

WORKPACKAGE 2 – SYMBOLICAL AND FACTUAL NUISANCES

DELIVERABLE 10 – ANALYSIS OF THE SURVEY RESULTS

CONTEXT

GENERAL CONTEXT

Nuisances are a main aspect of human-animal interactions, especially in cities, seen as the human habitat by default, where animal presence is less tolerated. During our recent research on rats in Paris (Delahaye 2021), we realised that some of the nuisances were completely overestimated and were in fact more psychological than factual (like in catering), while others were completely unknown to the wide public but really expensive to manage for professionals (automotive mostly). However, nuisances do exist and must be addressed.

INSIDE THE PROJECT

This project partially follows the methodology set for a previous study (Delahaye 2021) of another urban species (*Rattus norvegicus*) in another urban environment (Paris, France). This study showed that the relationship between humans and liminals can be complex, and that several layers of semiotic links can coexist, sometimes even being contradictory. A first step is, consequently, to create a survey to gather first-hand data about semiotic relationships between humans and liminals in Tartu, in particular about corvids, our case study, and even more especially about the main species of this project, *Corvus cornix*.

RESEARCH QUESTION AND HYPOTHESIS

QUESTION AND SUBQUESTION

This deliverable is part of the Case study 2, aiming to study the gaps and paradoxes between factual nuisances and perception of such nuisances, probably symbolical nuisances. The main question of this Case study is: How can we address the nuisances some liminal species are causing to humans?

The analysis of the survey aims more specifically to answer the question: What information is emerging from the data gathered by the survey?

HYPOTHESIS OF THIS STEP

The general hypothesis of this step is that most of the perceived nuisances are in fact symbolic nuisances. Factual nuisances do exist but they are not where we think they are. To improve human/animal cohabitation, a meticulous analysis of both factual and symbolic interactions is needed.

This precise step hypothesises that, based on the previous results of Workpackage 1 (see document M1), there is probably a gap between the perceived nuisances and the factual ones. Gathering more data about inhabitants' feelings, perceptions and experiences is consequently an important part to understand how big this gap can be, and, further, how humans are creating representations about liminals that are more or less close to the factual reality of these species.

METHODOLOGY

METHODOLOGICAL CHOICES

The survey interpretation followed the methodology of the previous study in Paris, with the possibility of taking into account the metacognitive aspect of the participants' answers.

Answers were first read in groups, and then separated by categories (age, sex, profession, place of residence), to see if significant differences appear.

ISSUES AND PROBLEM-SOLVING

The number of answers, despite all the efforts, is still quite low, and the potential for generalization of the survey is limited.

Some answers in the Estonian version could have been delicate to interpret with only an automatic translation tool. Their translation was done for the project by Ott Puumeister (Philosophy and Semiotics Department).

POINTS OF VIGILANCE

Due to the low number of answers, some points must be interpreted carefully:

- Rare or exceptional answers can easily be over-representative and influence the average number.
- In case of distinct answers by categories (age, sex, profession, place of residence), the adjustment of the number can be difficult

RESULTS

RAW RESULTS

SAMPLE

The sample is compounded of 179 answers:

- 156 in English, 23 in Estonian
- 91 females, 40 males, 9 other genders, 39 refused or did not answer
- 7 18-25y.o., 55 25-35y.o., 38 35-45y.o., 32 45-60y.o., 13 60-75y.o., 34 did not specified
- 5 were excluded for not being in the right geographical area, 131 are living outside of Estonia (107 in France, 10 in Belgium, 5 in Germany, 4 in Lithuania, 4 in Switzerland) and 24 in Estonia (22 in Tartu)
- 7 have high school level or less, 18 have a professional training or short diploma, 26 have bachelor level, 78 have master, MBA or engineer level, 16 have a PhD or MD level

VARIABILITY IN LANGUAGE, SEX, AGE, PROFESSION AND PLACE OF RESIDENCE

The sex ratio is not significantly different between the English and the Estonian version.

The Estonian sample is a bit but not significantly younger (average 39.8 y.o.) than the English sample (average 40.4 y.o.), even if the age repartition is not exactly the same (see Figure 1).

No significant difference appeared in the global education level, only that the tendency for high-school level and professional training are inverted in Estonian and English samples (see Figure 2).

The English sample is much more equilibrated regarding the place of residence than the Estonian sample, which is normal with a sample of this size (see Figure 3).

METACOGNITION

The sample in the Estonian language has a better score in bird recognition than the sample in the English language:

- Estonian sample: 9 errors, 48 good answers, 9 “I am not sure enough” answers
- English sample: 53 errors, 176 good answers, 262 “I am not sure enough” answers

Ratio bad/good answers: 1 for 5.33 for the Estonian sample versus 1 for 3.32 for the English sample

Ratio errors/not being sure enough: 1 for 1 for the Estonian sample versus 1 for 4.94 for the English sample.

Most of the time, the “I am not sure enough” answer is used instead of answering, but a few participants (2 in the Estonian sample, 18 in the English sample) used it as a ponderation mark of their guess.

Both samples were performant in identifying *C. corone* and *C. cornix*, the Estonian sample was very performant in identifying *C. monedula*, which was a bit more complicated for the English sample (since this species is very common in Tartu, where most of the Estonian sample was from, this is not significative). Both samples had their biggest difficulty when trying to identify *C. frugilegus* (1 error for 1.33 good answers in the Estonian sample and 1 error for 0.6 good answers in the English sample). Most of the false identifications of *C. corax* (the deceptive answer) were done when trying to identify *C. frugilegus* (71% of all samples confounded).

MATERIAL ITEMS

Having heard about extermination campaigns, having seen them or even taken part in them is quite common in the English sample (65 answers) but almost absent from the Estonian one (only 3 participants have heard of them, and no one saw them or took part).

On the contrary, a third of the Estonian sample have heard about experimentations focused on chasing away liminals (which was most probably the experimentation led by Marko Mägi, see Deliverable D1) and a bit more (10 participants) have heard people around them complaining. If experimentations were twice as rarer in the English sample, almost the double of participants (53) have heard about complaints.

Shop closing or people falling sick for a reason linked with liminal species are almost non-existent, but property damages are not (38 participants).

Gardeners and street cleaners are the most impacted professions in the opinion of both samples. They also both agreed on bars and restaurants being strongly impacted. In the English sample, the item is listed just between agri-food professions and urbanism, two items much lower in the Estonian sample (see Figure 4). The tourism sector is also pointed out as potentially impacted, the rest of the suggested items are anecdotal.

SYMBOLIC ITEMS

Rats and mice are the species the most perceived as a nuisance (48 participants) followed by pigeons and doves (26 participants). Crows are mainly perceived as useful species (80 participants), closely followed by other birds (sparrows and similar for 76 participants and tits and similar for 71 participants). Bats are perceived as useful species (78 participants) but also as the most endangered species (42 participants). An interesting tendency appears in birds: the smallest they are, the more endangered they are perceived. Doves and water birds are the ones which gathered the biggest number of neutral answers (respectively 65 and 51 participants).

No significant difference appears between the English and the Estonian sample regarding the adjectives participants wanted to apply to corvids or not, except for the item “shy, cautious” which receive almost equally the positive, neutral and negative answers in the English sample, but that answered strongly as negative in the Estonian sample.

Crows are mostly perceived as intelligent (107 Yes), pretty or elegant (75 Yes), social or playful (70 Yes) and useful (56 Yes). The item “noisy” is the next more popular (33 Yes) but a larger number of participants nuanced their answer and chose to select a neutral position (maybe some corvids but not all, 63 participants). The strongest negative answers, what participants think corvids are not, were ugly or sinister (97 No), carrier of diseases (89 No), destructive (81 No) and aggressive (76 No).

EMOTIONAL ITEMS

No participant in any sample opted for the “radical item” (thinking that corvids are pests and should be exterminated). 3 participants declared that corvids were not present in their city or place of residence.

Most participants opted either for a congruent empathic answer (thinking they are useful and should be left alone, 70 participants) or a neutral answer (not feeling able to tell if they are pests or not, 37 participants).

Only 3 participants chose an emotionally negative ambiguous answer (thinking they are useful but being frightened or disgusted by them), but 8 chose an emotionally positive ambiguous answer (thinking they are pests but not wanting them any harm).

In a situation of close but non-solicited contact with the crows, the English and the Estonian samples are behaving in quite the same way: they are mostly doing what they intended without trouble, finding their presence pleasant or interesting, being happy to be around them and having a bad opinion of the owners of the place if they chase them away (this last item is much higher in the Estonian sample than in the English one). Negative behaviours and fears are very low in the results, the higher being the droppings problem. Many participants indicated finding aesthetic pleasure in their presence but some of them are thinking they wouldn't even notice their presence (see Figure 5).

REMARKABLE DATA

25 participants were identified as working in a profession that could be involved with the species studied (14% of the sample).

37 participants were identified as owners or former owners of pets that can be considered as pests, but only one reported taming crows. Consequently, the pet effect should not appear in this survey. Interestingly enough, many participants reported their cat as a pet that could be considered a pest.

INTERPRETATION

ABOUT THE SAMPLE

Analysing the sample shows that, despite a clearly unbalanced ratio of male and female participants, this should not have a major impact on the other answers: males' and females' differences regarding age groups or education levels were not significant.

No major differences were found between the Estonian sample and the English one. The two samples behaved more or less in the same way, with few exceptions that were detailed.

The sample is not polarized and is congruent: there is no apparent contradiction between how different items were answered, and it appears to show a general and consistent tendency.

The sample is probably more educated than the average of the population, with an average level setting at Bachelor level or a bit more, and can be consequently more sensitized to biodiversity issues. This explains probably why an important number of participants listed their cats as potential pests or the quite good results of the metacognition items.

ABOUT THE MATERIAL ASPECT

Nuisances seemed, again, to be more a matter of psychological disturbances than real nuisances.

If an important part of the participants has heard about or has seen extermination campaigns, very few are reporting major nuisances (like a shop having to close or a person falling ill). Some property damages are, nevertheless, reported. Looking at the perceived impacted professions, most of them should be in the fields of gardening and cleaning or activities linked to having a good public image (restaurants, bars, tourists activities).

It then makes sense that very few participants consider corvids as the pest, since most of the damages and nuisances appeared to be very mild.

ABOUT THE SYMBOLICAL ASPECT

Crows clearly benefit from an interestingly good reputation. Mostly, and without big surprise, they are seen for what they indeed are: intelligent and social species. As being probably less cute or lovable than other liminal species (like foxes or hedgehogs), they benefit from the interest participants find directly in the observation of their intelligent behaviour.

Participants opposed strongly to adjectives that have yet been the reality of how crows were once perceived: carriers of disease (probably linked to the symbol of death by their presence on public executions places), destructive and aggressive (probably pushed in this narrative by the success of the film of Hitchcock *The Birds*) and ugly.

The aesthetic aspect is strangely strongly present when participants were asked to match adjectives with the birds, but not that much when participants were asked about their personal feelings and reactions in a situation when they are in contact with the birds. It is possible that, as was the case with the rats in Paris, a gap exists in the mind of inhabitants between the symbolical crow and the material crow that participants encounter in their daily life.

The noisy aspect is also interesting, because it is one of the very few cases where answers are contradictory, with an important number of participants thinking that crows are indeed noisy birds, when an even more important number prefer to say that it is probably not true for all of them. This slightly inconsistent item could be related to another one which is also one of the very rare contradictory sets of answers, the shy aspect. Participants had probably observed birds staying or walking away from them, but had also heard some crows being very noisy, and it is possible that these two aspects of the crow's behaviour seem inconsistent and confusing to participants.

ABOUT THE EMOTIONAL ASPECT

Most of the participants are showing signs of empathy, believing that these species should be left alone, even for a small part who admits to be frightened by them. When no sign of clear empathy is shown, participants are mostly adopting a neutral and tolerant position regarding the species.

An important number of answers is expressing the different kinds of pleasures that participants feel when being in contact (mostly visual) with the crows. Intellectual pleasure (watching the behaviour of an intelligent species), aesthetic pleasure (watching graceful birds that are pleasant to see) and emotional pleasure (feeling joy in the presence of the birds) are all attested by the participants.

Very few emotionally negative experiences are related, especially regarding aggression (this aspect is interesting given the fact that some small groups of inhabitants are focusing mainly on this aspect to request pest control toward the crows).

In general, crows appear to be linked mostly with positive emotions in inhabitants, whereas negative emotions are mild, closer to annoyance than to fear or disgust. Most of the inhabitants simply seem to enjoy quietly or tolerate their presence. Real hostility, even if very loud and publicly shared, appears to be an exception rather than a wild-spread tendency.

ABOUT THE METACOGNITION ASPECT

The metacognition of the group is quite good. Participants were more often right than wrong, and did not hesitate to choose a neutral answer when they were not sure enough. Less than 10% of all answers in both samples are errors (around 9% in the Estonian sample and around 4.5% in the English sample). If the Estonian sample seems to commit more errors, it is in fact due to the choice made by the English sample to massively select the “not sure enough” answer (more than 27% of all answers in the English sample but only 9% in the Estonian sample).

Two different strategies of metacognition seemed to appear: the Estonian sample was probably more confident in its ability to identify species correctly and therefore choose more often to answer, making a bit more mistakes (but it has, in the end, a better ratio of errors/good answers than the English sample); whereas the English sample was probably less confident in its ability and choose more massively to not guess.

The small difference in education level is not explaining the difference seen in recognition results, as the species where both groups had difficulty is much more present in Estonia. It could explain the metacognition result (more educated people could be more confident) but the difference seems too small to explain such a gap.

The hypothesis chosen is that it could be a cultural difference, with a population more interested in nature, which will then feel more confident when assigned to a related task.

MILESTONE 2 – PROGRESS REPORT

IMPACT OF RESULTS

These results are important to provide first-hand data regarding the way to interpret previous results gathered in Workpackage 1.

ISSUES, PROBLEMS OR LACKING

These results are unfortunately not as solid as wished, due to the fact that the number of answers was lower than expected.

NEXT STEPS

The results of this step will be analysed jointly with the summary of the interviews (Deliverable D9) to produce a global analysis of the people’s perception (Deliverable D11).

GENERAL PROJECT – CURRENT STATE OF PLAY

IMPACT OF RESULTS

These results are the second part (with Deliverable 9) of first-hand data used to consolidate Workpackage 1 and interpret correctly results that will emerge from Workpackage 3.

PROPOSITIONS FOR OTHER ASPECTS OF THE PROJECT

ACADEMIC ASPECTS

The results are a partial response to some lacking or fragile points in previous papers and conferences, but they are not sufficient yet to be published on their own.

POPULARIZATION ASPECTS

The results of this step, and especially their repartition by sex, age and place of residence, should allow more detailed and precise recommendations for popularization, especially for the exploitation aspect (see document EX2).

NEXT STEPS

The cross-analysis of these results will be part of the final report of the Workpackage 2 (see document M2).

ANNEXES

REFERENCES

Delahaye, Pauline. 2021. 'Rats, Mice and Humans'. *Linguistic Frontiers* 4 (1): 44–52. <https://doi.org/10.2478/lf-2021-0004>.

ACKNOWLEDGEMENTS

All the participants for their time and involvement.

Ott Puumeister for the translation of some answers in the Estonian version.

DOCUMENTS

PREVIOUS DOCUMENTS ATTACHED

Raw data for the Estonian version (xls version – 23/11/2022)

Raw data for the English version (xls version – 23/11/2022)

TABLES AND FIGURES

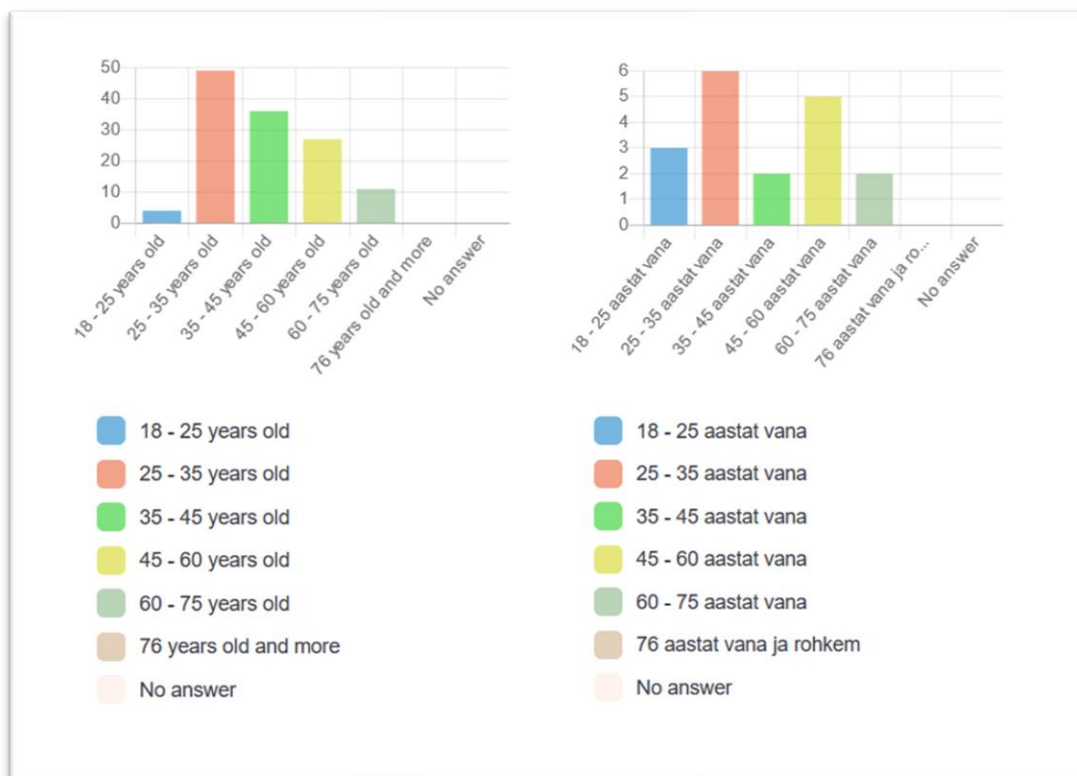


Figure 1 - Sample by age

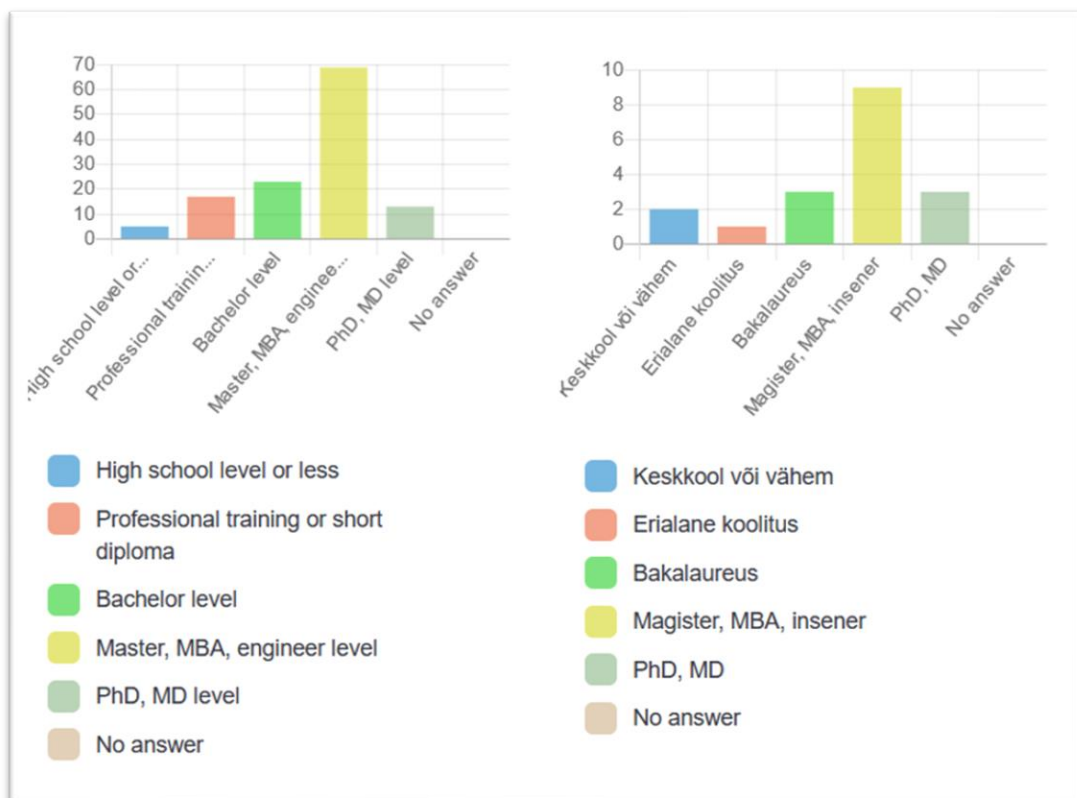


Figure 2 - Sample by education

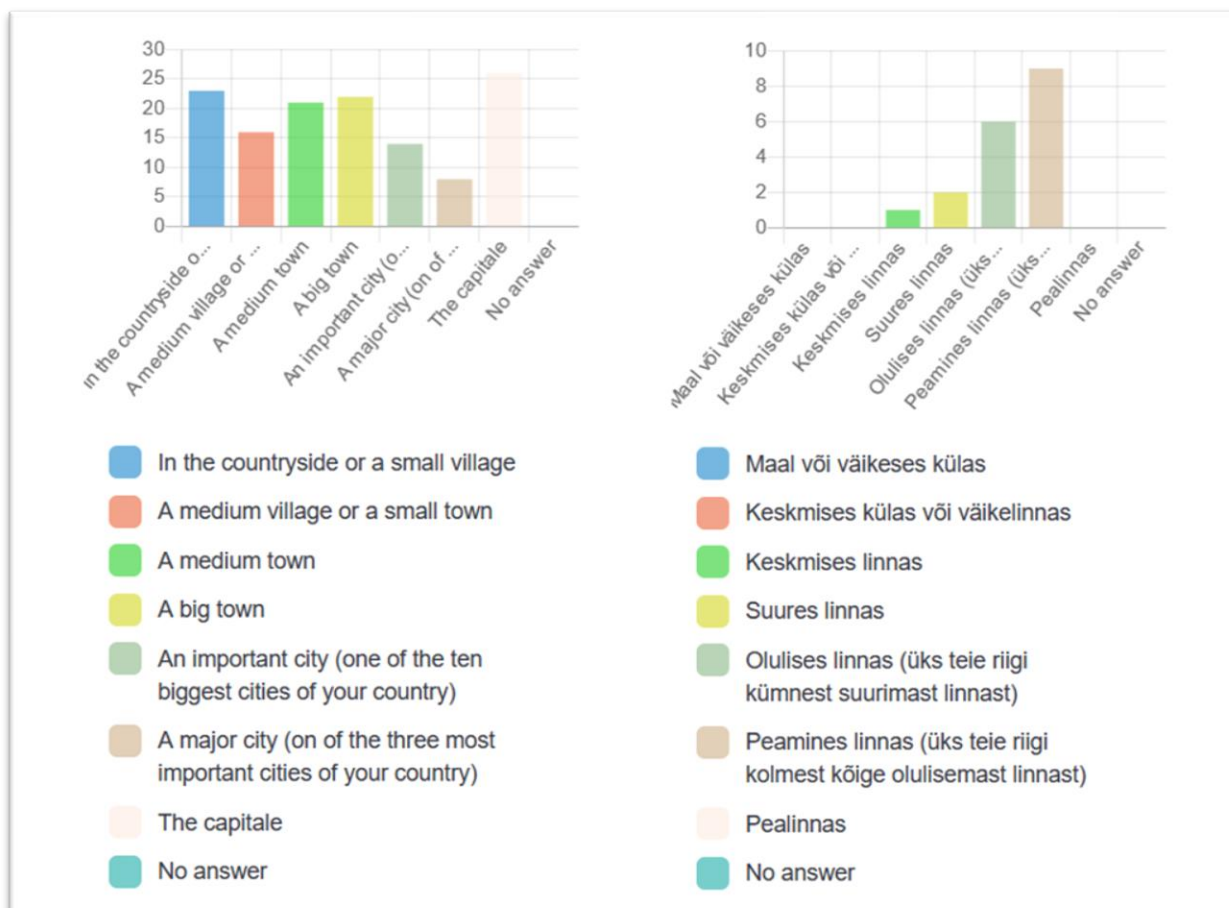


Figure 3 - Sample by place of residence

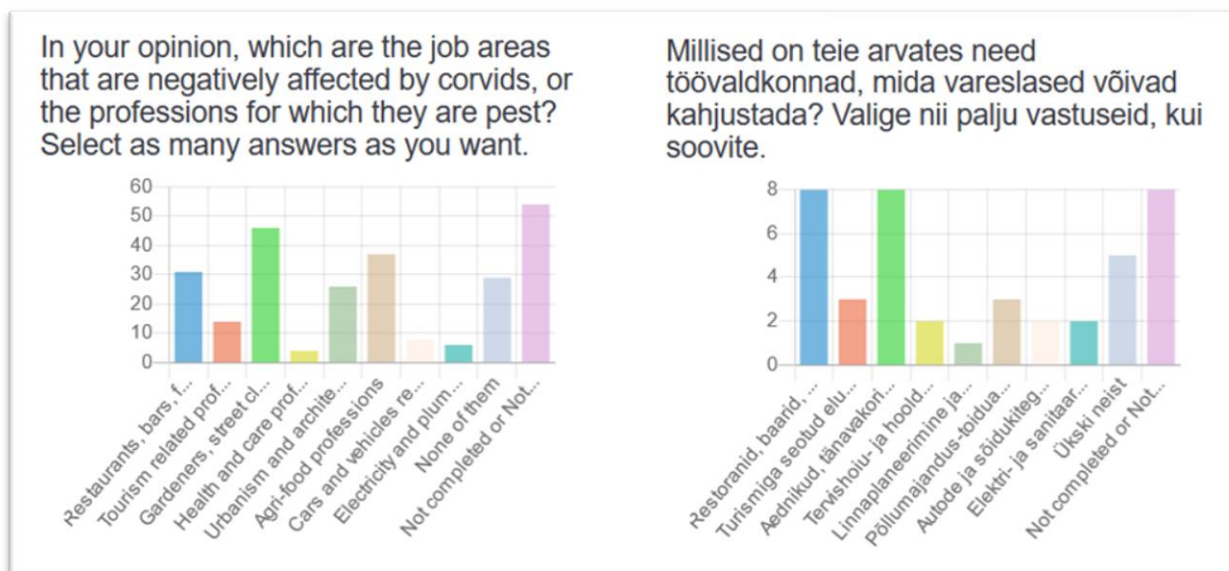
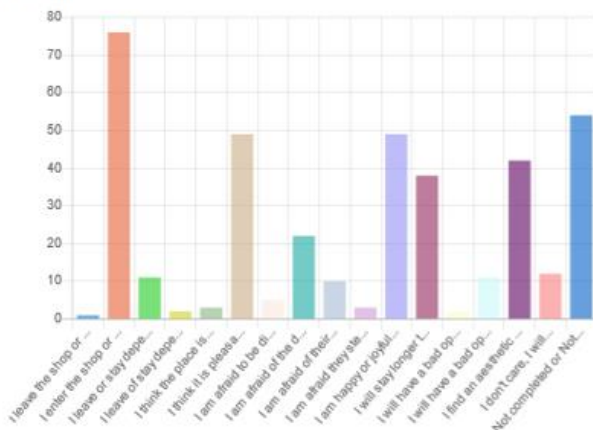


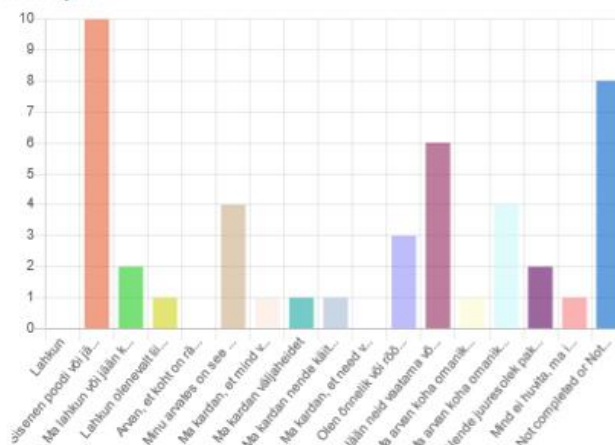
Figure 4 - Perception of the impacted professions

Could you detail your own reaction if you find out to be in the following situation. You want to enter a shop or use an outdoor equipment (terrace, playground etc.). Corvids are present in front of the entrance or on the equipment. Please add any detail you think is relevant.



- I leave the shop or the equipment
- I enter the shop or use the equipment as I intended
- I leave or stay depending of how many they are
- I leave or stay depending on the species present
- I think the place is dirty or poorly managed
- I think it is pleasant or interesting
- I am afraid to be disturbed by the noise
- I am afraid of the droppings
- I am afraid of their behaviour, of being attacked
- I am afraid they steel or damage something
- I am happy or joyful to see them
- I will stay longer than intended to watch or feed them
- I will have a bad opinion of the owners of the place if they let them be there
- I will have a bad opinion of the owners of the place if they chase them
- I find an aesthetic pleasure in their presence
- I don't care, I will probably not notice their presence
- Not completed or Not displayed

Palun kirjeldage oma reaktsiooni järgmises olukorras: Soovite siseneda poodi või kasutada nt terrassi, mänguväljakut vmt. Vareslased on tee peal ees. Lisage kõik teie arvates asjakohased üksikasjad.



- Lahkun
- Siseneda poodi või jätkan tavapäraselt
- Ma lahkun või jään kohle olenevalt nende arvust
- Lahkun olenevalt liigist
- Arvan, et koht on räpane või halvasti juhitud
- Minu arvates on see meeldiv või huvitav
- Ma kardan, et mind võib müra häirida
- Ma kardan väljaheidet
- Ma kardan nende käitumist, rünnakut
- Ma kardan, et need varastavad või kahjustavad midagi
- Olen õnnelik või rõõmus neid nähes
- Jään neid vaatama või toitma kauemaks kui algsest plaanis
- Ma arvan koha omanikest halvasti, kui nad lasevad neil seal olla
- Ma arvan koha omanikest halvasti, kui nad neid taga ajavad
- Nende juuresolek pakub esteetilist naudingut
- Mind ei huvita, ma ilmselt ei pane nende kohalolekut tähele
- Not completed or Not displayed

Figure 5 - Behavioural responses of the participants encountering crows