



Factors Associated with Behavioral Euthanasia in Pet Dogs

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Overview

- Introduction
- Literature Review
- Research Questions
- Methods
- Results and Discussion
- Limitations and Future Research
- Conclusions

Introduction

Behavioral Euthanasia happens.

There are people discussing it on social media, with behavior professionals, and in shelters.

But it's seen as taboo, and we don't know much about how often it happens and why (beyond anecdotal evidence and a few studies).

Literature Review

Behavior problems can have negative impacts:

- breaking the H-A bond
- health/longevity
- public safety
- shelter surrender
- human emotional health

Differences in terminology and categorization make behavior comparisons difficult:

- dominance aggression
- broad categories like aggression
- medical/pathological models
- lay terminology

Common behavior problems reported at veterinary behavior clinics include:

- aggression toward people
- aggression toward dogs or other animals
- fear, anxiety, or stress
- compulsive behaviors
- separation anxiety

We can learn from related areas of study/data even if there isn't much direct research into BE in owned dogs:

- dogs surrendered to shelters/rescues
- behavioral euthanasia by shelters/rescues

Literature Review

overall numbers of behavioral euthanasia?

estimated that 127,071 dogs would be euthanized for behavior by small animal vets in the US per year

Patronek & Dodman 1999

percentage of euthanasia due to behavior?

found that across a large vet database, behavior was the second most common reason for euthanasia, after poor quality of life due to medical causes

Pegram et al., 2021

used large vet databases in the UK and Australia and found that 33.7% and 29.7% (respectively) of dogs euthanized at three or younger were euthanized for behavior

Boyd et al., 2018; Yu et al., 2021

Literature Review

aggression and behavioral euthanasia

12% of dogs brought to a VB for aggression were euthanized

Blackshaw 1991

9% of ALL euthanasia cases in one study were due to aggression. In another study, 11% of ALL euthanasia in dogs up to 3 years old were due to aggression.

Gorodetsky, 1997, Yu et al., 2021

risk factors: aggression and behavioral euthanasia

dogs visiting a veterinary behaviorist were more likely to be euthanized for behavior if they had unpredictable aggression, certain bite types, and aggression toward familiar people

Reisner et al., 1994, Siracusa et al., 2017

Research Questions

What factors are associated with behavioral euthanasia in pet dogs?

What types of behaviors are most common?

How severe are those behaviors, and how/when do they occur?

Methods



The Behavioral Euthanasia in Pet Dogs Questionnaire

- Created with the help of 20+ dog behavior experts
- Designed to be exploratory and capture a wide range of data for future use
- Split into main section, primary behaviors, and behavior details to maximize responses
- Includes detailed behavior questions using lay language

Methods

Participant Selection

Adults who had previously euthanized an owned, pet dog due to behavioral reasons.

- Ages 18+
- Euthanized a pet dog primarily due to behavior problems any time on or after January 1st, 2017.
- Living in the United States at the time of euthanasia.

Implementation

- IRB Approval 22-311 Exempt
- Survey created in QuestionPro software
- Made available and promoted online and on social media July 5-20, 2022

Results

Data Analysis

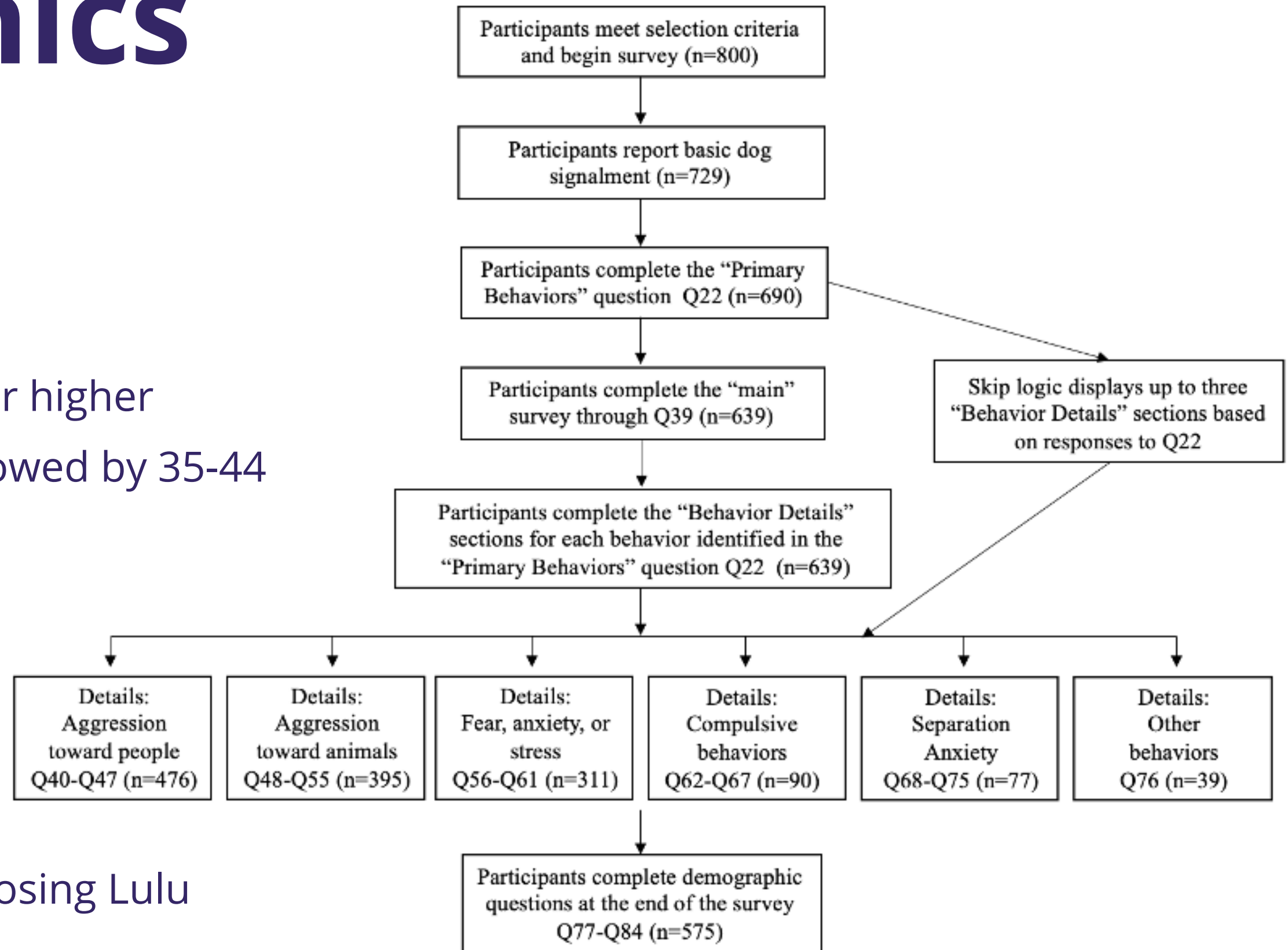
- Descriptive statistics were performed by Adeline Guthrie of SAIG.
- No qualitative data were analyzed
- Other sections of the Questionnaire (such as interventions and decision-making) were analyzed but not included in this thesis

Overview

- Demographics and Basic Info
- Primary Behaviors and Rankings
- Aggression Toward People
- Aggression Toward Dogs or Other Animals
- Fear, Anxiety, or Stress
- Compulsive Behaviors
- Separation Anxiety

Demographics

- 94.5% women
- 91.3% White, non Hispanic
- 68.4% had a Bachelor's degree or higher
- 34.3% were 25-34 years old, followed by 35-44 and 45-45
- Income range:
 - 37.9% were over \$100k
 - 34.1% were \$50-99k
 - 21.2% under \$50k
- 73% found the survey through Losing Lulu



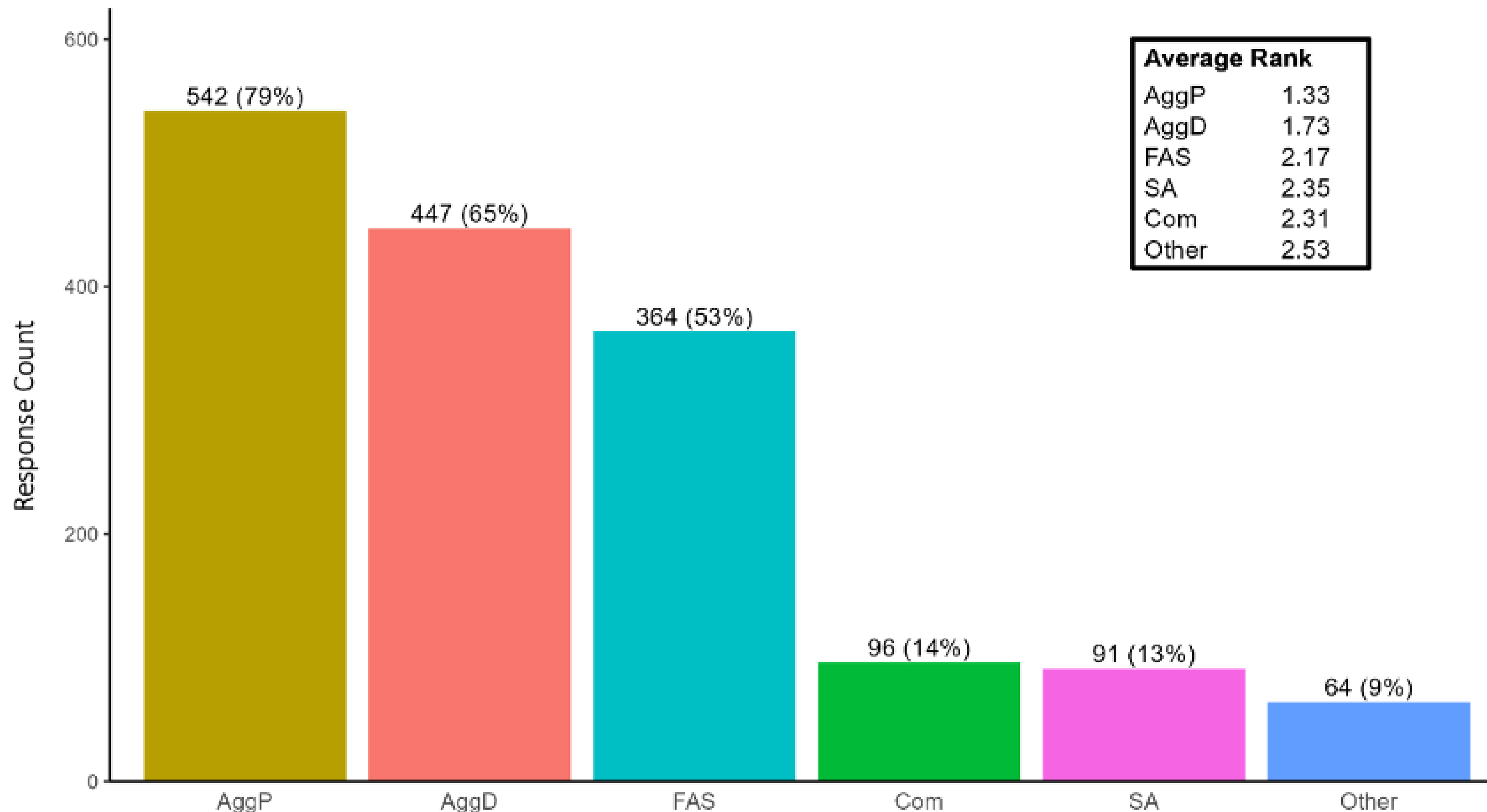
Dog Signalment

- 69.4% male, 30.6% female*
- 89.2% spayed/neutered
- Weight range from 6lbs to 225lbs, with a median of 60lbs
- 57.5% acquired under 1 year old



*Duffy et al., 2008; Blackshaw, 1991; Beaver, 1983

Primary Behaviors



Note. Total number of responses (regardless of rank) by behavior type. Total response count = 1609, total number of respondents n = 690. Participants could rank up to three behaviors. Percentage represents portion of respondents (690), not responses.

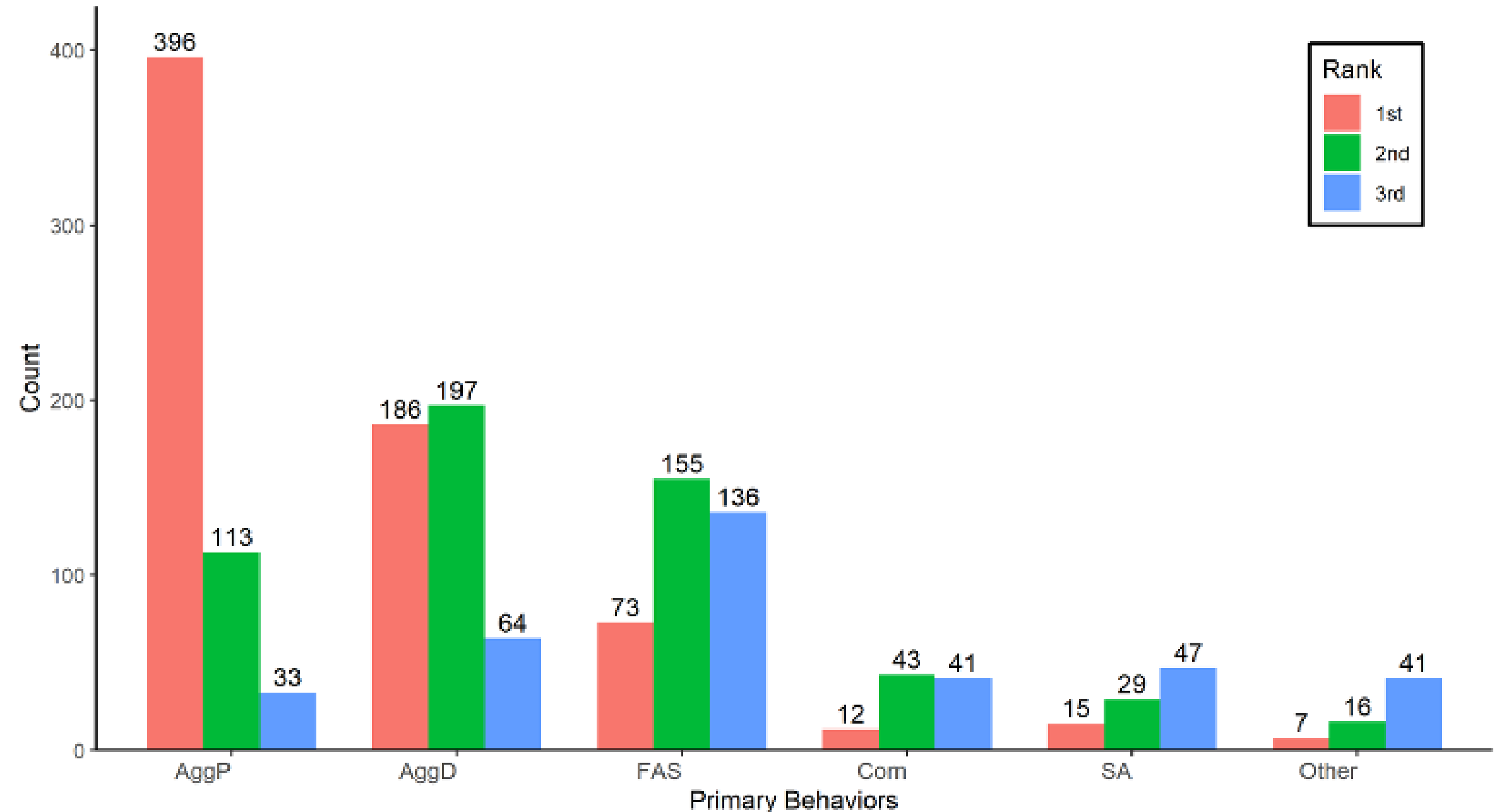
Primary Behaviors

Aggression toward people is key.

Almost half of dogs who had AggP as #1 had AggD as #2

Non-aggressive behaviors are rarely the primary cause. †

80.3% of people selected more than one primary behavior. *



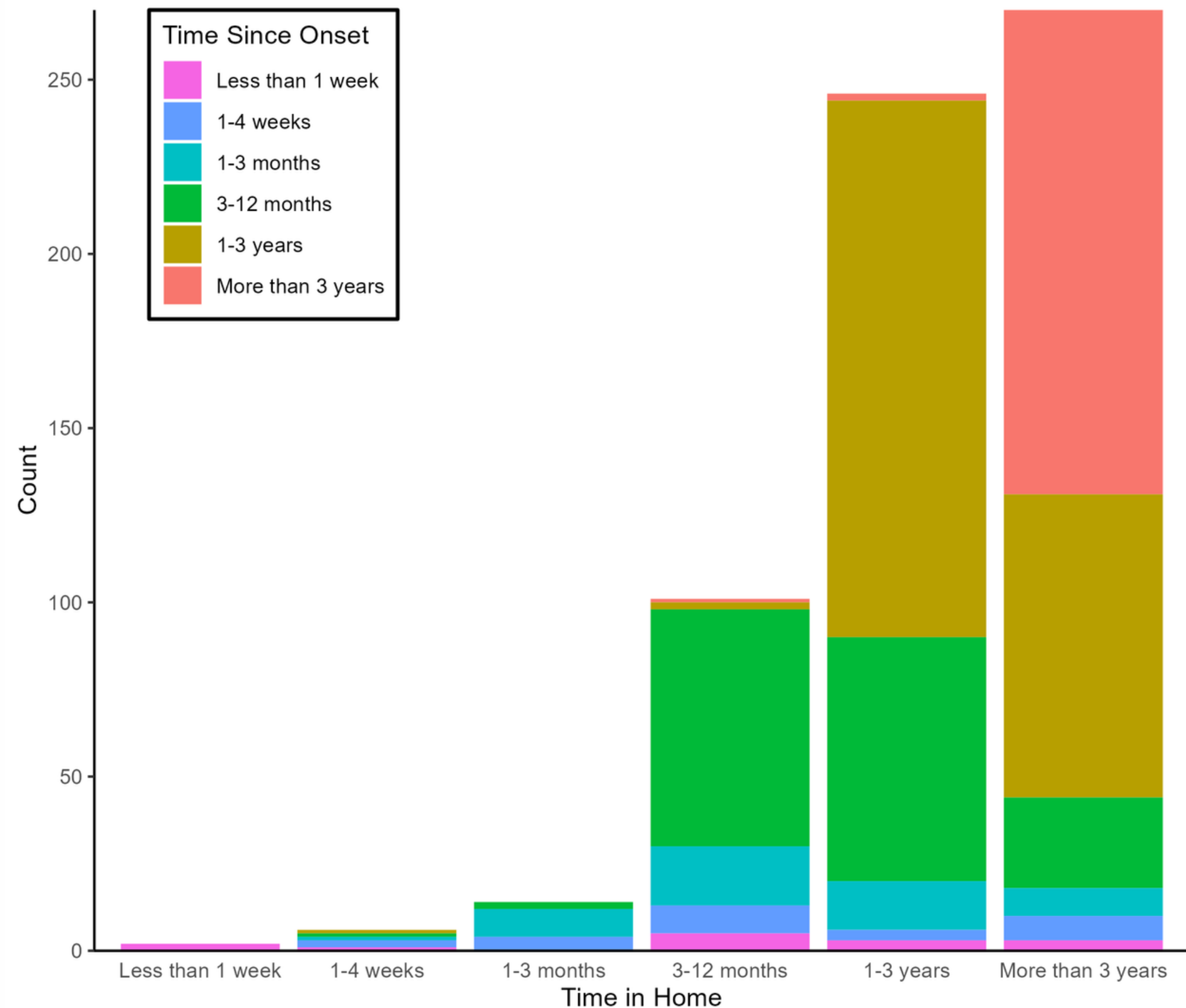
* Bamberger & Houpt, 2006; Borchelt, 1983; Lund et al., 1996; Wright & Nesselrote, 1987

† Blackshaw 1991; Gorodetsky, 1997; Yu et al., 2021

Onset of Behavior

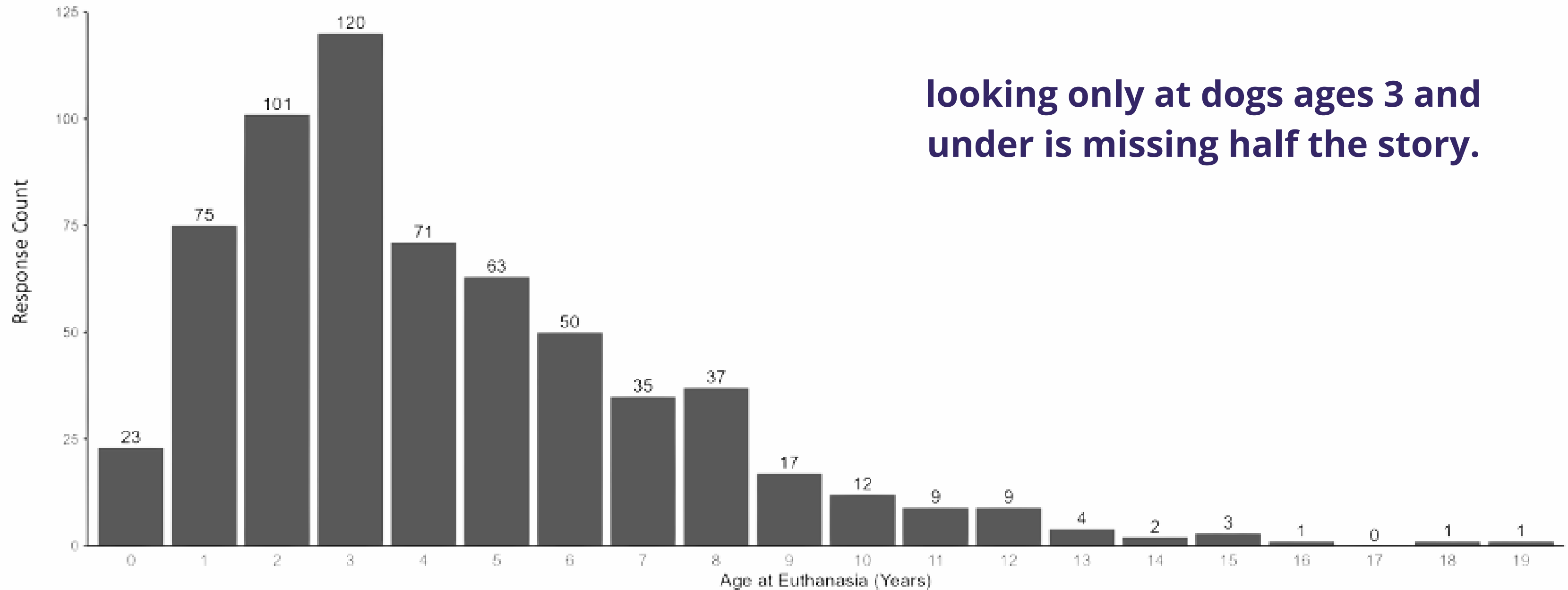
- 60% of dogs had shown the problem behavior for at least a year
- Only 6% of dogs began the problem behavior less than a month prior to euthanasia
- 42% of people had owned the dog for 3 or more years
- impacts of age in seniors?

The behavior problems were ongoing/longterm.



Note: n = 639

Age at Euthanasia



Note: N = 634, mean age = 4.31 years, SD = 3.08

Boyd et al., 2018; O'Neill et al., 2013; Yu et al., 2021)

Aggression Toward People

- 84% of people selected multiple targets
- The most common responses were adults in the home, all adults, and all people.
- Aggression toward children-only was rare
- Respondents were often able to predict when aggression would occur
- Triggers/circumstances varied widely^{*}

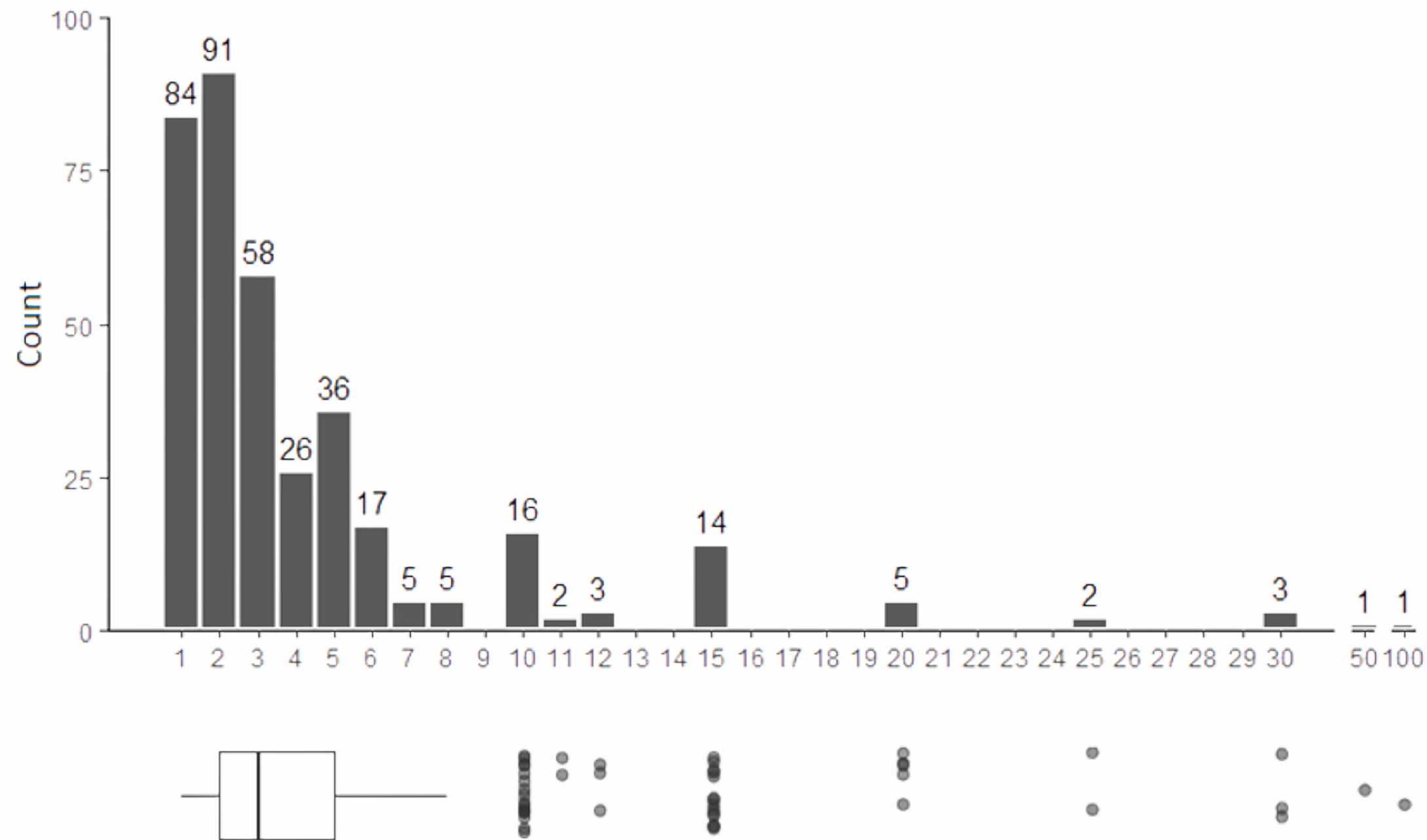
Aggression toward people was widespread with many circumstances

Aggression toward adults in the home is a major problem.[†]

^{*} Borchelt, 1983; Luescher & Reisner, 2008

[†] Bamberger & Houpt, 2006; Takeuchi et al., 2001)

Bites to People



- 73% of dogs with AggP had bitten and broken skin
- Of biting dogs, median 3 bites

a majority of dogs with aggression toward humans bit someone, on average three times.

Note. N = 369 and the two highest outliers (50 bites and 100 bites) were broken from the main axis for better visual representation of the main data.

Severity of Bites

- when looking at ALL responses, 37.5% were minor and 29.1% were severe
- when looking at worst bite per dog, the severe number jumps to 37.6%
- 10.8% of all bites required 10+ stitches, surgery, or admission to the hospital

Injury Type	Severity	Count	Percent
1-4 small punctures from a single bite.	Least Severe	122	33.1
1-3 small tears or lacerations (up to ½ inch).	Moderate Severe	70	19.0
5-8 punctures from the same incident	Moderately Severe	31	12.8
Tears or lacerations greater than ½ inch, or fatty tissue, muscle, etc exposed.	Most Severe	79	21.4
More than 3 tears or lacerations from multiple bites in the same incident	Most Severe	26	7.0
Crushing injuries or broken bones	Most Severe	31	8.4
9-15 punctures from the same incident	Most Severe	3	0.8
16+ punctures from the same incident	Most Severe	0	0
Other	Unknown	2	0.5
I don't know	Unknown	5	1.4

Note: Worst bite per dog, N = 369

of the dogs who had bitten, a third of bites were severe

Aggression Toward Dogs or Other Animals

Target/Victim	Response Count	Percent of Responses	Percent of Respondents
Other dogs in the home	283	31.2	71.7
Unfamiliar dogs	253	27.9	64.1
Familiar/known dogs not living in the home	159	17.6	40.3
Unfamiliar cats	101	11.2	25.6
Cats in the home	81	8.9	20.5
Livestock	9	1.0	2.3
Small wildlife	7	.8	1.8
Unspecified/ “all animals”	5	.6	1.3
Large wildlife	4	.4	1.0
Chickens	4	.4	1.0

Note. Response count = 906, n = 394. Responses in the “Other” category were aggregated into Livestock, Large wildlife, Small wildlife, and Chickens based on the provided responses.

Aggression Toward Dogs or Other Animals

- 76.7% was toward other dogs
- 22% was JUST other dogs in the home
- Approached on leash, escalation in play/excitement, preferred object, predatory
- 69% had bitten and broken skin
- 44% had broken skin 4x or more
- 30 had killed the animal, 18 wounded badly enough to require euthanasia

aggression toward dogs is the main factor, especially dogs in the home (or unfamiliar dogs)

Fear, Anxiety, or Stress

- Most participants chose many circumstances/triggers
- 33% said the dog showed "extreme" fear to unfamiliar people
- 59% of dogs showed FAS daily
- 7% had injured themselves at least once due to FAS

FAS was frequently a secondary behavior^{*}, despite high frequency and severity[†]

[†] de Marinis, 2022; Falconer, 2017; Gibeault, 2021; Grigg & Donaldson, 2019; Marrs, 2021; McConnell, 2015; Orenchuk, 2020; Rayment, 2020; Thomas, 2020b)

^{*} Anderson et al., 2022; Ramos et al., 2020; Stelow et al., 2018; Tiira et al., 2016; Dreschel, 2010; D. Mills et al., 2014

Compulsive Behavior

- Rare- only 6% of all reported behavior problems
- Licking was reported by 44% of participants, and was the sole behavior for 15%
- 60% said it occurred at least daily, with 18% saying it occurred 10x/day or more
- 14% had injured themselves

Compulsive behavior was rarely reported as a reason, and even more rarely as the primary behavior

Separation Anxiety

- Rare- only 6% of all reported behavior problems
- Restlessness, barking/whining, chewing, trembling/shaking, escaping confinement
- 20.8% had injured themselves

Separation Anxiety was rarely reported as a reason, and even more rarely as the primary behavior

Limitations

- Recall bias and potential memory loss
- Sample population and selection bias
- Lack of comparison group(s)- inability to calculate risk factors
- Limited to owned dogs

This should be seen as an exploratory view of what questions to ask, not an assessment of risk factors.

Future Research

- Prevalence of behavioral euthanasia in the US
- Focus on aggression
- non-behavioral factors (housing, finances, etc)
- Treatment and interventions
- Other countries, other species
- Shelter and foster dogs
- Qualitative research
- Emotional impacts

Conclusions

Aggression, particularly aggression toward people (and adults in the home) is the major behavioral factor in behavioral euthanasia.

Many of these dogs showed serious safety risks such as bites (and severe bites) or harm to other dogs/animals.

Dogs vary in age, and study should not be limited to dogs three and under.

Dogs were typically in homes and exhibiting problematic behaviors for a long time.

Behaviors that impact quality of life without presenting a safety risk to others were rarely causes for euthanasia.

A questionnaire with detailed behavior information can help us better compare populations with serious behavior issues.

This is an important topic that impacts pet owners (and shelters, rescues, and pet professionals) and should be thoroughly researched.

Thank You

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Questions?

