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Institut für Tierschutzwissenschaften und Tierhaltung

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# Cooperative care training as a means to prepare dogs (*Canis lupus familiaris*) for a veterinary examination: an evaluation of owner-perception and the training process.

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## Inhaltsverzeichnis

# 1 INTRODUCTION

## 1.1 PROBLEMS OF FEARFUL BEHAVIOR AT THE VETERINARIAN IN DOGS

Although the veterinary examination is an important part of ensuring a dog´s health by preventing or treating illness, many dogs show fearful behavior at the veterinarian (Döring et al. 2009; Csoltova et al. 2017). Repeated negative experiences at the veterinarian can lead, if not counteracted, in the worst case, to a conditioned fear response, which can make it impossible to examine the animals without sedation (Simpson 1997; Yin 2009). Some dogs who show fearful behavior when they visit the veterinarian may react aggressively (Riemer et al. 2021), which can be dangerous for both the animal and the veterinary employees (Drobatz and Smith 2003; Lucas et al. 2009). As fear can have a negative impact on the animals' welfare (Blackwell and Casey 2006), situations that can trigger fear or stress reactions should be adjusted to reduce or even prevent the animal´s stress response.

## 1.2 HOW TO REDUCE FEAR AND STRESS RESPONSES IN DOGS

There are different approaches that can be used to reduce the behavioral and/or physiological fear and stress response of dogs at the veterinary surgeon. Döring et al. (2009) and Lloyd (2017) suggested, that a means to reduce an animal´s fear response is to counteract the potential negative experience at the veterinarian with positive experiences. The Journal of the American Animal Hospital Association published guidelines to reduce fear of animals at the veterinary surgeon. Among other things they recommended to adapt the clinic for example by the use of non-slip mats on the table, in order to give the animals the feeling of security (Hammerle et al. 2015). The application of pressure vests is also recommended (Lloyd 2017) as the vests generate pressure that, like touches, is said to have an indirect calming effect (King et al. 2014; Lloyd 2017) and should convey a feeling of safety (Lloyd 2017). However, it is possible that the animals do not respond to the vest and that it does not show the intended calming effect (Buckley 2018). Furthermore, low-stress handling techniques, high value food, stress-reducing medication that can be administered before the veterinary visit and pheromone therapies could be able to reduce animals stress response (Simpson 1997; Lloyd 2017; Edwards et al. 2019; Riemer et al. 2021). Studies testing the effect of essential oils suggest that it may reduce travel-

related agitation (Wells 2006) and also had a calming effect in rescue shelters (Graham et al. 2005). To train the typical procedures of a veterinary visit, such as inspection of the mucosal membranes and palpation of the abdomen can reduce the stress response during an actual examination, as well as the time it takes the veterinary surgeon to collect, for example, blood samples (Weiss and Wilson 2003).

### 1.3 COOPERATIVE CARE TRAINING

Cooperative care training uses positive reinforcement to encourage the dog to cooperate during the veterinary examination and thus enabling examination and treatment without fixation (Howell and Feyreclide 2018). During cooperative care training, the animal learns to take a specific body posture, or to place a body part on a target and then hold this position until the respective action is completed (Whittaker and Laule 2012). Such target behavior can be trained by using positive reinforcement in the form of treats (Böhm 2020), and any object that an animal can approach, can be used as a target, for example, a ball or mat (Weiss and Wilson 2003). The presentation of the target can be used as a cooperation signal and the target behavior shows the consent of an animals to participate in different procedures (Coleman et al. 2008). This allows the animals to communicate with humans and control their actions (Bassett and Buchanan-Smith 2007; Coleman et al. 2008). Increased perception of control over the situation, can reduce the stress response of animals (Taylor et al. 2001; Buchanan-Smith and Badihi 2012; Whittaker and Laule 2012).

Since the dogs can end the manipulation by stopping the target behavior, they are less likely to show aggressive behavior, which makes handling during veterinary procedures safer for both the animals and the veterinary employees (Laule et al. 2003). Overall cooperative care training should lead to a reduced stress response and thus simplify the clinical examination at the veterinary surgeon (Ramirez 2012; Whittaker and Laule 2012). Moreover, the ability to work for treats can facilitate the positive emotional state which can contribute to good welfare (Laule et al. 2003), another study shows that dogs prefer high-quality treats (e.g. sausage) to lower quality treats (e.g. dry food), which is why this should also be included in training with the dog (Riemer et al. 2018). Another positive effect of cooperative care training is that trained animals rarely quit or refuse veterinary procedures (Laule et al. 2003).

However, to date, there is still little scientific evidence that the different approaches are effective in reducing the animal's behavioral and physiological stress response (Edwards et al. 2019; Riemer et al. 2021).

## 1.4 CARDIAC ACTIVITY AS A PHYSIOLOGICAL INDICATOR OF EMOTIONS AND STRESS RESPONSE IN DOGS

There are several physiological measures that can be used to assess changes in the animal's emotional arousal level and thus be used to determine its welfare state (Beerda et al. 1999; von Borell et al. 2007). Heart rate (HR) and Heart rate variability (HRV) are validated measures to assess the emotional state of dogs (Katayama et al. 2016; Csoltova et al. 2017). SDNN and RMSSD are two HRV indices and parameters of the autonomic nervous system. The standard deviation of the interbeat intervals between consecutive heart beats (SDNN) indicates the combination of parasympathetic and sympathetic activity. Root mean square of successive differences (RMSSD) mainly represents the parasympathetic activity (Desprès et al. 2002; von Borell et al. 2007; Kuhne et al. 2014).

## 1.5 AIM OF THE STUDY

The aim of the study was to evaluate effects of cooperative care training, using a cooperation signal, on the stress response of dogs during veterinary examination. The overall hypothesize of this clinical trial was that cooperative care training has a positive effect on the compliance and emotional state of dogs (Böhm 2020; Wess et al. 2022). We followed an exploratory approach, additionally it was investigated if different characteristics as the amount of cooperative care training on an elevated area, the amount of training with a stranger, or the quality of treats used during cooperative care training may influence the success of this training.

Therefore, this diploma thesis mainly covers the aspects regarding the owners' evaluation of the cooperative care training, their experiences during training, and perceived effect of the training during the second veterinary examination and the changes of the dogs' heart rate variability from the first to the second examination.

An exploratory data analysis was performed to look for correlations between different evaluated characteristics of the cooperative care training; therefore, I focused on a set of open questions:

- Is there a difference between cooperative care training at home compared to training in groups?
- Is the presence of other dogs or other dog owners distracting for the dogs` during cooperative care training in groups?
- Is cooperative care training useful regarding future visits at the veterinarian and for other aspects of daily life from the owner's point of view?
- Does cooperative care training enhance the human-dog relationship?
- Do the participants perceive cooperative care training with their dogs to be successful?
- Which characteristics of cooperative care training could have a positive impact on the compliance during the veterinary examination (for example amount of cooperative care training on an elevated area)?
- Which characteristics of cooperative care training could have a positive effect on the HRV measurements (SDNN, RMSSD) of the dogs during the clinical examination at the veterinary surgeon?

# 2 METHODS AND MATERIAL

## 2.1 OVERVIEW OF THE STRUCTURE OF THE STUDY

The study presented in this thesis was conducted within a clinical trial, that assessed the effects of cooperative care training on dog´s emotional state during a veterinary visit. The main clinical trial consisted of two veterinary examinations that took place in an examination room at the Veterinary University of Vienna with eight to twelve weeks in between. The time period between the two examinations differs, because it was difficult to find a date for the second clinical examination with some dog owners. During both clinical examinations, the behavior of the dogs from the training group (TG) as well as from the control group (CG) was video recorded from three angles. The behavior of the dogs was compared between the first and second clinical examination, paying particular attention to signs of stress responses for example lip licking, vocalizing, freezing (Walker et al. 1997; Tod et al. 2005). For further details regarding the behavioral indicators of a stress response see the master thesis of Böhm (2020). To reduce potential bias during video analysis, the coders were blind to the test conditions and did not know which dog was in the TG and which was in the CG (Böhm 2020). Additionally, physiological data were collected such as the heart rate and the heart rate variability. The heart rate variability rates, as an indicator for stress response, were calculated using the interbeat intervals measured by a mobile Polar® (Polar RS800CX, Polar Eelectro Oy, Finland) heart rate monitor. The resulting measurements (HR mean, SDNN, RMSSD) were compared between the first and second clinical examination. Both, the TG and the CG were evaluated (Wess et al. 2022). During the study period, the dog owners and the dogs participating in the training group (TG) have received cooperative care training in groups and received instructions to train at home. The participants were encouraged to keep a record of their training sessions in a training diary (see 2.5.2.).The dog owners of the TG practiced steps of the clinical veterinary examination with their dogs (Table 1) using positive reinforcement. The examination steps were divided into small intermediate steps (Table 2). The control group (CG) received written training instructions for two exercises were in contrast to the training group not related to the procedures of a clinical examination. The first exercise was to train the dog to lie on the side and the second that the dog rests the chin in the owners' hand. This should allow to control for increased human dog interaction linked to the additional training in the TG. The first clinical

veterinary examinations took place between May and June 2019 and the second examinations happened between September and November 2019.

Stress-related expressive behavior is not analyzed in this study as the Master thesis of Astrid Böhm (Böhm 2020) already covers that aspect. General effect of the training on compliance and physiological indicator of dogs emotional state were published in Wess et al.(2022).

### 2.2 ANIMALS AND OWNERS

40 dogs of different breeds with a mean age of 5.14 years, 26 females and 14 males completed the study. Dogs suffering from any acute or chronic illness, which had to be declared by the owners, were not allowed to participate in the study. Furthermore, the participating dogs should not show generalized and extremely fearful or aggressive behavior towards people, this information was also provided by the dog owners.

The 35 dog owners with a mean age of 39 years were recruited via flyers and the social media channels of the Veterinary University of Vienna. It was important that the dog owners had the necessary time to take part in the experiment.

### 2.3 DIVISION IN GROUPS

After a pre-visit the dog owner pairs were divided into two groups either the training (19 owners and 22 dogs)- or the control group (16 owners and 18 dogs). The assignment to the two groups was semi-randomized and balanced based on the dogs training level, age, gender, signs of fear during handling and the owners' training experience. This information was provided by the owners by filling in an initial questionnaire.

The gender ratio was almost equal between the training and the control group (TG: 14 females, 8 males and CG: 12 females, 6males). Furthermore, the owners rated their and their dogs training experience on a five-point scale (one = little experienced, five = very experienced) whereby most of the dogs had a score between three and four in the TG and in the CG. The dogs fear response during handling was also rated on a five-point scale (one = frequent fearful behavior, five = no fearful behavior observed at all). The mean score of the training group was 3.99 and for the control group 4.18. Ten fear related behaviors were rated namely, for example

freezing, growling, panting and seeking for comfort. No significant differences could be found for any parameter of the group assignment ($p > 0.2$)

## 2.4 CLINICAL EXAMINATION

The dogs were clinically examined twice in a standardized form (Table 1), with eight to twelve weeks in between. The chosen examination steps often occur in a standardized clinical examination at the veterinary surgeon. Both veterinary examinations were carried out in the same examination room at the Veterinary University of Vienna and were carried out by the same two people (veterinary students) that were blinded to group allocation, to prevent bias across the two examinations. After a twenty-minute wait in the waiting room, where the dogs were alone with their owners, the dogs were brought into the examination room and had three minutes to acclimatize and were rewarded with three treats. Subsequently, the dogs were lifted onto the examination table by the owner or with the help of one of the students. On the table the dogs received three treats (dried beef lung and/or cheese) and the veterinary examination started (Table 1). Treats were counted for each dog and owners were only allowed to give a treat when directed by one of the veterinary students. So, all dogs were rewarded with the same number of treats and at the same time of the examination during the clinical examination at the veterinary surgeon. The examinations were carried out using low stress techniques (Yin 2009), for example, the dogs on the table were not really fixated, rather one hand of the helper was softly placed on the collar. Thus, in the case a dog wanted to jump off the table the helper was able to prevent that. The second hand was under the chest so that the dog remained standing during the clinical examination. If a dog tried to avoid the examination three times during the same examination step, or even tried to jump off the table, the examination was terminated immediately. Additionally, the owner could request a break of the clinical examination at any point if they perceived their dogs to be tensed or stressed, or if the dogs left the target.

**TABLE 1** The standardized clinical examination at the veterinary surgeon used for this trial. Shown are the examination steps, the duration in seconds, and the instructions for the veterinary surgeon.

| Examination | Duration | Instructions |
|---|---|---|
| Auscultation of the left lung (left thorax) | 15 seconds | 1) show the stethoscope and the hands to the dog.<br>2) pet from the neck to the thorax and hold the stethoscope on the left thorax. Put the second hand on the back of the dog. |
| Auscultation heart (left thorax) | 30 seconds | Move the stethoscope to the area of the heart on the left thorax. |
| Auscultation of the right lung (right thorax) | 15 seconds | 1) show the stethoscope and the hands to the dog.<br>2) pet from the neck to the thorax and hold the stethoscope on the left thorax. Put the second hand on the back of the dog. |
| Examination of the ear | 1 second per ear | Put one hand under the chin of the dog and lift the dog´s ear with the second hand. |
| Examination Eye (conjunctivae) | 2 seconds per eye | Put one hand under the chin of the dog and lift the upper eye lid with the second hand. |
| Examination mouth: mucosa and teeth | 1 second per side | Put one hand under the chin and lift with the second hand the upper lip. |
| Capillary refill time | 3 seconds | Tap on the mucosa. |
| Examination of the abdomen (palpation) | 30 seconds | 1) show the hands to the dog.<br>2) pet from the neck to the abdomen twice<br>3) apply soft pressure on the abdomen and start the deep palpation. |
| Feel femoral pulse | 15 seconds | Move with the hands from the abdomen to A.femoralis (hind legs). |
| Examination of the Rectum: Rectal temperature | Until the signal of the thermometer | 1) pet the dog from the neck to the flank.<br>2) pet over the tail root, lift the tail and after that- insert the thermometer. |

## 2.5 COOPERATIVE CARE TRAINING

After the first veterinary examination the owner-dog pairs of the training group, attended group training sessions and were advised to train with their dogs at home in between. The group training sessions were all held by the same dog trainer and primarily positive reinforcement was applied. The goal of the training sessions was to establish a cooperation signal, in form of a target behavior. The target behavior was to stand on a mat and was used as cooperation signal. By standing on the mat with at least one paw, the dog signaled the consent to be clinically examined. Whenever the dog left the mat, the examination had to be ended immediately and only continued when the dog shows the cooperation signal (standing on the mat) again. The mat used during the cooperative care training at home and in groups as well as during the both clinical examinations were the same type of mat, but not the same mat in the sense that every

dog owner brought their own mat to the clinical examinations. The cooperative care training in groups and at home was based on the steps from the standardized clinical examination see Table 1. To give examples, auscultation of the lung or palpation of the abdomen was defined as a training phase that included different intermediate steps which should ultimately lead to the examination step practiced during the clinical examination. Each training phase and the included intermediate steps were demonstrated once in the group training sessions before the dog owner practiced them at home.. To ensure that the manipulation was as easy as possible for the dogs, the difficulty and the duration of the exercises were only slowly increased. For this reason, the owners always showed their hands or the equipment they used before any manipulation. Moreover, the examination steps started always with stroking or touching the area of interest to prepare the dogs to the following procedure. Owners were asked to only proceed when their dog appeared relaxed (e.g., showed no licking, no flattened ears etc.; also see master thesis Böhm (2020)). If a training phase worked well, the phase should also be trained on an elevated surface such as a table, and furthermore with a stranger examining the dogs. This should help to prepare the dogs for the actual clinical examination which was performed on the examination table by a stranger. Training phases and the small intermediate steps are shown in Table 2.

**TABLE 2** Description of the training phases and the small intermediate training steps of the cooperative care training. Shown are the training phase and the related intermediate steps. Each training phase had one to eight intermediate steps. Time is given in seconds (sec).

| Training phase | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 |
|---|---|---|---|---|---|---|---|---|
| Target behavior | Step on the target. | Stand on the target for up to 10 sec. | Increase the distance to the dog standing on the target: Increase your distance slowly step by step (up to max two meters); the dog stays on the target. | Step onto the target and stay in position for up to 5 sec despite distraction (e.g. owner moves toys owner walks around target). | Dog stands for up to 5 sec at the target on elevated places (table or sofa). | // | // | // |
| Abdomen | Pet the belly with one hand for up to 10 sec. | Touch the belly with two hands for up to 10 sec. | Palpate the abdomen with medium pressure for up to 10 sec. | Palpate the abdomen with medium pressure for up to 30 sec. | Pet belly with one hand- on elevated places (table, couch). | // | // | // |
| Pulse | Pet the belly with both hands for up to 10 sec | Pet both inner thighs at the same time. Each with one hand for up to 10 sec. | Touch both inner thighs at the same time- each with one hand at one point for up to 10 sec. | Touch both inner thighs at the same time with one hand each at one point for up to 15 sec. | With slightly increased pressure, touch both inner thighs at the same time- each with one hand at one point for up to 15 sec. | Pet both inner thighs at the same time with one hand each for up to 10 sec on an elevated place (table, couch). | // | // |
| Ear | Softly grasp the chin from below | Touch the ear for 5 sec. | Carefully grasp the whole ear with one hand for | Carefully grasp the whole ear with one hand for | Raise the ear for up to 2 sec. | Raise the ear again and look into it for up to 2 sec | Touch the ear for 5sec- on an elevated place | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | with one hand | | up to 5 sec | up to 10 sec. | | (bring your own head close to the dog´s ear). | (table, couch). | |
| Eye | Softly grasp the chin from below with one hand. | Carefully touch the head from above with the second hand. | Approach the eye with one finger. | Touch the upper eyelid with one finger for up to 2 sec. | Carefully apply light pressure to the upper eyelid with one finger for up to 2 sec. | Carefully apply light pressure to the upper eyelid with one finger for up to 5 sec. | Carefully pull the upper and the lower eyelid apart. | Touch the upper eyelid with one finger for up to 2 sec – on an elevated place (table, couch). |
| Mouth | Softly grasp the chin from below with one hand. | Slowly approach the mouth with the other hand. | Touch the lips for up to 2 sec. | Touch the lips for up to 5 sec. | Lift the lip for up to 2 sec. | Lift the lip for up to 5 sec. | Lift the lip and touch the gums for up to 3 sec. | Touch the lips for up to 2 sec – on an elevated place (table couch). |
| Thorax | Touch the chest for up to 10 sec. | Touch the chest with a flat object for up to 10 sec (e.g. bottom of a yoghurt cup). | Apply light pressure to the chest with a flat object for up to 10 sec. | Apply light pressure to the chest with a flat object for up to 30 sec. | Touch the chest for up to 10 sec - on an elevated place (table, couch). | // | // | // |
| Rectum | Touch the tail for up to 5 sec. | Hold the tail for up to 5 sec. | Lift the tail for up to 5 sec. | Lift the tail for up to 10 sec. | Touch the anus with a cotton swab for up to 5 sec. | Touch the anus with a cotton swab for up to 10 sec. | Touch the tail for up to 5 sec – on an elevated place (table, couch). | // |

### 2.5.1 COOPERATIVE CARE TRAINING IN GROUPS

The group training took place in the Clever Dog Lab at the Veterinary University of Vienna and comprised two to five dogs per session. One training session lasted 60 minutes. Which dogs took part in the group training sessions together depended on the availability of the owners. The dog owner pairs received eight to twelve group training sessions. The group training sessions and the training sessions at home took place in parallel. The exercises were always shown first in the group sessions and trained at home after that. The different training phases and intermediate steps are listed in Table 2.

### 2.5.2 COOPERATIVE CARE TRAINING AT HOME AND TRAINING DIARIES

The intermediate steps were specified for the owners in the training diaries. The trainings phases and the related intermediate steps are shown in Table 2. The participants were asked to document each training session in the training diary. A training session at home could include several or just one training phase, based on the owner's preference. But every training phase should have been trained until the dog received the second clinical examination at the University of Veterinary Medicine in Vienna. Each training phase had its separate training sheet with predefined questions. The instruction and training diaries were provided in German. The English translations and the original German versions are provided in the appendix (12.3. and 12.4.).

On each sheet information as date of training, start time, duration of the training session in minutes, how relaxed the dog was during the training (on a scale from one (= not relaxed at all) to six (= very relaxed)) or whether it was trained on an elevated area or with a stranger had to be filled in.

The dog owners were allowed to choose which treats they used to reward their dogs during the cooperative care training at home. The used treats were queried in the training diary and divided into three categories in the data analysis see 2.8. Treats used were, for example, sausage, cheese, but also dry food and special dog treats.

## 2.6 QUESTIONNAIRE

After the second veterinary appointment, the owners filled out a questionnaire. The questionnaire was divided into four main parts. Although the questionnaire was provided in German, the respective English translations are provided in this thesis. The details about the questionnaire, as well as the original German questionnaire, are provided in the appendix (12.1. and 12.2.). Examples of the questions from the different parts of the questionnaire can be found in Table 3, Table 4, Table 5 and Table 6.

Part one of the questionnaire:

**TABLE 3** Examples of part one of the questionnaire filled out by the dog owners after the second clinical examination at the veterinary surgeon. Questions about the personal data of the owner and of the dog. Shown are the question and the answer scale.

| **Question** | **Scale** |
|---|---|
| Name owner | Open question |
| Age owner | Open question |
| Sex owner | 1 = female, 0 = male |
| Employed (Full time/part time) | Yes/No answer |
| Name dog | Open question |
| Age dog | Open question |
| Breed | Open question |
| Sex dog | Female, male, neutered male, spayed female, chemically neutered |
| First dog | Yes/no answer |
| Dog mostly pet or working dog | Cross at pet or working dog |
| Participation in other training courses | Yes/No answer |
| Frequency of non-study related training with their dog in daily life | Scale 1 to 8 (1 = less than once a week to 8 = 7 times/week) |

Part two of the questionnaire:

**TABLE 4** Examples of part two of the final questionnaire filled out by the dog owner after the second clinical examination at the veterinarian. Part two comprised questions regarding the cooperative care training at home. Shown are the questions and the answer scales.

| **Question** | **Scale** |
|---|---|
| Satisfied with the information given before the start of the training. | Six-point scale : do not agree at all (= 1), do not agree (= 2), do rather not agree (= 3), rather agree (= 4), agree (= 5) totally agree (= 6). |
| Written training instructions were easy to implement. | |
| The training diary was easy to fill out. | |
| Dog accepted treats during training. | |
| Dog ended training on its own (going away, hiding). | |
| Dog has become more comfortable during training. | |
| How satisfactory was the cooperative care training at home? | Five-point scale do not at all (= 1), do rather not (= 2), partly (= 3), rather (= 4), very (= 5). |

Part three of the questionnaire:

**TABLE 5** Examples for part three of the final questionnaire filled in from the dog owners after the second clinical examination at the veterinarian. Part three of the questionnaire contained questions similar to the second part but related to the group training. Shown are questions of the questionnaire and the answer scale.

| Question | Scale |
|---|---|
| The environment of the group units was well suited. | Six-point scale: do not agree at all (= 1), do not agree (= 2), do rather not agree (= 3), rather agree (= 4), agree (= 5) totally agree (= 6). |
| The presence of other dogs was helpful for training. | |
| My dog tolerated presence of other dog owners well. | |
| Group training was stressful because the journey was long. | |
| Dog accepted treats during training. | |
| How satisfactory was the cooperative care training in groups? | Five-point scale do not at all (= 1), do rather not (= 2), partly (= 3), rather (= 4), very (= 5). |

Part four of the questionnaire:

**TABLE 6** Examples of part four of the final questionnaire filled in by the participants after the second clinical examination at the veterinary surgeon. Part four targeted the expectations the participants had before the cooperative care training. Shown are the questions and the scale the questions of the final questionnaire were answered with.

| Question | Scale |
|---|---|
| The training was perceived as useful regarding future visits at the vet | Six-point scale: do not agree at all (= 1), do not agree (= 2), do rather not agree (= 3), rather agree (= 4), agree (= 5) totally agree (= 6). |
| The exercises can be implemented at the vet. | |
| The training was in general a good occupation for the dog. | |
| The training was helpful for daily life. | |
| The training was frustrating for the owners. | |
| The training was stressful for the owners. | |
| The training was positively challenging for the owners. | |
| How successful was the cooperative care training with regard to the second examination? | Five-point scale do not at all (= 1), do rather not (= 2), partly (= 3), rather (= 4), very (= 5) but also yes/no answers and free text were included in part four. |
| How successful was the cooperative care training in general? | |

## 2.7 ETHICS STATEMENT

This study was approved by the institutional ethics and animal welfare committee consistent with the national legislation (ETK-05/01/2019) and with the Good scientific practice (GSP) guidelines. As a safety mechanism, the examination was stopped immediately if a dog tried to avoid the same examination step three times, if the owner asked to do so, or in case the dog tried to jump off the table, shows aggressive behavior or escape attempts. In addition, only low-

stress handling methods were used to make the clinical examination as comfortable as possible for the dog.

## 2.8 DATA ANALYSES

All statistical analyses were carried out using SPSS statistics 27. The given sample sizes differed among test results, as they are either given for dogs (N = 22) or owners (N = 19). Furthermore, participants were allowed to leave questions in the training dairies or the questionnaire unanswered. Consequently, the reported sample sizes can vary among tests.

The rating of the (affective) training experience of the owner consisted of seven items (The training was frustrating, the training was stressful, the training was overwhelming, the training was interesting, the training was fun, the training was surprising, the training was positively challenging). These items were grouped to two subscales by running a Principal Component Analysis (PCA) followed by Varimax rotation. Bartlett's test of sphericity was required to be significant and the Kaiser-Meyer-Olkin criterion should be at least 0.6. To include items in the final solution, the Anti-Image Correlation Matrix diagonal was required to be at least 0.5. Subscales were required to have an eigenvalue greater than one. Items were included in subscale scores only if they had a loading of at least 0.7 and did not have a loading higher than 0.4 on any other component. The analyses resulted in two subscales reflecting a positive experience (interesting, fun, surprising, positively challenging) and a negative training experience (frustrating, burdensome, overwhelming). Total variance explained was 72 % (positive experience = 43.6 %; negative experience = 28.4 %). To facilitate interpretation, the subscale scores were obtained by calculating the mean of the items in each subscale.

For statistical analysis, the data of the training diaries were aggregated for each dog and consisted of the following variables: the number of training sessions at home, the mean number of intermediate training steps per session, the mean duration per session in minutes (min), the total duration of training at home (min), and the mean estimated height of the target in centimeters (cm) used during training. The treats used at home during cooperative care training were grouped into three Scores. Score one was dry food for dogs and was rated the treat of the lowest quality, score two were dog treats, and score three comprised high quality treats such as cheese, sausage, dried meat, liver patties etc. From these categories the mean quality of treats

was calculated over all training sessions. The proportion of training sessions that involved an unfamiliar human or an elevated place, such as a table, in training was calculated. Furthermore, a mean score for each owner's perception of the dog's affective state during training was calculated (from 1= not relaxed at all to 6 = very relaxed, and from 1= not motivated at all to 6 = very motivated). To assess the distribution of the different phases in the total amount of training at home, the proportion of training within a phase and the number of phases a dog underwent, were calculated.

Based on the total amount of training steps at home the proportions of steps leading to difficulties for the owner or the dogs and of the dog stepping down from the target were calculated.

The aggregated data of training logs as well data on the number of training steps within each phase were analyzed descriptively.

The questionnaire data were evaluated descriptively. The information on satisfaction with cooperative care training at home and satisfaction with group training were combined into a score and this score was compared to the success score that was formed from the general success in the study and the success with regard to the second clinical examination, from the owner's perspective. For the HRV measurements the delta RMSSD (RMSSD visit two - RMSSD visit onw) were calculated, as well as delta SDNN (SDNN visit two – SDNN visit one).

In addition, Mann-Whitney-U Tests were used to explore the differences between training circumstances at home and the completion of the veterinary exam during visit two (after training). Spearman correlations were used to explore associations between training circumstances at home and perceived success by the owner, training experience of the owner and dog physiology during the second veterinary examination. Due to the low sample size and the explorative character of the work, no correction for multiple testing was conducted. The alpha level was set at 0.05, however, results with a p-value of up to 0.2 were considered as tendencies and as potentially relevant. P-values are given two-tailed.

# 3 RESULTS

## 3.1 DOG OWNERS OF THE TRAINING GROUP

Most of the participants were female (94.7 %; N = 19) and on average 39.2 ± 13.8 years old. The majority of the respondents were employed (90.9 %, N = 19) some of them full- and some part-time (Full-time = 42.1 %; part-time = 47.4 %; N = 17). Nearly all of the participants reported that they already had dogs before the dog that participated (84.2 %; N = 19). The dog owners trained with their dogs on average 4 ± 1.5 times per week at home.

## 3.2 DOGS OF THE TRAINING GROUP

Most of the 22 dogs of the training group were neutered females (40.9 % neutered female; 22.7 % neutered male; 22.7 % female; 13.6 % male). On average, the dogs were 5.1 ± 2.3 years old. 45 % were of mixed breed and 55 % were breeds accepted by the Fédération Cynologique Internationale (FCI). The majority of the dogs were described as primarily pets (86.4 %), 13.6 % were working dogs. Most of the dogs (71.4 %) had already attended other training courses prior to the cooperative care training and one dog owner did not answer this specific question.

## 3.3 COOPERATIVE CARE TRAINING IN GROUPS

All owners totally agreed that the demonstrations during group training sessions helped them to implement training at home (100 % totally agreed; N = 19). Most owners (totally) agreed that the intermediate steps in the cooperative care training were chosen appropriately (57.9 % totally agreed; 15.8 % agreed and 26.3 % rather agreed; N = 19).

Only three participants would have considered one-on-one training better for their dogs (42.1 % did not agree at all; 31.6 % did not agree; 10.5 % rather not agreed; 10.5 % agreed; 5.3 % totally agreed, N = 19). Moreover, none of the owners agreed that videos in addition to group training would have been helpful (42.1 % did not agree at all; 36.8 % did not agree; 21.1 % did rather not agree; N = 19).

Time constraints made it difficult for two owners (10.6 %; N = 22) to attend group training. A long journey to the location of group training was a strain for six dog owners (31.6 %; N = 19).

## 3.4 COOPERATIVE CARE TRAINING AT HOME

Most dog owners (totally) agreed (42.1 % totally agreed; 38.8 % agreed; 15.8 % rather agreed; N = 19) that they could incorporate the cooperative care training into their daily lives. Only, 5.3 % did not agree and nobody did not agree at all. 52.6 % stated that they trained often with their dog at home between the two veterinary visits, 15.8 % indicated that they trained rarely, and nobody reported that they never or very rarely trained at home (N = 19). Correlation between the information given by the dog owners on how often the dogs were trained at home and how many training units were actually completed is shown in Table 7. All 19 participants were satisfied with the training at home (68.4 % very satisfied; 31.6 % rather satisfied; N = 19). Negative effects of training on behavior were rarely reported. Only one owner agreed that her/his dog appeared tense during cooperative care training at home (31.8 % did not agree at all; 31.8 % did not agree; 22.7 % did rather not agree; 9.1 % rather agree, 0.0 % agree; 4.5 % totally agree; N = 22). Please find the complete descriptive statistics of the questionnaire in the appendix (12.1.).

**TABLE 7** The dog owner of the training group (TG) reported the frequency of the cooperative care training at home and the amount of training units at home in the training diaries. Frequency of trainings at home on a six-point scale ranging from 1 = never, 2 = very rarely, 3 = rarely, 4 = sometimes, 5 = often, 6 = very often. Shown are sample size (N), the mean number of training sessions at home and the respective standard deviation (SD), the minimum (min), percentiles, medians, and maximum (max).

| | | Amount of training units | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | SD | Min | Perc-entile 25 | Medi an | Perc-entie 75 | Max |
| Frequency of Trainings at home | rarely | 2 | 7.5 | 3.54 | 5 | 5 | 7,5 | 10 | 10 |
| | sometimes | 3 | 18 | 11.53 | 5 | 5 | 22 | 27 | 27 |
| | often | 9 | 22.89 | 10.65 | 11 | 14 | 25 | 32 | 39 |
| | very often | 1 | 74 | . | 74 | 74 | 74 | 74 | 74 |

## 3.5 EFFECT OF THE PRESENCE OF OTHER DOGS AND DOG OWNERS DURING GROUP TRAINING

Overall, the presence of other dogs or humans during group training was well tolerated, and dogs were able to focus on the training (Table 8). Only, one dog owner stated that her/his dog

had problems with the presence of other dogs and was not able to focus on training because of that (4.5 %; N= 22). Also, one participant indicated that the presence of other dog owners was problematic for her/his dog and hindered focusing on training.

**TABLE 8** Distraction from other dogs during cooperative care training in groups and distraction from other dog owners during cooperative care training in groups and the group comparison of the two using the wilcoxon test. Questions to the cooperative care training in groups in the questionnaire filled in by the participants after the second clinical examination at the veterinary surgeon were rated on a six-point scale: do not agree at all (= 1), do not agree (= 2), do rather not agree (= 3), rather agree (= 4), agree (= 5) totally agree (= 6). Shown are sample size (N), the mean (Mean) standard deviation (SD), and the Wilcoxon p-value.

| Items | Other dogs | | | Other dog owners | | | Wilcoxon p-value |
|---|---|---|---|---|---|---|---|
| | N | Mean | SD | N | Mean | SD | |
| My dog tolerated presence well. | 22 | 5.4 | 1.0 | 22 | 5.3 | 0.9 | 0.483 |
| My dog was able to focus on training despite their presence. | 22 | 5.2 | 1.2 | 22 | 5.1 | 1.0 | 0.705 |
| Their presence was helpful for training. | 22 | 4.0 | 1.6 | 21 | 4.2 | 1.4 | 0.276 |
| Their presence was distracting for my dog. | 21 | 2.2 | 1.4 | 22 | 2.1 | 1.4 | 1.000 |

### 3.6 COMPARISON BETWEEN COOPERATIVE CARE TRAINING IN GROUPS AND AT HOME

Verbal instructions during group training appeared to be easier to understand than written instructions received for the training sessions at home (Table 9). Implementation of advice was reported to be similar for verbal and written instructions (Table 9).

On average, dog owners totally agreed that their dogs accepted treats and the degree of agreement was similar for the training in groups and at home (Table 9). Most owners perceived their dogs to enjoy cooperative care training during the group sessions as well as at home (Table 9).

Seven dogs became more motivated to participate in the cooperative care training over the time during group training, whereas only two showed more motivation to participate in the training at home. A slight increase in rating of withdrawal of the dog, from the owner's point of view, from group training sessions was reported (85.7 % do not agreed at all; 14.3 % do not agree; 0.0 % do rather not agree; 0.0 % rather agree, 0.0 % agree; 0.0 % totally agree; N = 21). None of the participants reported that their dog withdrew from training at home (100.0 % do not agree

at all; 0.0 % do not agree; 0.0 % do rather not agree; rather; 0.0 % rather agree, 0.0 % agree; 0.0 % totally agree; N = 22).

**TABLE 9** Comparison of owner ratings concerning cooperative care training in groups and at home. Questions about the written or verbal training instructions, acceptance of treats during the cooperative care training and other questions of the final questionnaire filled in after the second clinical examination at the veterinary surgeon were compared in terms of their answers for cooperative care training in groups and cooperative care training at home. In the final questionnaire questions regarding cooperative care training at home and in groups were rated on a six-point scale do not agree at all (= 1), do not agree (= 2), do rather not agree (= 3), rather agree (= 4), agree (= 5) totally agree (= 6). Instructions were written for training at home and verbal during group training sessions. Shown are sample size (N), the mean (Mean) standard deviation (SD), and the Wilcoxon p-value.

| | Group training sessions | | | Training at home | | | |
|---|---|---|---|---|---|---|---|
| Items | N | Mean | SD | N | Mean | SD | Wilcoxon p-value |
| The written OR verbal training instructions were easy to understand. | 22 | 6.0 | 0.0 | 22 | 5.7 | 0.6 | 0.083 |
| Written OR verbal training instructions were easy to implement. | 22 | 5.8 | 0.4 | 22 | 5.9 | 0.4 | 0.558 |
| Dog accepted treats during training. | 21 | 5.8 | 0.5 | 22 | 5.9 | 0.3 | 0.257 |
| Dog seemed to enjoy training. | 20 | 5.6 | 0.7 | 21 | 5.6 | 0.7 | 0.564 |
| Dog sought more physical contact during training. | 20 | 3.1 | 0.9 | 21 | 2.5 | 1.5 | 0.162 |
| Dog seemed tense during training. | 21 | 2.5 | 1.6 | 22 | 2.3 | 1.3 | 0.680 |
| Dog vocalized during training (e.g., barking or whining) | 20 | 1.6 | 0.9 | 22 | 1.5 | 0.9 | 1.000 |
| Dog ended training on its own (going away, hiding). | 21 | 2.4 | 1.4 | 22 | 2.2 | 1.4 | 0.157 |
| Dog seemed relaxed after training. | 20 | 4.9 | 1.1 | 22 | 5.1 | 1.0 | 0.206 |
| Dog sought more physical contact after training. | 21 | 2.8 | 1.3 | 22 | 2.6 | 1.5 | 0.855 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dog seemed tense after training. | 20 | 1.7 | 0.9 | 22 | 1.6 | 1.1 | 0.408 |
| During medical training dog behaved in a similar way as in comparable training situations. | 21 | 4.7 | 1.2 | 22 | 4.6 | 1.2 | 0.417 |
| Dog has become more motivated during training. | 21 | 4.9 | 1.3 | 22 | 4.4 | 1.4 | 0.070 |
| Dog has become more comfortable during training. | 19 | 5.2 | 0.9 | 22 | 5.0 | 1.4 | 0.655 |
| Over time my dog withdrew from training more often. | 21 | 1.1 | 0.4 | 22 | 1.0 | 0.0 | 0.083 |

### 3.7 OWNER ATTITUDE TOWARDS COOPERATIVE CARE TRAINING

Most owners considered the cooperative care training as useful regarding preparing their dogs for future visits at the veterinarian (Table 10). Furthermore, owners indicated that the exercises can also be used in other situations and not only during veterinary visits (Table 10). Moreover, 79 % of the owners agreed that the human-pet relationship was encouraged by the cooperative care training (Table 10). Two participants reported that the cooperative care training was/is not helpful for their daily life. Furthermore, most of the dog owners used the cooperative care training to occupy their dogs (Table 10).

**TABLE 10** Outcome of the cooperative care training regarding future visits at the veterinary surgeon and daily life from dog owners perspective answered in the questionnaire after the second clinical examination at the veterinary surgeon. Answers were rated on a six-point scale: do not agree at all (= 1), do not agree (= 2), do rather not agree (= 3), rather agree (= 4), agree (= 5) totally agree (= 6). Shown are N= sample size and the total and the percentage of each choice for individual questions.

| | N | Do not agree at all | Do not agree | Do rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| The training is useful regarding future visits at the veterinarian. | 19 | 0 (0.0 %) | 1 (5.3 %) | 1 (5.3 %) | 1 (5.3 %) | 8 (42.1 %) | 8 (42.1 %) |
| Exercises can be implemented at the veterinarian. | 18 | 1(5.3 %) | 0 (0.0 %) | 4 (21.1 %) | 4 (12.1 %) | 3 (15.8 %) | 6 (33.3 %) |
| Exercises can also be used beside veterinary visits. | 19 | 0 (0.0 %) | 1 (5.3 %) | 1 (5.3 %) | 3 (15.8 %) | 3 (15.8 %) | 11 (57.9 %) |
| Human-pet relationship was encouraged. | 19 | 0 (0.0 %) | 0(0.0 %) | 4 (21.1 %) | 2 (10.5 %) | 8 (41.1 %) | 5 (26.3 %) |
| Exercises help to understand dog's behavior. | 19 | 1 (5.3 %) | 1 (5.3 %) | 1 (5.3 %) | 6 (31.6 %) | 6 (31.6 %) | 4(21.1 %) |
| The training was helpful for daily life. | 19 | 2 (10.5 %) | 0 (0.0 %) | 2 (10.5 %) | 3 (15.8 %) | 6 (31.6 %) | 6 (31.6 %) |
| The training was used as occupation for the dog. | 19 | 0 (0.0 %) | 0 (0.0 %) | 1 (5.3 %) | 3 (15.8 %) | 4 (11.1 %) | 11 (57.9 %) |

## 3.8 TRAINING EXPERIENCE AND FEELINGS OF THE PARTICIPANTS, PCA DURING COOPERATIVE CARE TRAINING

Most participants considered the cooperative care training to be interesting (Mean of Training interesting = 5.27; SD = 0.828) and enjoyable (Mean of training enjoying = 5.43; SD = 0.728). For the majority, the training was positively challenging (Mean = 4.60; SD = 1.30) and not overwhelming (Mean = 1.43; SD = 0.626). Most owners have not found the training frustrating (Mean = 1.53; SD = 0.860) or stressful (Mean = 1.53; SD = 0.937).

## 3.9 SATISFACTION AND SUCCESS

The satisfaction score shows that on average the participants were rather satisfied or very satisfied with the training (Mean = 4.67; SD = 0.40; Min = 4.0; Max = 5.00; N = 21). The overall success score of the pet owners indicates, that, on average, the participants perceived that the training with their dogs was successful (Mean = 4; SD = 0.77; Min = 3; Max = 5; N = 20). No correlation between the overall success score (Success score: success second examination and general success in the trial) and the overall satisfaction (Satisfaction score

Satisfaction with the cooperative care training at home and satisfaction with the cooperative care training in groups) of the owner was found ($r_s$ = -0.02; p = 0.93; N = 19).

### 3.10 Cooperative Care Training at Home – Insights from the training dairies

The majority of participants indicated that they found the training diary understandable (5.3 % rather not agreed; 5.3 % rather agreed; 31.6 % agreed; 57.9 % totally agreed; N = 19) and most of them found it easy to fill in (21.1 % agreed; 63.2 % totally agreed; N = 19), as indicated in the final questionnaire. 42.1 % of the dog owners totally agreed that the training diary was helpful for them and 21.1 % stated that it was not very helpful (0.0 % did not agree at all; 5.3 % did not agree; 15.8 % did rather not agree; 21.1 % rather agreed; 15.8 % agreed; 42.1 % totally agreed; N=19). 89.5 % of the participants indicated that they filled in the training diary completely (5.3 % did not agree at all; 0.0 % did not agree; 5.3 % did rather not agree; 31.6 % rather agreed; 26.3 % agreed; 31.6 % totally agree; N = 19).

In total, 16 owners handed in a training diary. On average the dogs received 25 training units at home (SD = 18; Min = 5; Max = 74; N = 16) with a mean total time investment of 290 minutes (SD = 217.58; Min = 40.0; Max = 708.0; N = 16). On average the dogs were trained 4 steps per unit (Min = 2,30; Max = 6,57; SD = 1,25; N = 16) Thereby, a single training unit lasted on average 10.63 min (SD = 3.03; Min = 5.96; Max = 16.95; N = 16). On average, owners used medium quality treats (e.g., commercially available dog treats) for the cooperative care training at home (Mean = 2.2; SD = 0.70; Min = 1; Max = 3; N = 16). But the treat score shows that 63.73 % have a mean treat score > 2.5 and thus tended to use mainly high-quality treats 22.73 % used medium quality treats (mean score of treats 1.5 to 2.4) and 13.54 % of the owners used mainly low quality (up to a mean score of 1.4),

Not all dogs underwent all training phases, on average six from eight phases of the training protocol were included (Appendix 12.5.). The highest proportion of training was composed by the phases target, abdomen, ear, rectum, and eye (Figure 1).

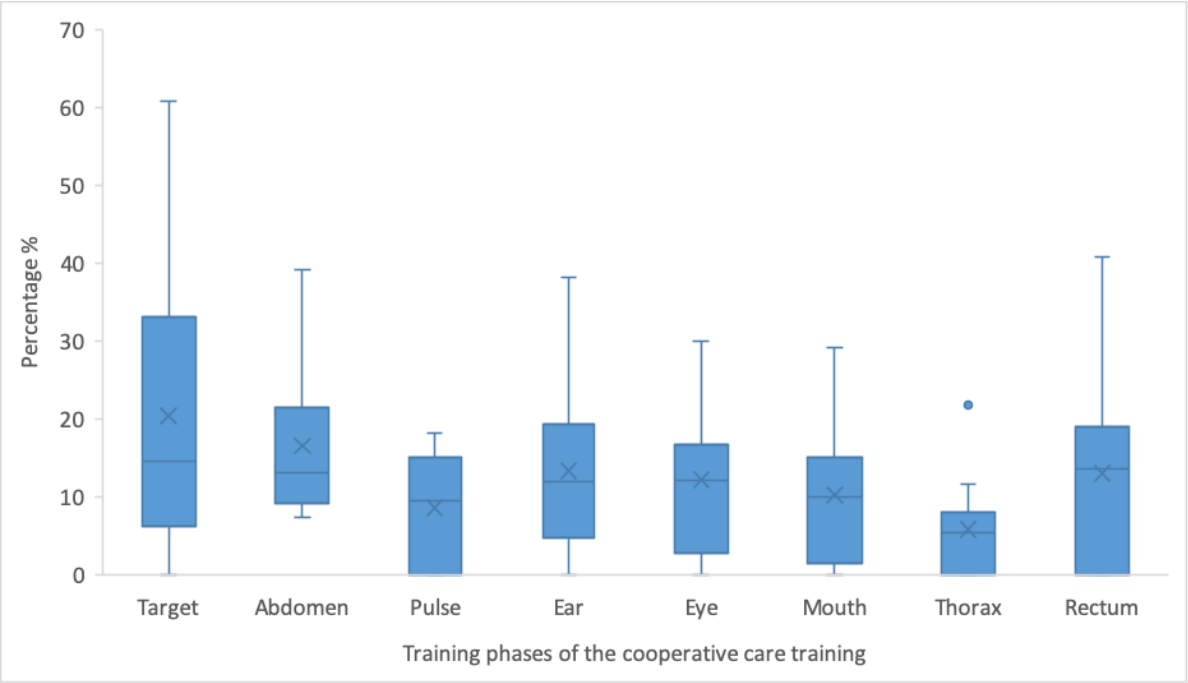


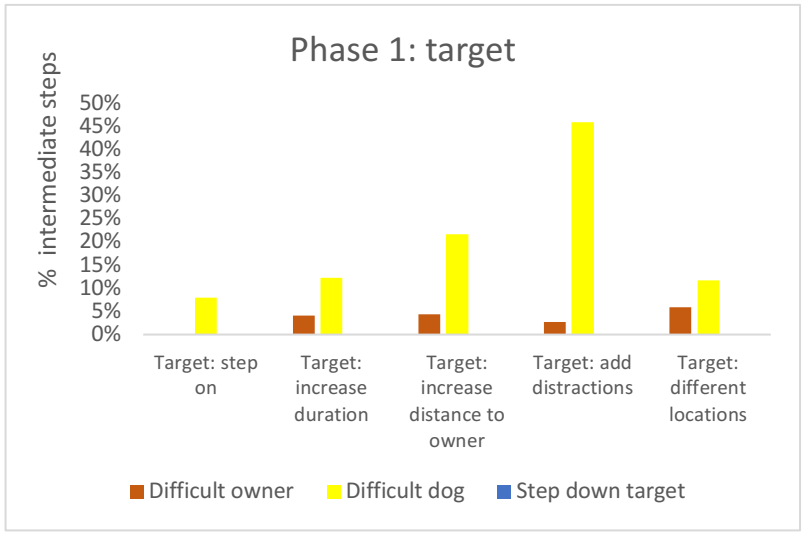

Figure 1 The amount of accomplished training phases of the cooperative care training at home with regard to the total training at home. Sample size N =16, Phase 1= Target behavior (Introducing a target behavior and add distractions), Phase 2 = Abdomen (Palpation of the Abdomen); Phase 3 = Pulse (Palpate the pulse on the A.femoralis on the hindleg) Phase 4 = Ear (Examination of the conjunctiva), Phase 5 =Mouth (Examination of the mucosal membrane and the capillary filling time) , Phase 6 = Thorax (Auscultation of the lung and the heart), Phase 7 = Rectum (measuring internal body temperature).

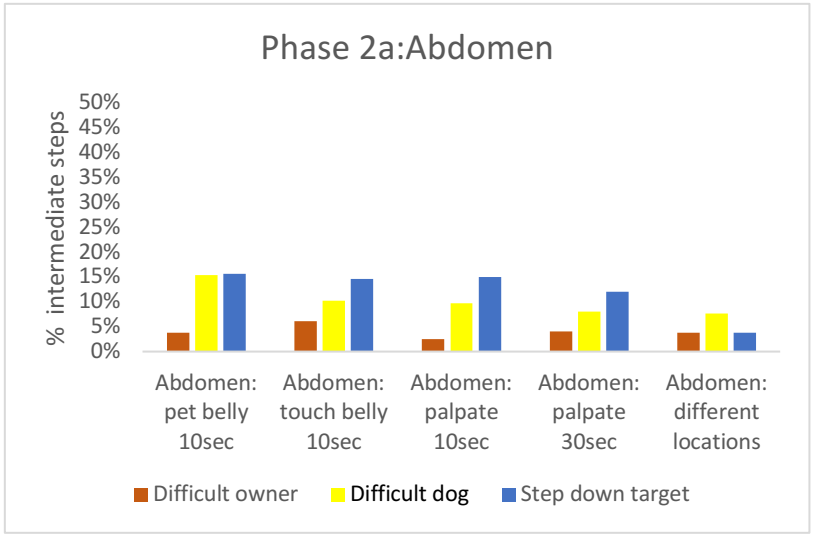
The proportion of cooperative care training sessions at home that were carried out with an unfamiliar person was on average 2.09 %. Thus, most dogs (81.3 %; N = 16) did not receive training with an unfamiliar person at home (Min = 0.0 %; Max = 19.35 %; N = 16). On average 16.14 % of the training sessions at home were carried out on an elevated area such as a table (SD = 22.55 %; Min = 0.0 %; 84.62 %; N = 16). However, seen for all dogs, about half of the dogs were not trained on an elevated area at all (43.8 %; N = 15) during the training units at home.

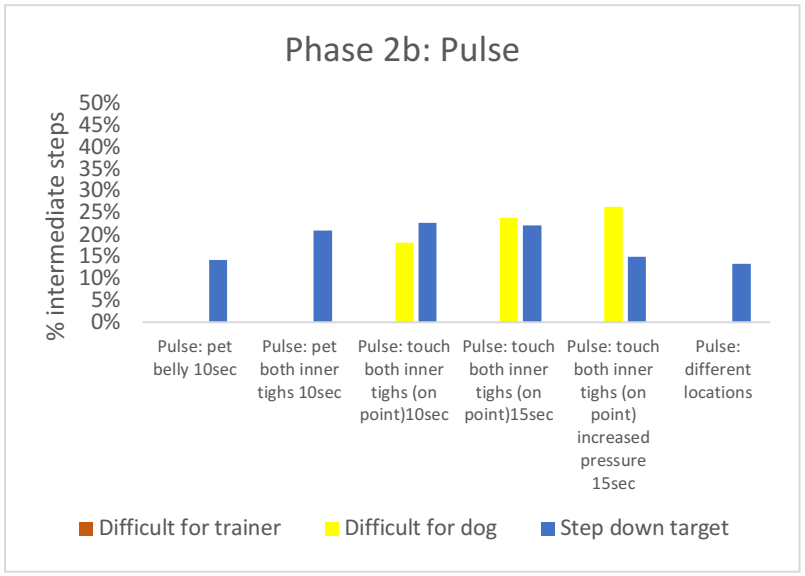
In general, dog owners have indicated that the dogs were relaxed and motivated during the cooperative care training sessions at home (Mean motivation = 5.48; SD = 0.47; Min = 4.4; Max = 6; N = 16 and mean relaxation = 5.12; N = 16). On average, the dog owners experienced difficulties in 4.36 % of the training sessions (SD = 10.82 %; Min = 0.00 %; Max = 40.91 %; N = 16). Moreover, owners indicated that they perceived that their dogs had difficulties in, on average, 10.22 % of the training sessions (SD = 11.21 %; Min = 0.00 %; Max = 31.82 %; N = 16). The percentage of intermediate training steps in which the dog left the target was

6.92 % (SD =11.83 %; Min = 0.00 %; Max = 46 %; N = 16). However, some dogs left the target in almost half of the intermediate training steps (Left the target yes/no Max: 46 %; N = 16).

The most difficult training step for the dog owners was part of the examination of the eye (Eye: pull upper and lower eyelid apart, Figure 3; Page 28). Moreover, according to the owner reports, the most difficult part for the dogs was to stay on the target when distractions were added (Target: add distraction. Figure 2; Page 27). Most frequently, the dogs left the target during a part of the examination of the Rectum (Rectum: touch anus with a cotton swab for 10 seconds, Figure 3; Page 28).



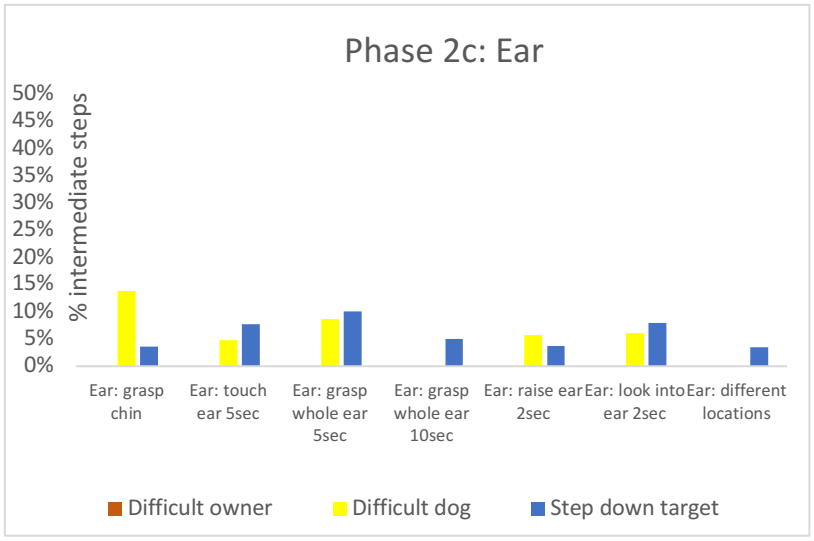
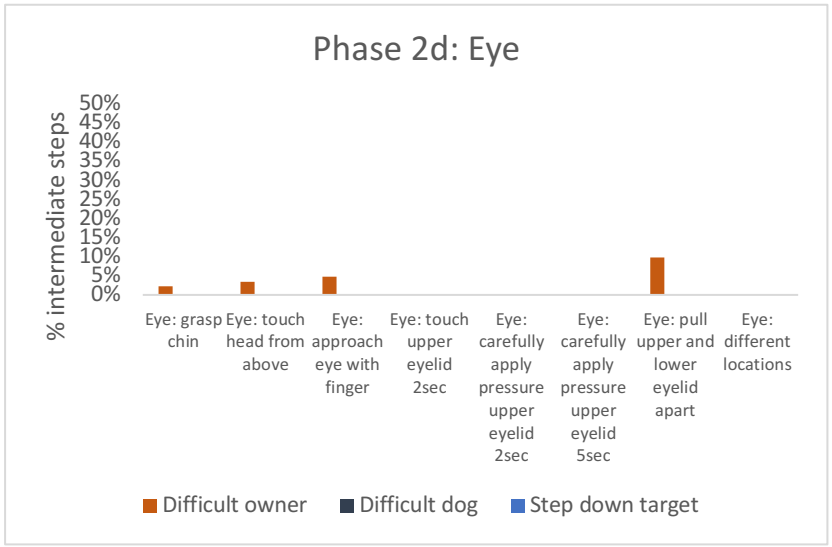
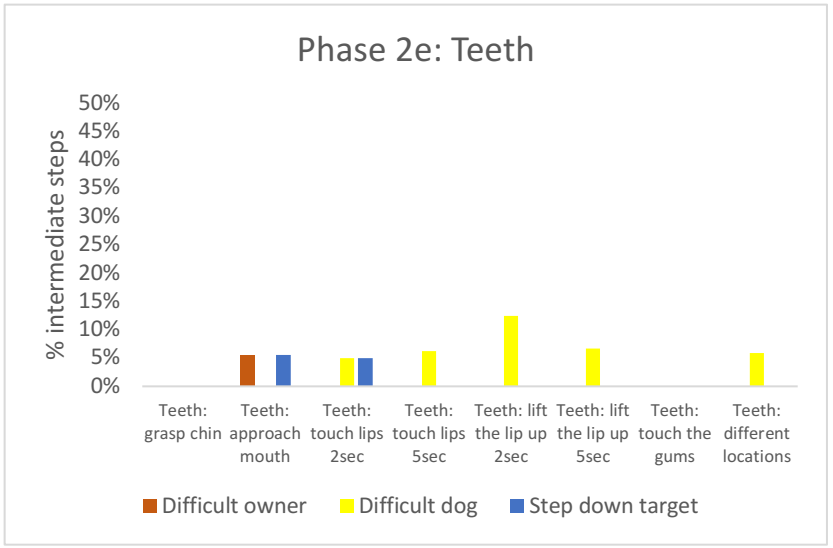
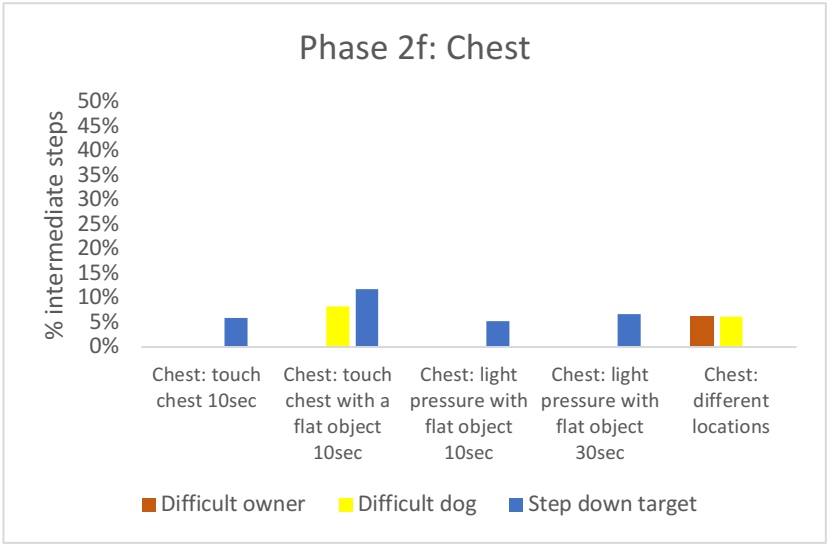




**FIGURE 2** The proportions of intermediate training steps for each training phase (target, abdomen, pulse, ear) of the cooperative care training at home that were perceived as difficult by the dog owner, or perceived to be difficult for the dog. Furthermore, the percentage (%) of training steps in which the dog stepped down from the target in each training phase is shown.



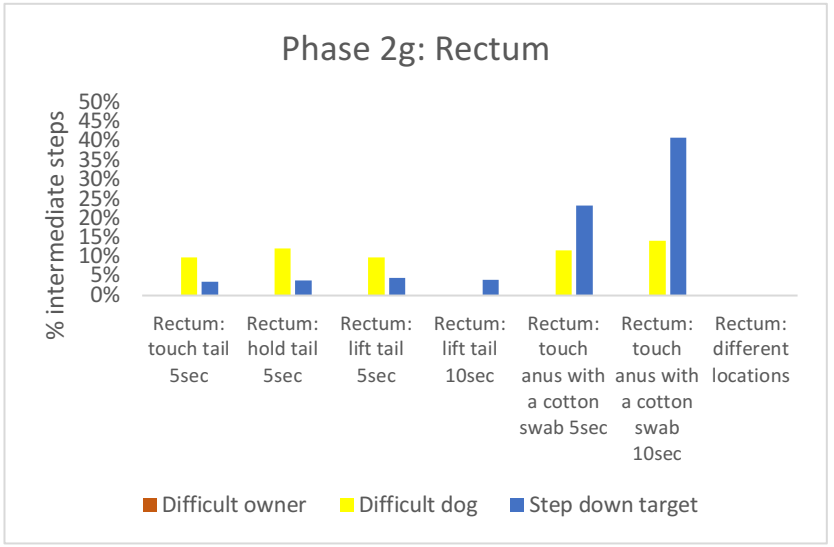




**Figure 3** The proportions of intermediate training steps for each training phase (eye, teeth, chest, rectum) of the cooperative care training at home that were perceived as difficult by the dog owner, or perceived to be difficult for the dog. Furthermore, the percentage (%) of training steps in which the dog stepped down from the target in each training phase is shown.

### 3.11 CORRELATIONS BETWEEN DIFFICULTIES, MOTIVATION, TREATS AND TENSION DURING THE COOPERATIVE CARE TRAINING AT HOME

The more relaxed the dog was during a cooperative care training session at home, the less difficulties owners experienced in the respective training unit ($r_s$ = -0.62; p = 0.011; N = 16). Furthermore, dogs that were perceived as more relaxed were perceived to have had fewer difficulties ($r_s$ = -0.52; p = 0.039; N = 16). Furthermore, a lower frequency of stepping down from the target was correlated with higher relaxation scores in dogs during the cooperative care training at home ($r_s$ = -0.56; p = 0.024; N = 16). Moreover, a correlation between the difficulty experienced by the dog's owners and the perceived difficulties of their dog was found ($r_s$ = 0.65; p = 0.006; N = 16).

### 3.12 COMPLIANCE AFTER TRAINING AND CHARACTERISTIC OF COOPERATIVE CARE TRAINING

Dogs which had received more training units on an elevated area were more likely to complete the second veterinary examination (29 % vs. 8 %). Some statistical tendencies regarding differences between dogs who did or did not complete the second examination were found. For example, higher quality of treats seemed to lead to better compliance (Table 12). The dogs who completed the second clinical examination received more high-quality treats than those who did not terminate the second clinical examination (Table 12). Furthermore, dogs that were more relaxed (5.5 vs. 4.9) during training at home showed a tendency to complete the second examination more often. Dogs who left the target during training less often (2 % vs. 10 %) and that accomplished more training phases (7 vs. 6) showed also a tendency to be more likely to complete the second examination.

**TABLE 11** A comparison of dogs that have completed the second clinical examination after they received cooperative care training at home and in groups and dogs that have not completed the second clinical examination at the veterinarian in relation to various parameters of the training diary, the dog owners perceived for the cooperative care training at home which they always had to fill in when training their dog for the trial. Shown are N = sample size, mean = Mean, SD = standard deviation, and the p-value of the Mann-Whitney U-test testing differences between the two groups.

| | Compliance during the second veterinary examination | | | | | | |
|---|---|---|---|---|---|---|---|
| | Clinical examination completed | | | Clinical examination not completed | | | Mann-Whitney-U-Test |
| | N | Mean | SD | N | Mean | SD | p |
| Number of training units at home. | 6 | 28.17 | 15.21 | 10 | 22.90 | 20.28 | 0.30 |
| Mean duration/unit (min). | 6 | 10.56 | 2.70 | 10 | 10.68 | 3.36 | 0.87 |
| Total duration of training at home (min). | 6 | 336.33 | 191.01 | 10 | 262.10 | 237.38 | 0.33 |
| Mean score quality of treats* | 6 | 2.58 | 0.39 | 10 | 1.98 | 0.75 | 0.18 |
| Mean score relaxation. | 6 | 5.51 | 0.38 | 10 | 4.89 | 0.77 | 0.12 |
| Mean score motivation. | 6 | 5.32 | 0.68 | 10 | 5.57 | 0.30 | 0.79 |
| Proportion of units with training on table. | 6 | 29.39 | 30.04 | 10 | 8.19 | 12.61 | 0.07 |
| Proportion of units with training involving unfamiliar human. | 6 | 3.23 | 7.90 | 10 | 1.40 | 2.96 | 1.00 |
| Mean number of training steps per training unit. | 6 | 3.96 | 0.95 | 10 | 4.16 | 1.45 | 0.79 |
| Proportion of training steps difficult for trainer. | 6 | 0.40 | 0.69 | 10 | 6.74 | 13.35 | 0.79 |
| Proportion of training steps difficult for dog. | 6 | 8.77 | 9.40 | 10 | 11.09 | 12.58 | 0.96 |
| Proportion of training steps dog stepped down from target. | 6 | 2.04 | 2.89 | 10 | 9.84 | 14.25 | 0.15 |
| Number of phases. | 6 | 7.17 | 0.75 | 10 | 5.90 | 1.97 | 0.16 |

*Treats were divided into three categories 1= dry food, 2 = treats for dogs, 3 = sausage, cheese etc.

## 3.13 CORRELATION PHYSIOLOGICAL DATA AND COOPERATIVE CARE TRAINING AT HOME

Possible effects of training characteristics on physiological measures during the veterinary examination were explored. A higher RMSSD during the second clinical examination correlated with higher quality of treats used during cooperative care training at home ($r_s = 0.63$; $p = 0.028$; $N = 12$). Further, an increase in RMSSD from the first to the second veterinary examination was related to higher quality of treats used during training (delta RMSSD $r_s = 0.59$; $p = 0.044$; $N = 12$). This was similar for SDNN (SDNN $r_s = 0.70$; $p = 0.011$; $N = 12$; delta SDNN= $r_s = 0.60$; $p = 0.04$; $N = 12$). There was no evidence for an effect of the amount of training sessions on physiological measures (Table 13). Rather, dogs that were perceived as

more relaxed during training, that stepped from the target less often, and that were perceived to experience less difficulties during training had higher HRV during the second veterinary examination (Table 13)

**TABLE 12** Spearman rank correlation between HRV (heart rate variability) and the examined characteristics during the cooperative care training at home. Shown are $r_s$ and p value of the Spearman rank correlation and N = sample size SDNN, RMSSD, Mean HR.

| | | Second visit at the veterinary surgeon | | | Delta values (measures first visit minus measures second visit) | | |
|---|---|---|---|---|---|---|---|
| | | SDNN | RMSSD | Mean HR | SDNN | RMSSD | Mean HR |
| Amount of training sessions at home | $r_s$ | 0.10 | 0.31 | 0.17 | -0.15 | -0.03 | 0.24 |
| | p | 0.76 | 0.33 | 0.60 | 0.64 | 0.92 | 0.46 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Mean duration of training sessions at home | $r_s$ | -0.54 | -0.42 | 0.39 | -0.42 | -0.17 | -0.48 |
| | p | 0.07 | 0.18 | 0.21 | 0.18 | 0.60 | 0.12 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Total duration of the training units at home | $r_s$ | -0.18 | 0.10 | 0.273 | -0.266 | -0.063 | -0.042 |
| | p | 0.59 | 0.76 | 0.39 | 0.40 | 0.85 | 0.90 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Mean score of treats | $r_s$ | 0.70* | 0.63* | -0.40 | 0.60 | 0.59 | 0.21 |
| | p | 0.01 | 0.03 | 0.20 | 0.04 | 0.04 | 0.51 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Mean tension/relaxation during training sessions at home | $r_s$ | 0.55 | 0.58* | -0.31 | 0.30 | 0.10 | 0.16 |
| | p | 0.06 | 0.05 | 0.33 | 0.34 | 0.76 | 0.62 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Mean motivation of the dog during training sessions at home | $r_s$ | 0.39 | 0.37 | -0.55 | -0.03 | -0.17 | -0.15 |
| | p | 0.21 | 0.24 | 0.06 | 0.93 | 0.59 | 0.63 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Proportion training on the table at home | $r_s$ | 0.19 | 0.04 | 0.02 | 0.13 | 0.23 | -0.28 |
| | p | 0.56 | 0.91 | 0.96 | 0.69 | 0.47 | 0.37 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Proportion training with a stranger at home | $r_s$ | 0.11 | 0.17 | -0.10 | -0.57 | -0.38 | 0.43 |
| | p | 0.74 | 0.61 | 0.77 | 0.05 | 0.22 | 0.16 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Proportion intermediate step difficult for trainer/owner at home | $r_s$ | 0.07 | -0.11 | -0.17 | 0.05 | 0.01 | -0.10 |
| | p | 0.83 | 0.74 | 0.61 | 0.88 | 0.98 | 0.77 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Proportion intermediate step difficult for the dogs at home | $r_s$ | -0.35 | -0.53 | 0.44 | -0.26 | -0.21 | 0.01 |
| | p | 0.26 | 0.08 | 0.15 | 0.42 | 0.51 | 0.98 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| | $r_s$ | -0.66* | -0.56 | 0.37 | -0.25 | 0.20 | -0.51 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Target left during the training at home yes/no | p | 0.02 | 0.06 | 0.24 | 0.44 | 0.54 | 0.09 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |
| Total amount of phases | $r_s$ | 0.34 | 0.54 | -0.02 | -0.17 | -0.11 | 0.53 |
| | p | 0.28 | 0.07 | 0.95 | 0.59 | 0.74 | 0.08 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 |

## 3.14 CORRELATION TRAINING SUCCESS/SATISFACTION/TRAINING EXPERIENCE AND COOPERATIVE CARE TRAINING AT HOME

Dogs whose owners reported a higher success score, with regard to the performance during second examination and the overall perceived success the training had for daily live/handling etc., were perceived as more relaxed by their owner´s during the cooperative care training at home ($r_s = 0.58$; $p = 0.025$; $N = 15$). Participants who indicated higher success scores tended to use treats that were of a higher quality during the cooperative care training at home ($r_s = 0.445$; $p = 0.096$; $N = 15$). In addition to that, the satisfaction of the owners correlates with the mean duration of the training sessions at home. Participants who engaged in training sessions of shorter duration were more satisfied with the cooperative care training ($r_s = -0.61$; $p = 0.016$; $N = 15$). Owners who perceived the cooperative care training as more positive, observed more difficulties of their dogs during the cooperative care training ($r_s = 0.599$; $p = 0.018$; $N = 15$). Please find the complete results table in the appendix (12.5.).

# 4 DISCUSSION

## 4.1 OVERVIEW

This study investigated whether cooperative care training with dogs positively affected their compliance and behavioral and physiological stress responses during veterinary examinations.

## 4.2 COOPERATIVE CARE TRAINING IN GROUPS AND AT HOME

This study found that owners preferred group training in contrast to individual training. Another study also has shown that the majority of dog owners attend to public group training sessions with their dogs, and fewer people engage in individual training (Bennet et al. 2007). A reason for this preference could be that dog training is also a social activity for owners. Furthermore, our study showed that most of the dogs were not distracted by other dogs or other dog owners during the group training. This indicates that there are no perceived disadvantages regarding our chosen training set up when dogs that are compatible with other dogs are trained in group training session.

Moreover, participants indicated that the verbal instructions during group training were easier to understand than the written instructions they received for the training sessions at home. This suggest that training can benefit from appropriate verbal instructions from a trainer.

## 4.3 OWNERS ATTITUDE TOWARDS COOPERATIVE CARE TRAINING

Most of the dog owners stated that the relationship to their dog was enhanced by the cooperative care training. In the course of this trial, dog owners should learn to recognize signs of stress of their dogs, for example licking, freezing, or looking elsewhere (Walker et al. 1997; Tod et al. 2005) in order to take appropriate breaks from the cooperative care training. These signs are early signs of stress that many owners often fail to recognize (Kerswell et al. 2009; Mariti et al. 2012). However, it is very important that dog owners are able to interpret their dog`s behavior correctly in order to prevent welfare problems and avoid stressful situations that can then progress and lead to a strong fear response (Mariti et al. 2012). Another study also has shown, that it can be beneficial to pay attention to the dogs body language during a veterinary visit (Riemer et al. 2021). These aspects could indicate that the training in the dog`s body language

and thus the early signs of stress can lead to a better understanding of the dog and thus improves the human-dog relationship. Maybe also because the dog does not have to stay in stressful situations for so long, if the dog owner recognizes them earlier as such. But our findings of the improved human-dog relationship, from the owners point of view, does not go in line with a previous study that found no correlation between training and improved human-animal relationships (Feng et al. 2018). Feng et al. (2018) evaluated among other things, whether there is a correlation between clicker training and an enhanced human-dog relationship, and did not find a connection. The Clicker Training was more about reinforcing desired behavior and less about the subtle signs of stress (Feng et al. 2018). However, this could be due to the fact that the owners did not learn to interpret the dogs body language better in the study of Feng et al. (2018) and it may be precisely this aspect that has led to a better perceived relationship between dog and human in the case of cooperative care training.

Moreover, the participants considered cooperative care training as useful regarding future visits at the veterinarian and even in everyday situations with their dogs, for example brushing and clipping the claws at home. Cooperative care training comes from husbandry training in zoos, where it is already evident that this type of training is useful for handling (Ramirez 2012). Previous studies have also shown that it can be beneficial to promote positive emotions during a veterinary visit and as already mentioned to pay attention to the dog´s body language (Riemer et al. 2021). Stress reduction at the veterinary surgeon can be beneficial for all, the veterinarian, the dog owner and of course also for the dog, as it can prevent aggressive behavior (Riemer et al. 2021). Previous review papers have stated that cooperative care training can reduce the stress response during medical procedures (Ramirez 2012; Whittaker and Laule 2012). Cooperative care training, could be a valuable means to improve the owner's ability to read and interpret their dogs´ body language better and to consequently give their dogs the necessary interruptions they need to keep stress levels as low as possible. Further investigations are needed to confirm this assumption.

### 4.4 Impact of Relaxation of the dogs´ during cooperative care training

Our findings show that a higher relaxation score in dogs during training, from the owners' point of view, was correlated with a lower frequency of stepping down from the target during the

cooperative care training at home. This result allows the assumption that the dogs used the target to communicate and only stood on the target when they were relaxed and allowed manipulation. This also shows, as described in other studies, that it is very important to stay below a stressor intensity that leads to a stress response (Rooney et al. 2016; Riemer et al. 2021). This is used in desensitization, together with counterconditioning that is an important tool to change negative associations into positive ones (Döring et al. 2009; Riemer et al. 2021). In desensitization animals are exposed to stimuli of very low intensity so they can not cause a fear response. The intensity of the stimuli is then slowly increased over many repetitions to ensure that the animals remain relaxed (Horwitz and Pike 2014; Riemer et al. 2021). In order to reduce the intensity of a stressor to not trigger a stress or fear response it is also important, to give individuals control over a stressor (Rooney et al. 2016) and other studies also have shown that increased control over a situation can reduce animals stress response (Taylor et al. 2001; Buchanan-Smith and Badihi 2012; Whittaker and Laule 2012). All of these aspects are considered in the case of cooperative care training. For example, the dogs have control over the situation by leaving the target and thus stop the manipulation. In addition, the different examination steps of the veterinary examination are divided into small intermediate steps to slowly increase the intensity and prepare the dogs for the full examination.

### 4.5 CORRELATION OF DOGS COMPLIANCE AND THE QUALITY OF TREATS

In our study the dogs were rewarded with dried beef lung and cheese during the two clinical examinations. During the cooperative care training at home the owners were allowed to choose which treats they wanted to use. The findings of this trial show that the quality of treats had a positive impact on the compliance during the veterinary examination. This is not surprising, since treats are very often used in classic counterconditioning and perceived there as useful (Stellato et al. 2019; Riemer et al. 2021; Zurlinden et al. 2022). In counterconditioning treats are used as a positive stimulus to improve the positive emotional state and convert a negative emotional state into a positive one (Riemer et al. 2021; Zurlinden et al. 2022). It is important to ensure that the quality of the positive stimulus is sufficient (Horwitz and Pike 2014), so the quality of treats during cooperative care training may play an important role for counterconditioning, because it needs a strong positive stimulus to reinforce the dogs positive emotional state during a stressful situation like the veterinary examination. Furthermore,

previous findings also have shown that dogs prefer high-quality treats (like sausage for example) over low-quality treats (e.g. dry food) (Riemer et al. 2018). Moreover, a former study found that providing preferred food can also have a positive effect on the welfare of animals (Mellor et al. 2020) and for example, not feeding treats during a veterinary visit can lead to increased stress in animals (Westlund 2015). Whether, this would help to explain why dogs who got more high-quality treats during the cooperative care training at home were more likely to successfully complete the second clinical examination in this study and these findings suggest that a high quality of treats can be a means to enhance the compliance of dogs.

### 4.6 CORRELATION PHYSIOLOGICAL DATA AND COOPERATIVE CARE TRAINING

A high stress response can have a negative impact on the dogs` immune system and recovery rate and have a negative impact on dogs welfare (Blackwell and Casey 2006; Lloyd 2017) and should therefore be prevented. A higher RMSSD during the second clinical examination correlated with higher quality of treats used during cooperative care training at home. RMSSD reflects the parasympathetic activity and is part of the autonomic nervous system (von Borell et al. 2007) and lower RMSSD values are shown during negative situations (von Borell et al. 2007; Katayama et al. 2016) but it has to be considered that the RMSSD can also drop in the short term in the case of positive events (e.g. when food is given) (Zupan et al. 2015). The RMSSD value represents mainly the parasympathetic activity, higher RMSSD values are therefore often interpreted as a sign of relaxation and well-being (Desprès et al. 2002; von Borell et al. 2007; Kuhne et al. 2014). Peron et al. (2017) also have shown that the quality of food is associated with changes in HRV measurements and increased arousal levels in dogs. The assumption is that rewarding dogs with more high-quality treats during training induces a positive emotional state in dogs (see also discussion on counterconditioning) that helps them to cope better with stressful situation. Whether this hypothesis is tenable should be tested in a further study.

### 4.7 DOGS COMPLIANCE DURING THE SECOND CLINICAL EXAMINATION AT THE VETERINARIAN

Although most of the participants rated the cooperative care training as successful, more than half of the dogs in our study did not successfully complete the second clinical examination.

They either refused the same examination step three times, the owner wanted to stop the clinical examination, or the dog tried to jump off the table. The compliance during the second veterinary examination was even worse compared to the first examination, see Wess et al. (2022) for more information. Moreover, there was no correlation between the owner´s reported success with the cooperative care training and the successful completion of the second clinical examination. Despite these facts this trial recommends cooperative care training as a means to reduce the stress response in dogs, because there are several factors that could have led to this outcome that could be avoided in the future and then cooperative care training is a promising tool to make the veterinary examination easier for the dog, the owner and the veterinary staff. There are some assumptions regarding the potential reason for the lack of success at the second clinical examination:

Not every dog had completed all training phases. However, it has been described that it is important that everything that is required for the respective task, in this case the clinical examination at the veterinarian, has to be trained in a training (Yin 2009). So, this could have influenced the success during the second clinical examination.

For example, most dogs did not receive training with an unfamiliar person or on an elevated area at home. But the second clinical examination was carried out on an elevated area and by a stranger. However, previous studies have shown that the welfare of animals can be negatively influenced by little contact with people and by experiences that are already negatively remembered (Mellor et al. 2020). Visits at the veterinarian are often remembered as negative and many dogs show fearful behavior at the veterinary surgeon (Döring et al. 2009; Csoltova et al. 2017). Furthermore, previous findings have shown that dogs showed fearful behavior especially on the table, during the veterinary visits (Döring et al. 2009; Yin 2009). This suggests that cooperative care training should pay special attention to the amount of training on an elevated area and with a stranger. In addition, the findings suggest care should be taken to ensure that all steps of the clinical examination are actually trained before a veterinary visit. This aspect could also be addressed in future research.

Moreover, during the second clinical examination of the study, the dogs may have received fewer treats than during the cooperative care training. That could lead to successive negative

contrast that occurs when there is a change in the frequency or amount of rewards and can create frustration (Dzik et al. 2019). This may have affected the successful completion of the second veterinary examination. Another study has shown that the amount of rewards have an impact on dog´s affective states (Cimarelli et al. 2020). For example, during clicker training dogs that did not receive a treat after every click, had a more negative affective state compared to dogs that were normally rewarded for each click of the clicker (Cimarelli et al. 2020). Moreover, other studies found that it can change the dogs emotional state or be stressful for dogs when they do not receive the rewards in frequency or quality as they have learned to expect them (Rooney et al. 2009; Dzik et al. 2019). In this study, the quantity of treats was not assessed during the cooperative care training at home and a standardized amount was given during the clinical examination at the veterinary surgeon. This could mean that the dogs were rewarded more often during the cooperative care training at home than during the second clinical examination. This in turn could negatively affect dog's affective states and thereby the dog's compliance during the clinical examination.

Moreover, the person conducting the clinical examination can also play a role in dogs' compliance during a veterinary visit, as there are dogs that are more fearful of males than females. The room conditions during a clinical examination can also be an increased stress factor for the dog, as mentioned before it is important to train all aspects of the clinical examination (Yin 2009) and if dogs have not been trained in actual examination rooms, with unknown smells etc. this can also affect the compliance.

There may be resistance to implement cooperative care training in veterinary practice, because previous studies found that many practicing veterinarians think, that creating a low-stress environment for dogs during the veterinary examination takes more time (Lloyd 2017). Another study also has shown that the biggest barrier for veterinarians to implement characteristics in the veterinary practice to increase animals well-being during veterinary examination are time constraints (Arhant et al. 2019). However, even if this is the case and low stress handling takes more time initially, something should be changed to improve the dogs´ positive emotional state and reduce the dogs stress response during the veterinary visit because previous findings have shown as already mentioned that stress can affect the immune response as well as the well-being and the recovery rates of the animals and it can also be problematic for the veterinary

staff as it can lead to negative emotional states (Blackwell and Casey 2006; Lloyd 2017). Therefore, it would be beneficial to promote training and handling techniques that can help to promote a low-stress environment at the veterinarian. In the long-term such measures are expected to reduce time needed for a veterinary examination as has been shown for carrier training of cats (Pratsch et al. 2018).

Whether the training experience of the dog owners and the age of the dogs affected the compliance of the dogs during the second clinical examination was not investigated in this trial, further investigations could be useful to examine these aspects.

## 4.8 PROBLEMS OF IMPLEMENTING COOPERATIVE CARE TRAINING FOR DOG OWNERS

It hast to be considered that dog owners are no professional trainers and that can lead to difficulties during cooperative care training. Some owners have stated in the questionnaire that they had difficulties to attend to the group training sessions due to time constraints. It may also be difficult for owners to find strangers in their own environment at home to train their dog, although it is important that all steps of the cooperative care training are trained (Yin 2009). It may also be difficult in general to bring the dog in contact with many people but this is important in order not to bring dogs into stressful situation when they have to deal with strangers. Moreover, training on an elevated area can also be difficult to implement in the training for dog owners, because probably many owners do not want their dogs on the couch or the table. But as already mentioned, the examination on the table is a major stress factor for dogs (Döring et al. 2009; Yin 2009). This indicates that it might be beneficial to include already more training sessions with strangers or on an elevated area in the group training session.

The results of this trial have to be evaluated critically as the sample size was rather small, the data were mainly collected from the owners and it was an exploratory study. But several factors emerged that may improve the dogs' compliance during a veterinary examination, further investigations are urgently needed to confirm the findings of this trial.

# 5 CONCLUSION

This study suggest that cooperative care training can positively affect the veterinary visit with a dog and enhance the human-dog relationship from the owners' point of view. In addition, the dog owners found the cooperative care training useful regarding future visits at the veterinary surgeon and also in everyday life with their dog for husbandry measures. Even though more than half of the dogs in our study did not successfully complete the second clinical examination. Moreover, the participants indicated that cooperative care training was a positive experience for them. The amount of training with a stranger and on an elevated area seem to be important to improve the compliance during the clinical examination at the veterinarian. This suggests that cooperative care training might need to be adjusted to focus more on this aspect of the training. Moreover, the quality of treats also appears to affect the HRV measurements, suggesting that better quality of treats during training increases the dogs' ability to cope with stressful situations. In addition, high-quality of treats seems to make the dogs more relaxed and that is expected to lead to better compliance and well-being during the veterinary examination.

Several factors emerged that are likely to increase the ability of dogs to cope with stressful situations and improve the compliance. It is for example also an important factor that the dogs are relaxed during the cooperative care training, so that this can then be transferred to the veterinary surgeon. However, further studies are urgently needed to investigate whether more frequent training with a stranger or on an elevated surface can yield a higher compliance during veterinary examinations. Moreover, whether the compliance of dogs improves when they are rewarded with high-quality treats and they can cope better with stressful situations when they are rewarded with such and that in turn increases the well-being of dogs. Improved compliance can make the veterinary visit more comfortable for both the dog owner and the veterinarian staff and should therefore be strived for.

# 6 SUMMARY

The visit at the veterinary surgeon can be a strong stressor for dogs and cause a behavioral or physiological fear response. Cooperative care training can be a means to reduce this fear response.

The aim of this study was to assess characteristics of cooperative care training that could have an impact on the compliance of dogs during the clinical examination at the veterinary surgeon and reduce the dogs stress response during a visit at the veterinarian.

Assessed characteristics were for example the amount of cooperative care training the dogs received with a stranger, the amount of training on an elevated area during the cooperative care training or the used treats during the cooperative care training. Moreover, the influence of cooperative care training on the heart rate variability and the heart rate was evaluated. The dogs were examined twice with eight to twelve weeks in between. During the examination, the heart rate was measured and HRV measurements were calculated. Between the two veterinary examinations, 22 dogs received cooperative care training. The dog owners were provided with a training diary during the training period and with a questionnaire they filled in after the second clinical examination at the veterinary surgeon. Both included for example questions about difficulties by performing the cooperative care training, dogs stress responses that owners can recognize as these and the training success from the owner's perspective.

Key findings: Participants were able to incorporate the cooperative care training in their daily life and considered it as useful for future visits at the veterinary surgeon. The dog owners also indicated, that they can use the cooperative care training not only for veterinary visits and it enhanced the human-dog relationship. Dogs that received training on an elevated area more frequently, showed more compliance during the second clinical examination at the veterinary surgeon. Furthermore, the trial showed also that the quality of treats used during the cooperative care training at home corresponded with higher RMSSD measurements, suggesting that they show lower stress responses.

While most dog owners have indicated that the cooperative care training was successful for them and their dog, more than half of the dogs did not successfully complete the second veterinary examination. This may be due to the fact that many dogs have not completed all

training phases. However, it is important that everything that is required for the veterinary examination is trained in a training. This suggests that cooperative care training might need to be adjusted accordingly. In addition, it is possible that the dogs were rewarded more frequently during cooperative care training at home than during the clinical examination and that can lead to negative contrast and thus also reduce the dog's compliance.

Taking all aspects into account this study recommends to use cooperative care training as prevention to reduce the dogs fear response during veterinary visits and thus improve the well-being of the dogs and make the veterinary examination more pleasant. Moreover, cooperative care training can improve the dog's compliance and thus make the veterinary visit more comfortable for both the dog owner and the veterinarian staff.

# 7 ZUSAMMENFASSUNG

Der Tierarztbesuch kann für Hunde ein starker Stressfaktor sein und sowohl Verhaltens- als auch physiologische Angstreaktionen auslösen. Cooperative care training kann ein Mittel sein, um diese Angstreaktionen zu reduzieren.

Das Ziel der Studie war, Charakteristika von „cooperative care training“ zu evaluieren, die einen Einfluss auf die Compliance von Hunden während der tierärztlichen Untersuchung haben und auch die Stressreaktion des Hundes während eines Tierarztbesuchs reduzieren können.

Untersuchte Charakteristika waren beispielsweise die Anzahl an Trainingseinheiten (cooperative care training) die mit einer Fremdperson, oder auf einer erhöhten Ebene durchgeführt wurden. Ein Augenmerk wurde auch auf die verwendete Belohnung während des „cooperative care trainings“ gelegt und der Einfluss auf die Herzratenvariabilität und die Herzfrequenz wurden evaluiert. Die Hunde wurden zweimal im Abstand von 8-12 Wochen klinisch untersucht. Während der Untersuchung wurde die Herzfrequenz gemessen und Herzvariabilitäten (HRV-Werte) berechnet. Zwischen den beiden tierärztlichen Untersuchungen haben 22 Hunde „cooperative care training“ erhalten. Die Hundehalter und Hundehalterinnen haben für die Trainingszeit ein Trainingstagebuch bekommen und sollten nach der zweiten tierärztlichen Untersuchung einen Abschlussfragebogen ausfüllen. Beide umfassten beispielsweise Fragen zu Schwierigkeiten bei der Durchführung des Trainings, für den Besitzer erkennbare Stressreaktionen seines Hundes, sowie den Trainingserfolg aus Sicht des Besitzers.

Wichtigste Ergebnisse: Die Teilnehmer und Teilnehmerinnen konnten das “cooperative care training“ in ihren Alltag integrieren und haben es auch im Hinblick auf zukünftige Tierarztbesuche als sinnvoll empfunden. Außerdem haben die Hundebesitzer und Hundebesitzerinnen angegeben, dass sie das „cooperative care training“ auch abseits von Tierarztbesuchen im Alltag mit ihrem Hund einsetzen können und aus ihrer Sicht die Beziehung zu ihrem Hund gestärkt wurde. Hunde, die häufiger auf erhöhten Flächen trainiert wurden zeigten außerdem bei der zweiten tierärztlichen Untersuchung eine verbesserte Compliance. Darüber hinaus zeigte sich in der Studie auch, dass die Qualität der Futterbelohnung, die während des „cooperative care trainings“ als positive Bestärkung eingesetzt wurden, mit

höheren RMSSD-Messungen korrespondierten, was darauf hindeutet, dass sie besser mit Stresssituation umgehen konnten.

Obwohl die meisten Hundebesitzer und Hundebesitzerinnen angegeben haben, dass das „cooperative care training“ für sie und ihren Hund erfolgreich war, haben mehr als die Hälfte der Hunde die zweite tierärztliche Untersuchung nicht erfolgreich absolviert. Das könnte daran liegen, dass viele Hunde nicht alle Trainingsphasen des „cooperative care trainings“ abgeschlossen haben. Es ist jedoch wichtig, dass alles, was für die tierärztliche Untersuchung erforderlich ist, in einem Training vorab trainiert wurde. Das deutete darauf hin, dass „cooperative care training“ dahingehend angepasst werden muss. Darüber hinaus ist es möglich, dass Hunde während des „cooperative care trainings“ zuhause häufiger belohnt wurden als während der klinischen Untersuchung beim Tierarzt, was zu einem sogenannten negativen Kontrast führen kann und damit auch die Compliance des Hundes reduzieren kann.

Unter Berücksichtigung aller Aspekte empfiehlt diese Studie, „cooperative care training“ im Rahmen der Prävention einzusetzen, um die Angstreaktion der Hunde beim Tierarztbesuch zu reduzieren und so das Wohlbefinden der Hunde zu verbessern und den Tierarztbesuch angenehmer zu gestalten. Darüber hinaus kann „cooperative care training“ auch zu einer besseren Compliance der Hunde führen und so den Tierarztbesuch sowohl für den Hundehalter und die Hundehalterin, als auch für das Tierarztpersonal angenehmer gestalten.

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# 11 LIST OF ABBREVIATIONS

CG Control Group

TG Training group

HR Heart rate

HRV Heart rate variability

RMSSD Root Mean Square of Successive Differences

SDNN Standard Deviation of the NN Interval

SD standard deviation

Min Minimum

Max Maximum

PCA Principal Component Analysis

# 12 APPENDIX

## 12.1 QUESTIONNAIRE AND DESCRIPTIVE STATISTICS ENGLISH

The English questionnaire, filled in by the participants after the second clinical examination at the veterinary surgeon and the associated descriptive statistics are given below. Part One

### 12.1.1 PART ONE

Questions about the pet owner:

| | N | Mean |
|---|---|---|
| Name: | | // |
| Age: | 19 | 38.2 |
| Sex: | 19 | 94.7% female |

Are you employeed?

| | N | Percentage (%) |
|---|---|---|
| No | 17 | 10.5% |
| Yes, full time | 17 | 42.1% |
| Yes, part time | 17 | 47.4% |

Questions about the dog:

| | N | |
|---|---|---|
| Name: | | // |
| Age (in years): | 22 | Mean: 5.1 |
| Breed: | 22 | 45% mixed breed dogs; 55%FCI accepted breeds |

Sex of the dog:

| N=22 | Percentage (%) |
|---|---|
| Male | 13.6% |
| Male neutered | 22.7% |
| Female | 22.7% |
| Female spayed | 40.9% |
| Male chemical neutered | 0.0% |

First dog?

| N=22 | Percentage (%) |
|---|---|
| No. | 81.8% |
| Yes. | 18.2% |

Dog is mostly pet or dog is mostly working dog.

| N=22 | Percentage (%) |
|---|---|
| Mainly pet | 86.4% |
| Working dog | 13.6% |

Participation in other training course with the participating dog before trial?

| N=21 | Percentage (%) |
|---|---|
| No | 28.6% |
| Yes | 71.4% |

Frequency of exercise per week in daily life?

| N | | Less than once a week | 1x/week | 2x/week | 3x/week | 4x/week | 5x/week | 6x/week | 7x/week |
|---|---|---|---|---|---|---|---|---|---|
| 22 | In Percentage % | 0.0% | 9.1% | 31.8% | 9.1% | 18.2% | 18.22% | 0% | 0% |

### 12.1.2 PART TWO

**Cooperative care training at home**

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| Satisfied with the information given before the start of the training. | 19 | 0.0% | 0.0% | 0.0% | 5.3% | 15.8% | 78.9% |
| Written training instructions were easy to understand. | 19 | 0.0 % | 0.0% | 0.0 % | 0.0 % | 10.5 % | 89.5 % |
| Written training instructions were easy to implement. | 19 | 0.0% | 0.0% | 5.3% | 10.5% | 5.3% | 78.9% |
| The training diary was easy to understand. | 19 | 0.0 % | 0.0 % | 5.3 % | 5.3 % | 31.6 % | 57.9 % |
| The training diary was easy to fill in. | 19 | 0.0 % | 0.0 % | 10.5 % | 5.3 % | 21.1 % | 63.2 % |
| The training diary was helpful for the training success. | 19 | 0.0 % | 5.3 % | 15.8 % | 21.1 % | 15.8 % | 42.1 % |
| Training diary completely filled in when it was trained with the dog. | 22 | 4.5% | 4.5% | 4.5% | 27.3% | 22.7% | 36.4% |
| Training was easy to incorporate into daily life. | 18 | 0.0% | 5.6% | 0.0% | 16.7% | 38.9% | 38.9% |
| The training with the dog was fun. | 19 | 0.0% | 0.0% | 0.0% | 0.0% | 10.5% | 89.5% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Training with the dog was burdensome. | 19 | 84.2% | 10.5% | 0.0% | 5.3% | 0.0% | 0.0% |

**Questions about the well-being of the dog during and after training at home**

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| Dog accepted treats during training. | 22 | 0.0% | 0.0% | 0.0% | 0.0% | 9.1 % | 90.9 % |
| Dog seemed to enjoy training. | 21 | 0.0% | 0.0% | 0.0% | 9.5% | 23.8 % | 66.7 % |
| Dog sought for more physical contact during training. | 21 | 23.8 % | 38.1% | 19.0 % | 9.5% | 0.0 % | 9.5 % |
| Dog seemed tense during training. | 22 | 31.8 % | 31.8% | 22.7 % | 9.1% | 0.0 % | 4.5 % |
| Dog vocalized during training (like Barking or whining). | 22 | 72.7 % | 9.1% | 13.6 % | 4.5% | 0.0 % | 0.0 % |
| Dog ended training on its own (going away, hiding). | 22 | 50.0 % | 4.5% | 31.8 % | 9.1% | 0.0 % | 4.5 % |
| Dog seemed relaxed after training. | 22 | 0.0% | 4.5% | 0.0% | 13.6 % | 40.9 % | 40.9 % |
| Dog sought for more physical contact after training. | 22 | 31.8 % | 18.2% | 22.7 % | 13.6 % | 9.1 % | 4.5 % |
| Dog seemed tense after training. | 22 | 68.2 % | 13.6% | 13.6 % | 0.0% | 4.5 % | 0.0 % |
| During medical training dog behaved in a similar way as in comparable training situations. | 22 | 0.0% | 4.5% | 13.6 % | 27.3 % | 27.3 % | 27.3 % |
| Dog has become more motivated during training. | 22 | 0.0% | 9.1% | 22.7 % | 13.6 % | 27.3 % | 27.3 % |
| Dog has become more comfortable during training. | 22 | 4.5% | 4.5% | 4.5% | 4.5% | 40.9 % | 40.9 % |
| Over time my dog withdrew from training more often. | 22 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0 % | 0.0 % |

| | N | never | Very rare | rare | sometimes | often | Very often |
|---|---|---|---|---|---|---|---|
| I was able to motivate myself to train with my dog. | 18 | 0.0% | 0.0% | 5.6% | 11.1% | 66.7 % | 16.7 % |
| I was able to motivate my dog to train. | 21 | 0.0% | 0.0% | 0.0% | 0.0% | 38.1 % | 61.9 % |
| How often has the dog been trained at home. | 19 | 0.0 % | 0.0 % | 15.8 % | 21.1 % | 52.6 % | 5.6 % |

How satisfactory was the cooperative care training at home?

| N | Not at all satisfied | Rather not satisfied | Partly | Rather satisfied | Very satisfied |
|---|---|---|---|---|---|
| 19 | 0.0 % | 0.0 % | 00 % | 31.6 % | 68.4 % |

### 12.1.3 PART THREE

**Questions about the cooperative care training in groups.**

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| Verbal training instructions were easy to understand. | 19 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0 % |
| Verbal training instructions were easy to implement. | 19 | 0.0% | 0.0% | 0.0% | 0.0% | 21.1 % | 78.9% |
| Showing the exercises helped to implement the training correctly at home. | 19 | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 100,0 % |
| The intermediate steps of the individual exercises were appropriate. | 19 | 0.0% | 0.0% | 0.0% | 26.3 % | 15.8 % | 57.9% |
| The environment of the group units was well suited. | 19 | 0.0% | 0.0% | 10.5% | 10.5 % | 26.3 % | 52.6% |
| My dog tolerated presence of other dogs well. | 22 | 0.0% | 4.5% | 0.0% | 13.6 % | 18.2 % | 63.6% |
| My dog was able to focus on training despite the presence of other dogs. | 22 | 4.5% | 0.0% | 0.0% | 18.2 % | 22.7 % | 54.5% |
| The presence of other dogs was helpful for training. | 22 | 4.5% | 13.6% | 22.7% | 22.7 % | 9.1% | 27.3% |
| The presence of other dogs was distracting. | 21 | 42.9% | 23.8% | 14.3% | 14.3 % | 0.0% | 4.8% |
| My dog tolerated presence of other dog owners well. | 22 | 0.0% | 0.0% | 0.0% | 27.3 % | 18.2 % | 54.5% |
| My dog was able to focus on training despite the presence of other dog owners. | 22 | 0.0% | 4.5% | 0.0% | 18.2 % | 31.8 % | 45.5% |
| The presence of other dog owners was helpful for training. | 21 | 4.8% | 9.5% | 9.5% | 38.1 % | 14.3 % | 23.8% |
| The presence of other dog owners was distracting. | 22 | 45.5% | 22.7% | 13.6% | 13.6 % | 0.0% | 4.5% |

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| Guided individual training would have been better. | 19 | 42.1 % | 31.6 % | 10.5 % | 0.0 % | 10.5 % | 5.3 % |
| Training at home with video instructions would have been better. | 19 | 42.1 % | 36.8% | 21.1 % | 0.0 % | 0.0 % | 0.0 % |
| Group training was stressful because of the time requirement. | 19 | 57.9% | 21.1% | 10.5% | 5.3% | 5.3% | 0,0% |
| Group training was stressful because the journey was long. | 19 | 47.4% | 15.8% | 5.3% | 10.5% | 15.8% | 5.3% |
| Group training was stressful because the group composition was uncomfortable. | 19 | 78.9% | 10.5% | 10.5% | 0.0% | 0.0% | 0.0% |

**Questions about the well-being of the dog during and after training in groups**

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| Dog accepted treats during training. | 21 | 0.0 % | 0.0 % | 0,0 % | 4.8 % | 14.3% | 81.0% |
| Dog seemed to enjoy training. | 20 | 0.0% | 0.0% | 0.0% | 10.0% | 20.0% | 70.0% |
| Dog sought for more physical contact during training. | 20 | 5.0% | 20.0% | 45.0% | 25.0% | 5.0% | 0.0% |
| Dog seemed tense during training. | 21 | 38.1% | 23.8% | 9.5% | 14.3% | 9.5% | 4.8% |
| Dog vocalized during training (like Barking or whining). | 20 | 65.0% | 20.0% | 10.0% | 5.0% | 0.0% | 0.0% |
| Dog ended training on its own (going away, hiding). | 21 | 38.1% | 14.3% | 23.8% | 19.0% | 0.0% | 4.8% |
| Dog seemed relaxed after training. | 20 | 0.0% | 5.0% | 5.0% | 15.0% | 45.0% | 30.0% |
| Dog sought for more physical contact after training. | 21 | 23.8% | 14.3% | 28.6% | 28.6% | 4.8% | 0.0% |
| Dog seemed tense after training. | 21 | 50.0% | 40.0% | 0.0% | 10.0% | 0.0% | 0.0% |
| During medical training dog behaved in a similar way as in comparable training situations. | 21 | 0.0% | 4.8% | 9.5% | 33.3% | 14.3% | 38, .1% |
| Dog has become more motivated during training. | 21 | 0.0% | 9.5% | 4.8% | 9.5% | 38.1% | 38.1% |
| Dog has become more comfortable during training. | 19 | 0.0% | 0.0% | 5.3% | 15.8% | 31.6% | 47.4% |
| Over time my dog withdrew from training more often. | 21 | 85.7% | 14.3% | 0.0% | 0.0% | 0.0% | 0.0% |

**Questions about personal impressions**

How many group units would have been appropriate?

| N | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | More than 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 18.8 % | 6.3 % | 0.0 % | 12.5 % | 6.3 % | 18.8 %% | 6.3 % | 6.3 % | 0.0 % | 6.3 % | 0.0 % | 18.8% |

How satisfactory was the cooperative care training in groups?

| N | Not at all satisfied | Rather not satisfied | Partly | Rather satisfied | Very satisfied |
|---|---|---|---|---|---|
| 21 | 0.0% | 0.0% | 4.8% | 23.8% | 71.4% |

### 12.1.4 PART FOUR

**Training expectations**

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| The training made sense regarding future visits at the veterinarian. | 19 | 0.0 % | 5.3 % | 5.3 % | 5.3 % | 42.1 % | 42.1 % |
| Exercises can be implemented at the veterinarian. | 18 | 5.6% | 0.0 % | 22.2% | 22.2 % | 16.7 % | 33.3 % |
| Exercises can also be used beside veterinary visits. | 19 | 0.0 % | 5.3 % | 5.3 % | 15.8 % | 15.8 % | 57.9 % |
| Training was in general a good occupation for the dog. | 19 | 0.0% | 0.0 % | 15.8% | 15.8 % | 5.3% | 53.2 % |

Did you have expectations before the training started?

| | N | Percentage |
|---|---|---|
| No. | 19 | 63.2% |
| Yes. | 19 | 36.8% |

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| The training is useful regarding future visits at the veterinarian. | 19 | 0.0 % | 5.3 % | 5.3 % | 5.3 % | 42.1 % | 42.1 % |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Exercises can be implemented at the veterinarian. | 18 | 5.3 % | 0.0 % | 21.1 % | 12.1 % | 15.8 % | 33.3 % |
| Exercises can also be used beside veterinary visits. | 19 | 0.0 % | 5.3 % | 5.3 % | 15.8 % | 15.8 % | 57.9 % |
| Human-pet relationship was encouraged. | 19 | 0.0 % | 0.0 % | 21.1 % | 10.5 % | 41.1 % | 26.3 % |
| Exercises help to understand dog's behavior. | 19 | 5.3 % | 5.3 % | 5.3 % | 31.6 % | 31.6 % | 21.1 % |
| The training was helpful for daily life. | 19 | 10.5 % | 0.0 % | 10.5 % | 15.8 % | 31.6 % | 31.6 % |
| The training was used as occupation for the dog. | 19 | 0.0 % | 0.0 % | 5.3 % | 15.8 % | 11.1 % | 57.9 % |

Has the dog been at the veterinary surgeon since the training started?

| N=22 | Percentage |
|---|---|
| No | 45.5% |
| Yes, because of a routine measure like vaccination | 18.2% |
| Yes, because of an illness. | 36.4% |

If so, have there been any changes in examination and treatment?

| N=13 | Percentage |
|---|---|
| No. | 31.8% |
| Yes. | 27.3% |

Have there been any changes in care measures?

| N=21 | Percentage |
|---|---|
| No. | 54.5% |
| Yes. | 40.9% |

How successful was the study related training with regard to the second examination?

| N | Not at all successful | Rather not successful | Partly | Rather successful | Very successful |
|---|---|---|---|---|---|
| 21 | 0.0% | 9.1% | 36.4% | 31.8% | 18.2% |

How successful was the study related training in general?

| N | Not at all successful | Rather not successful | Partly | Rather successful | Very successful |
|---|---|---|---|---|---|
| 22 | 0.0% | 0.0% | 22.7% | 50.0% | 27.3% |

| | N | Not agree at all | Not agree | Rather not agree | Rather agree | Agree | Totally agree |
|---|---|---|---|---|---|---|---|
| The training was frustrating. | 18 | 61.1% | 38.9% | 0.0% | 0.0% | 0.0% | 0.0% |
| The training was stressful. | 18 | 66.7% | 27.8% | 0.0% | 0.0% | 5.6% | 0.0% |
| The training was overwhelming. | 18 | 66.7% | 27.8% | 5.6% | 0.0% | 0.0% | 0.0% |
| The training was interesting. | 18 | 0.0% | 0.0% | 5.6% | 0.0% | 33.3% | 61.1% |
| The training was fun. | 19 | 0,0% | 0,0% | 0,0% | 10.5% | 21.1% | 68.4% |
| The training was surprising. | 18 | 11.1% | 5.6% | 27.8% | 11.1% | 16.7% | 27.8% |
| The training was positively challenging. | 18 | 5.6% | 5.6% | 11.1% | 16.7% | 27.8% | 33.3% |

## 12.2 ORIGINAL QUESTIONNAIRE IN GERMAN

The following is the original German questionnaire that the participants filled in after the second clinical examination at the veterinarian, the data protection regulation is also included.

Fragebogen für die Trainingsgruppe

Der Schutz Ihrer persönlichen Daten ist uns bei dieser Befragung ein besonderes Anliegen. Ihre Daten werden daher ausschließlich auf Grundlage der gesetzlichen Bestimmungen (§ 2f Abs 5 FOG) erhoben und verarbeitet.

Diese Befragung wird im Zuge der Abfassung einer wissenschaftlichen Arbeit an Vetmeduni Vienna erstellt. Die Daten können von dem/der Betreuer/in bzw. Begutachter/in der wissenschaftlichen Arbeit für Zwecke der Leistungsbeurteilung eingesehen werden. Die Daten werden nicht an Dritte weitergegeben. Die erhobenen Daten dürfen gemäß Art 89 Abs 1 DSGVO grundsätzlich unbeschränkt gespeichert werden.

Es besteht das Recht auf Auskunft durch den/die Verantwortlichen an dieser Studie über die erhobenen personenbezogenen Daten sowie das Recht auf Berichtigung, Löschung, Einschränkung der Verarbeitung der Daten sowie ein Widerspruchsrecht gegen die Verarbeitung sowie des Rechts auf Datenübertragbarkeit.

Wenn Sie Fragen zu dieser Erhebung haben, wenden Sie sich bitte gern an den Verantwortlichen dieser Untersuchung: Miriam Schützinger

(E-Mail: 1607061@students.vetmeduni.ac.at), Studentin der Studienrichtung Veterinärmedizin an der Vetmeduni Vienna.

Für grundsätzliche juristische Fragen im Zusammenhang mit der DSGVO/FOG und studentischer Forschung wenden Sie sich an den/die Datenschutzbeauftrage/n der Vetmeduni Vienna (datenschutz@vetmeduni.ac.at). Zudem besteht das Recht der Beschwerde bei der Datenschutzbehörde (bspw. über dsb@dsb.gv.at).

## Studie zum Medical Training bei Hunden

Die Vetmeduni Wien, das Messerli Forschungsinstitut und die Vetsuisse Bern beschäftigen sich mit dem Thema „Medical training bei Hunden“ und haben diesbezüglich einen Fragebogen erstellt. Befragt werden HundehalterInnen, die an der „Medical training“-Studie in der Trainings- oder in der Kontrollgruppe teilgenommen haben. Die Fragen beschäftigen sich einerseits mit dem Verhalten des Hundes während des Trainings aber auch mit dem Trainingserfolg und der Zufriedenheit der Hundehalter mit dem Training und der Studie im Allgemeinen.

Bitte füllen Sie den Fragebogen vollständig aus. Es gibt weder richtige noch falsche Antworten, bitte tragen Sie in die vorgesehenen Felder Ihre eigene Meinung ein. Ihre Eindrücke sind für uns sehr wichtig um Probleme im Training zu identifizieren und das Training verbessern zu können. Ihre Daten werden ausschließlich für wissenschaftliche Zwecke genutzt.

*"Mir ist bewusst, dass die Teilnahme an dieser Studie freiwillig ist und ich die Beantwortung des Fragebogens jederzeit abbrechen kann. Es gibt keinerlei Konsequenzen, wenn ich mich entschließe, den Fragebogen vorzeitig zu unterbrechen. Ich stimme der Teilnahme an der Umfrage, die im Zusammenhang mit meiner Studienteilnahme steht, zu.“*

Vielen Dank für Ihre Unterstützung!

### 12.2.1 PERSÖNLICHE DATEN

Fragen zum Tierbesitzer:

| | |
|---|---|
| Bitte tragen Sie Ihren Namen ein: | |
| Bitte tragen Sie Ihr Alter in Jahren ein: | |
| Bitte tragen Sie Ihr Geschlecht ein: | |

Sind Sie berufstätig oder in Ausbildung?

Nein ☐
Ja, ganztägig ☐
Ja, halbtags ☐

Fragen zu Ihrem Hund:

| | |
|---|---|
| Name: | |
| Alter in Jahren: | |
| Rasse: | |

Bitte wählen Sie das Geschlecht Ihres Hundes aus:

Männlich ☐

Männlich kastriert ☐

Weiblich ☐

Weiblich kastriert ☐

Männlich (hormonell) kastriert (Chip) ☐

Ist dies Ihr erster Hund?

Nein ☐
Ja ☐

Ist Ihr Hund hauptsächlich ein Begleit- und Familienhund oder ein Arbeitshund (z.B. Jagdhund, Diensthund, Therapiebegleithund, Assistenzhund etc.)?

Begleit- und Familienhund ☐
Arbeitshund ☐

Wenn Ihr Hund ein Arbeitshund ist, geben Sie bitte an welche Art von Arbeitshund:

Haben Sie mit Ihrem Hund bereits vor der Studie an einem Trainingskurs teilgenommen?

Nein ☐
Ja ☐

Wenn ja, wie viele Kurse haben Sie besucht? Bitte tragen Sie die Anzahl ein:

Wie oft/Woche trainieren Sie normalerweise (in Ihrem Alltag) mit Ihrem Hund?

| Seltener als 1x/Woche | 1x/Woche | 2x/Woche | 3x/Woche | 4x/Woche | 5x/Woche | 6x/Woche | 7x/Woche |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

### 12.2.2 FRAGEN ZUM STUDIENBEZOGENEN TRAINING ZUHAUSE

Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit aus.

| | trifft überhaupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft vollkommen zu |
|---|---|---|---|---|---|---|
| Ich war zufrieden mit den Informationen, die ich vor Trainingsbeginn bekommen habe. | | | | | | |
| Die schriftlichen Trainingsanleitungen waren gut verständlich. | | | | | | |
| Die schriftlichen Trainingsanleitungen waren leicht umsetzbar. | | | | | | |
| Das Trainingstagebuch war gut verständlich. | | | | | | |
| Das Trainingstagebuch war einfach auszufüllen. | | | | | | |
| Das Trainingstagebuch war hilfreich für den Trainingsfortschritt. | | | | | | |
| Ich habe das Trainingstagebuch vollständig ausgefüllt, wenn ich mit meinem Hund trainiert habe. | | | | | | |
| Das Training war in meinen Alltag gut einzubauen. | | | | | | |
| Mir hat das Training mit meinem Hund Spaß gemacht. | | | | | | |
| Das Training mit meinem Hund war belastend für mich. | | | | | | |

**Fragen zum Befinden des Hundes während des Trainings und danach**

Bitte denken Sie an den Ablauf des **Trainings zuhause** zurück und beantworten Sie die Fragen zum Verhalten Ihres Hundes beim **studienbezogenen Training**.

Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit aus.

| | trifft über-haupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft voll-kommen zu |
|---|---|---|---|---|---|---|
| Mein Hund nahm während des Trainings Leckerlis an. | | | | | | |
| Es wirkte so, als ob mein Hund Spaß am Training hätte. | | | | | | |
| Mein Hund suchte vermehrt Körperkontakt während des Trainings. | | | | | | |
| Mein Hund wirkte angespannt während des Trainings. | | | | | | |
| Mein Hund hat während des Trainings Geräusche von sich gegeben (z.B. Bellen, Winseln). | | | | | | |
| Mein Hund beendete das Training von sich aus, z.B. durch Weggehen, Verstecken. | | | | | | |
| Mein Hund wirkte entspannt nach dem Training. | | | | | | |
| Mein Hund suchte vermehrt Körperkontakt nach dem Training. | | | | | | |
| Mein Hund wirkte angespannt nach dem Training. | | | | | | |
| Mein Hund hat sich während des Medical Trainings ähnlich wie in vergleichbaren Trainingssituationen verhalten. | | | | | | |
| Mein Hund ist im Laufe des Trainings motivierter geworden. | | | | | | |
| Mein Hund ist im Laufe des Trainings sicherer geworden. | | | | | | |
| Mein Hund hat sich im Laufe des Trainings vermehrt zurückgezogen. | | | | | | |

| | nie | sehr selten | selten | manch-mal | oft | sehr oft |
|---|---|---|---|---|---|---|
| Ich konnte mich zum Training mit meinem Hund motivieren. | | | | | | |
| Ich konnte meinen Hund zum Training motivieren. | | | | | | |
| Wie häufig haben Sie mit Ihrem Hund zuhause trainiert? | | | | | | |

Sind Ihnen während des Trainings ungewöhnliche Verhaltensweisen (positive und negative) an ihrem Hund aufgefallen?

Bitte beschreiben Sie die Verhaltensweise kurz:

Wie zufrieden waren Sie insgesamt mit dem studienbezogenen Training zuhause?

| Gar nicht zufrieden | Eher nicht zufrieden | Teils/teils | Eher zufrieden | Sehr zufrieden |
|---|---|---|---|---|
| | | | | |

Was kann man Ihrer Meinung nach am Training zuhause verbessern?

### 12.2.3 FRAGEN ZUM GRUPPENTRAINING

Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit aus.

| | trifft überhaupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft vollkommen zu |
|---|---|---|---|---|---|---|
| Die mündlichen Trainingsanleitungen waren gut verständlich. | | | | | | |
| Die mündlichen Trainingsanleitungen waren leicht umsetzbar. | | | | | | |
| Das Vorzeigen der Übungen im Gruppentraining hat mir geholfen, sie zuhause richtig umzusetzen. | | | | | | |
| Ich habe die Zwischenschritte der einzelnen Übungen passend gefunden. | | | | | | |
| Die Umgebung, in der das Gruppentraining stattgefunden hat, war gut geeignet. | | | | | | |
| Mein Hund ist gut mit der Anwesenheit anderer Hunde in der Gruppe ausgekommen. | | | | | | |
| Mein Hund konnte trotz Anwesenheit anderer Hunde konzentriert arbeiten. | | | | | | |
| Die Anwesenheit anderer Hunde war hilfreich für den Trainingsprozess. | | | | | | |
| Mein Hund war abgelenkt von den anderen Hunden. | | | | | | |
| Mein Hund ist gut mit den anderen Hundehaltern und Hundehalterinnen ausgekommen. | | | | | | |
| Mein Hund konnte trotz Anwesenheit anderer Hundehalter und Hundehalterinnen konzentriert arbeiten. | | | | | | |
| Die Anwesenheit anderer Hundehalter und Hundehalterinnen war hilfreich für den Trainingsprozess. | | | | | | |
| Mein Hund war abgelenkt von den anderen Hundehaltern und Hundehalterinnen. | | | | | | |

| | trifft überhaupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft vollkommen zu |
|---|---|---|---|---|---|---|
| Für meinen Hund wäre angeleitetes Einzeltraining besser gewesen. | | | | | | |
| Für meinen Hund wäre Training zuhause mit Anleitungen (bspw. Videos) besser gewesen. | | | | | | |
| Das Gruppentraining war belastend für mich, weil ich zeitlich Schwierigkeiten hatte, daran teilzunehmen. | | | | | | |
| Das Gruppentraining war belastend für mich, weil ich eine weite Anreise hatte. | | | | | | |
| Das Gruppentraining war belastend für mich, weil die Gruppenzusammensetzung für mich nicht angenehm war. | | | | | | |

**Fragen zum Befinden des Hundes während des Gruppentrainings und danach**

Bitte denken Sie an den Ablauf des **Gruppentrainings** „**im Clever Dog Lab**“ zurück und beantworten Sie die Fragen zum Verhalten Ihres Hundes.

Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit aus.

| | trifft überhaupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft vollkommen zu |
|---|---|---|---|---|---|---|
| Mein Hund nahm während des Trainings Leckerlis an. | | | | | | |
| Es wirkte so, als ob mein Hund Spaß am Training hätte. | | | | | | |
| Mein Hund suchte vermehrt Körperkontakt während des Trainings. | | | | | | |
| Mein Hund wirkte angespannt während des Trainings. | | | | | | |
| Mein Hund hat während des Trainings Geräusche von sich gegeben (z.B. Bellen, Winseln). | | | | | | |
| Mein Hund beendete das Training von sich aus, z.B. durch Weggehen, Verstecken. | | | | | | |
| Mein Hund wirkte entspannt nach dem Training. | | | | | | |
| Mein Hund suchte vermehrt Körperkontakt nach dem Training. | | | | | | |
| Mein Hund wirkte angespannt nach dem Training. | | | | | | |
| Mein Hund hat sich während des Medical Trainings ähnlich wie in vergleichbaren Trainingssituationen verhalten. | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Mein Hund ist im Laufe des Trainings motivierter geworden. | | | | | | |
| Mein Hund ist im Laufe des Trainings sicherer geworden. | | | | | | |
| Mein Hund hat sich im Laufe des Trainings vermehrt zurückgezogen. | | | | | | |

**Fragen zu Ihren Eindrücken**

Wie viele Gruppentrainingseinheiten wären Ihrer Meinung nach für Sie und Ihren Hund optimal?

Bitte kreuzen Sie die passende Stundenanzahl an.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Mehr als 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

Wie zufrieden waren Sie insgesamt mit dem **studienbezogenen Gruppentraining**?

| Gar nicht zufrieden | Eher nicht zufrieden | Teils/teils | Eher zufrieden | Sehr zufrieden |
|---|---|---|---|---|
| | | | | |

Gab es etwas, das Ihnen an den Trainingseinheiten besonders gefallen hat?

Gab es etwas, das Ihnen an den Trainingseinheiten gar nicht gefallen hat?

Wie könnte man Ihrer Meinung nach das **Gruppentraining** verbessern?

### 12.2.4 ERWARTUNGEN AN DAS TRAINING

Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit aus.

| | trifft überhaupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft vollkommen zu |
|---|---|---|---|---|---|---|
| Ich habe das Training im Hinblick auf zukünftige Tierarztbesuche als sinnvoll empfunden. | | | | | | |
| Ich kann die Übungen auch praktisch beim Tierarztbesuch umsetzen. | | | | | | |
| Ich kann die Übungen auch außerhalb des Tierarztbesuches nutzen, z.B. im Rahmen von Pflegemaßnahmen. | | | | | | |
| Das Training ist allgemein eine gute Beschäftigungsmöglichkeit für meinen Hund. | | | | | | |

Hatten Sie spezielle Erwartungen, bevor Sie das Training gestartet haben?

Nein ☐
Ja ☐

Wenn ja, beschreiben Sie kurz Ihre Erwartungen:

Was war, Ihrer Ansicht nach, der wichtigste Erfolg, den Ihnen das Training gebracht hat?

Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit im Hinblick auf das studienbezogene Training aus.

| | trifft überhaupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft vollkommen zu |
|---|---|---|---|---|---|---|
| Das Training hat die Beziehung zwischen meinem Hund und mir gestärkt. | | | | | | |
| Ich habe durch das Training gelernt, das Verhalten meines Hundes besser zu verstehen. | | | | | | |
| Das Training mit meinem Hund ist für den Alltag mit meinem Hund hilfreich gewesen. | | | | | | |
| Ich habe das Training als Beschäftigung für meinen Hund genutzt. | | | | | | |

Waren Sie seit der 1. Untersuchung der Studie beim Tierarzt?

Nein ☐

Ja, wegen einer Routinemaßnahme wie Impfen ☐
Ja, wegen einer Erkrankung ☐

Wenn ja, nach wie vielen Wochen nach dem Start des Trainings?.....Wochen

Wenn ja, gab es Veränderungen bei Untersuchungs- und Behandlungsmaßnahmen beim Tierarzt?

Nein ☐
Ja ☐

Wenn ja, geben Sie kurz an welche:

Gab es Veränderungen bei Pflegemaßnahmen oder allgemein im Umgang mit ihrem Hund zuhause?

Nein ☐
Ja ☐

Wenn ja, geben Sie kurz an welche

Waren besondere Behandlungs- oder Pflegemaßnahmen während der Studienzeit notwendig wie z.B. Augentropfen eingeben?

Nein ☐
Ja ☐

Wenn ja, beschreiben Sie diese kurz:

Wie erfolgreich war das studienbezogene Training im Hinblick auf die 2. Untersuchung unserer Studie?

| Gar nicht erfolgreich | Eher nicht erfolgreich | Teils/teils | Eher erfolgreich | Sehr erfolgreich |
|---|---|---|---|---|
| | | | | |

Wie erfolgreich war das studienbezogene Training allgemein für Sie?

| Gar nicht erfolgreich | Eher nicht erfolgreich | Teils/teils | Eher erfolgreich | Sehr erfolgreich |
|---|---|---|---|---|
| | | | | |

Bitte beantworten Sie auch noch diese Fragen zu ihrem Befinden während des Trainings. Bitte wählen Sie in jeder Spalte die am ehesten zutreffende Antwortmöglichkeit aus.

| | trifft über-haupt nicht zu | trifft nicht zu | trifft eher nicht zu | trifft eher zu | trifft zu | trifft voll-kommen zu |
|---|---|---|---|---|---|---|
| Das Training war frustrierend für mich. | | | | | | |
| Das Training war belastend für mich. | | | | | | |
| Das Training war überfordernd für mich. | | | | | | |
| Das Training war interessant für mich. | | | | | | |
| Das Training hat mir Spaß gemacht. | | | | | | |
| Das Training war überraschend für mich. | | | | | | |
| Das Training war positiv herausfordernd für mich. | | | | | | |

Wir würden uns freuen, wenn Sie uns hier noch mitteilen was Ihre Motivation war, an der Studie teilzunehmen?

Und Sie können uns weitere Anmerkungen und Verbesserungsvorschläge hier hinterlassen:

Vielen Dank für Ihre Teilnahme!

## 12.3 TRAININGS DIARY IN ENGLISH

The training diary translated into Englisch that the pet owners kept during the cooperative care training at home is listed in this section. Each training phase had its own re-designed diary sheet.

**Trainingslog phase 1:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise hasbeen trained: | Difficult for me as a trainer | Difficult for my dog |
|---|---|---|
| ☐ Step on the target | ☐ | ☐ |
| ☐ Stand on the target for up to 10sec | ☐ | ☐ |
| ☐ Increase the distance to the dog standing on the target: Increase your distance slowly step by step (up to max 2m); the dog stays on the target | ☐ | ☐ |
| ☐ Step onto the target and linger for up to 5sec despite distraction (e.g. owner moves toys owner walks around target) | ☐ | ☐ |
| ☐ Dog stands for up tp 5sec at the target in different places (table or sofa) | ☐ | ☐ |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2a:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐ Pet the belly with one hand for up to 10sec | ☐ | ☐ | |
| ☐ Touch the belly with two hands for up to 10 sec | ☐ | ☐ | |
| ☐ Feel through the abdomen with medium pressure for up to 10sec | ☐ | ☐ | |
| ☐ Feel through the abdomen with medium pressure for up to 30sec | ☐ | ☐ | |
| ☐ Pet belly with one hand- in different places (table, couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2b:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐ Pet the belly with both hands for up to 10sec | ☐ | ☐ | |
| ☐ Pet both inner tighs at the same time. Each with one hand for up to 10 sec | ☐ | ☐ | |
| ☐ Touch both inner tighs at the same tme- each with one hand at one point for up to 10sec | ☐ | ☐ | |
| ☐ Touch both inner tighs at the same time with one hand each at one point for up to 15sec | ☐ | ☐ | |
| ☐With slightly increased pressure, touch both inner tighs at the same time- each with one hand at one point for up to 15 sec | ☐ | ☐ | |
| ☐Pet both inner tighs at the same tome with one hand each for up to 10sec- different places (table, couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2c:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐Slightly grasp the chin from below with one hand | ☐ | ☐ | |
| ☐ Touch the ear for 5sec | ☐ | ☐ | |
| ☐ Carefully grasp the whole ear with one hand for up to 5sec | ☐ | ☐ | |
| ☐ Carefully grasp the whole ear with one hand for up to 10sec | ☐ | ☐ | |
| ☐ Rise the ear for up to 2sec | ☐ | ☐ | |
| ☐ Rise the ear again and look into it for up to 2sec (bring your own head close to the dog´s ear) | ☐ | ☐ | |
| ☐Touch the ear for 5sec- other places (table, couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2d:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐ Slightly grasp the chin from below with one hand | ☐ | ☐ | |
| ☐Carefully touch the head from above with the second hand | ☐ | ☐ | |
| ☐ Approach the eye with one finger | ☐ | ☐ | |
| ☐ Touch the upper eyelid with one finger for up to 2sec | ☐ | ☐ | |
| ☐ Carefully apply light pressure to the upper eyelid with one finger for up to 2sec | ☐ | ☐ | |
| ☐ Carefully apply light pressure to the upper eyelid with one finger for up to 5sec | ☐ | ☐ | |
| ☐ Carefully pull the upper and the lower eyelid apart | ☐ | ☐ | |
| ☐ Touch the upper eyelid with one finger for up to 2sec – different places (table, couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2e:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐ Slightly grasp the chin from below with one hand | ☐ | ☐ | |
| ☐ Slowly approach the mouth with the other hand | ☐ | ☐ | |
| ☐ Touch the lips for up to 2sec | ☐ | ☐ | |
| ☐ Touch the lips for up to 5sec | ☐ | ☐ | |
| ☐ Lift the lip for up to 2sec | ☐ | ☐ | |
| ☐ Lift the lip for up to 5sec | ☐ | ☐ | |
| ☐ Lift the lip and touch the gums for up to 3sec | ☐ | ☐ | |
| ☐ Touch the lips for up to 2sec – different places (table couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2f:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐ Touch the chest for up to 10sec | ☐ | ☐ | |
| ☐ Touch the chest with a flat object for up to 10sec (e.g. bottom of a yogurt cup) | ☐ | ☐ | |
| ☐ Apply light pressure to the chest with a flat object for up to 10sec | ☐ | ☐ | |
| ☐ Apply light pressure to the chest with a flat object for up to 30sec | ☐ | ☐ | |
| ☐ Touch the chest for up to 10sec -different places (table, couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

**Trainingslog phase 2g:**

Date: …….. Start time: ……. : ……. (e.g. 15:10) Duration of the unit: ……...min

Treats used: ……...

Estimated target height: ……cm

| This exercise has been trained: | Difficult for me as a trainer | Difficult for my dog | How many times has the dog left the target during manipulation? |
|---|---|---|---|
| ☐ Touch the tail for up to 5sec | ☐ | ☐ | |
| ☐ Hold the tail for up to 5sec | ☐ | ☐ | |
| ☐ Lift the tail for up to 5sec | ☐ | ☐ | |
| ☐ Lift the tail for up to 10sec | ☐ | ☐ | |
| ☐ Touch the anus with a cotton swab for up to 5sec | ☐ | ☐ | |
| ☐ Touch the anus with a cotton swab for up to 10sec | ☐ | ☐ | |
| ☐ Touch the tail for up to 5sec – different places (table, couch) | ☐ | ☐ | |

Please tick how tense or relaxed your dog was during today´s training?

Not relaxed at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very relaxed

Please tick how motivared your dog was during today´s training?

Not motivated at all 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Very motivated

Here you can write down comments or particularities in this training units:

## 12.4 TRAINING DIARY IN GERMAN

The original training diary in German, which the dog owners kept during the cooperative care training at home, can be read below.

**Trainingstagebuch für Phase 1:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund |
|---|---|---|
| ☐ Auf das Target steigen | ☐ | ☐ |
| ☐ Für bis zu 10 sec am Target stehen bleiben | ☐ | ☐ |
| ☐ Distanz zum am Hund stehen Target vergrößern: vergrößern Sie ihren Abstand langsam Schritt für Schritt (bis max. 2m); der Hund bleibt am Target stehen | ☐ | ☐ |
| ☐ Auf das Target steigen und bis zu 5sec verweilen an trotz Ablenkung (Besitzer bewegt Spielzeug, Besitzer geht um Target herum) | ☐ | ☐ |
| ☐ Hund steht für bis zu 5sec am Target- an verschiedenen Orten (Tisch oder Sofa) | ☐ | ☐ |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2a:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐ Bauch mit einer Hand streicheln bis zu 10sec | ☐ | ☐ | |
| ☐ Bauch mit zwei Händen berühren bis zu 10sec | ☐ | ☐ | |
| ☐ Mit mittlerem Druck Bauch für bis zu 10sec durchtasten | ☐ | ☐ | |
| ☐ Mit mittlerem Druck Bauch für bis zu 30sec durchtasten | ☐ | ☐ | |
| ☐ Bauch mit einer Hand streicheln-an verschiedenen Orten (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2b:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐ Bauch mit beiden Händen streicheln bis zu 10sec | ☐ | ☐ | |
| ☐ Beide Innenschenkel gleichzeitig- mit jeweils einer Hand für bis zu 10sec streicheln | ☐ | ☐ | |
| ☐ Beide Innenschenkel gleichzeitig - mit jeweils einer Hand an einer Stelle für bis zu 10sec berühren | ☐ | ☐ | |
| ☐ Beide Innenschenkel gleichzeitig- mit jeweils einer Hand an einer Stelle für bis zu 15sec berühren | ☐ | ☐ | |
| ☐ Mit leicht erhöhtem Druck beide Innenschenkel gleichzeitig- mit jeweils einer Hand an einer Stelle für bis zu 15sec berühren | ☐ | ☐ | |
| ☐ Beide Innenschenkel gleichzeitig mit jeweils einer Hand für bis zu 10 sec streicheln-anderer Ort (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2c:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐Mit einer Hand das Kinn von unten leicht umfassen | ☐ | ☐ | |
| ☐ Ohr für 5sec berühren | ☐ | ☐ | |
| ☐ Mit einer Hand das ganze Ohr vorsichtig umfassen für bis zu 5sec | ☐ | ☐ | |
| ☐ Mit einer Hand das ganze Ohr vorsichtig umfassen für bis zu 10sec | ☐ | ☐ | |
| ☐ Ohr für bis zu 2sec anheben | ☐ | ☐ | |
| ☐ Ohr erneut anheben und für bis zu 2sec hineinschauen (mit dem eigenen Kopf dem Ohr des Hundes nahekommen) | ☐ | ☐ | |
| ☐Ohr für 5 sec berühren- andere Orte (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2d:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐ Mit einer Hand das Kinn von unten leicht umfassen | ☐ | ☐ | |
| ☐ Mit zweiter Hand den Kopf vorsichtig von oben berühren | ☐ | ☐ | |
| ☐ Mit einem Finger dem Auge nähern | ☐ | ☐ | |
| ☐ Mit einem Finger für bis zu 2sec das obere Augenlid berühren | ☐ | ☐ | |
| ☐ Mit einem Finger für bis zu 2sec vorsichtig leichten Druck auf das obere Augenlid ausüben | ☐ | ☐ | |
| ☐ Mit einem Finger für bis zu 5sec vorsichtig leichten Druck auf das obere Augenlid ausüben | ☐ | ☐ | |
| ☐ Oberlid und Unterlid vorsichtig- leicht auseinanderziehen | ☐ | ☐ | |
| ☐ Mit einem Finger für bis zu 2sec das obere Augenlid berühren- anderer Ort (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2e:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐ Mit einer Hand das Kinn von unten leicht umfassen | ☐ | ☐ | |
| ☐ Mit der zweiten Hand dem Maul langsam nähern | ☐ | ☐ | |
| ☐ Lefzen für bis zu 2 sec berühren | ☐ | ☐ | |
| ☐ Lefze für bis zu 5sec berühren | ☐ | ☐ | |
| ☐ Lefze für bis zu 2sec anheben | ☐ | ☐ | |
| ☐ Die Lefze für bis zu 5sec anheben | ☐ | ☐ | |
| ☐ Die Lefze anheben und für bis zu 3sec das Zahnfleisch berühren | ☐ | ☐ | |
| ☐Lefze für bis zu 2 sec berühren- anderer Ort (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2f:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐ Brustkorb für bis zu 10sec berühren | ☐ | ☐ | |
| ☐ Brustkorb für bis zu 10sec mit einem flachen Gegenstand berühren (Joghurtbecherboden) | ☐ | ☐ | |
| ☐ Für bis zu 10sec, mit einem flachen Gegenstand einen leichten Druck auf den Brustkorb ausüben | ☐ | ☐ | |
| ☐ Für bis zu 30sec, mit einem flachen Gegenstand einen leichten Druck auf den Brustkorb ausüben | ☐ | ☐ | |
| ☐ Brustkorb für bis zu 10sec berühren- anderer Ort (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

**Trainingstagebuch für Phase 2g:**

Datum: …….. Startzeit: ……. : ……. (z.B. 15:10) Dauer der Einheit: ……...min

Verwendete Leckerli: ……...

Geschätzte Targethöhe: ……cm

| Diese Übung wurde trainiert: | Schwierig für mich als TrainerIn | Schwierig für meinen Hund | Wie oft hat der Hund das Target während der Manipulation verlassen |
|---|---|---|---|
| ☐ Rute für bis zu 5sec berühren | ☐ | ☐ | |
| ☐ Rute für bis zu 5sec umfassen | ☐ | ☐ | |
| ☐ Rute für bis zu 5sec anheben | ☐ | ☐ | |
| ☐ Rute für bis zu 10sec anheben | ☐ | ☐ | |
| ☐ Anus für bis zu 5sec mit einem Wattestäbchen berühren | ☐ | ☐ | |
| ☐ Mit einem Wattestäbchen für bis zu 10sec den Anus berühren | ☐ | ☐ | |
| ☐Rute für bis zu 5sec berühren- anderer Ort (Tisch, Couch) | ☐ | ☐ | |

Bitte kreuzen Sie an wie angespannt bzw. entspannt ihr Hunde beim heutigen Training war?

Gar nicht entspannt 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr entspannt

Bitte kreuzen Sie an wie motiviert ihr Hunde beim heutigen Training war?

Gar nicht motiviert 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ Sehr motiviert

Hier können Sie Anmerkungen zu bzw. Besonderheiten in dieser Trainingseinheit notieren:

## 12.5 STATISTICAL EVALUATIONS

The statistical evaluation of the training diaries, with the frequency of the trained phases, how often there were difficulties in the respective phases for the owner or for the dog and how often the target was left during the different intermediate steps of the cooperative care training. Moreover, how the percentage distribution if the training phases was, was evaluated.

| Phase | Amount of Phases | Mean: difficult for dog owner | Mean: difficult for dog | Mean: left the target (yes/no) |
|---|---|---|---|---|
| Step on target | 63 | 0.00 | 0.08 | 0.00 |
| Stand on the target for up to 10sec | 49 | 0.04 | 0.12 | 0.00 |
| Increase the distance to dog standing in the target | 46 | 0.04 | 0.22 | 0.00 |
| Step onto the target an linger for up to 5sec despite distraction | 37 | 0.03 | 0.46 | 0.00 |
| Dog stands for up to 5sec on the target in different places | 17 | 0.06 | 0.12 | 0.00 |
| Pet the belly with one hand for up to 10sec | 52 | 0.04 | 0.15 | 0.16 |
| Touch the belly with two hands for up to 10sec | 49 | 0.06 | 0.10 | 0.15 |
| Feel through the abdomen with medium pressure for up to 10sec | 41 | 0.02 | 0.10 | 0.15 |
| Feel through the abdomen with medium pressure for up to 30sec | 25 | 0.04 | 0.08 | 0.12 |
| Pet belly with one hand- in different places | 26 | 0.04 | 0.08 | 0.04 |
| Pet the belly with both hands for up to 10sec | 28 | 0.00 | 0.00 | 0.14 |
| Pet both inner tighs at the same time. Each with one hand for up to 10sec | 20 | 0.00 | 0.00 | 0.21 |
| Touch both inner tighs at the same time with one hand and at one point for up to 10sec | 22 | 0.00 | 0.18 | 0.23 |
| Touch both inner thighs at the same time with one hand each at one point up to 15sec | 25 | 0.00 | 0.24 | 0.22 |
| With slightly increased pressure, touch both inner tighs at the same time-each with one hand at one point for up to 15sec | 34 | 0.00 | 0.26 | 0.15 |

| | | | | |
|---|---|---|---|---|
| Pet both inner tighs at the same time with one hand each for up to 10sec- different places | 16 | 0.00 | 0.00 | 0.13 |
| Slightly grasp the chin from below with one hand | 65 | 0.00 | 0.14 | 0.04 |
| Touch ear for 5sec | 42 | 0.00 | 0.05 | 0.08 |
| Carefully grasp the whole ear with one hand for up to 5sec | 23 | 0.00 | 0.09 | 0.10 |
| Carefully grasp the whole ear with one hand for up to 10sec | 21 | 0.00 | 0.00 | 0.05 |
| Raise the ear for up to 2sec | 35 | 0.00 | 0.06 | 0.04 |
| Raise the ear again and look into it for up to 2sec | 33 | 0.00 | 0.06 | 0.08 |
| Touch the ear for 5sec-other places | 29 | 0.00 | 0.00 | 0.03 |
| Slightly grasp the chin from below with one hand | 43 | 0.02 | 0.00 | 000 |
| Carefully touch the head from above with the second hand | 29 | 0.03 | 0.00 | 0.00 |
| Approach the eye with one finger | 21 | 0.05 | 0.00 | 0.00 |
| Touch the upper eyelid with one finger for up to 2sec | 25 | 0.00 | 0.00 | 0.00 |
| Carefully apply lightly pressure to the upper eyelid with one finger for up to 2sec | 23 | 0.00 | 0.00 | 0.00 |
| Carefully apply lightly pressure to the upper eyelid with one finger for up to 5sec | 20 | 0.00 | 0.00 | 0.00 |
| Carefully pull the upper and the lower eyelid apart | 41 | 0.10 | 0.00 | 0.00 |
| Touch the upper eyelid with one finder for up to 2 sec- different places | 15 | 0.00 | 0.00 | 0.00 |
| Slightly grasp the chin from below with one hand | 26 | 0.00 | 0.00 | 0.00 |
| Slowly approach the mouth with the other hand | 18 | 0.06 | 0.00 | 0.06 |
| Touch the lips for up to 2sec | 20 | 0.00 | 0.05 | 0.05 |
| Touch the lips for up to 5sec | 16 | 0.00 | 0.06 | 0.00 |
| Lift the lip for up to 2 sec | 16 | 0.00 | 0.13 | 0.00 |
| Lift the lip for up to 5sec | 15 | 0.00 | 0.07 | 0.00 |
| Lift the lip and touch the gums for up to 3sec | 15 | 0.00 | 0.00 | 0.00 |
| Touch the lips for up to 2sec- different places | 17 | 0.00 | 0.06 | 0.00 |
| Touch the chest for up to 19sec | 20 | 0.00 | 0.00 | 0.06 |

| | | | | |
|---|---|---|---|---|
| Touch the chest with a flat object for up to 10sec | 24 | 0.00 | 0.08 | 0.12 |
| Apply light pressure to the chest with a flat object for up to 10sec | 23 | 0.00 | 0.00 | 0.05 |
| Apply light pressure to the chest with a flat object for up to 30sec | 16 | 0.00 | 0.00 | 0.07 |
| Touch the chest for up to 10sec- different places | 16 | 0.06 | 0.06 | 0.00 |
| Touch the tail for up to 5sec | 61 | 0.00 | 0.10 | 0.04 |
| Hold the tail for up to 5sec | 57 | 0.00 | 0.12 | 0.04 |
| Lift the tail for up to 5sec | 51 | 0.00 | 0.10 | 0.05 |
| Lift the tail for up to 10sec | 28 | 0.00 | 0.00 | 0.04 |
| Touch the anus with a cotton swab for up to 5sec | 34 | 0.00 | 0.12 | 0.23 |
| Touch the anus with a cotton swab for up to 10sec | 28 | 0.00 | 0.14 | 0.41 |
| Touch the tail for up to 5sec- different places | 31 | 0.00 | 0.00 | 0.00 |

Difficult for owner: yes or no; Difficult for dog: yes or no; Left target: y.es or no

| Proportion of trainings steps within training phase: | | | | | | | |
|---|---|---|---|---|---|---|---|
| Target | 6 | 14.20 | 16.45 | 10 | 24.15 | 20.78 | 0.19 |
| Abdomen | 6 | 13.88 | 9.74 | 10 | 18.10 | 10.24 | 0.28 |
| Pulse | 6 | 11.13 | 3.94 | 10 | 7.09 | 7.92 | 0.38 |
| Ear | 6 | 11.32 | 6.08 | 10 | 14.50 | 12.51 | 0.96 |
| Eye | 6 | 12.48 | 7.75 | 10 | 12.01 | 10.26 | 0.78 |
| Teeth | 6 | 12.00 | 10.00 | 10 | 9.15 | 7.44 | 0.62 |
| Chest | 6 | 8.54 | 7.51 | 10 | 4.06 | 4.06 | 0.21 |
| Rectum | 6 | 16.46 | 15.58 | 10 | 10.95 | 11.31 | 0.373 |

Correlations of owner experience during cooperative care training and the information indicated in the training diaries.

| | | Success - owners | Satisfaction - owners | Training positive expirience | Training negative expirience |
|---|---|---|---|---|---|
| Number of training units at home | $r_s$ | -0.23 | 0.11 | -0.03 | -0.06 |
| | p | 0,40 | 0,69 | 0,92 | 0.84 |
| | N | 15 | 15 | 15 | 15 |
| Mean duration of training | $r_s$ | -0.09 | -0.61* | -0.23 | 0.28 |

| | | | | | |
|---|---|---|---|---|---|
| | p | 0.76 | 0.02 | 0.41 | 0.31 |
| | N | 15 | 15 | 15 | 15 |
| Total duration training | $r_s$ | -0.30 | -0.20 | -0.22 | 0.04 |
| | p | 0.28 | 0.48 | 0.42 | 0.89 |
| | N | 15 | 15 | 15 | 15 |
| Mean score of treats | $r_s$ | 0.45 | 0.10 | -0.34 | 0.34 |
| | p | 0.10 | 0.72 | 0.21 | 0.21 |
| | N | 15 | 15 | 15 | 15 |
| Mean tension or relaxation | $r_s$ | 0.58 | -0.00 | -0.38 | -0.19 |
| | p | 0.03 | 0.99 | 0.16 | 0.50 |
| | N | 15 | 15 | 15 | 15 |
| Mean motivation | $r_s$ | -0.06 | -0.21 | -0.06 | -0.30 |
| | p | 0.84 | 0.45 | 0.83 | 0.28 |
| | N | 15 | 15 | 15 | 15 |
| Proportion training on an elevated area | $r_s$ | 0.42 | 0.07 | -0.06 | 0.28 |
| | p | 0.12 | 0.82 | 0.84 | 0.32 |
| | N | 15 | 15 | 15 | 15 |
| Proportion training with a stranger | $r_s$ | -0.42 | 0.23 | -0.08 | -0.35 |
| | p | 0.12 | 0.41 | 0.77 | 0.21 |
| | N | 15 | 15 | 15 | 15 |
| Proportion difficulties dog owner during cooperative care training at home | $r_s$ | -0.20 | 0.08 | 0.26 | 0.02 |
| | p | 0.47 | 0.78 | 0.34 | 0.95 |
| | N | 15 | 15 | 15 | 15 |
| Proportion difficulties dog during cooperative care training at home | $r_s$ | -0.05 | 0.17 | 0.60 | -0.13 |
| | p | 0.87 | 0.54 | 0.02 | 0.65 |
| | N | 15 | 15 | 15 | 15 |
| Target left yes/no | $r_s$ | -0.31 | -0.21 | 0.15 | 0.21 |
| | p | 0.27 | 0.46 | 0.60 | 0.44 |
| | N | 15 | 15 | 15 | 15 |
| Total training phases | $r_s$ | -0.28 | 0.12 | -0.27 | -0.16 |
| | p | 0.30 | 0.66 | 0.36 | 0.57 |
| | N | 15 | 15 | 15 | 15 |

Correlations between information from the final questionnaire the participants filled in after the second veterinary examination and the training diaries the participants kept during the cooperative care training at home.

| | | Mean success | Mean satisfaction | Mean score treats | Amount of training sessions | Mean duration training session | Total duration training session | Proportion training on an elevated area | Proportion difficulties dog owner | Proportion difficulties dog | Proportion target left yes/no | Mean tension/ relaxation | Mean motivation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean success | $r_s$ | -0.16 | 0.149 | 0.024 | -0.031 | 0.015 | -0.009 | -0,.85 | 0.307 | 0.114 | -0.431 | -0.478 | -0.152 |
| | p | 0.361 | 0.519 | 0.931 | 0.910 | 0.955 | 0.973 | 0.756 | 0.248 | 0.674 | 0.096 | 0.061 | 0.574 |
| | N | 20 | 21 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Mean satisfaction | $r_s$ | 1.000 | -0.021 | 0.445 | -0.234 | -0.087 | -0.301 | 0.419 | -0.204 | -0.046 | 0.385 | 0.575* | -0.056 |
| | p | | 0.932 | 0.096 | 0.402 | 0.758 | 0.276 | 0.120 | 0.466 | 0,870 | 0.156 | 0.025 | 0.842 |
| | N | 20 | 19 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Mean score treats | $r_s$ | -0.021 | 1.00 | 0.101 | 0.112 | -0.610* | -0.199 | 0.065 | 0.080 | 0.173 | -0.350 | -0.003 | -0.213 |
| | p | 0.932 | | 0.721 | 0.692 | 0.016 | 0.477 | 0.819 | 0.776 | 0.536 | 0.201 | 0.992 | 0.446 |
| | N | 19 | 21 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Amount of training sessions | $r_s$ | 0445 | 0.101 | 1.000 | 0.052 | -0.403 | -0.135 | -0.031 | -0.156 | -0.430 | 0.212 | 0.369 | -0.154 |
| | p | 0.096 | 0.721 | | 0.849 | 0.122 | 0.617 | 0.910 | 0.565 | 0.096 | 0.430 | 0.159 | 0.569 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Mean duration training session | $r_s$ | -0.234 | 0.112 | 0.052 | 1.000 | 0.083 | 0.876** | -0.051 | -0.165 | 0.024 | -0.322 | -0.183 | -0.417 |
| | p | 0.402 | 0.692 | 0.849 | | 0.761 | 0.000 | 0.852 | 0.541 | 0.930 | 0.225 | 0.497 | 0.108 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Total duration training session | $r_s$ | -0.087 | -0.610* | -0.403 | 0.083 | 1.000 | 0.509* | 0.184 | -0.293 | -0.099 | 0.056 | -0.068 | 0.034 |
| | p | 0.758 | 0.016 | 0.122 | 0.761 | | 0.044 | 0.494 | 0.270 | 0.716 | 0.837 | 0.801 | 0.901 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Proportion training on an | $r_s$ | -0.301 | -0.199 | -0.135 | 0.876** | 0.509* | 1.000 | 0.052 | -0.247 | -0.092 | -0.271 | -0.197 | -0.334 |
| | p | 02.76 | 0.477 | 0.617 | 0.000 | 0.044 | | 0.848 | 0.357 | 0.735 | 0.311 | 0.464 | 0.206 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| elevated area | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Proportion difficulties dog owner | $r_s$ | 0.419 | 0.065 | -0.031 | -0.051 | 0.184 | 0.052 | 1.000 | 0.175 | 0.285 | 0.055 | 0.043 | -0.008 |
| | p | 0.120 | 0.819 | 0.910 | 0.852 | 0.494 | 0.848 | | 0.516 | 0.285 | 0.839 | 0.874 | 0.977 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Proportion difficulties dog | $r_s$ | -0.204 | 0.080 | -0.156 | -0.165 | -0.293 | -0.247 | 0.175 | 1.000 | 0.652** | -0.408 | -0.616* | 0.177 |
| | p | 0.466 | 0.776 | 0.565 | 0.541 | 0.270 | 0.357 | 0.516 | | 0.006 | 0.117 | 0.011 | 0.511 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Proportion target left yes/no | $r_s$ | -0.046 | 0.173 | -0.430 | 0.024 | -0.099 | -0.092 | 0.285 | 0.652** | 1.000 | -0.530* | -0.520* | -0.002 |
| | p | 0.870 | 0.536 | 0.096 | 0.930 | 0.716 | 0.735 | 0.285 | 0.006 | . | 0.035 | 0.039 | 0.993 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Mean tension /relaxation | $r_s$ | 0.385 | -0.350 | 0.212 | -0.322 | .0.056 | -0.271 | 0.055 | -0.408 | -0.530* | 1.000 | 0.315 | 0.060 |
| | p | 0.156 | 0.201 | 0.430 | 0.225 | 0.837 | 0.311 | 0.839 | 0.117 | 0.035 | | 0.235 | 0.824 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Mean motivation | $r_s$ | 0.75* | -0.003 | 0.369 | -0.183 | -0.068 | -0.197 | 0.043 | -0.616* | -0.520* | 0.315 | 1.000 | 0.303 |
| | p | 0.025 | 0.992 | 0.159 | 0.497 | 0.801 | 0.464 | 0.874 | 0.011 | 0.039 | 0.235 | | 0.254 |
| | N | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |