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Behavioural Risk Profiling in Rottweilers (*Canis lupus familiaris*): A Survey-Based Analysis

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Abstract

This study investigates the prevalence and risk factors associated with behavioural problems in Rottweiler dogs in Zimbabwe, a topic that has received limited systematic attention locally. A cross-sectional design was employed, using a validated questionnaire distributed to Rottweiler owners in Harare, Bulawayo, and the Midlands provinces. Data collected included dog and owner demographics, housing conditions, training practices, and specific behavioural traits. Among the 256 respondents, 97.2% (n = 249) reported at least one behavioural issue. The most commonly reported problems were fear-related behaviours (35.9%, n = 90) and disobedience (21.7%, n = 54), with fear of loud noises (19.9%, n = 51) and inter-dog aggression (15.6%, n = 40) being particularly prevalent. Dogs housed in apartments exhibited a higher prevalence of fear-related behaviours compared to those in houses with gardens or outdoor spaces (87.9%, n = 225). In contrast, frequent training was associated with lower rates of fear, aggression, and disobedience (2.8%, n = 7). Older dogs were less likely to display disobedience. These findings align with international research and provide context-specific insights into canine behavioural epidemiology in Zimbabwe. They underscore the need for targeted education and training programs to improve dog welfare and reduce behavioural issues that may lead to abandonment or surrender.

Key Words: Rottweiler, Behavioural problems, Epidemiology, Dog owner, Risk factors, Zimbabwe

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Introduction

Despite the increasing prevalence of Rottweilers in Zimbabwean households, no systematic research has investigated behavioural problems within this population. Understanding such behaviours is critical for both public safety and animal welfare.

The domestic dog (*Canis familiaris*) holds a prominent place in society due to its personality, companionship, and various functional roles (Bowen, Bulbena and Fatjó, 2021). As the oldest and most phenotypically diverse domestic mammal, dogs arrived in Zimbabwe ca. 1,000 years ago (Butler, Du Toit and Bingham, 2004; Gifford-Gonzalez and Hanotte, 2011). Unlike many countries, Zimbabwe currently has no legislation on dangerous dogs, meaning no breed is considered illegal to own.

However, the human-canine relationship has not always been positive. Behavioural problems in dogs present significant public health, animal welfare, and economic challenges. In 2022 alone, the Veterinary Services of Zimbabwe reported 16,781 dog bite incidents involving humans. While this figure encompasses all breeds, media and anecdotal evidence suggest that breeds such as the Rottweiler may be disproportionately involved. Research by Chikanya, Macherera, and Maviza (2021) indicates that all reported human rabies cases were caused by dog bites, further highlighting the public health implications. This aligns with global findings that suggest bites and aggression by dogs are widespread concerns (Lakestani, 2007; Morgan and Palmer, 2007; AVMA, 2014; Lakestani and Morgan, 2015).

The media plays a crucial role in shaping public perception. Gwaze (2023) notes that dog attacks are increasingly reported in Zimbabwe, especially involving breeds like Pitbulls, Boerboels, Bullmastiffs, Rottweilers, and German Shepherds. These reports often frame such dogs as aggressive or dangerous, sometimes resulting in unfair stigma—especially in the absence of empirical data on the actual behaviour of these breeds in Zimbabwean contexts.

Breed-specific tendencies toward aggression are well-documented in the literature. Studies show that Rottweilers exhibit an above-average likelihood of aggressing toward unfamiliar humans (van der Borg, Graat and Beerda, 2017). They are frequently over-represented in dog bite statistics, particularly in fatal attacks and incidents involving children (Martínez et al., 2011; O'Neill et al., 2017). These trends raise concerns that the breed's rising popularity in Zimbabwe may correlate with a rise in dog-related incidents.

Behavioural problems such as aggression, excessive barking, anxiety, over-excitability, and destructiveness are common in domestic dogs (Pelta, 2012; Broseghini et al., 2023). A Chinese study by Yang, Langford, and Kiddie (2021) found that when a dog's behaviour does not align with an owner's lifestyle or environment, the behaviour is often perceived as problematic. This mismatch may be particularly relevant in urban Zimbabwean settings where dog management and socialisation may be limited.

Several risk factors influence dog behaviour. Reproductive status, for instance, can affect aggression levels; entire males are more likely to exhibit aggression than neutered males, and spayed females may also show increased aggression (Martínez et al., 2011). Nonetheless, the impact of such variables remains underexplored in Zimbabwean dog populations.

Despite the global attention given to behavioural issues in domestic dogs, there are still considerable gaps in understanding the most common types of behavioural problems and their risk factors, particularly in specific breeds like Rottweilers. As Meyer et al. (2023) note, the prevalence and nature of these behaviours can vary widely across different settings and populations.

Currently, there is no research specifically focused on the prevalence or contributing factors to behavioural problems among Rottweilers in Zimbabwe. This lack of data limits the ability to develop informed training, management, and prevention strategies. Understanding the epidemiology of dog behaviour problems is essential for improving both animal welfare and public safety (Hiby et al., 2004; Jagoe and Serpell, 1996; Wells and Hepper, 2000).

This study aims to address this knowledge gap by conducting a preliminary survey on the prevalence and risk factors associated with owner-perceived behavioural problems in Rottweilers in Zimbabwe. The findings will contribute valuable insights for veterinarians, dog owners, breeders, and policymakers in managing canine behaviour responsibly and effectively.

Methods

Study Design

This was a cross-sectional study carried out in the Harare, Bulawayo, and Midlands Provinces of Zimbabwe from September 2023 – February 2024. A map of the study areas is presented in **Figure 1**.

Data Collection Instrument (Questionnaire)

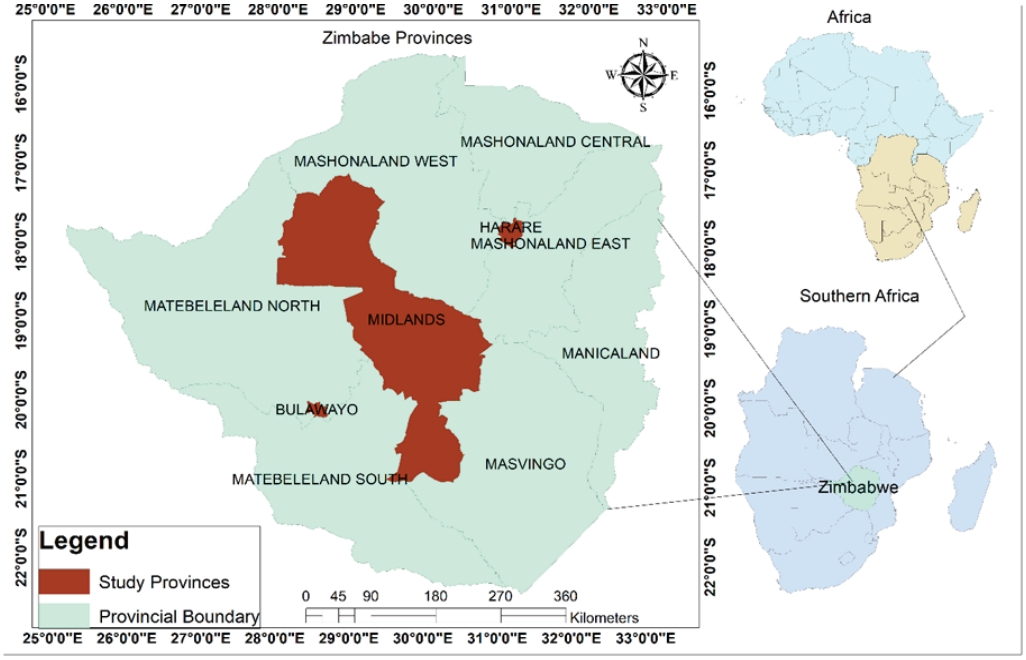

Figure 1: Geographic distribution of the study area within Zimbabwe
The provinces where the study was conducted—Bulawayo, Midlands, and Matabeleland South—are highlighted in brown. Other provinces are shown in light green for context. The map includes provincial boundaries, a north arrow, and a scale bar for spatial reference. The inset maps illustrate Zimbabwe's location within Southern Africa and the African continent to provide broader geographical context.

Participants were recruited using non-probability sampling methods, specifically convenience and snowball sampling. The majority were recruited online through convenience sampling, while additional participants were identified through snowball sampling, where existing participants referred others to the study.

Of the 342 individuals who initially accessed the online survey, a total of 256 participants completed all survey items and submitted their responses, resulting in a completion rate of approximately 74.9%. To maintain methodological rigour and ensure data integrity, only fully completed surveys were retained for analysis, while partially completed or incomplete entries were excluded. The final sample of 256 respondents provides a sufficiently large and reliable dataset for the objectives of this study and is consistent with recommended thresholds for online behavioural research in comparable contexts.

Rottweiler owners were asked to fill out a web-based survey (online self-report questionnaire). Great care was taken to publicise the study through numerous relevant organisations. The questionnaire was publicised through press releases by the Mosi-Oa-Tunya Rottweilers, the Gweru Society for the Prevention of Cruelty to Animals, the Midlands Veterinary Surgery, and via social media, with a short synopsis describing the purpose of the research and a direct link to the questionnaire. Additionally, the visitors of the Harare Kennel Club received the questionnaire, and they shared the link with their networks.

While the recruitment strategy enabled access to a geographically and demographically diverse cohort of Rottweiler owners, it also introduced potential sampling bias. Specifically, participants were likely drawn from networks of individuals who are more actively engaged with canine welfare, training, or breed-specific communities. This may have led to an overrepresentation of owners with heightened awareness of behavioural issues or those experiencing problematic behaviours, thereby inflating prevalence estimates. Additionally, the sample may be disproportionately urban, reflecting environments with distinct socio-spatial dynamics compared to rural settings. Consequently, the external validity of the findings is limited, particularly in generalising to the broader population of Rottweiler owners in Zimbabwe.

Materials and Measures

This study was approved by the Midlands State University Research Ethics Committee in accordance with the Research Ethics Policy under research protocol number **ANRM/001/23**.

Before administering the online questionnaire, informed consent was obtained from each participant. The names of participants were not recorded in the questionnaire for confidentiality reasons. Furthermore, they were assured that their answers would not be made public.

During the four months (September 2023 to January 2024) a questionnaire was made available consisting of two parts; a set of eight (8) questions about the background and life history of the owner's dog (e.g. gender, sexual status, age of acquisition, training history, number of household members, behavioural therapy; and a set of 42 questions on the dogs behaviour in daily life (**see Auxiliary file for the complete questionnaire**) asking owners to indicate how their dogs have responded, ''in the recent past'' to a variety of common events and stimuli using a series of 0 – 4 rating scales (where 0 = none and 4 = serious).

Just by their cohabitation, (Canejo-Teixeira *et al*., 2018) posit that an owner may be aware of their pet's behaviour even when they are not specifically trained to watch canine behaviour. As a result, owners could be a trustworthy source of knowledge on the behaviour of their dog and as such for this we used a behavioural assessment questionnaire. The questionnaire evaluated the existence and severity of various types of problem behaviour in dogs based on owner-reported responses on a 5-point scale of increasing intensity or frequency of behaviour in daily life. However, due to the subjectivity of owners' replies, before use in this study, the questionnaire underwent a process evaluating its reliability and validity, as described in other studies (Hsu and Serpell, 2003; Serpell and Hsu, 2005). The reliability and validity of the questionnaire was then evaluated using Cronbach's alpha(α), test-retest reliability and content validity (Litwin 1995; Rubio et al. 2003; Rubio 2005). Cronbach's α coefficient for aggression towards familiar people was 0.810 and for aggression towards unfamiliar people the value was 0.860, indicating good internal consistency.

Content validity was established through expert review. A licensed veterinarian with over seven years of professional experience working with domestic dogs evaluated the questionnaire for relevance, clarity, and comprehensiveness. Each item was assessed to determine whether it accurately captured behavioural constructs related to aggression in dogs. Feedback from the expert informed minor revisions to the wording of select items to enhance interpretability and ensure alignment with canine behavioural science. This process supported the instrument's face and content validity. A debriefing method was used to identify potentially problematic parts (e.g., infrequent or confusing words or concepts, difficulty in reading, etc.) of the questionnaire.

Results and Analysis

All data were managed and analysed using IBM SPSS Statistics 21.0 for Windows. Descriptive statistics (with proportions reported as percentages) were used to summarise demographic and behavioural data. Multivariate logistic regression models were employed to identify significant predictors of canine aggression.

Sample Characteristics

The study analysed a range of demographic characteristics of the sampled dogs. The mean age of the dogs was 38.4 months (median = 24.5 months), reflecting a population skewed towards younger individuals. Dogs were typically

acquired at an early age, with a mean acquisition age of 2.9 months (median = 1.6 months). Gender distribution was balanced, with males comprising 53.1% (n = 136) and females 46.9% (n = 120). Most dogs lived in households with 2–5 persons (78.5%, n = 201), while 1.6% (n = 4) lived with a single individual, and 19.9% (n = 51) lived in larger households (>5 persons).

Regarding living arrangements, 87.9% (n = 225) of dogs were kept outside, 11.7% (n = 30) lived in houses with gardens, and 0.4% (n = 1) resided in apartments. Owner engagement was limited: 69.1% (n = 177) of owners spent less than one hour per day with their dogs, 28.1% (n = 72) spent 1–2 hours, 2.3% (n = 6) spent 2–4 hours, and only 0.4% (n = 1) spent over four hours daily. Notably, only 2.8% (n = 7) of dogs received positive reinforcement training, while the vast majority (97.2%, n = 249) were subjected to negative training methods. These characteristics are summarised in Table 1.1

Table 1: Descriptive analysis of the studied Rottweiler population

Variable	Mean and median if quantitative/frequency (%age) if nominal
Dog Received Training	
• Positive	7 (2.8%)
• Negative	249 (97.2%)
Age (Months)	
• Mean	38.4
• Median	24.5
Age of Acquisition (months)	
• Mean	2.9
• Median	1.6
Dogs Gender	
• Male	136 (53.1)
• Female	120 (46.9)

1 Minor discrepancies in percentage totals may be due to rounding.

No. of Persons with Whom Dog Coexists	
• 1	4 (1.6%)
• 2-5	201 (78.5%)
• 5	51(19.9%)
Dog's Environment	
• Apartment	1 (0.4%)
• House with garden	30 (11.7%)
• Outside	225 (87.9%)
Time owner dedicates to dog	
• <1 h/d	177 (69.1%)
• 1-2 h/d	72 (28.1%)
• 2-4 h/d	6 (2.3%)
• >4 h/d	1 (0.4%)

Human-Directed Aggression

Familiarity with the Victim

Familiarity with Victim Aggression was less commonly reported towards familiar individuals compared to unfamiliar ones. A total of 69.1% (n = 177) of dogs were never aggressive towards unfamiliar people across all scenarios, while 55.1% (n = 141) displayed no aggression towards familiar people. Although some dogs exhibited aggression, scores rarely exceeded a mean of 2.5 for familiar persons; however, aggression towards unfamiliar individuals reached individual mean scores of up to 3.5. Among the 80 dogs reported to show aggression toward strangers, 13.75% scored above 2.5, indicating frequent aggression (See **Figure 2**).

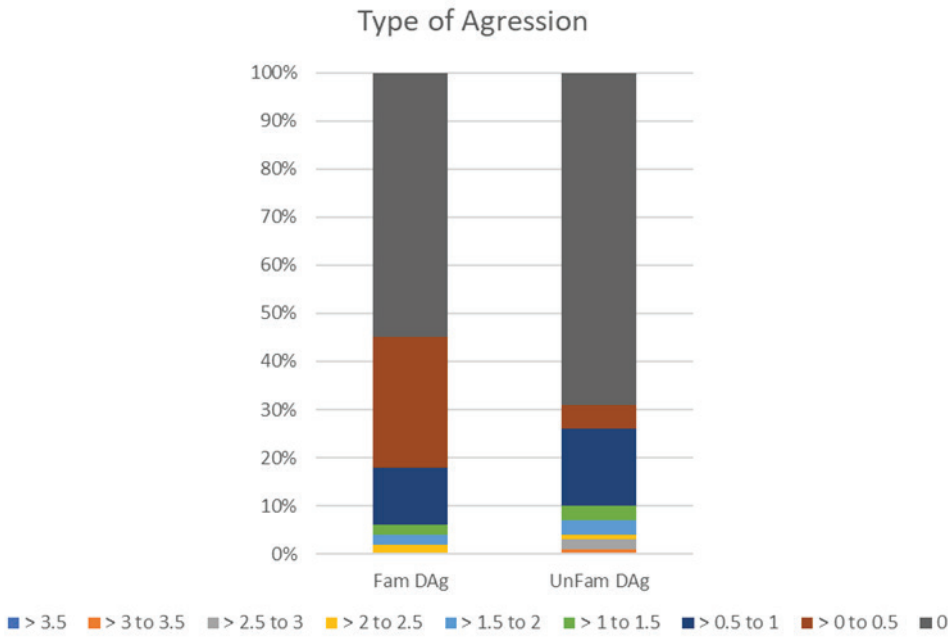

Figure 2: *Individual mean dog scores for familiar (FamDag) and unfamiliar (UnFanDag) dog aggression*

Aggression Score Ranges

> 3.5 – Very High Aggression (Dark Blue)

3 to 3.5 – High Aggression (Orange)

2.5 to 3 – Moderately High Aggression (Gray)

2 to 2.5 – Moderate Aggression (Yellow)

1.5 to 2 – Low-Moderate Aggression (Light Blue)

1 to 1.5 – Low Aggression (Light Green)

0.5 to 1 – Very Low Aggression (Teal Blue)

0 to 0.5 – Minimal to No Aggression (Peach/Light Orange)

Aggression in Fixed Test Environments

Over 80% of dogs never showed aggression towards familiar individuals during rest, grooming, or feeding (see **Table 2 below**). The most aggression was triggered when toys, bones, or objects were removed (30.3%), whereas nail clipping elicited the least aggressive behaviour. Only 2% of dogs consistently showed aggression when patted by a stranger.2

Table 2: Frequency of aggressive behaviour in fixed test environments:

Test Environment	N = 256 0	1	2	3	4
Resting or sleeping	218 (85.2%)	23 (9%)	12 (4.7%)	2 (0.8%)	1 (0.4%)
Eating	214 (83.6%)	26 (10.2%)	10 (3.9%)	3 (1.2%)	3 (1.2%)
Chewing on a treat	179 (69.9%)	46 (18%)	15 (5.9%)	11 (4.3%)	5 (2%)
During grooming	223 (87.1%)	17 (6.6%)	12 (4.7%)	4 (1.6%)	0 (0%)
Unfamiliar dog	179 (69.9%)	51 (19.9%)	18 (7%)	8 (3.1%)	0 (0%)
Unfamiliar person	184 (71.9%)	47 (18.4%)	12 (4.7%)	13 (5.1%)	0 (0%)
Patted by stranger	192 (75%)	39 (15.2%)	11 (4.3%)	9 (3.5%)	**5** (2%)

Logistic Regression Analyses: Predictors Of Aggression

Aggression Towards Familiar People

Table 3 below presents logistic regression models examining predictors of aggression towards familiar individuals. Fear manifestation was a consistent and significant predictor across all models. In Model 1 (n = 256), fear was associated with an odds ratio (OR) of 2.85 (95% CI: 1.28–6.35, p = 0.009). This association remained robust across adjustments: Model 2 (OR = 2.99, 95% CI: 1.30–6.89, p = 0.010) and Model 5 (OR = 3.36, 95% CI: 1.32–8.57, p = 0.011).

Negative training consistently predicted aggression. In Model 5, negative training was associated with an OR of 1.02 (95% CI: 0.20–5.12, p = 0.048). Although this OR is close to 1, the p-value indicates potential relevance; caution is advised in interpretation.

Dog sex showed a modest effect, with males displaying higher odds of aggression. Age and neuter status showed minimal or inconsistent impact

2 Aggressive behaviour was assessed on a 5-point ordinal scale, where:
0 = Never aggressive, 1 = Seldomly aggressive, 2 = Sometimes aggressive, 3 = Usually aggressive, and 4 = Always aggressive.

across models. Housing conditions (e.g., dogs kept outside) were associated with elevated aggression risk in some models (Model 4: OR = 1.19, 95% CI: 0.48–2.92, p = 0.219), although not consistently significant.

Table 3: Logistic regression models between fear and aggression towards familiar people adjusted for characteristics of owner, dog, housing conditions and training

		Model 1 OR 95%CI	Model 2 OR 95%CI	Model 3 OR 95%CI	Model 4 OR 95%CI	Model 5 OR 95%CI
Fear	Negative	Ref	Ref	Ref	Ref	Ref
	Positive	2.85 (1.28 – 6.35) **	2.99 (1.30 – 6.89) **	2.45 (0.99 – 6.16) *	3.02 (1.33– 6.85) **	3.36 (1.32 – 8.57) **
Owner' s Gender	Female		Ref			
	Male		1.05 (0.49– 2.25)			
Dog' s Age (months)	-			0.99 (0.98 – 1.00)		
Dog' s Sex	Female			Ref		
	Male			2.15 (1.08 – 4.26) *		
Neuter Status	Negative			Ref		
	Positive			0.54 (0.19 – 1.49)		
Staying in	Apartment				Ref	
	House with garden				1.131 (0.44 – 2.86)	
Dog Inside	Negative				Ref	
	Positive				1.19 (0.48 – 2.92)	
Training	Negative					Ref
	Positive					1.02 (0.20 – 5.12)

*Statistically significant at the 0.05 level
**statistically significant at the 0.01 level

3.3.2 Aggression Towards Unfamiliar People

Table 4 below explores predictors of aggression towards unfamiliar people. Fear remained a central predictor, with ORs across models ranging from 2.86 (95% CI: 1.22–6.77, p = 0.013) in Model 2 to 2.97 (95% CI: 1.23–6.67, p = 0.015) in Model 4. Model 5 showed a slightly attenuated effect (OR = 2.61, 95% CI: 0.99–7.02, p = 0.051).

Negative training continued to be a significant predictor, with Model 5 showing an OR of 1.99 (95% CI: 0.39–10.08, p = 0.042). As with aggression towards familiar people, ORs near 1 for other variables (age, sex, neuter status) suggest minimal impact. Housing variables (e.g., apartment living) showed non-significant trends towards increased aggression (Model 4: OR = 1.12, 95% CI: 0.43–2.89, p = 0.786).

Table 4: Logistic regression models between fear and aggression towards unfamiliar people adjusted for characteristics of owner, dog, housing conditions and training

		Model 1 OR 95%CI	Model 2 OR 95%CI	Model 3 OR 95%CI	Model 4 OR 95%CI	Model 5 OR 95%CI
Fear	Negative	Ref	Ref	Ref	Ref	Ref
	Positive	2.87 (1.23 – 6.67) **	2.86 (1.22 – 6.77) **	2.94 (1.06 – 8.08) *	2.97 (1.23 – 6.67) **	2.61 (0.99 – 7.02) *
Owner´ s Gender	Female		Ref			
	Male		1.05 (0.47 – 2.34)			
Dog´ s Age (months)	-			0.99 (0.98 – 1.00)		
Dog´ s Sex	Female			Ref		
	Male			0.83 (0.42 – 1.64) *		
Neuter Status	Negative			Ref		
	Positive			0.80 (0.29– 2.18)		
Staying in	Apartment				Ref	
	House with garden				1.12 (0.43 – 2.89)	
Dog inside	Negative				Ref	
	Positive				0.93 (0.37 – 4.42)	
Training	Negative					Ref
	Positive					1.99 (0.39 – 10.08)

*Statistically significant at the 0.05 level
**statistically significant at the 0.01 level

Summary of Results

These findings underscore the role of fear and training methods in canine aggression. Fear is a consistent and statistically significant predictor of both familiar and unfamiliar human-directed aggression. Negative training methods, though common in the sample, were associated with increased aggression risks. Owner and dog characteristics had mixed or limited impact, while housing conditions showed potential but inconclusive influence. These results highlight the importance of promoting humane training to improve dog behaviour and public safety.

Discussion

This study investigated behavioural problems in Rottweilers in Zimbabwe, revealing a high prevalence (97.2%) of reported issues, particularly fear and disobedience. Inter-dog aggression and noise-related fear were the most common subcategories. These results reflect trends observed in other C-BARQ-based studies globally. For instance, Duffy and Serpell (2008) and Salonen et al. (2020) similarly identified conspecific aggression and noise sensitivity as dominant behavioural traits across breeds. However, this study adds new insight by exploring how Zimbabwe-specific conditions—such as housing, training practices, and access to resources—shape canine behaviour.

Training frequency was strongly associated with improved behavioural outcomes, with more frequent, consistent training linked to reduced fear, aggression, and disobedience. This finding is in line with previous studies showing that positive reinforcement and early socialisation reduce the likelihood of behaviour problems (Hiby et al., 2004; Deldalle & Gaunet, 2014). Yet in Zimbabwe, access to qualified trainers remains limited, and traditional dominance-based training remains widespread. These results indicate an urgent need to shift towards evidence-based, reward-oriented training approaches. A feasible policy response would be the introduction of subsidised or community-based dog training workshops in urban centres, potentially collaborative partnership with veterinary schools, animal welfare NGOs, or local authorities.

Housing conditions also influenced behavioural profiles. Dogs kept in apartments exhibited more fear-related behaviours than those with access to gardens or open yards. Similar findings from Blackwell et al. (2013) and Hakanen et al. (2020) link restricted space, noise exposure, and reduced stimulation to increased anxiety. Although only a small proportion of dogs in this study were housed in apartments, Zimbabwe's increasing urbanisation suggests that this

issue may become more pronounced. Urban planning policies should consider the inclusion of pet-friendly spaces, such as small dog parks or communal exercise areas, to promote healthy canine socialisation and reduce fear-based behaviour.

Age was another significant factor, with younger dogs showing more disobedience than older ones, supporting evidence from Martínez et al. (2011) and Wallis et al. (2014) that behaviour improves with cognitive and emotional maturity. However, the lack of a corresponding increase in fear or anxiety among older dogs, as sometimes reported in other C-BARQ studies, may reflect attrition bias (i.e., reactive dogs being removed from the population) or shifting owner expectations. This highlights the value of routine behavioural screening in veterinary practice, particularly during key developmental stages. Zimbabwean veterinary clinics could adopt simplified C-BARQ-based tools during annual check-ups to facilitate early intervention.

Importantly, the study highlights broader public health and safety concerns. Fear and aggression, especially when directed toward unfamiliar people or dogs, pose risks in densely populated areas. While C-BARQ data from Western countries have supported leash laws and public education to reduce such incidents (Casey et al., 2014), this study provides evidence that similar measures could be beneficial in Zimbabwe. Leash laws in public spaces—particularly open markets and transport hubs—could reduce uncontrolled interactions. Additionally, mandatory registration of large breeds like

Rottweilers, linked to attendance at a behavioural seminar, could increase owner accountability and promote responsible ownership.

Another policy-relevant insight concerns breeding practices. The overrepresentation of male dogs in aggression cases aligns with findings from van der Borg et al. (2017), suggesting a possible genetic or hormonal influence. Unregulated backyard breeding, common in Zimbabwe, may exacerbate such issues by failing to consider temperament in breeding selection. Regulations mandating breeder registration and health-behavioural screening of breeding stock, in collaboration with veterinary and canine organisations, could reduce the incidence of inherited behavioural issues.

Overall, while this study shares broad similarities with other international C-BARQ-based research, its context-specific findings emphasise the need for locally tailored interventions. Behavioural problems in dogs are not just a welfare issue but a community safety concern requiring coordinated action. Public access

to training, urban infrastructure that accommodates dogs, breeding oversight, and behaviour-sensitive veterinary care all represent feasible, cost-effective policy targets for Zimbabwe. These reforms, if implemented through cross-sectoral collaboration, could significantly improve human-dog relationships and promote safer communities.

Limitations

Zimbabwe does not have a canine registration association specifically for Rottweilers. Owners' responses were hinged on the fact that the dog resembled a pure breed and also confined to the breed standard. This, in addition to the high number of backyard breeders in Zimbabwe, lead the researchers to believe that the pedigree status in the sample was overly estimated.

This study's reliance on convenience and non-probability sampling methods may limit the generalisability of the findings. Participants were self-selected, potentially leading to an overrepresentation of owners who are more involved in dog-related activities or have dogs with notable behavioural issues. As a result, the prevalence rates and risk factors identified in this study may not fully reflect the broader population of Rottweiler owners in Zimbabwe. Future studies should consider using probability-based sampling methods or integrating data from veterinary records and household surveys to obtain a more representative sample and enhance the external validity of the findings.

Conclusion

This study highlights the high prevalence of behavioural issues in Rottweilers in Zimbabwe and identifies key risk factors such as housing conditions, training frequency, and dog age. While these findings provide valuable insights into the epidemiology of behavioural problems, actionable steps are crucial to mitigate these issues. Promoting regular training sessions for dog owners is essential, as consistent training has been shown to reduce fear, aggression, and disobedience. Policymakers should establish guidelines for housing dogs in urban environments, emphasising the importance of access to outdoor spaces and minimising stress-inducing conditions. Additionally, raising awareness about behavioural risk factors through veterinary and community programs can empower dog owners to take proactive measures in managing and preventing behavioural issues. Collaborative efforts between veterinarians, trainers, and policymakers are critical to fostering a supportive environment for both dogs and their owners, ultimately improving canine welfare and reducing public safety concerns related to aggressive or fearful behaviours. Although it's

important to note that these findings may not be representative of the entire Rottweiler population, we contend that they offer a valuable snapshot of the primary characteristics regarding canine risk factors in Zimbabwe and suggest new information to the epidemiology of behavioural problems in the domestic dog of the rottweiler breed.

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