

Method development for studying dog-assisted pedagogies with children (N2020-0002)

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Summary

Research on social service dogs' welfare in schools is scarce and tends to suffer from positive bias. This cross-disciplinary pilot study contributes method development for studying effects on dogs in pedagogical work by applying and evaluating a combination of four data collection methods: Ethogram, Qualitative Behaviour Assessment (QBA), ethnographic observations, and interviews with dog-handling pedagogues. We followed five pedagogues and their dogs (eight dogs in total) in their daily work, observing 16 dog-assisted sessions at five different schools. Follow-up interviews were carried out with all pedagogues. Our findings suggest that ethogram and QBA may be combined with ethnographic data that gives contextual information on the events causing the dog's behavior. We further suggest a shift from *simultaneous* to *synchronous* documentation of data. To minimize anthropocentric bias and power arrangements involved in animal welfare research, it is necessary to critically scrutinize accepted conventions regarding social service dogs and their work situation.

Introduction, background, aim and research questions

The use of dogs as a teaching and learning resource in pedagogical work is an area of research and practice that is gaining increased interest in Sweden. A higher vocational education program specializing in "school-dog pedagogy" has recently been established, where students are educated to combine a professional teacher role with integrating a specially trained dog in development of pedagogical activities (<https://www.terapihundskolan.se/yh-skolhundspedagogen/>). One reason for this step toward a professionalization of the field could be that research on canine-assisted pedagogical activities has reported positive effects on schoolchildren's cognitive and emotional development, for instance in literacy education interventions (e.g., Kirnan et al., 2016; Linder et al., 2018). There seems, however, to be a lack of research studies claiming to have analyzed the dog's experiences in these pedagogical situations, which may vary widely from calm reading exercises with one child and a pedagogue, to active outdoor physical exercises with a group of children and their teachers. It has been recognized that participation in canine-assisted interventions with children may cause welfare problems for the dogs involved (Glenk, 2017; Hall et al., 2019). A problem with previous studies of canine-assisted work is the risk of bias, since researchers and other stakeholders tend to be convinced about the benefits of dogs used for social service purposes and that negative effects are not reported (Beck & Katcher, 1984; Glenk, 2017; Herzog, 2015). The variation of setting and context in institutionalized educational activities creates complex conditions for assessing the effects on dog welfare in these situations, where the dog becomes part of a dynamic social context with shifting expectations on activity level and interaction patterns.

These complexities suggest that dog welfare in canine-assisted pedagogy cannot be studied as an isolated object of analysis solely employing ethological and animal science instruments of measurement. Rather, the social situation and interaction around the dog have to be included in the analysis. This conceptualization of dog welfare as an outcome of complex and shifting social dynamics calls for a reconsideration of methods, and method combinations, used to assess the experiences of and effects on the dog; methods that cross disciplinary boundaries between ethology and social sciences (cf. Dashper, 2019; D'Souza et al., 2020).

Previous research has emphasized the importance of cross-disciplinary method development in order to study “contact zones” between humans and animals that affect animal welfare (Haraway, 2008; Kirksey & Helmreich, 2010). Dashper (2019) suggests ethnographic methods, while D’Souza et al. (2020) have, in an empirical study of dogs’ work in nature conservation projects, used a cross-disciplinary method combination of ethogram, participant observation, and semi-structured interviews with dog handlers. In their study, the ethogram was used to analyze behavioral indicators of stress in the dog, while observations and interviews contributed contextual information on dog-human interaction in specific situations. Findings indicated that the methods employed generated complementing types of research data.

The present exploratory pilot study aims to contribute to cross-disciplinary method development for studying effects on dogs in pedagogical work and how interaction between dog, schoolchildren, and pedagogues affects the dog.

Research questions:

1. How can data collection methods be designed and combined for studying effects on the dog in interaction with schoolchildren and pedagogues in canine-assisted pedagogical work?
2. How can the pedagogue’s effect on the dog be observed and analyzed?
3. What kind of data is needed to understand the factors behind the effects on the dog’s experience in the canine-assisted pedagogical situation?

We have applied and evaluated the same method combination used by D’Souza et al. (2020) in their nature conservation study, with the addition of the ethological method Qualitative Behaviour Assessment (QBA) (Wemelsfelder, 2012). Hence, four different methods (two ethological methods and two social science methods) have been assessed in combination: 1) Qualitative Behaviour Assessment (QBA), 2) ethogram, 3) ethnographic observations, and 4) semi-structured interviews with dog-handling pedagogues.

An overarching concern in our study was what the methods are actually measuring and what kind of knowledge they generate about the dog’s experience and welfare.

Materials and methods

Fieldwork was carried out in five schools in Sweden between April and October 2021. Two schools had special needs education profiles. Due to the covid-19 pandemic, two school visits were carried out online (on Zoom). During the project period we followed dog-handling pedagogues (n=5), recruited from the school-dog pedagogy vocational education program mentioned above, and their dogs (n=8), in their daily work in school. We observed 16 canine-assisted sessions in total; varying between 15-45 min. in length, with pupils aged 7-17. Both researchers were present as participant observers during all sessions. Sessions were simultaneously documented through ethnographic field notes (Pedersen) and ethological QBA scoring (Malm). Those sessions that we were given approval to record (six sessions; online via Zoom or *in situ* via mobile phone) were also documented through ethogram. Follow-up semi-structured interviews were carried out on Zoom with all five pedagogues individually (both researchers were present during interviews), shortly after the school fieldwork visits. Interviews lasted between 60-90 min. The data collection process has generated a total of 66 pages of ethnographic fieldnotes; 221 pages of QBA scoring; 11 pages of ethogram protocols; and 60 pages of interview transcripts.

The study has been approved by the project leader’s home department. No formal application for external ethics approval has been submitted since the research objectives and design do not fall under the regulations of the Swedish Ethical Review Authority. The project has followed the Swedish Research Council’s guidelines for research ethics (Vetenskapsrådet, 2017), including written informed consent by all participating schools, pedagogues, pupils, and their guardians. This includes informed consent from the guardians of the dogs involved in the study, who worked together with

their own dogs in the schools where they were employed. An information letter explaining the purpose and details of the project was distributed to all participants (age-appropriate information was provided to the children), and all letters were returned to us undersigned.

Regarding the canine participants, our research involved non-invasive observations of working dogs in their ordinary work environments, and we paid close attention to the reactions of the dogs during our fieldwork so as to minimize negative effects on them potentially caused by our presence (Birke, 2014). Due to the covid-19 pandemic, the researchers wore face masks and made efforts to keep a distance to the children during observations. Names of both pedagogues and dogs are anonymized in the paper.

Ethogram

An ethogram is “a catalogue of descriptions of the discrete species-typical behavior patterns that form the basic behavioral repertoire of the species.” (Bateson & Martin, 2021 p. 83) As a data collection method it is used to register the frequency of animal behaviors; *what* the animal does (e.g., nose licking or tail wagging), rather than *how* it behaves. These behaviors (movements and body postures) are assumed to be indicators of meaningful agency in the animal. A benefit associated with the ethogram is that it is a structured tool that makes it relatively easy to gain high inter-observer reliability, since non-complex and easily observable behaviors are registered. Another problem is that an ethogram developed for one group of animals does not necessarily reflect the behaviors in another group in an adequate manner (Bateson & Martin, 2021). An ethogram in itself does not give information on how the animal experiences a situation or what causes a behavior; this is subject to interpretation in a later stage of analysis. A general limitation with using existing species-specific behavior descriptions in ethogram form is that they rely on anthropocentric ways of describing, interpreting and categorizing other species.

In our pilot study we used existing descriptions of so-called social service dogs’ species-typical behavioral patterns (e.g. Beerda et al., 1997; D’Souza et al., 2020; Ng et al., 2014; Rehn & Keeling, 2011) and adapted those to the pedagogical situation of the dog’s work environment in school. We made ethogram observations from video-recorded sessions only (mobile phone/Zoom recordings). Registrations were made continuously throughout the session in 2-minute intervals in order to notice changes over time. In total, 30 behavioral patterns/movements were registered. Frequencies of displayed behavior were then counted and summarized for each session. Since the purpose of the pilot study was to evaluate research methods and method combinations, rather than investigate dog behavior as such, no control groups were used.

QBA

Qualitative Behaviour Assessment (QBA) is a qualitative method for direct observations of animal emotional expressions and mood, measuring the expressive quality of an animal’s demeanour (Wemelsfelder et al., 2001; Wemelsfelder, 2012). As a “whole-animal” approach, QBA focuses on *how* the animal behaves and interacts, more than *what* the animal does. Instead of registering easily notable behaviors such as moving and barking (which is done using ethogram), QBA indicates an animal’s intention or emotional state in a certain situation, using descriptive terms such as “playful” and “fearful” to assess the animal’s welfare and experience of a situation (Wemelsfelder et al., 2001). The selected terms are listed on Visual Analogue Scale (VAS) scoring sheets, on which the observed expressive qualities in the animal are registered in relation to each term, on a range from entirely absent (VAS=0) to strongly dominant (VAS=125) (Arena et al., 2019). QBA has been claimed to be the only tool by which positive aspects of animal welfare is captured (Fleming et al., 2016; Keeling et al., 2013). In QBA it is possible to identify subtle differences in the expression of body language of animals (Fleming et al., 2016; Wemelsfelder et al., 2001). Another advantage associated with QBA is its sensitivity to the environmental context, allowing observers to identify environmental cues to make more adequate assessment of the animal’s expressions (Fleming et al., 2016).

However, it has been suggested that QBA, due to its subjective and interpretive nature, should be used in combination with other methods, rather than as a stand-alone tool (e.g., Fleming et al., 2016;

Wemelsfelder & Mullan, 2014). There is a risk of low validity and reliability due to the difficulty of empirically investigating the inner experience and emotions of an animal through observer ratings, and there is an obvious fear of anthropomorphism (Meagher, 2009).

Critique has also been raised against QBA from a social science perspective. Cole (2011) sees QBA, especially when applied to farmed animals, as a specific exertion of power since the claim to know the “whole animal” obscures the human-animal power relations involved, and may legitimate the anthropocentric interest that is ultimately organizing animal use. Although the context of dogs working in schools that is focussed in our pilot study clearly differs from the context of animals used for production purposes targeted in Cole’s critique, canine-assisted pedagogical work is likewise organized and conditioned by anthropocentric interest, and therefore the use of QBA to assess dog welfare in schools may be problematic if these premises are obscured.

To prepare for our QBA study, we carried out a Zoom-based training session with two QBA experts at the Norwegian University of Life Sciences and the Norwegian Veterinary Institute in March 2021. The purpose was to get hands-on experience with QBA, adjust and define the QBA terms used, carry out a provisional calibration between our scoring (increase inter-observer reliability), and learn about pitfalls as well as advantages with the tool. The training session resulted in the construction of a VAS scoring sheet with 14 QBA terms adapted to the canine-assisted pedagogical work context.

We made QBA observations *in situ*; either indoors or outdoors. Registrations of the dog’s expressive quality as indicated by the 14 terms on the VAS scale were made every second minute. The VAS scale values were then compiled for each session.

Ethnographic Observations

The ethnographic method involves several different data collection techniques, most importantly participant observations and unstructured interviews. Ethnographers often spend extensive periods of time in “the field” in order to get close to the group and context being studied, and to develop in-depth understanding of them, documented through fieldnotes (Alvesson & Deetz, 2000). There are also other approaches, such as multi-sited ethnography pursued in (and moving across) multiple locations (Marcus, 1995), and “multi-species” ethnography studying “contact zones” between humans and animals (Kirksey & Helmreich, 2010; cf. Arluke & Sanders, 1996). The close, immersive experience with the subjects, cultures and relations studied makes it possible to gain insight into the complex layers of meaning emerging from social reality (Alvesson & Deetz, 2000). In Willis and Trondman’s (2000) words, ethnography is about “presenting, explaining and analysing the culture(s) which locates(s) ‘experience’” (p. 6). Critique raised against the ethnographic method points out that fieldnotes do not provide a transparent description of “the field” but are always partial and interpretive (Davies, 1999). This problem is accentuated when doing ethnographic research involving animals, and in our project, participant observation does not give us direct access to the subjective experiences of the working dog *per se*, but the object of study is rather the *relation* between the dog, the child and the pedagogue in the school setting, as it unfolds during a canine-assisted session. We can also gain an understanding of specific conditions that may affect the behavior and work situation of the dog, and how the dog responds to these. In order to gain these insights, the “sequential logics” of activities involving the dog need to be clarified. Konecki (2008) remarks that in qualitative research (e.g. ethnography) this is not always done. Often, examples are provided

/.../ proving the existence of certain phenomena, or the evidence of existence of categories, while not showing how the examples of behaviour, statements, gestures appear in a given sequence of activity of individuals in a particular context of occurrence. This is the case, because it is often sequential logics (e.g. question, reply, confirmation) and the mode of behaviour that decide the significance of a given statement. Generally, sequences form the “structure” of the processes, which are under scrutiny and reflect the ongoing stages of these processes. (Konecki, 2008)

While our ethnographic fieldnotes aimed to capture sequences, we also followed Willis and Trondman (2000) and developed another ethnographic structure: a set of theoretically informed “sensitizing concepts” (e.g., “intersubjectivity”, “autonomy”), working as interfaces between social theory and empirical data. These were not concepts that we “looked for” in the observation situation;

their purpose was rather to help us maintain an analytic focus and anchor our observations theoretically, while still remaining open and flexible vis-à-vis our data (Willis & Trondman, 2000).

Interviews

In the qualitative research interview, knowledge is co-constructed in the interaction between interviewer and interviewee, and can give understanding of social realities as experienced by the research subject (Kvale & Brinkmann, 2014). The interview does not give direct access to reality or communities of practice as such, but rather how these are experienced and related to by the human beings involved in them. Hence, interviews may give knowledge about *meaning-making* (Kvale & Brinkmann, 2014) around matters of relevance to the research subject, but due to the co-constructed and interactive nature of the interview method, as well as the socio-cultural norms and conventions organizing the interview situation, interviews are not to be viewed as a tool giving direct access to peoples' thoughts and minds. Interview narratives are thus not a transparent mirror-image of reality but are often inconsistent, fragmentary, and confusing (Alvesson & Deetz, 2000). In this study, we view the semi-structured interview as a complementary method that may offer insights into the dog-handling pedagogues' perspectives on their work with their dogs, and we acknowledge its limitations in producing knowledge about the dogs themselves. However we approach the interview method also as a possibility to understand aspects of the social arrangements that organize canine-assisted work in schools (through the pedagogues' perspectives), which, arguably, affect the pedagogue as well as the dog.

We developed an interview guide covering two main themes: the dog's work situation, and the dog's behavior and experiences. Key questions included how an ordinary day at work with the dog looks like; the pedagogue's expectations on their dog; how interaction between the pupils and the dog usually unfolds; if the dog takes own initiatives during work; and what benefits/drawbacks the pedagogue sees for the dog when working in school.

Interviews were carried out and recorded on Zoom, transcribed in their entirety, and analyzed in relation to the ethnographically generated data, paying attention to overlapping and recurring themes within and across data sets, as well as interview utterances signalling affect, unusual formulations, or deviating information (Kvale & Brinkmann, 2014).

Results

Previous research (Beck & Katcher, 1984; Glenk, 2017; Herzog, 2015) has warned about the risk of bias when assessing dog welfare in canine-assisted work, since researchers and other stakeholders tend to be convinced of the benefits with social service dogs and that negative effects are underreported or overlooked. Our findings indicate a similar risk of bias when discussing dog welfare in pedagogical work. The pedagogues in our study generally told us that the benefits for their dogs outweigh the potential disadvantages for them. They also emphasized their dogs' enthusiasm about going to work. However, when they were asked to reflect on this during interviews, some expressed uncertainty and ambivalence. As one interviewee insightfully noted, "Yes... disadvantages... yes I guess it is that maybe we don't actually know. I can perceive him [the dog] in one way although it is not the case." (Excerpt from interview transcript 2021-05-17). A dog's expressed enthusiasm about going to work can possibly be an enthusiasm about following her or his human companion, instead of being left at home, or an enthusiasm about meeting the human companion's expectations on the dog. The risk of misinterpreting the dog's behavior is apparent with an *a priori* assumption that school work is beneficial for the dog, and a potential gap between the image of the dog's reality and the actual situation is created. One pedagogue expressed in an interview that she sees the intellectual stimulation, and not being left alone or being left at a dog daycare center, as benefits that the work brings for her dog. She also acknowledged that her dog occasionally refuses to work (*arbetsvägrar*), which she interpreted as follows:

“I think that this is not unwillingness, that she finds it super boring or super bad or anything, I don’t think of it in that way, rather ‘I prefer lying here looking at what you are doing’, this is the feeling I get.” (Interview excerpt 2021-05-03)

The pedagogue’s interpretation of her dog above may be compared with our ethnographic documentation of an activity during one of her sessions (which we observed via Zoom), where she (Pe) interacts with the pupil (Pu) and the dog (D) through play with a soft toy:

Pe gives the toy to Pu, who holds it in front of the dog (D), who is sitting on a bench by the wall in the room. D appears uninterested in the toy. She goes down from the bench. Pe tries to make D take the toy, but D goes away (to drink water?). Then she goes in the other direction. “Now she wants to rest a little,” says Pe. Pe opens the door and Pu leaves. (Fieldnote excerpt 2021-06-03)

During the same 14-minute session, our ethogram documentation scored “avoidance of task assigned by pedagogue” 8 times. The QBA documentation similarly scored low on sociability (m=16), playfulness (m=13) and docility (m=36) throughout this session, at the same time as avoidance behavior scored comparatively high (m=77, all in VAS scale, n=8).

The two social science methods (ethnographic observations and interviews with pedagogues) do not provide any reliable direct information on the dog’s experiences, if “experience” is understood at an individual level in isolation from the social context and interactions. If, however, “experience” is viewed as co-constituted, emerging as a result of interaction with people and a shared environment, the ethnographic method may enable this kind of knowledge. Interviews are, by definition, disconnected from practice and do not offer reliable understanding of the dog’s behavior or emotional state. They may, potentially, offer an insight into the pedagogue’s experiences and views of her work with her dog, which could be seen as one contributing factor to the dog’s life and work situation. In this sense, a wider context is provided that can not be accessed through sporadic ethnographic observation sessions. For instance, an analysis across several interviews offers a “glimpse” (Willis & Trondman, 2000) of a professional discourse around the working dog and their position in our society. However, interviews need to be combined with (and verified through) ethnographic observations to offer any meaningful knowledge about the dog.

The two ethological methods (ethogram and QBA) both contribute to a general idea of the behavior of the dog but provide little or no insight into what is causing the dog’s emotional experiences (although QBA can provide information that can guide such understanding). For instance, lip-licking (frequently observed in our pilot study) can be a sign of discomfort or stress according to several previous studies (e.g., Beerda et al., 1997; Bremhorst et al., 2019; Csoltova et al., 2017) but has also been suggested to be associated with positive-emotion in human interactions (Gygax et al., 2015; Rehn & Keeling, 2017). It can also probably be a response to severe salivation caused as an effect of the presence of treats, which were abundantly used in the pedagogical activities that we observed.

The two ethological methods do not provide any information or explanation on absent or low frequency emotional expressions in the dog (such as those typically associated with positive welfare). For instance, our pilot study indicated that playfulness, curiosity, sociability and contentment scored low or very low in QBA throughout all the lessons but provides no explanation regarding the reasons for this (percent of observations in the lower half of the VAS: playfulness 99%, curiosity 92%, sociability 91% and contentment 87%, n=221). However, QBA offers better premises than ethogram for providing information that makes it possible to interpret both high-frequency and low-frequency behaviors.

Although ethogram and QBA deliver different types of information, their differences appear in this study as having minor significance. More important is the combination of either of these with a social science method that gives access to the social-material context and social dynamic in which the dog is caught up, notably ethnographic observation, which may be complemented with interviews. While ethological methods measure the dog’s behavioral expressions, ethnographic observations situate these expressions in a social context that has a potential to give a richer understanding of the dog’s

situation. If the aim is to produce knowledge about the dog's experiences however, interviews with pedagogues have, on their own, limited value.

Another important aspect that influences dog welfare but cannot be easily captured by neither ethological methods nor sporadic (partial) ethnographic observations, is the life situation and history of the dog, and its social context beyond work. This includes the dog's home situation, how this situation is affected by the dog's work as well as training and testing activities preceding the dog's work in schools. In interviews, when asked whether the pedagogues see any disadvantages (negative impact) on their dogs when working in school, work-related fatigue was mentioned as a significant factor affecting their dogs:

“/.../ a disadvantage [for the dogs when working in school] is that I can't do so much in my leisure time with them any more as I did previously because they are much more tired when we get home /.../” (Pedagogue 1, interview excerpt 2021-10-11)

“/.../ and the disadvantage is that she, that they easily become tired. They need to rest. You really need to make sure that they get rest afterwards.” (Pedagogue 2, interview excerpt 2021-09-15)

“And I think, the dogs when they are fully trained can handle *maximum* 3 pupils per day, *possibly* 4 pupils. But they can't cope with more than that, because then, they are totally exhausted, in a mental way. Especially I think with special needs pupils because there can be a lot with speech or motorics, there is a lot for [the dogs] to register (*läsa av*) in another way.” (Pedagogue 3, interview excerpt 2021-05-03)

The fatigue noted by the pedagogues may affect the dog's wider quality of life since their ability to engage in after-work activities decreases, and hence these possibilities become limited when school work is prioritized. A more extensive ethnographic study could, potentially, contribute to this wider understanding of the whole life situation of the dog.

Discussion and conclusions

How can data collection methods be designed and combined for studying effects on the dog in interaction with schoolchildren and pedagogues in canine-assisted pedagogical work?

The difference between the two ethological methods appears minor when applied in a cross-disciplinary context with social science method (ethnography). Both ethogram and QBA are, ultimately, socially constructed by humans from an anthropocentric perspective building on scientific conventions on how to understand and make meaning of dog behavior. This applies both in the initial constructions of welfare indicators, as well as the interpretation and analysis of data. For this reason, it seems to matter less what method is chosen. What is more significant is to combine either ethogram or QBA with ethnographic data production of the dog's situation and social interactions, which gives contextual information on the events causing the dog's behavior. Previous research has noted that QBA should be used in combination with other methods, rather than as a stand-alone tool (e.g., Fleming et al., 2016; Wemelsfelder & Mullan, 2014). We agree with this argument, but want to add that what ethological method to choose is, rather, context-dependent relying on e.g. study design. To reach in-depth and detailed understanding from the method combination, we suggest, drawing on Konecki (2008), that the two methods are calibrated so that both ethnographic fieldnotes and ethological scoring is done in parallel 2-minute-intervals to make cross-comparison of data possible. This involves a shift from *simultaneous* to *synchronous* documentation of data. Ethnographic fieldnotes can be calibrated with ethogram/QBA simply by marking with a pencil the beginning and end of each 2-minute interval. This synchronization enables understanding of how subtle interaction, gestures and expressions between dog and human affect each other.

We do not suggest that this method combination is entirely new. Animal behavior scholars (e.g., Bekoff, 2004, 2007) have documented not only animal behavior but also noted the context in which this behavior takes place, while ethnographers (e.g., Arluke & Sanders, 1996) have documented not

only human but also animal behaviors. What we propose is how to carry out both forms of documentation systematically and in a calibrated fashion

How can the pedagogue's effect on the dog be observed and analyzed?

Understanding the pedagogue's effect on the dog requires ethnographic observation of her interaction with the dog and how this interaction unfolds in the social dynamics of the pedagogical situation. Interviews may contribute an insight into the pedagogue's meaning-making regarding the dog-assisted work, and her expectations on her dog. Moreover, the pedagogue's organizing and mediating of child – dog interaction within the school's institutional framework – accessible through ethnographic observation – is a particularly important aspect of understanding the pedagogue's direct and indirect effect on the dog.

What kind of data is needed to understand the factors behind the effects on the dog's experience in the canine-assisted pedagogical situation?

We suggest that quantitative (ethogram) and qualitative (QBA) data may both contribute knowledge about the dog's experience, although only partially. The combination with qualitative data from ethnography is however essential. Then, quantitative data derived from ethogram normally requires a larger sample than a qualitative ethnographic method, and the feasibility of this method combination requires careful attention to research design (e.g. mixed method design). From this perspective, QBA, with its qualitative research focus on the "whole animal" (Wemelsfelder, 2012; Wemelsfelder & Mullan, 2014), is more aligned with the premises of ethnography.

However, the problem of anthropocentric bias is, as we see it, unavoidable in any method combination attempting to produce knowledge about animals' subjective experiences. This bias cannot be escaped, but can be delimited by critical awareness of the pitfalls of any scientific method (ethological as well as social scientific) claiming to understand human-animal relationships. To critically scrutinize accepted conventions regarding so-called social service dogs and question assumptions about their work situation and welfare is a necessary step in this direction. Like Cole (2011), we see a risk that knowledge production about domesticated animals' subjective experiences and welfare (e.g., their possibilities to exercise autonomy) may obscure and legitimize the anthropocentric rationales and power arrangements involved.

Publications

Malm, K. & Pedersen, H. (2022). "Debatt: Användningen av skolhundar måste problematiseras." *Läraren*, Dec. 6, 2022.

"Skolhundar: Hur mår hundarna som arbetar med människor?" Interview in *Hundsport Special* nr 3, 2022.

"Djur i skolan kräver tanke och planering." Interview in *Tidskriften Elevhälsa* #4, 2022.

Project website: <https://www.gu.se/forskning/hunden-i-skolan>

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