



The Hovawart breed: analysis of various characteristics of dogs in a home environment in Italy

Lorella Giuliotti^{1*}, Maria Novella Benvenuti¹,
Alice Faoro², Daniela Nespolino²,
Fabio Macchioni¹, Francesca Cecchi¹

¹ *Department of Veterinary Sciences, University of Pisa, Viale delle Piagge 2, 56124 Pisa, Italy*

² *Dog trainer freelance*

Abstract: The aim of this survey was to investigate the characteristics of the Hovawart breed in a sample of dogs bred in Italy. A questionnaire was developed and piloted on Hovawart owners. The questionnaire included general information about the owners and the dogs, with more detailed questions on the behaviors exhibited by the dogs. One hundred questionnaires were received and processed, including 59 female and 41 male dogs. The results revealed that the main activities for Hovawart dogs were shows (57%), followed by rescue, utility, and defence. No dogs showed aggressive behavior towards their owners, however 50% and 48% showed aggressive behavior towards other animals due to competition or hierarchical reasons and towards unfamiliar people in self-defence. Only 28% of the dogs ever showed wariness, however a large number of owners did not refer to any nuisance behavior in relation to their dog. The majority of owners did not mention any health problems. Cancer and hip dysplasia were the problems most complained.

Key Words: dog; Hovawart; behavior; questionnaire.

* *Corresponding Author:* lorella.giuliotti@unipi.it

Introduction

The Hovawart is a German dog breed, of medium-large size which originated as a guard dog, and belonging to Group 2 of the Fédération Cynologique Internationale (FCI). It is an outstanding guard dog, somewhat reserved towards strangers and with a medium temperament (FCI-St., 1998).

At present, in addition to Germany, this breed is widespread throughout Europe, in the USA, Canada, and Russia (Róžańska-Zawieja et al., 2013). In Italy currently there are fifteen breeders that are part of the Italian National Kennel Club (Ente Nazionale Cinofilia Italiana, ENCI, 2020) affix and many amateur breeders. Over the last five years, 208 dogs on average have been enrolled in the Hovawart Herdbook (ENCI, 2020).

Today, the Hovawart is considered an excellent family dog due to its character. Being a breed that has always been selected for work, these dogs are exceptional in almost all activities, from searching for missing persons to competitive sports (Internationale Prüfungs-Ordnung, IPO), from obedience to agility. According to the American Kennel Club (AKC, 2020), Hovawarts in North America participate in search and rescue organizations, therapy activities, obedience trials, agility trials, flyball and service dog training. In addition, in France, the Hovawart is considered a companion and guard dog, as well as a rescue and tracking dog (HCF - Hovawart Club Français, 2020).

Undesirable behaviors are common in the domestic dog population. It has been estimated that up to 90% of dogs exhibit behaviors that the owners find unpleasant (Vacalopoulos & Anderson,

1993), making behavioral problems a huge source of distress for owners.

The domestic dog exhibits a wide variety of behavioral patterns (Mariti et al., 2015), ranging from slight problems such as tail chasing or pulling on the lead, to more serious ones such as aggression or destructiveness (King et al., 2003). Aggression directed towards people is the most common 'behavioral problem' referred to specialist clinics (Blackshaw, 1991; Bamberger & Houpt, 2006; Casey et al. 2014). Canine aggression poses serious public health and animal welfare concerns (Ruefenacht, 2002); most knowledge on the breed differences in aggression comes from various sources that are often open to misinterpretation: reports based on bite statistics, behavior clinic caseloads, and expert opinions (Duffy, 2008).

Paroz et al (2008) studied behavioral problems in juvenile Hovawarts using behavioral tests, and according to the Hovawart FCI Standard (<http://www.fci.be/Nomenclature/Standards/190g02-en.pdf>), aggressive, anxious, exuberant or lethargic dogs are not accepted in the Standard.

The aim of this research was to collect information on the characteristics of the Hovawart breed in terms of behavioral and health traits in order to extend the knowledge of this breed in Italy.

Material and methods

A questionnaire was developed and piloted on the owners of Hovawart dogs in 2018. Owners were contacted by phone or by mail and asked if they would be willing to complete a questionnaire.

The questionnaire (Annex 1) consisted of 28 multiple choice questions divided into three sections. It contained information on the owners (family composition, geographical location, experience of owning and training dogs, reason for opting for a Hovawart, activities carried out with the dog), on the dogs (gender, age, reproductive characteristics and health), on the most common undesirable behaviors (wariness, jumping up, difficulties in relations with other dogs, pulling out hair tail, possessive about food, unpredictability in playing), and on aggression or hostility towards other dogs or humans.

Descriptive statistics were carried out using Excel software. Concerning health, the prevalence of each disease highlighted within the population and the 95% confidence interval of estimates were recorded. Only the information returned from at least 50% of the respondents was discussed in the following section.

Results and discussion

Information about owners

One hundred questionnaires were returned by 70 owners of Hovawarts in Italy.

A total of 85% of the respondents affirmed that they deliberately chose a Hovawart dog, mostly because of the specific characteristics of the breed but also because they had previously owned a Hovawart. The remaining 15% had received the dog as a gift or chose it randomly. These results showed that the Hovawart dog was generally chosen in order to meet particular needs, presupposing that the owners had already done some research on the breed (Gazzano et al., 2013).

In 27% of cases, the Hovawart dog was the only pet in the house, while in 73% of cases, the house was cohabited by another dog, and often of the same breed. Among these latter cases, 55% of the dogs also lived with other pets, often cats (50%) and more rarely rabbits, birds and fish.

In 32% of cases, the dogs lived in families with children.

The results showed that 66% of the dogs lived either indoors or in the garden, while the remaining dogs only lived either outdoors (18%) or indoors (16%).

The dogs of this breed have a dynamic temperament and require an outside space to keep them busy (<http://www.hovawart.org.uk/>). However, these data showed that they are also able to live in an apartment if they are exercised.

A total of 77% of the respondents reported that they had used dog trainers especially to give the dogs a basic education (23) or to do different activities with the dog, and only 10% used dog trainers for corrective reasons or due to the dogs showing extreme wariness.

Information on dogs

The analysed sample consisted of 59 adult females (mean age 7.1 ± 4.0 years) and 41 adult males (mean age 5.7 ± 3.7 years). Most of the animals had been introduced into the family within the first ten weeks of life (75), one dog at one year of age and the others between the eleventh and thirty-second week of life.

Table 1 shows how many activities each dog was involved in.

Table 1. Number of activities each dog was involved in (besides companionship)..

Number of activities	% of dogs
1	10
2	48
3	21
4	3
5	2

A total of 17% were kept only companionship and were not involved in any additional activity, whereas most dogs were involved in more than one activity at the same time, including companionship, highlighting that the owners enjoyed planning activities with their animals. The activities consisted of shows, utility and defence, agility, rescue work, obedience training, sport, animal assisted activity, tricks, and orienteering (Table 2).

Table 2. Number of dogs engaged in the various activities.

Dog's function	n
Shows	57
Rescue	27
Utility and Defence	26
Agility	25
Obedience	13
Animal Assisted Activities	4
Tricks	2
Other	2
Orienteering	1

Twenty-seven dogs were used in search and rescue activities (nosework, mantrailing, rubble searches, water activity), thanks to their excellent olfactory skills (Mehus-Roe, 2009). Twenty-six were involved in utility and defence activities, in which this breed achieves good results as it has a balanced character, without bring off the attack phases (<http://www.hovawart.it/>). A similar number of dogs were involved in agility activities, despite being larger than Border Collies and Shetland Sheepdogs, which are particularly suitable for agility work (Helton, 2007).

Many owners (57) enjoyed taking their dogs to shows.

Animal assisted activities are generally carried out by other breeds. In our sample, in fact, only four dogs were involved in these activities, while in France they are widely used to help blind people (hovawart.chienguide.free.fr). However, thanks to their high resistance to stress, like all working dog breeds (Scholz & von Reinhart, 2003), the Hovawart breed could also be employed in the care of children, the elderly and disabled.

Table 3 shows the most common undesirable behaviors revealed from the survey.

Table 3. Most common undesirable behaviors.

Undesirable behavior	n
Aggression towards other dogs	50
Hostility toward unfamiliar people	48
Wariness	28
Jumping up	4
Difficulties in relations with other dogs	2
Pulling off hair tail	1
Possessive about food	1
Unpredictability in playing	1

Firstly, the lack of aggression shown in the home environment should be highlighted, confirming the reliable character of this breed with family members, in fact many owners referred to the excellent interactions. In our sample, the only problems arising with adults and children in the house were when the dogs were overexcited. In fact, it has been reported that during puppyhood, behaviors such as nipping, chewing, play-biting, or herding people are commonly shown by the Hovawart, but never aggression (<https://dogell.com/en/dog-breed/hovawart>).

Fifty cases of aggression towards other animals were mentioned: forty against unfamiliar dogs (males vs males or with the dog of a breed which had previously been aggressive towards the Hovawart), the others due to jealousy and inter-dog dominance with other dogs in the family.

Forty-eight cases of hostility toward unfamiliar people had occurred. This type of behavior was due to a guard and / or defensive role (25 cases) or because the dogs had been subjected to forced or inappropriate contact with extraneous unfamiliar people (17 cases). This behavior suggests failings in heterospecific and environmental socialization on the part of the original breeder and / or incorrect management in the first months of family life (Haug, 2008).

No dog in the study had caused sufficient injury to humans to require medical assistance, confirming the low biting propensity of this breed (<https://dogell.com/en/dog-breed/hovawart>). It is important to underline that the Hovawart is a guard dog and does not bite, in fact, many interviewers reported that their animals preferred to show their presence through barking rather than biting.

In other breeds, Duffy (2008) confirmed the findings on the frequency of aggressive behavior towards other dogs and unfamiliar people, however data on aggression toward members of the family are in contrast with our study since no dogs showed this behavior.

Rugbjerg et al. (2003) identified the Hovawart as one of the breeds with the highest interdog dominance aggression together with Belgian Sheepdogs, Dachshunds, Dalmatians, German Shepherds, Pinschers, Rottweilers, Scent and Spitz dogs.

Only seven dogs had bitten for reasons of defence, to protect the property, or due to pain or sickness.

Wariness and confidence behaviors in dogs have been widely studied (De Mester et al., 2008). Twenty-eight cases of wariness were highlighted, mainly in adults due to encounters with strangers or the introduction to new environments (20 cases) and in puppies wariness was shown towards kids or noise (four cases). Only two cases of wariness were highlighted during training activities. The large number of subjects presenting with this problem explains why ten owners turned to trainers for a solution. Wariness has been found to be related to inbreeding (Róžańska-Zawieja et al., 2013). In fact, inbreeding is frequent in domestic animals to replicate desirable genes (Cecchi et al., 2016a), however it can result in a decline in the mean phenotype (Cecchi et al. 2018) and fitness, which is known as inbreeding depression, and has been described as a potential animal welfare concern (Cecchi et al., 2016b). Studies on the heritability of behavioral traits in various dogs have not highlighted wariness in the Hovawart (Hradecká et al., 2015).

In contrast, in the Hovawart, Buse et al. (2009) studied the genetic and environmental influences on behavioral traits such as reactions towards strangers and children, response to external influences, response to dominance gestures of the owner, response to other dogs, and confirmed their heritable nature. For instance, some traits, such as the response of a dog to an unfamiliar situation and the behavior towards a stranger approaching the home property, have shown heritability values greater than 0.20, so it will be included in a selection program.

Jumping up had only been observed in four cases and it is considered a common and natural behavior in puppies. In fact, puppies jump up to reach and greet their mothers, while adults can jump up when greeting people. Dogs may also jump up when excited (Kobelt et al., 2003).

Reproduction and health

Six females had been neutered mostly to avoid an undesirable pregnancy, to prevent breast cancer or because of problems occurring in a previous delivery.

The first heat occurred at about 12 months with a range from six to 24 months; most of the females presented regular oestrus every six months, but there were some subjects (12) with irregular heats.

Twenty-seven males had been neutered, three of which were done for behavioral problems.

Regarding health, fifty-seven dogs had no problems, and the other forty-three showed one or more pathologies at the same time. Forty-nine different health problems were recorded, including specific genetic diseases, or parasites and orthopaedic traumas.

Table 4 shows the main pathologies reported by the respondents. The main diseases recorded were cancer (prevalence 9%) affecting many systems (ocular, cutaneous and mammary) and hip dysplasia (prevalence 8%). This latter value is in accordance with the prevalence of 6% reported by the Orthopedic Foundation for Animals for this breed (OFA: <https://www.ofa.org/diseases/breed-statistics#detail>).

Conjunctivitis had occurred in five dogs (prevalence 5%), whereas other disorders were rare, such as diabetes, ictus, degenerative myelopathy, autoimmune disease, bronchitis, myocarditis, otitis, pyometra, sebaceous cysts, pregnancy problems.

Table 4. Main complained disease/disorder.

Disease/disorder	%	Confidence interval (95%)
Cancer	9	4.86-13.14
Hip dysplasia	8	4.08-11.92
Endo Parasitosis	7	3.31-10.69
Conjunctivitis	5	1.85-8.15

Conclusions

The questionnaire on the characteristics of the Hovawart breed highlighted its propensity to interact well with family members. This dog breed is involved in several activities, above all shows, highlighting the strict bond with its owners.

The most common undesirable behavioral problem reported by owners was aggression towards other dogs and strangers. However, the behavior that was considered aggressive was related to its defensive/guard dog role.

Wariness was largely found in our sample; however, many owners did not consider it as a serious problem.

Most owners also did not mention any health problems. The most common health problems were cancer and hip dysplasia.

In conclusion, the Hovawart breed can be considered as a good choice for the family although its living environment must be carefully considered.

Finally, it would be interesting to estimate the level of inbreeding of Hovawart dogs in relation to behavioral traits, in particular, to highlight any inbreeding depression.

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Annex 1. Questionnaire.

Information on the owners

- Geographical location
- Age of the dog at the time of purchase
- Reasons for the choice:
 - Random*
 - Personal knowledge of the breed*
 - Non-direct knowledge of the breed (book, journal, internet)*
 - Gift*
 - Recommended*
- Previous experience of owning and training dog
- Dog trainer advice
- Family composition:
 - Presence of children*
 - Presence of other dogs*
 - Presence of other pets (if yes, which)*

Information on the dogs

- Name
- LOI
- Origin
 - Breeder*
 - Non-breeder*
- Date of birth
- Gender
- Breeding environment
 - House*
 - Garden*
 - House/Garden*
- Dog's activities
 - Shows*
 - Utility and Defence*
 - Companion*

- Rescue*
- Obedience*
- Agility*
- Sport activities*
- AAA*
- Tricks*
- Orienteering*
- Other*
- Reasons for activities carried out with the dog
 - Fun*
 - Patents*
 - Social reasons*
 - Behavioral needs*
 - Other*

Health and reproduction

- Neutered
- If not, has it reproduced?
- Number of litters
- Mean number of puppies/litters
- Mortality at birth
- Mortality at weaning
- Main diseases /disorders

Behavior

- Aggression towards other dogs
- Hostility toward humans
- Diffidence
- Jumping up
- Difficulties in relations with other dogs
- Pulling out hair tail
- Possessive of food
- Unpredictability in playing

La razza Hovawart: analisi delle caratteristiche in ambiente domestico in Italia

Lorella Giulioti^{1*}, Maria Novella Benvenuti¹, Alice Faoro²,
Daniela Nespolino², Fabio Macchioni¹, Francesca Cecchi¹

¹ *Dipartimento di Scienze Veterinarie, Università di Pisa, Viale delle Piagge 2, 56124 Pisa, Italia*

² *Istruttore cinofilo freelance*

Sintesi

Lo scopo dell'indagine è stato quello di investigare le caratteristiche della razza Hovawart in una campione di cani allevati in Italia.

A tal scopo è stato sviluppato un questionario e somministrato a proprietari di cani Hovawart. Il questionario includeva informazioni generali riguardo i proprietari ed i cani, con domande più specifiche sul comportamento esibito dagli animali.

Sono stati ricevuti ed analizzati 100 questionari, 59 riferibili a Hovawart femmine e 41 a maschi. I dati ottenuti hanno rivelato che la principale attività per cui i proprietari hanno acquistato questi cani è la partecipazione a mostre canine (57%), seguita dal soccorso ed utilità e difesa.

Nessun cane ha mostrato aggressività nei confronti dei proprietari ma il 50% ed il 48% hanno mostrato comportamenti aggressivi verso altri animali, per ragioni di competizione o gerarchiche e verso persone sconosciute per difesa.

Solo il 28% dei cani ha mostrato diffidenza, tuttavia un gran numero di proprietari non ha riferito alcun comportamento fastidioso del proprio cane.

La maggior parte dei proprietari non ha menzionato alcun problema di salute. Il cancro e la displasia dell'anca sono stati i problemi maggiormente segnalati.

