



Article

Criteria for the selection of rabbits suitable for animal-assisted work with the visually impaired (preliminary study)

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ABSTRACT - Animal assisted interventions in everyday life can help reduce stress and make life of the visually impaired more complete. For this, not only dogs are available, but also other animal species. We chose the dwarf rabbit for this purpose. The dwarf rabbit is a popular pet, soft, confidential, hands-on; can be taught basic rules, and its care needs are easier to meet for a visually impaired than a dog's. The objective of our research was to develop and test a set of criteria for the selection of rabbits suitable for the visually impaired, furthermore, to determine whether a person with sight is able to select rabbits for the visually impaired, or whether there are large differences in their assessment? In the course of research, we developed a 14-point criteria that included confidential questions, pleasant experience questions and questions about the stress of rabbits. The scoring scale ranged from 1 to 5, with the highest point marking the most suitable rabbit. The rabbits in the study were of 6 to 12 months of age, tamed for four generations, of different sizes, hair lengths and colours. The study included 12 special education undergraduate students and one person with visual impairment. The participants worked in pairs, first blindfolded and then with sight of the rabbits. The rabbits were assigned in random order, so students didn't know what number of point the rabbits had previously received. The eye-binding of the students did not affect the scoring, but the visually impaired subject gave the rabbits an average of 0.1 points higher. Because the scores for each student were high, we did not get a significant result. We looked at who at what chance could have given each points. It turned out that the visually impaired gave 5 points - 10% of the time more often - and gave 3 points - 3% - than the undergrad students. We looked at which of the 14 aspects had greater differences in their perception: there were differences, but they were not significant. Comparing the rabbits, we received a significant difference, based on which this criteria system may be useable for the selection of rabbits suitable for visually impaired, as significant differences were discovered between rabbits. People with sight can also use the test, but they slightly more rigorously. It is recommended to conduct further studies involving several visually impaired people.

Keywords: animal assisted intervention, supporting animal, visually impaired, dwarf rabbit, selection

INTRODUCTION

Edward Wilson formulated the biophilia hypothesis in 1984 according to which humans are soothed by the proximity of animals. This is because animals (especially dogs) have warned them of the forthcoming danger with their better senses, which leads us to conclude that one of the most important features of so-called therapeutic animals is calmness (Bánszky et al., 2012).

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For people with visual impairments, for example, a guide dog can be a great help. The first trace of the assistance dogs appears in a Roman mural, where a beggar can be seen with his dog. Even from the Middle Ages there are written traces of dogs helping blind people (Kovats and Zaharovich, 1986). In the 1819 "Textbook on the Education of the Blind", Johann Wilhelm Klein already describes the usefulness of guide dogs. Institutionally, the training of guide dogs was first conducted in Germany after World War I, when people lost sight en masse during the fights including chemical weapons such as mustard gas. The dogs supported soldiers not only in orientation, but also in helping soldiers through loneliness.

The first guide dog school began operating in Oldenburg, Germany, in 1916. Unfortunately, the institution was struggling financially, so it was not able to continue its activities for long, but its success achieved interest in guide dogs worldwide. After World War I, Uexkueel and Sarris' experiment lead to the best way to train guide dogs in the most efficient and shortest time. Special buggies were used for the training of the dogs; this method was later upgraded by Brüll. It is still used present days as a tool for training (Kováts and Zaharovich, 1986).

The development of the training of guide dog has been outstanding in the United States. One of the pioneering trainers was an American Dorothy Harrison Eustis, who, after visiting a German dog training clinic, wrote an article for The Saturday Evening post in which she referred to guide dogs as a preserver for the independence of blind people. He later founded a dog training organization in America called The Seeing Eye, which still operates. In 1942, it was officially registered as the "Guide Dogs for the Blind Inc." as an association providing assistance dogs for the blind. Training was first carried out in Los Gatos (Santa Cruz) then since 1946 it takes place in Santa Rafael. In addition, western European countries have also organised their own guide dog training institutions almost without exception (Kováts and Zaharovich, 1986).

In Hungary, under the direction of the Hungarian Federation of the Blind and Partially Sighted, the Guide Dog Training School in Csepel is working. The institution was founded in 1967 by Rithnovszky, who trained the first guide dog for himself on the basis of a method learned from Germany. In 1978, the school was closed down because the authorities at the time did not consider guide dogs to be necessarily important to a blind person.

In addition to guide dogs, other animal species can also provide support for the visually impaired. Animal-assisted interventions in everyday life can help reduce stress and make life more complete for a person with the disability. We chose the dwarf rabbit for this purpose.

Supporting animals – animal assisted interventions

Over the past few years, the increasing use of rabbits for recreational and therapeutic purposes has become more and more widespread.

In the context of rabbits, they have not yet studied how visually impaired people should interact with these animals, such as what size and breed they would be able to match. When presenting animal-assisted activities, the researchers tend to refer to the thesis that human-animal therapeutic and educative relationships can be of great help to humans.

Researches on animal-assisted activities have a number of ways to report on the protective nature of human-animal relationships. Presence of the animal, its spontaneous behaviour, its interaction aids the educative and therapeutic process (Fine, 2010; Csányi, 1999). Animal-assisted benefits began in the modern era of the 20th century. This is when the involvement of animals in certain health, educational and elderly care activities began to become more intensive.

The special abbreviations used are explained as follows:

AAI (Animal Assisted Intervention) is any intervention involving an animal in the therapeutic or development process.

AAA (Animal Assisted Activity) is perhaps the most commonly used term. Animal Assisted Activity - an activity with the help of an animal - means an action with the involvement of animals during which the presence of the animal may be beneficial to healthy and/or sick humans in their acts or conditions. The activity can be recreational for some pedagogical purpose (in which the aim is to shape the client's motivations or to improve the quality of life). Animal-assisted activities are not targeted interventions – the presence of the animal is mostly used to shape the comfort of the participants. In these situations, the animal can develop and support social interactions, help with communication, and support participants' empathy attitudes. In AAA interventions spontaneity has a significantly greater role than in those of a therapeutic means.

AAP – Animal Assisted Pedagogy - or in other context AAE (Animal Assisted Education) is the type of care in which an educator with an animal engages in pedagogical – educational – activities by an educator who has sufficient knowledge of the helping animal and uses it specifically to implement his pedagogical concept.

The term “service animal” (in the US) is used in cases where specially trained animals help people with disabilities and special needs. The “service animal” is rather a (assistive) ‘tool’, yet at the same time its psychological effect is outstanding. Helping animals provide significant support for their daily lives,

which increases their sense of safety and comfort and their overall activity (Kruger and Serpell, 2010). Examples include guide dogs or seizure alert dogs. The presence of these "companion animals" improve the quality of life of the assisted person by providing safety and spiritual support simultaneously.

When establishing a theoretical educative/therapeutic protocol, it is considered our basic task to describe the characteristics of an animal suitable for therapy and to support an educational task. Standardisation of therapy animals, definition of markers of suitability for animal-assisted education and animal therapy in young animals. The latter has its paramount importance because preparing animals for therapeutic care can take practically a long time, so it is of particular importance that if we have the opportunity to eliminate incompetence, we can do so before training. Further action should be taken to describe the interventions for the benefits that are assisted by these animals. We can also analyse the theoretical background of the animal-assisted procedures.

Today, unfortunately, animal protection movements often place undue pressure on keepers. To do this, we also need to examine the behaviour of animals with educative/therapeutic functions and the animal-to-human relationship (e.g: farmer, therapist, patient alike). We can hereby collect data by showing the animal's "attitude", possible short-term or long-term status of stress, and therefore make recommendations for the selection, parenting, training and "use" methods necessary to avoid them. The probable suitability for therapy for all animals may bring professional and economic benefits. Animals - especially therapeutic animals - show a high level of friendliness, feel when the person opposite them is not well, and are able to express this through their body language. Animals accept us as people as we are. In general, they are not afraid of our illnesses, age, disabilities and other socially excluding factors. They're probably completely neutral to these things. Therefore, therapeutic animals could play a particularly important role in the care of people with special needs.

For people with special needs, the presence of the animal is not only beneficial in interactions with one another, but also helps to build a relationship with the environment. Jackson (2012) cites research by Mader et al. (1989) and Urichuk and Anderson (2003), who found that people with disabilities with the helping animal were more likely to receive favourable responses from their environment than those who lived without animals. In addition, the touching and caressing of the animal itself, as a tactile stimulus, can help the client. The holding and protecting of a small living organism; the possibility of leaning on larger ones; the caressing and the smell of the animal give the client

the possibility of providing an emotional surplus that takes them to a new dimension opposite to the point which they established on themselves and their positions.

Use of rabbits as therapeutic animals

Rabbits are primarily popular animals among children. They are friendly, playful, and kind creatures, easy to socialise with, and their body language is well-readable for children (Mallon, 1992).

There is a general consensus that rabbits should be targeted before therapeutic use in such a way that they are accustomed to the stimuli, situations, touches and events that will affect them at the therapeutic sessions. And, of course, it is equally important to prepare and inform the person in therapy about the treatment of animals.

Rabbits, as therapy animals, have been used and studied in several situations, mainly in schools, kindergartens, social institutions, nursing homes for old people or veterans, but also in hospital care. Animal assisted therapy is not only important for pedagogy and psychology studies, but also - in addition to the human side - it is necessary to know the phenomena and factors associated with the therapeutic animal. Not many of these studies on rabbits have been published yet, but in recent years it has become an increasingly researched area. In their 2010 publication, Loukaki and colleagues analysed and examined the use of rabbits in animal-assisted therapies, paying particular attention to animal protection, ethological and animal health factors.

The number of species of animals that can be kept smoothly by the visually impaired is quite limited. Dogs can have too many demands which may not be surely satisfied. Specially trained assistance/guide dogs also undergo several weeks of scanting with their prospective owner, which often fails. The dwarf rabbit is a popular pet, soft, confidential, hands-on, can be taught basic rules, and its care needs are easier to meet for a visually impaired than a dog's. Although they are unable to help the visually impaired in traffic, the person's well-being can be significantly improved during animal-assisted activity. At the same time, the safety of both the farmer and the rabbit (avoidance of injuries) can be important for the visually impaired when treating rabbits.

The aim of our job was to come up with a criteria and its testing to promptly choose rabbits suitable for the visually impaired.

We also wished to find out whether those with sight could have chosen the rabbits for those with no sight, or whether there was a difference in their scoring.

MATERIAL AND METHODS

In the course of the work, we developed a 14-point criteria that included confidentiality questions, questions related to pleasant experience and questions about the hypothetical stress of the rabbit. The following describes the aspects with their importance to the visually impaired.

1. Rabbits are expected not to show unexpectedly aggressive behaviours such as biting/scratching.

The visually impaired cannot see the rabbit's movements, so they can't pull their hands away in a possible attack. Consequently, the rabbit can inflict serious injuries on them.

2. Rabbits are expected not to be afraid; no squealing, no running away.

The visually impaired cannot catch the fleeing rabbit, and the rabbit may be injured during any attempt. A loyal rabbit snuggles up to his master, making a humming voice, lying stretched out and crackling his teeth while being caressed.

3. Rabbits are expected to endure when being hugged or placed in the lap.

This feature can be affected by many environmental factors. For example: the rabbit may have been constantly kept in a cage, never been put in one's lap or rarely been stroked before.

4. Importance of smell.

Smell can be detected the best on areas with hair sparsely covered, especially in the ears.

5. Examination of breathing.

Characteristics of speed / volume of breathing. The state of the rabbit's stress is shown by its breathing, but it also indicates its condition of health. Breathing should not be noisy, rough or wheezing.

6. Palpation of the fur.

If it is almost completely silky, it indicates well-being, a good health condition and a well-groomed appearance. If it's messy, the rabbit's malaise. With long-haired rabbits, our fingers can almost get stuck, while with short-haired ones, it is as if it were "electric" from cleanliness.

7. Rapidity of heart rate.

This can be checked in 4 parts of the body: best at the top of the auricle, base of the ears, "the wrists" on the forelimbs. They don't like it at the chest because then reaching under the body would be necessary.

8. Colour of the rabbit.

Based on the preliminary experience of the visually impaired participant in the study, fully-white coloured rabbits - held in the palms - have a harder time to warm their ears than those not-all-white coloured. If the two ears differ in

colours, their temperature is barely noticeable, but distinguishable. These features can be applied not only to the ear, but also, for example, to the colour of the hair of the back/head. Unlike ears, there is no significant change in the body area more densely covered with hair.

9. Position of the ears while being caressed.

When raised completely, it is showing interest / curiosity. When it closes its ear cups by folding the ears down and / or pulling it back, it means it is in a cool environment or feels threatened.

10. Giving out any pleasant sound during the test.

This can be, for example, a sign of joy in teeth chattering or even humming.

11. How tight or relaxed its muscles are.

This may indicate shyness, but it may also indicate that it is not used to being put in one's lap.

12. To what extent are the blood vessels dilated in the ears?

This aspect shows how hot feels the rabbit is and also refers to the level of stress. The blood vessels need to be gently groped and felt on the rabbit's ear.

13. Does the rabbit lick the hand while stroking?

Licking shows intimacy, it is not usually followed by a bite, so the rabbit does not "taste" our hands as food.

14. Being patient / tranquil.

Although this was placed last, it is very important for the visually impaired - as they touch the animals more difficultly and more precariously and cannot detect their visual signals - that the animal stays tranquil around the patient in order to have a good relationship.

To evaluate the criteria, we have developed a scoring scale in which we classify rabbit reactions and characteristics with a possible value of 1-5 points.

The rabbits in the study were 6 to 12 months of age, tamed for four generations, of different sizes, hair lengths and colours (Pictures 1).

In the numbering of rabbits, number 8 and 9 are missing. This is because they didn't receive caressing in sufficient repetition, therefore the results could not be properly evaluated.

In the study, we had one person with a major visual impairment and 12 students. The students worked in pairs to grade the rabbits. The rabbits were tested in random order, so they didn't know which rabbit had previously received what number of points. They all filled out a spreadsheet with the help of their partner. The students therefore filled out 2 pieces for each rabbit, first blindfolded, then seeing. The visually impaired person only filled out one spreadsheet for each rabbit. This was then assessed by the aspects, per student and rabbit.

We used multinomial logistic regression to interpret the results.



Picture 1. Rabbit # 1 to #7 and Rabbit #10

RESULTS AND DISCUSSION

The eye-binding of the students did not affect the scoring, but the visually impaired gave the rabbits an average of 0.2 points higher value (Figure 1). Because the scores for each student were high, we did not get significant differences.

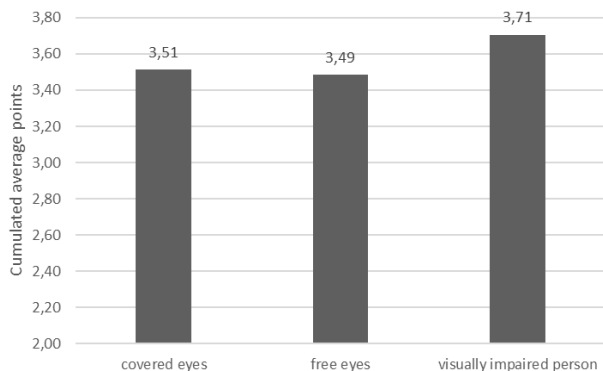


Figure 1. The effect of covering the eyes of students

The reason for the lack of significance is shown in Figure 2: the points given by the students showed a high variation, so even if there was a difference from the average score given by the visually impaired.

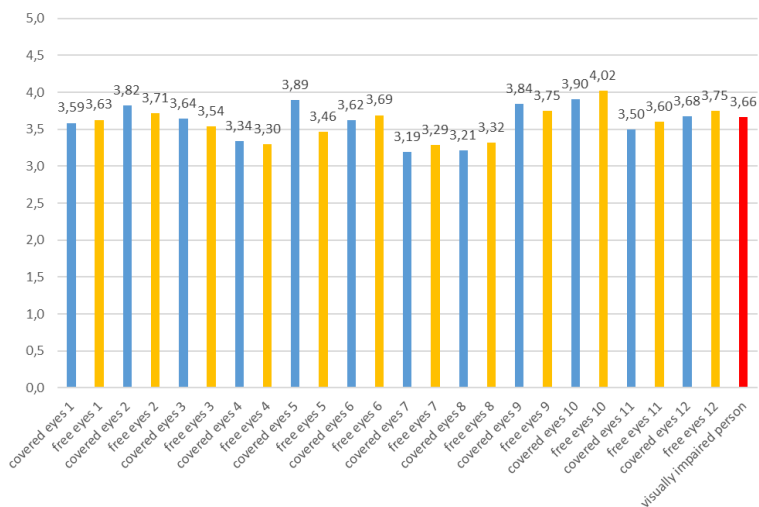


Figure 2. Average scores given by students

We looked at who, at what chance they had for each point (Figure 3.). It turned out that the visually impaired person was 10% more likely to give 5 points, 3% more likely to give 3 points than students with covered eyes.

They, on the other hand, gave the rabbits one, two, but mostly four points more often than the visually impaired.

We looked at which of the 14 aspects had greater differences in perception: there were differences, but they were not significant.

Figure 4. shows to which criterion who had given how many points on average. We looked at which of the 14 aspects had greater differences in our perception.

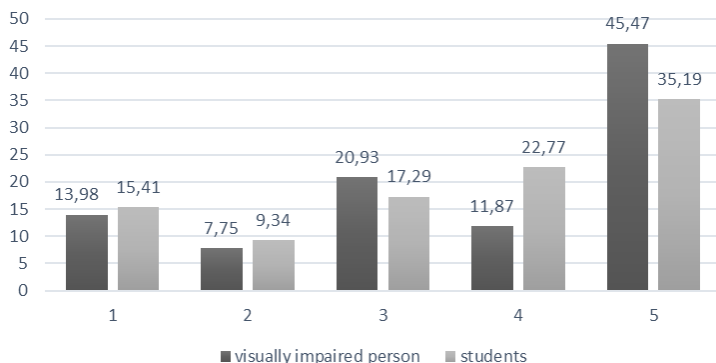


Figure 3. Probability of scores (%)

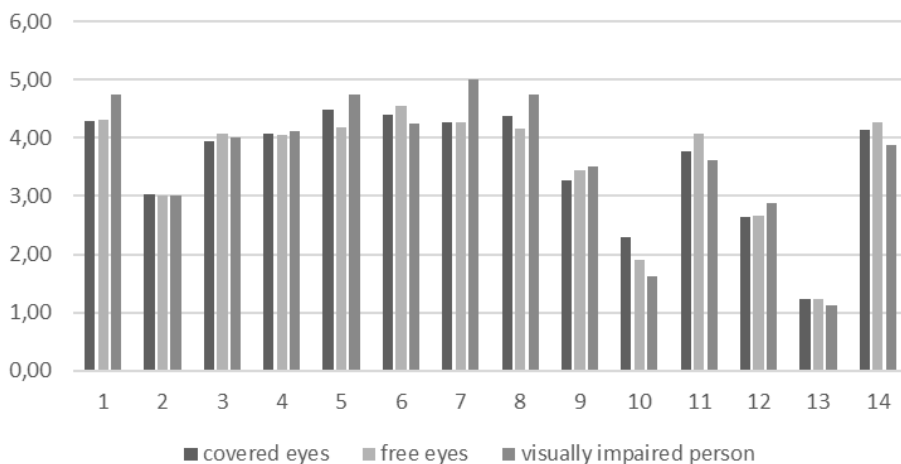


Figure 4. The average scores of aspects

Criterion 1. (No unexpected movements by the rabbit). The visually impaired gave a higher score than the students. Their scores showed no difference between being blindfolded or not.

In case of criterion 2, 3 and 4, rabbits were assessed the same results. Almost without exception, students marked the 3-point answer: "The rabbit remains seated but does not make any sound". This can be explained by the fact that the rabbits did not know the testers, so although they remained calm, they could not let themselves go on their laps.

Criterion 5. Looking at the breathing of the rabbits this indicates stress levels. The highest score was given by the visually impaired, but interestingly blindfolded students also gave the rabbits higher points. They were probably more able to concentrate on the rabbit's behaviour.

Criterion 6. (judging the fur of rabbits) There wasn't much of a difference here either, students gave the rabbits slightly higher scores with free eyes.

Criterion 7. At the task of heart rate measurement, the visually impaired was able to feel the rabbits' pulse much better, so he judged them to be calmer.

One of the most interesting aspects is the determination of the colour of the rabbit based on the temperature of the hair (Criterion 8). The students gave a value closer to that of their visual impairment participant when their eyes were covered than with free eyes.

Criterion 9. (Position of the ears while being caressed). In this case, the average score of students was lower than the score of visually impaired. Student with the blindfolds on were less able to tell the posture of the rabbits compared to when they had the blindfolds off, or when talking about the visually impaired person.

Criterion 10. also gave low scores. The chattering of the teeth was assessed at between 1.5 and 2.5 points. The blindfolded undergraduate students were more likely to notice if the rabbit was "humming" or "chattering", which surprised many of them because they had never experienced these behaviours before.

Criterion 11. In this task we were trying to determine the agitation of rabbits based on the firmness of the muscles. Students with their sights judged the rabbits to be calmer with higher scores, than the visually impaired.

In Criterion 12. the diameter of blood vessels had to be judged. Here, the average score around 3 points showed that the rabbits weren't too stressed but not completely relaxed either. The visually impaired scored slightly higher than the students.

The hand-licking test (Criterion 13) scored the lowest, with the average barely exceeding 1 point. This behaviour is only exhibited by rabbits when they

are on good terms with the person caressing them, thus in this case this was not experienced.

In Criterion 14. (patience of the rabbit) the situation was similar to that of 11. Here, the students once again gave higher average scores than the participant with vision loss. Probably by seeing the rabbit, they were able to react better to its behaviour, so the rabbits sat more calmly in their laps.

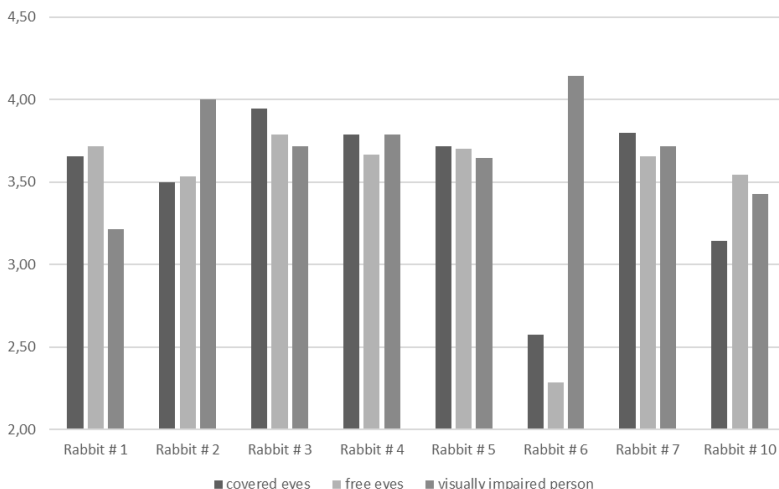


Figure 5. The average scores of rabbits

Comparing the scores of each rabbit, a significant difference was obtained (Figure 5; $p= 0.022$).

Rabbit number 1 was scored higher by the students than the visually impaired. This subject may thank this for the hue on the top of its head, as it gained the most scores when it was also seen by the students.

Rabbit number 2 received lower scores from students than from the visually impaired person. Independently whether the students were blindfolded or not.

Rabbit number 3 received a higher average score from the students and was the smallest of the animal subjects.

Rabbit number 4 gained the same score from students with their blindfolds on, and visually impaired. Although when seeing the rabbits the scores lowered.

There was no difference between the scores of Rabbit number 5.

The highest difference was found in case of Rabbit number 6, where the students equally and significantly gave a lower score. There isn't an obvious

reason for that, but for the record, it was the only lop rabbit (a kind of rabbit with ears that droop).

CONCLUSIONS

Based on our tests and the results obtained, the criteria compiled may be suitable for the selection of rabbits for visually impaired people. Only the differences among rabbits were found to be significant. The individual tasks were not solved with the same results by the students and the visually impaired. There was no significant difference between the scores given by students and the visually impaired person. People with sight can also apply the criterias, but they score slightly "more rigorously". It is recommended that further studies should be carried out involving several visually impaired.

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