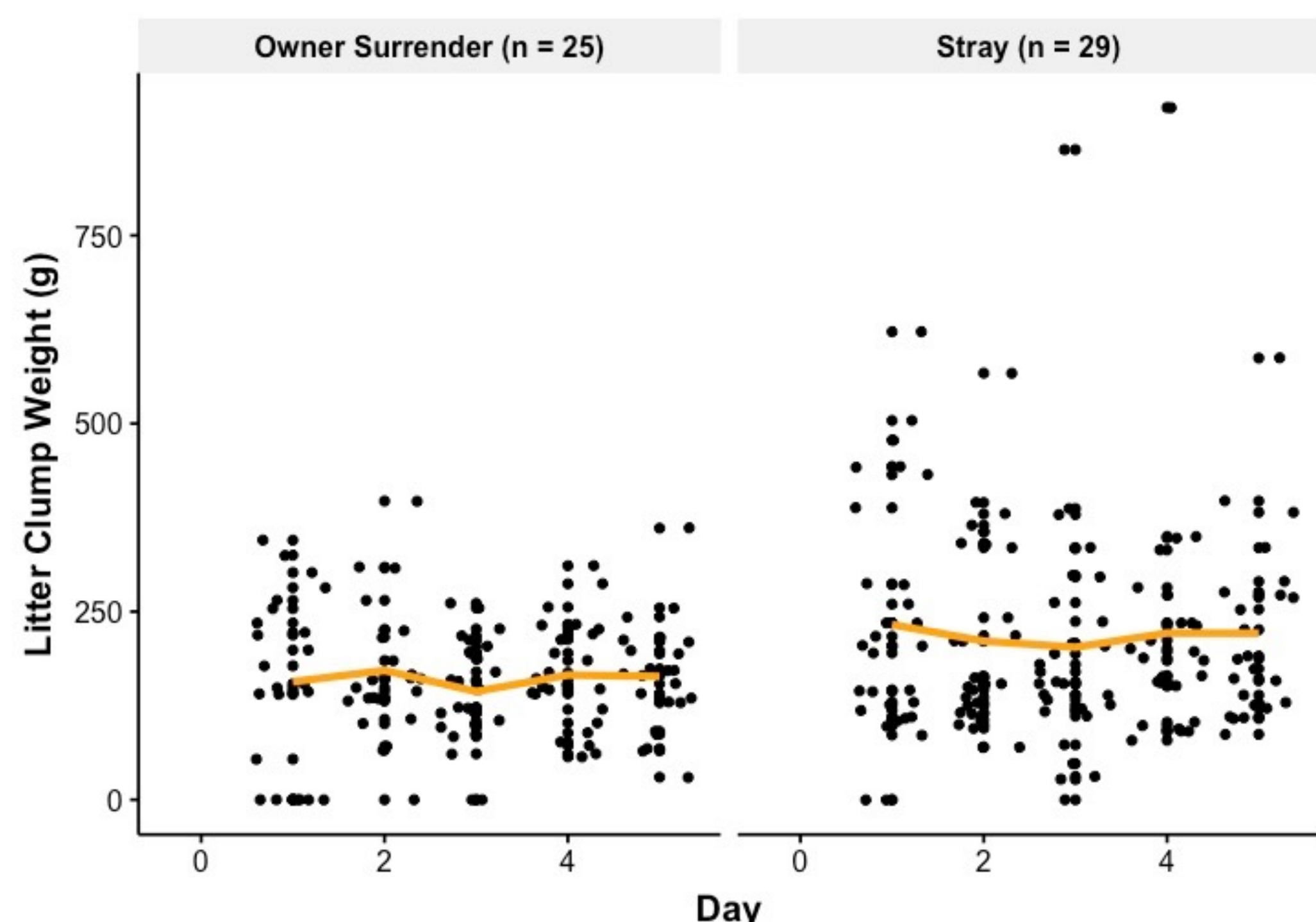


Figure 2. Urine output was significantly higher in stray cats as compared to owner surrendered cats.

DISCUSSION

The current study supports previous research which found that decreased urine output may be related to stress in shelter cats [7]. Urine output was significantly lower in cats who came in as owner surrenders (OS), supporting prior research which found OS cats were more stressed in animal shelters. Surprisingly, there were no significant difference in urine output across conditions. This indicates that the interventions may not have decreased stress as predicted. Additionally, cats housed at RCACP had significantly higher urine output than cats housed at LAS. This suggests that there may be shelter-specific factors (e.g., noise, exposure to unfamiliar humans) that impact stress more than the interventions. Future research should focus on shelter-specific conditions that might impact cat welfare, so all shelters can improve the environment and cat welfare.

CONCLUSION

Cats experience stress in animal shelters, which can affect their urinary health and ultimately lower their overall wellbeing. Tracking litter clumps is a reliable measure of urine output and can help determine stress levels in shelter cats. Shelter-specific factors may impact cat stress levels more than portals or gentle petting.

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