

The Canine Syndrome



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ABSTRACT

Our research question was- “What percentage of people living in Thakur village, Thakur Complex and surrounding areas have been affected by street dogs and how? Which factors cause the dogs to become aggressive?” We predicted that 40% of the citizens were affected by ways including noise pollution by barking, being chased by dogs, dog attacks, diseases, and fear. Furthermore, we assumed that the causes for street dogs’ aggressive behaviour were hunger, insecurity, and lack of habitat. Survey forms, interviews, and observations were chosen as methods for gaining data. Collectively, these methods allowed us to gather statistical data, personal opinions and tangible evidence of the situation. Our hypothesis was proven right by the data obtained except for the fact that diseases did not affect the people surveyed. We discovered that one of the reasons for dogs to become aggressive was that humans provoked them. Although our main sample only included people living in Thakur Village, Thakur complex and surrounding areas, the implications remain similar for the entire city of Mumbai. The population of street dogs in Mumbai is increasing, which can worsen the issues mentioned earlier. Also, we discovered that feeding street dogs in a common area attracts more of them and makes them territorial. This can lead to disastrous consequences: the dogs that occupy areas near busy roads can distract vehicle drivers and cause accidents.

(225 words)

INTRODUCTION

Research Question - What percentage of people living in Thakur village, Thakur Complex and surrounding areas have been affected by street dogs and how? Which factors cause the dogs to become aggressive?

Hypothesis Statement - Street dogs have compromised the health and safety of 40% of residents living in and around Thakur village because they attack humans, carry diseases like rabies, induce fear, and cause noise pollution. The factors which cause street dogs to become aggressive are- feeling of insecurity, and hunger, and lack of habitat.

Personal Reason (Darsh) - Street dogs near my building have always been an annoyance. Most of them cause noise pollution at night by loud excessive barking, thus disturbing me while sleeping. Once while I was standing at my building's entrance at 11 pm, a group of around 10 dogs started barking at me and a few of them chased me until the security guard helped me get out of the situation. In another incident, my neighbour's 10-year-old daughter was left with a phobia of dogs after a vicious canine cornered her in the basement before she was rescued by an adult. Such incidents left me curious with several questions in mind - "What percentage of people are affected by street dogs?", "In what ways do street dogs affect humans?", "What causes dogs to become aggressive?".

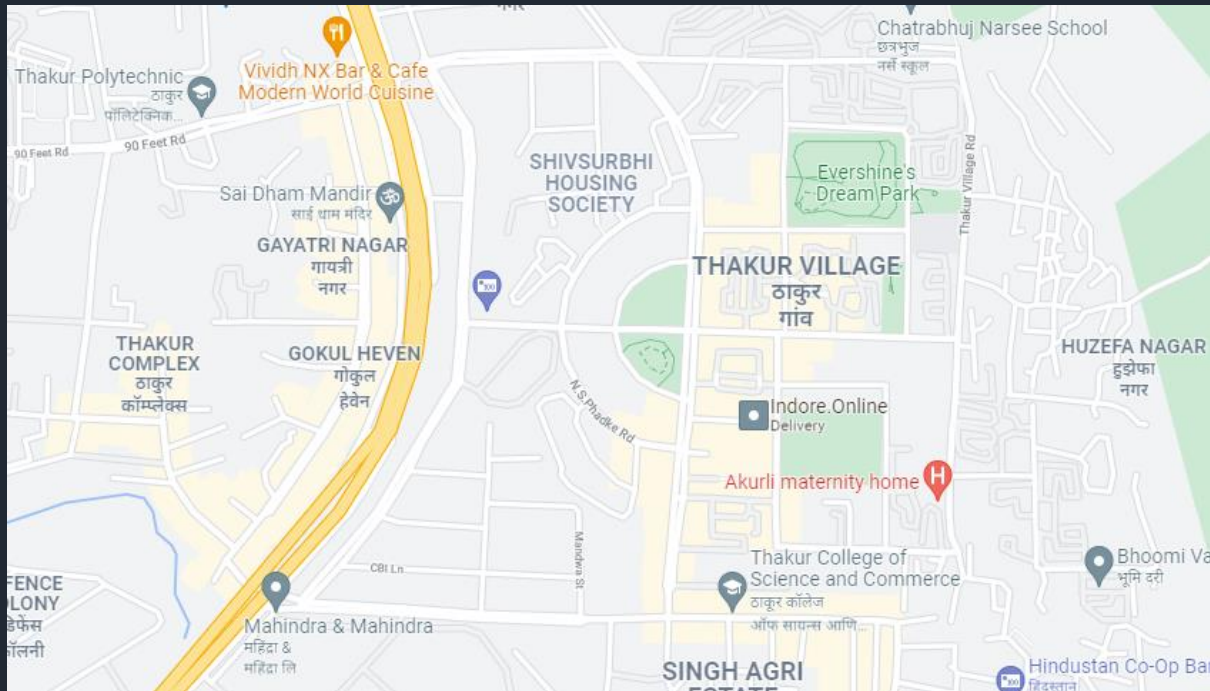
Personal Reason 2 (Indraneel) - Even though people are not directly attacked by dogs they have an internalised fear and minor anxiety regarding them. During one of her times going for her night shifts, my mother walked in silence on an empty road. But suddenly, she heard a dog bark at her and in her worst nightmare, about 20 dogs from around the area ran to where they heard the barks and started doing the same. At that point my mom froze with fear; what would happen now, will she be attacked? Chased? with no one to help around her, she did the only thing she could, which was pick up a stone. To her surprise, just when she reached for one all the dogs stopped barking and went away. It was interesting to see dogs react in such a defensive manner, raising the question of how they are affected by the actions of humans. Nevertheless, this incident made my mom fear dogs for the rest of her life.

Here are a few other reasons which led us to choose this research:

- According to a research article, 630 out of 1000 animal bite victims were bitten by street dogs (Citation 1, Gogtay, 2014).
- Between 2011 and 2016, residents of Mumbai suffered from 4,57,579 dog bites (Citation 2, Barnagarwala, 2016).
- Rabies dog bites in Mumbai had killed more people between 1994 and 2015 than the 2 terror attacks in 1993 and 2008. In the same time period, more than 1.3 million people in Mumbai had been bitten by street dogs (Citation 3, Biswas, 2016).
- In 2011, Mumbai City faced 220 dog bites per day (Citation 4, Chandran and Azeez, 2016).

METHODOLOGY

Thakur Village is a densely populated locality in Kandivali, Mumbai. It is located to the east of the Western Express Highway, which is a part of National Highway 8. Thakur Complex lies on the side opposite Thakur village. In the further parts of this paper, “Thakur Village, Thakur Complex, and surrounding areas” will be referred to as “TVTC” to simplify reading.



As a part of our primary research, we selected 3 methods of data collection: Surveys, Interviews, and Observation.

We decided to go with doing one survey for the residents of TVTC and one for the population of Mumbai as a whole, thus giving the prior, a source of measure. The surveys gave us the easiest way to get direct responses to several important questions that needed to be asked. It allowed us to reach a vast majority of people, something that we couldn't do with other forms of data collections. It gave us the ability to collect additional data that carved our way to an efficient solution. This also allowed us to have a deeper dive into the crisis and have a better understanding of both sides. It also helped us achieve fair statistics and better analysis of data. This method also made it possible for us to get information from 2 areas simultaneously by using our time efficiently.

We clicked images of street dogs and recorded audio files to give us evidence of the abundance of dogs in the selected area in a more tangible way. The images allowed us to clearly show the number of dogs seen in a 30-minute car drive through TVTC. We collected audio samples of street dogs barking and fighting in Darsh's residential complex at midnight. These audio files were collected to focus more on the aspect of dogs causing noise pollution.

The interviews were selected as a method of data collection to enable us to get more personal views of people with different perspectives. We believed that looking at the situation from someone else's shoes would give us greater insights about people who love dogs, victims of dog attacks, and doctors. Understanding these people's opinions was important because our research question encapsulates the direct relationship between humans and dogs.

Data collection tool

Our survey form had 14 questions in total. 2 of these asked for the respondent's name and age. 6 questions were directly related to our research questions, while the remaining 6 allowed us to get extra information related to the research. The sample size was 121 in the Mumbai form, and 85 in the TVTC form.

The observations included images of dogs and audio files of dogs barking at night. Both of these are relevant because they give the reader a very realistic view of the situation.

All of our interview question asked the interviewee to either share their opinions or their experience.

Appendix A

The survey was created using multiple choice questions, checkboxes, as well as short answer and long answer questions that could be answered briefly in words.

Here are the questions which were asked in the survey form (the same questions were used for both TVTC and Mumbai survey forms):

Name - *

Short answer text

Age - *

Short answer text

Have street dogs ever affected you in terms of safety and health? *

☐ Yes

☐ No

What unpleasant experience/experiences have you had with street dogs? *

☐ I have been chased by a dog/group of dogs

☐ I am a victim of dog attacks

☐ I have been infected with a disease caused by street dogs

☐ Dogs in my area cause a lot of disturbance by barking excessively

☐ I have not faced any issues with street dogs

☐ Other...

If you have been chased or attacked by a dog/group of dogs, at what age group did the incident take place?

- ☐ 0 - 10
- ☐ 11 - 20
- ☐ 21 - 30
- ☐ 31 - 40
- ☐ 41 - 50
- ☐ 51 - 60
- ☐ 60+

If you have suffered from a disease caused by street dogs, please name the disease

Short answer text

If you have had any unpleasant experience with street dogs, how has it affected you emotionally?

- ☐ I have developed a phobia
- ☐ I am scared of dogs to a certain extent and prefer to stay away from them
- ☐ Not affected by street dogs
- ☐ Other...

On average, how many street dogs do you notice in your day to day life? *

- ☐ 0
- ☐ 1 - 5
- ☐ 6 - 10
- ☐ 10 - 15
- ☐ 16 - 20
- ☐ 20+

Has the approximate number of street dogs in your locality increased, decreased, or remained constant? *

- ☐ Increased
- ☐ Decreased
- ☐ Remained Constant

According to you, does feeding street dogs attract more of them in your locality? *

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you think that its unsafe for small kids to play in open areas in the presence of street dogs? *

- ☐ Yes
- ☐ No
- ☐ Not sure

According to you, what causes the street dogs to become aggressive towards humans?

Short answer text

Are local authorities taking any action to minimize the problems caused by street dogs?

- ☐ Yes
- ☐ No
- ☐ Maybe

Have street dogs impacted your lives to such an extent that serious action must be taken? *

- ☐ Yes
- ☐ No
- ☐ Maybe

Appendix B

Interview questions for the dog attack victim:

- How was your experience of being bitten by a dog?
- How did you feel during the attack?
- What were the medical procedures like after you were bitten?
- How has this attack changed your life? Do dogs scare you easily now?
- Based on your experience, do you think that strict action be taken to increase everyone's safety?

Interview questions for the doctor:

- What are the worst experiences that you have had with patients attacked by street dogs?
- What is the worst experience you have had with street dogs?
- What are the most dangerous diseases transmitted by street dogs that can affect human beings?
- How will it help common people and the medical field if street dogs were put into shelters and not on streets?
- Can you tell me one case involving street dogs that stuck in your mind?

Interview questions for the anti-breed activist:

- Why is there such a disturbance between street dogs and humans?
- Why do you think street dog population is increasing?
- What causes dogs to be aggressive?
- What's one thing that humans do that causes problems?
- What are the best solutions for people and dogs to be protected?
- Why shouldn't bred dogs be bought?

OBSERVATIONS

Below are the links to the Audio recordings of dogs barking near Darsh's building's main gate (all recordings were taken on different days, at 12 midnight):

- https://drive.google.com/file/d/1oNx21sekgoW_OLPmHRsuaHKDvHMy6zmT/view?usp=sharing
- <https://drive.google.com/file/d/1ocVLGAQ-1XgTfV7m1e-0B-0NtA4Y9EqO/view?usp=sharing>
- https://drive.google.com/file/d/1ofGGnBeBaw-k_ahD-9IH3aFz-Ui7RO1W/view?usp=sharing
- https://drive.google.com/file/d/1ow77-xL9bEGGd_P9BqSM1CBrkq1_TkE6/view?usp=sharing
- <https://drive.google.com/file/d/1oyUKwwHGBW5045Bb3AVoj1byyPtoIBgc/view?usp=sharing>

Here are the Photos of street dogs seen in a 30-minute-long car drive through all the streets of TVTC:

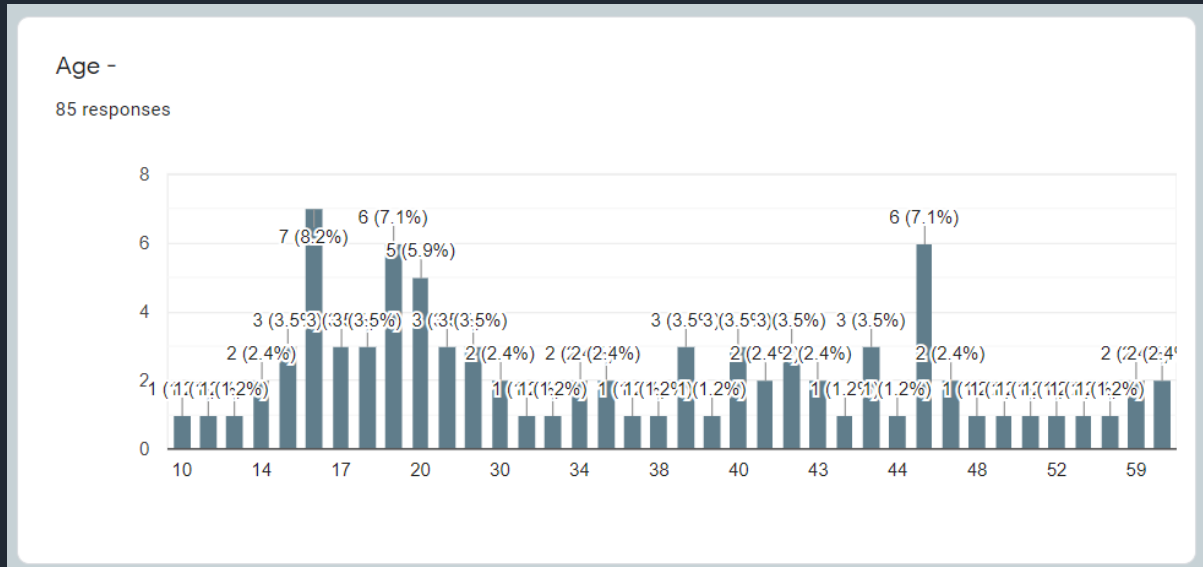




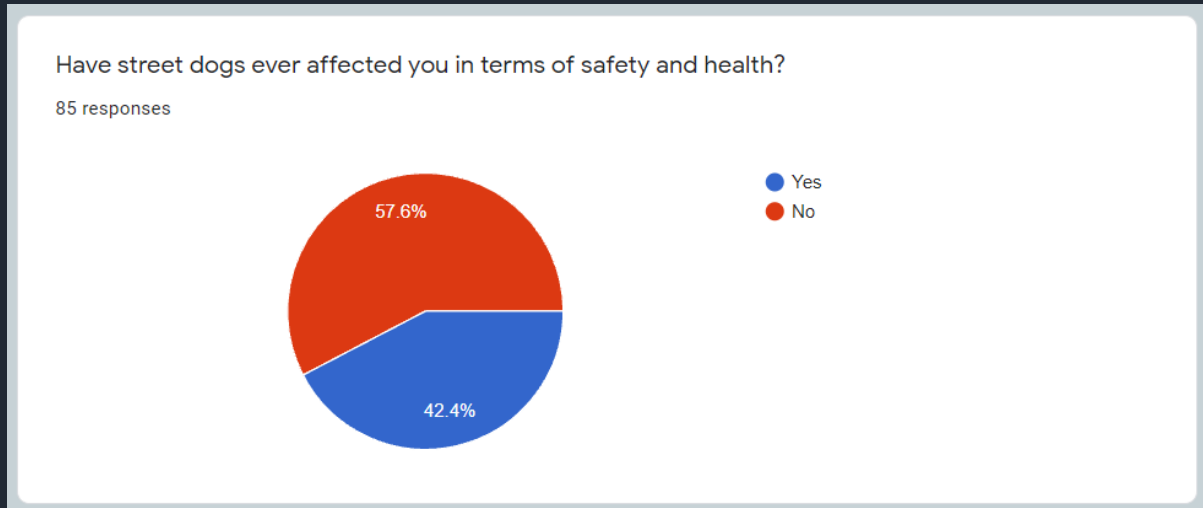


FINDINGS

Response summary for the TVTC Survey Form:



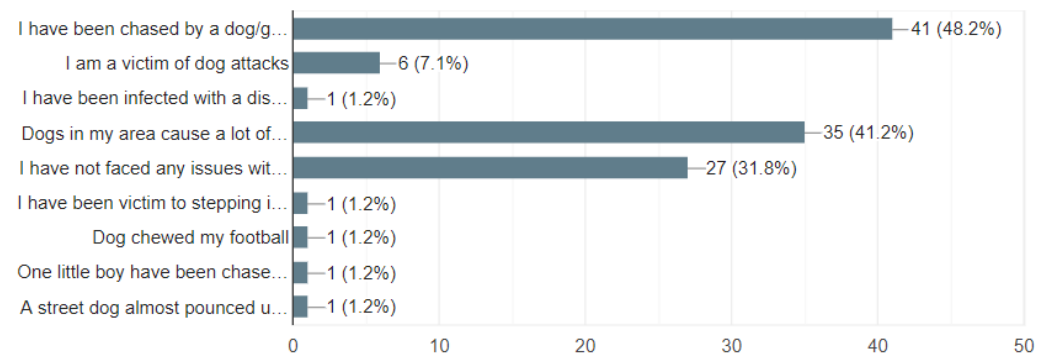
The ages of respondents range from 10 to 63. Range = 63 – 10 = 53 years



Percentage of respondents affected by street dogs is 42.4%.

What unpleasant experience/experiences have you had with street dogs?

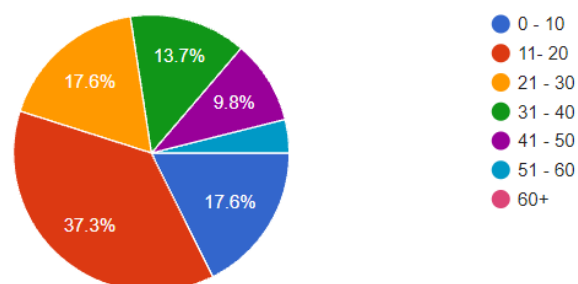
85 responses



Being chased by street dogs was the modal factor. The list of unpleasant experiences in an order from the most common experience to the least common experience is- getting chased by a street dog> disturbance due to street dogs barking>being a victim of dog attacks>getting infected by a disease.

If you have been chased or attacked by a dog/group of dogs, at what age group did the incident take place?

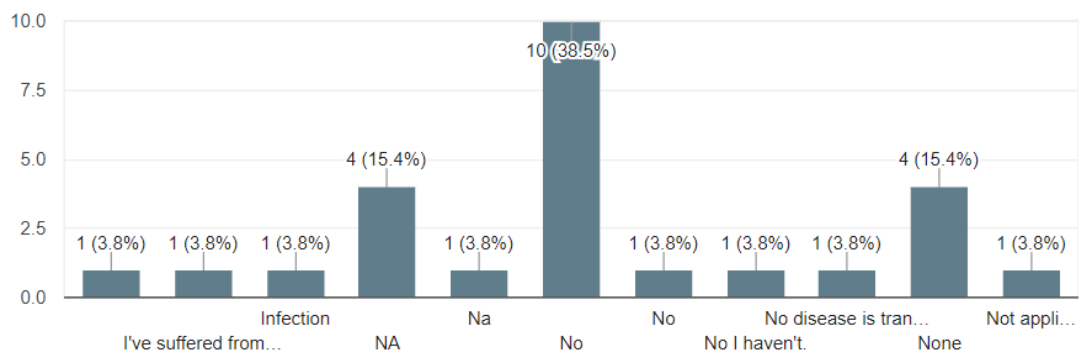
51 responses



The modal age group which experienced a dog attack/dog attacks is 11-20 years (37.3 percent of respondents fall in this group).

If you have suffered from a disease caused by street dogs, please name the disease

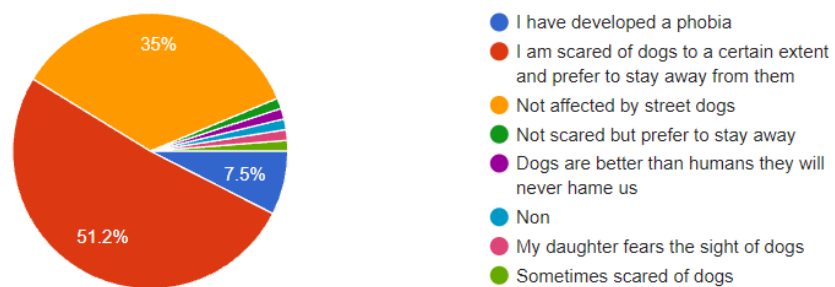
26 responses



Most respondents have not suffered from any disease caused by street dogs. Only 1 respondent has had an infection.

If you have had any unpleasant experience with street dogs, how has it affected you emotionally?

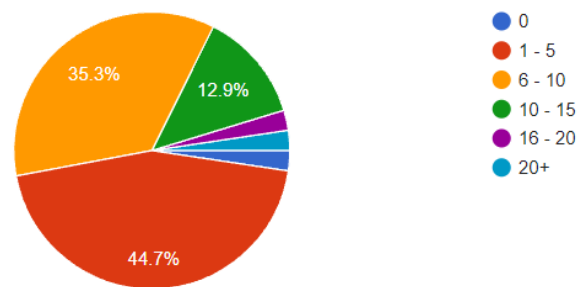
80 responses



51.2% of respondents who have had unpleasant experiences with street dogs are scared of them and prefer to stay away from them. 7.5% of respondents who have had unpleasant experiences with dogs have developed a phobia while 35% have not been affected by street dogs.

On average, how many street dogs do you notice in your day to day life?

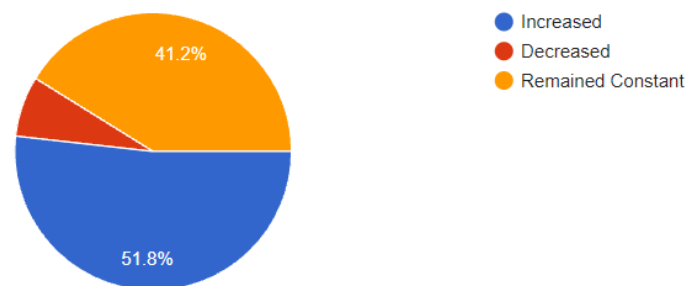
85 responses



The modal number of street dogs seen by the respondents fall in the range 1-5.

Has the approximate number of street dogs in your locality increased, decreased, or remained constant?

85 responses

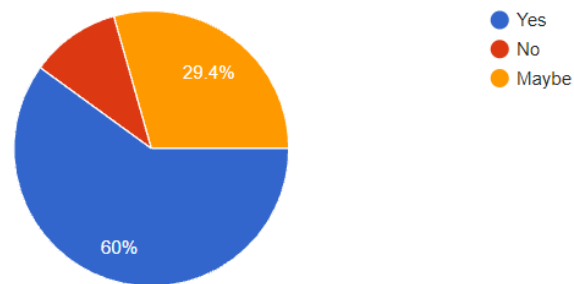


More than Half of the respondents have observed an increase in the number of street dogs in their locality. 41.2% of the respondents have not seen any changes in the number, while only 7.1 of the respondents have seen a decrease in the number of street dogs in their locality.

According to you, does feeding street dogs attract more of them in your locality?



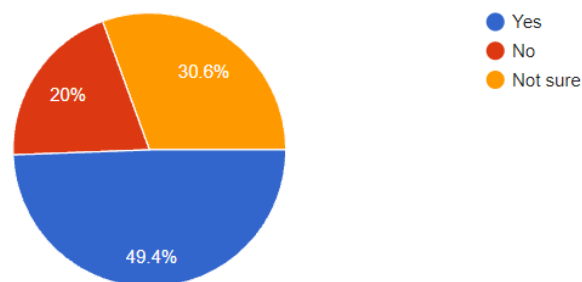
85 responses



More than half of the respondents believe that feeding invites more street dogs to their locality.

Do you think that its unsafe for small kids to play in open areas in the presence of street dogs?

85 responses



Almost half of the respondents believe that in open areas, small kids are not safe in the presence of street dogs.

According to you, what causes the street dogs to become aggressive towards humans?

48 responses

Hunger, noise and thier past experience with Humans

Our behaviour towards them

When we trouble them

Mistreating them

When a person irritates a dog or runs in front of a dog

Conflict

Humans troubling them . As we develop phobia after their attack, even dogs develop fear from humans hence they become aggressive

Fear and self protection

When vou have no humanitv.

According to you, what causes the street dogs to become aggressive towards humans?

48 responses

Its about how humans treat them.

Humans themselves because majority of them have treated these innocent creatures by hurting them physically right from their birth.

If you harm them then only they hurt human beings as per my experience.

When people run in front of them

Moving vehicles

Their trauma in their life concerning other humans and their need for survival, or when said human gets too close to its pups. They're usually never inherently aggressive.

When we provoke them

Not sure

According to you, what causes the street dogs to become aggressive towards humans?

48 responses

If the dogs r starving or anyone r annoying them.

When humans don't behave like humans

If they are beaten and street dogs are hungry

Hunger.

Running in front them

It's very subjective

If you attack or threaten them

People feed them sweet and Non-veg which is reason of aggressiveness for Dogs

Some people ill treat them as a result they become aggressive towards humans. So basically it's our fault.

According to you, what causes the street dogs to become aggressive towards humans?

48 responses

Our aggressive nature towards them

Distraction of habitat

It may be by mischievous act of someone

Probably trying to protect themselves

Interference with their lives and place of living

Threatened

Idiot dog lovers..they argue that without provocation, strays don't attack...this is completely bullshit...the dogs in Siddharth Nagar, Dheeraj Upvan makes the life hell for kids, senior citizens, pregnant women and people going to office.

They don't need any reason

According to you, what causes the street dogs to become aggressive towards humans?

48 responses

Insecurity

You hurt them, they can get aggressive

Honking of cars

Being badly treated by humans and hunger

Dog may not get adequate food and care, that may be reason for becoming aggressive

Running infront of them make them aggressive

Street dogs become aggressive towards humans when they see humans entering the area in which they live.

Sense of danger

When you try to irritate or challenge it

According to you, what causes the street dogs to become aggressive towards humans?

48 responses

Running infront of them make them aggressive

Street dogs become aggressive towards humans when they see humans entering the area in which they live.

Sense of danger

When you try to irritate or challenge it

The feeling of comfort and security

Looking for food

Some dogs are crazy because they just started chasing me for no reason.

Because humans attack them or hit them

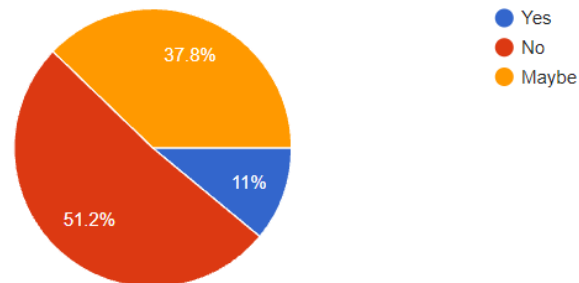
The feel scared or threatened

According to most of the responses above, the 4 major factors that cause street dogs to become aggressive are hunger, lack of habitat, fear of humans and insecurity, and humans provoking street dogs. Most respondents believe that street dogs are not inherently

aggressive. Humans provoke dogs by beating them, running in front of them and by throwing objects at them.

Are local authorities taking any action to minimize the problems caused by street dogs?

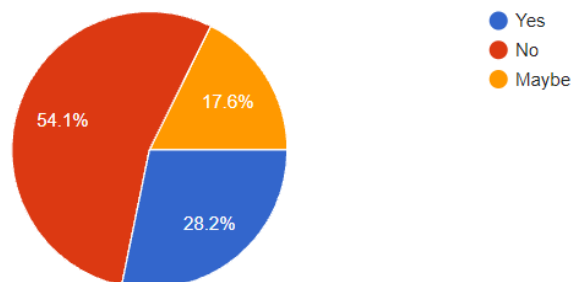
82 responses



Only 11% of the respondents have noticed local authorities taking action against street dogs.

Have street dogs impacted your lives to such an extent that serious action must be taken?

85 responses

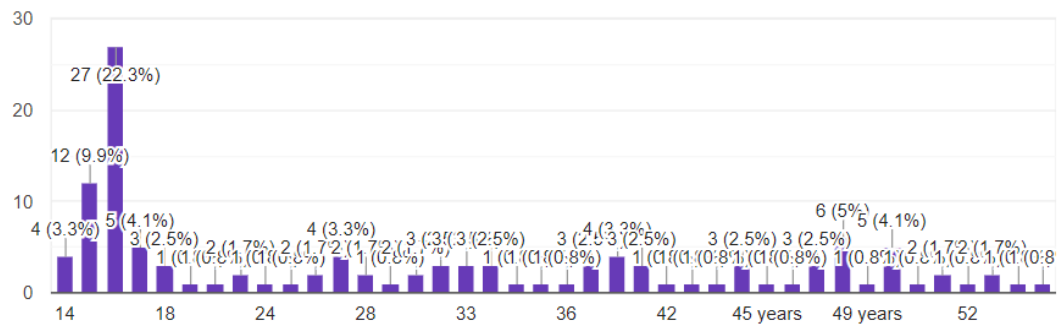


28.2% of the respondents want strict action to be taken against street dogs.

Response summary for the Mumbai Survey Form:

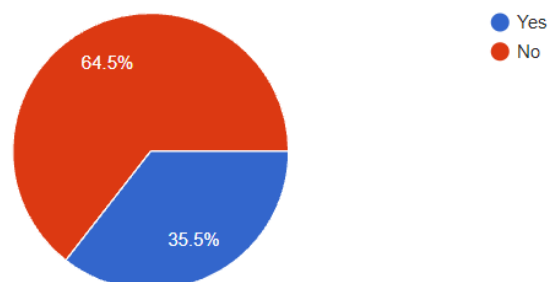
Age -

121 responses



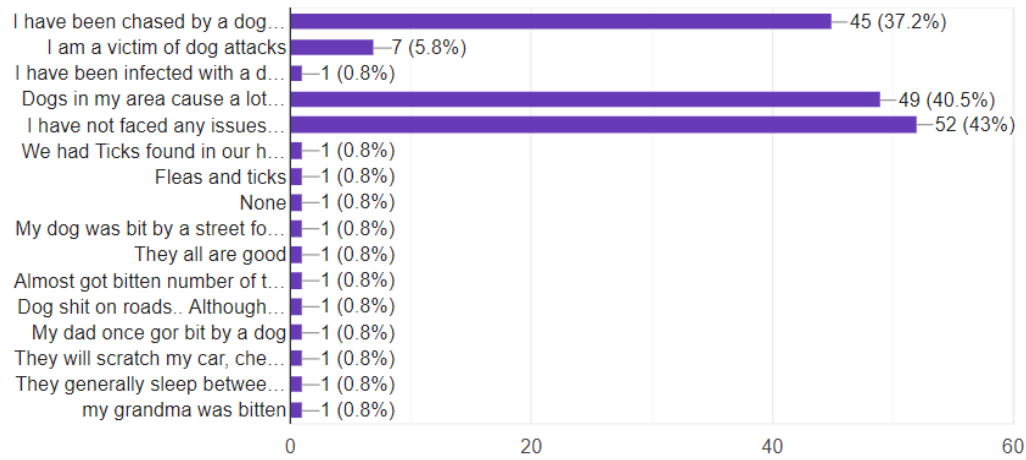
Have street dogs ever affected you in terms of safety and health?

121 responses



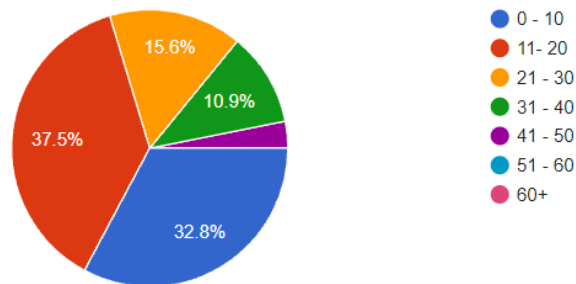
What unpleasant experience/experiences have you had with street dogs?

121 responses



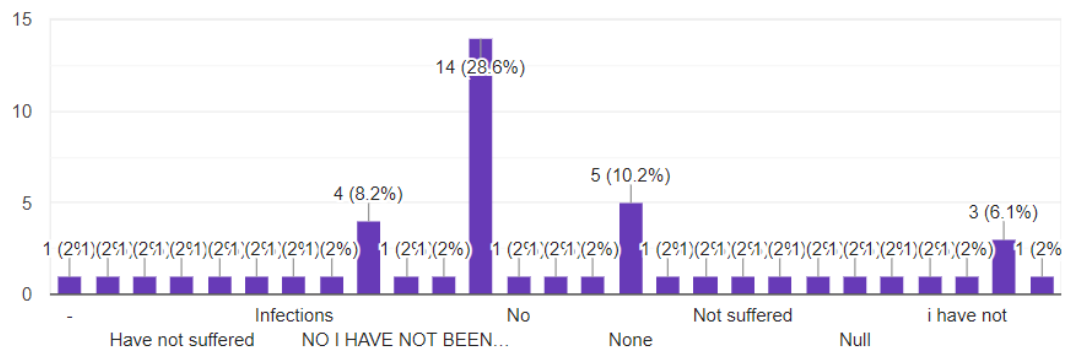
If you have been chased or attacked by a dog/group of dogs, at what age group did the incident take place?

64 responses



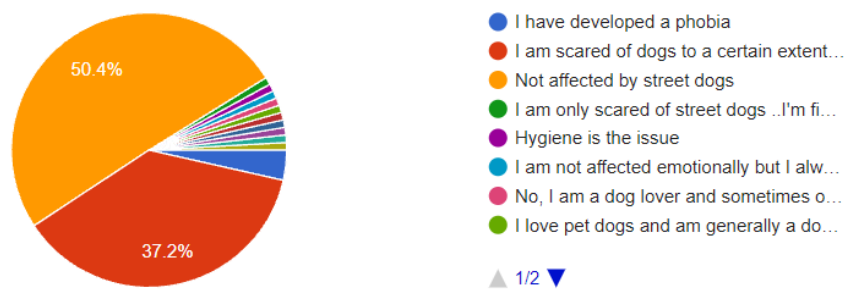
If you have suffered from a disease caused by street dogs, please name the disease

49 responses



If you have had any unpleasant experience with street dogs, how has it affected you emotionally?

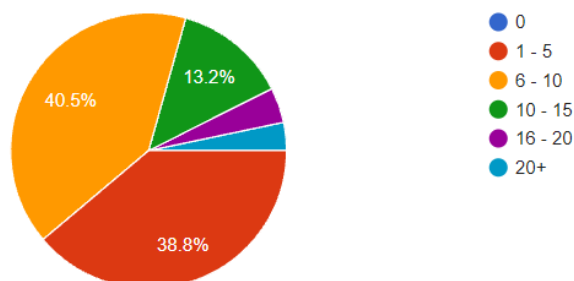
113 responses



1/2

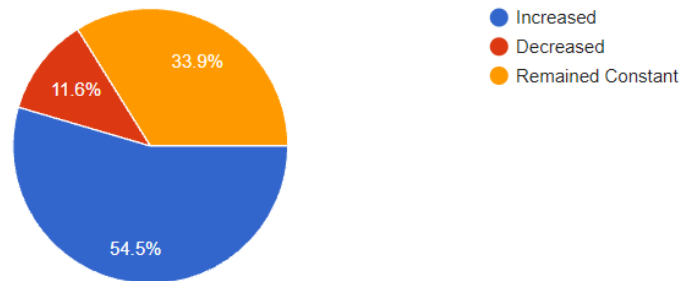
On average, how many street dogs do you notice in your day to day life?

121 responses



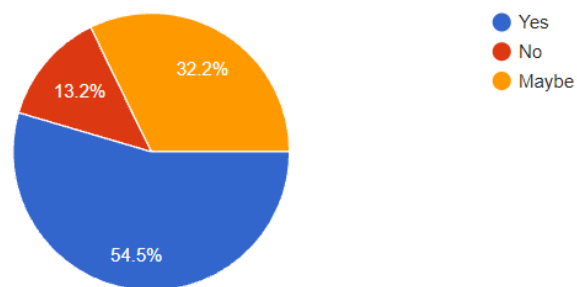
Has the approximate number of street dogs in your locality increased, decreased, or remained constant?

121 responses



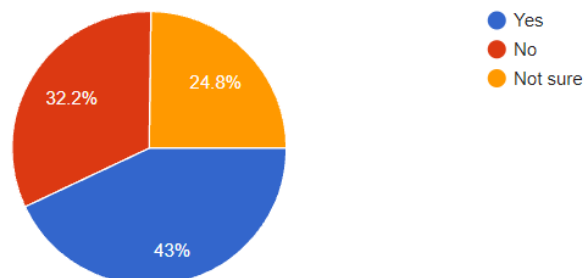
According to you, does feeding street dogs attract more of them in your locality?

121 responses



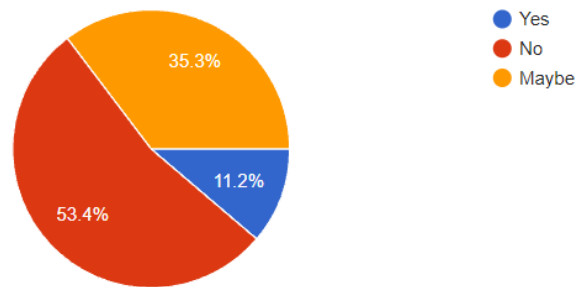
Do you think that its unsafe for small kids to play in open areas in the presence of street dogs?

121 responses



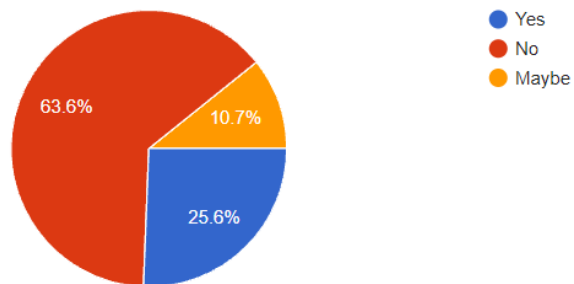
Are local authorities taking any action to minimize the problems caused by street dogs?

116 responses



Have street dogs impacted your lives to such an extent that serious action must be taken?

121 responses



Interviews

Link to the interview taken by Darsh (the interviewee was a dog attack victim) –

https://drive.google.com/file/d/1vSg2vA_0_04IANFC6iGGByleFSQJDyu1/view?usp=sharing

3 people were chosen for interviews. One is an activist, the other is a doctor, and the last one is a victim of a dog attack.

At the age of 10, one of Darsh's close friends was attacked and bitten on the leg by a vicious dog for an unknown reason. Just moments after that, while he was severely injured, he found himself surrounded by a group of 5 dogs. Fortunately, he was able to get out of the situation without falling into more trouble, by leaping across a tall fence nearby. The medical procedures after the incident included 22 injections. The incident has brought a tremendously massive change to his perspective on dogs. Before the incident, he would play with street dogs, but after the attack, a phobia had seized his mind, and even getting out of his house was a problem for a few days. Even now, he finds it difficult to walk out of his house, as even the presence of a dog around him terrifies him.

An interview was conducted with Dr Tushar Masurkar, a general practitioner in Virar, who has made through patients with some tough experiences involving street dogs. The worst experience he faced was when he had to treat a 10-year-old kid who was brutally attacked by a street dog in his area. He mentioned that the cut, being 10 cm deep in the arm, was painful to see and treat. Bandages couldn't be used so he was forced to use stitches which were tedious to apply. Most experiences of patients with dogs resulted in chaos and worry affecting the patients' mental health and causing tension. He would often see that the patients were paranoid, which made him genuinely concerned for their lives.

He proceeded to add that there are also many benefits of having a dog-free area. It is a lot more hygienic as dogs leave litter everywhere and therefore potentially carry diseases. Moreover, kids will be protected from health risks as there are less to no chances of them coming in contact with dogs and contracting dangerous diseases. It is safer and more comfortable for children, so they can play without fear of being chased or surrounded by dogs. The place is much more visually appealing as there are fewer chances of seeing or smelling litter, urine or other bodily fluids in the area you live in.

Nevertheless, even with such a negative notion towards street dogs, Dr Tushar acknowledged that dogs just like humans are intellectual, loyal and caring creatures and having them on such inhospitable streets is a crisis for both species. In his opinion, dogs would be better off in shelters where they are taken care of and protected. They would finally receive the right

nutrition and medication they need and deserve, thus giving them and humans a better lifestyle altogether.

An interview was conducted with an anti-breed activist on what affects dogs on streets, why we see certain behaviours and also what can be done to protect the species. She specifies that most dogs are always in a sense of caution due to violence and constant interaction with vehicles and light. They don't receive the required nutrition and naive people do not have the knowledge to feed the right things. She also mentioned that dogs are a species of loyal creatures and therefore are hesitant when a suspicious person walks by, thus having a natural response of barking. Her most efficient solution was to adopt street dogs instead of internationally bred dogs. This is important because international breeding it involves sexual violence and doesn't give equal opportunity to street dogs to become pets. Advertising adoption of street dogs will provide them with better homes and a more protected atmosphere.

ANALYSIS

Table comparing the key differences in the statistics from the Mumbai form and the TVTC form:

Criteria	Percentage of people / %	
	Mumbai Form	TVTC Form
Affected by street dogs (overall)	35.5	42.4
Chased by dogs	37.2	48.2
Attacked by street dogs	5.8	7.1
Affected by noise pollution caused by street dogs	40.5	41.2
Want action to be taken against street dogs	25.6	28.2
Believe that children are unsafe due to the presence of street dogs	43.0	49.4

1. Compared to the statistics of the entire population of Mumbai -
 - A greater percentage of people in TVTC are affected by street dogs (6.9% difference).
 - A greater percentage of people in TVTC want strict action to be taken against street dogs.
 - A greater percentage of people in TVTC are affected by all of the following - dog chases, dog attacks, infections caused by dogs, and noise pollution caused by dogs barking.

The points below are with respect to the TVTC form, the interviews conducted, any observations made, and secondary data. The Mumbai Survey form is not used for analysis in further parts of the paper.

2. Although 42.4 percent of all the respondents have been affected by street dogs, only 28.2% of the respondents want strict action to be taken. This shows that only these 28.2% of the respondents were seriously affected by street dogs.
3. Being chased by street dogs is the most common factor which affected humans.
4. According to the responses in the TVTC survey, the factors which cause street dogs to become aggressive include hunger, lack of habitat, fear and insecurity, and humans provoking street dogs. It has also been stated in an article (Citation 5a, Rozario, 2021) that unfed dogs are more aggressive towards humans than the ones who aren't hungry.
5. According to the survey, most dogs become aggressive because humans run in front of them or harm them physically. According to an article (Citation 6, Behl, 2019) a recent study has shown that 48% of people who have been bitten by dogs have either hit or thrown stones at the animal.
6. According to the TVTC survey, 60% of the respondents believe that feeding street dogs attracts more of them to their localities. An article (Citation 5b, Rozario, 2021) states that feeding street dogs in a common area can make them territorial. As a result, it is difficult to get rid of street dogs from a particular place.
7. Ms. Paramdeep Garewal, an animal welfare activist, as well as Dr Tushar Masurkar, a general practitioner who has consistently treated wounds caused by dog attacks, have made a point in their interview that people with insufficient knowledge feed foods that aren't necessarily safe for street dogs. As a result, the dogs feel agitated, leading to aggressive behaviour.
8. 53.4 % of people believe authorities aren't taking enough action. And therefore, people are being negatively affected by dogs. This can also be the reason of an increasing population of dogs as one of the things that government authorities are supposed to be doing is sterilisation: a very important part of reducing street dog population.
9. A very low percentage of respondents were infected by diseases caused by street dogs (1.2%). Only one person in the TVTC survey was affected by an infection. We did not receive enough data to confidently state that "diseases caused by street dogs" was one of the factors which affected the people living in TVTC.

DISCUSSION

Conclusion

42.4 percent of the respondents from TVTC are affected by street dogs in terms of health and safety. Noise Pollution due to barking, getting chased by street dogs, getting attacked by street dogs, and having a general fear of street dogs are the ways in which people are affected by them. The major factors which cause street dogs to become aggressive include hunger, fear and insecurity, lack of habitat, and human activities such as physically harming and provoking them.

For the first part of our research question (What percentage of people living in TVTC have been affected by street dogs?) the numerical figure that we obtained (42.4%) was very close to the presumed value (40%). For the second part of the question (How are the citizens of TVTC affected by the street dogs?) all of our assumed factors turned out to be correct, except this one – “carry diseases like rabies”. We did not receive enough data from our survey form to conclude that “disease” was one of the factors that affected the residents of TVTC. For the last part of the question (Which factors cause the dogs to become aggressive?) all of the assumed factors were correct. Considering the limits of accuracy, our hypothesis statement was correct.

Implications of findings for the community

While collecting the data for this research, we were able to spot and connect a few data points, which allowed us to identify a problem in TVTC. TVTC contains a large population of street dogs, and it needs to be controlled before the issue becomes serious. From the TVTC survey, 44.7% of the respondents notice 1 – 5 street dogs every day, 35.3% of the respondents notice 6 – 10 dogs every day, and 12.9% of the respondents see 10 – 15 street dogs every day. In addition to that, only 7.1% of the respondents have noticed a decreased in the total number, while the remaining 93% of them have either seen the population increase, or remain the same. Also, 15 street dogs were spotted during the 30-minute car drive through TVTC. It is quite evident that the population of street dogs is increasing in TVTC. If this situation is not handled correctly, the population of dogs will get even more difficult to control. Consequently, all the current problems caused by street dogs will only worsen. The factor which is most likely to worsen due to an increase in population of dogs is barking. This is because fights between dogs are more likely to take place if their population density is higher.

We have found out that feeding street dogs at a common area can attract more of them and cause them to become territorial. One consequence of this can be that dogs may form territories near road and lanes. These dogs can be a form of distraction for vehicle drivers, and in the worst cases, this can lead to road accidents.

The implications mentioned above are also applicable to Mumbai since the statistical values from the Mumbai survey are similar to those from the TVTC survey.

Sources of error

One of the major sources of error that was identified during the research was that some of the respondents of the survey form failed to either read or understand the questions properly. For example, in one of the questions, even when there was an option to select “No” as an answer, a lot of people selected the “Other” option and typed “No”, which made analysing the data difficult. Similarly, for the question which asked the people to mention any disease that they had suffered, 2 of the respondents typed their address. Also, 42.4% of the people said that they were affected by street dogs, however, 48.2% of the people said that they had been chased by a street dog. This is clearly incorrect since the percent of people that were chased should have been less than, or equal to the percent of people that were affected by street dogs.

Another source of error was the limitation in the sample size for both the surveys. Even though the number of respondents was large enough to perform analysis on the results, a larger sample size would have given more accurate results. Also, the sample sizes were different for the Mumbai form and the TVTC form (Mumbai: 121, TVTC: 85) so the comparison between the results from both the forms was not totally fair.

Possible solutions for the problems identified

The interaction between humans and street dogs is not healthy. Therefore, the most direct way of solving this issue is to provide a separate living space for street dogs where they can live properly. One way to do this could be to build shelters where most, if not all dogs can be shifted, so that the streets belong solely to humans. These shelters should be located far from residential complexes in order to prevent noise pollution by barking. By doing this, both humans and dogs can continue living happily, without causing any problems for each other.

We can also spread awareness about the negative effects of feeding street dogs on roads and near buildings. This can be done through social media websites and school speeches. This

will help people realise that the street dog problems caused in their residential complexes can be reduced largely by just not feeding them.

As we have discovered, the population of street dogs in TVTC is rising and could be potentially problematic. One effective way to keep the dog population in control is to adopt street dogs. This is also a good way of improving the lives of the dogs by giving them a better home, nutrition, and protection. Moreover, it's more ethically correct to adopt street dogs rather than buying international breeds as most international breeds are bred through forms of sexual abuse and extreme behaviours. As students, we can also spread awareness about this subject, through protests and speeches on school events.

While working on this project, we came across a lot of information. Some of it made us curious about a few facts which gave rise to the following questions:

What percent of street dogs are abused by humans?

What are the effects of heavy road traffic on street dogs' mental state?

What percent of dogs are harmed by being fed the wrong food and how does this food affect the dogs' health?

GROUP REFLECTION

Indicators -Collaboration	4	3	2	1	Example
Every member of the team was always prepared, well informed on the project topic and ready to work	x				Both members always worked while being on google meet and informed each other about any changes.
Every member of the team always completed assigned tasks on time without having to be reminded.		x			We got 1 reminder for the submission of a task.
As a team, we created a detailed task list that divided project work reasonably among the team members.		x			We made separate documents for each task and worked equally in all parts of the research except 1 part. While clicking pictures and recording audio, Darsh worked slightly more than Indraneel because he lives in TVTC, whereas Indraneel lives in Virar.
As a team, we set a schedule and tracked progress toward goals and deadlines.	x				We scheduled online meetings every week for a fixed period of time.
As a team, we used time and ran meetings efficiently; kept materials, drafts, notes organized	x				We saved all drafts in google docs and finally merged them to make the final paper.
As a team, we developed ideas and created products with the involvement of all team members	x				Every decision was taken with the agreement of both team members.
Indicators Communication					
Every member of the team listened to others' ideas without interrupting; responded positively to ideas even if rejecting.	x				We did not have any negative arguments regarding each other's ideas.
Team members communicated openly and treated one another with respect.	x				We have not had any fights for any reason since we respect each other's opinions.
Every member of the team felt safe and free to seek assistance and information, share resources and insights, provide advice, or ask questions of each other.	x				We talked to each other in a very casual and friendly way, and felt free to share any information.

INDIVIDUAL REFLECTION

Darsh

Describe one thing which was the most enjoyable for you during the CaL project.

Once we had collected all the required data, analysing and grouping together similar information and making sense out of everything was a beautiful process. Before analysing, the data looked quite plain and useless, but once we made efforts to connect the dots, it felt like we had finally added meaning to our research.

Describe one thing which you struggled with the most during the CAL project.

Choosing the right research question was a difficult task since we had to consider many factors including scope, relevance and feasibility.

What skills did you develop during the CaL process? Explain with one example.

- Working on a project efficiently while when most of the work had to be done online (surveys and interviews were conducted online)
- Critical thinking (while working on the analysis of data)
- Using appropriate data collection methods for a given purpose

Indraneel

Describe one thing which was the most enjoyable for you during the CaL project.

For me the most interesting part was connecting the dots during our analysis . The brainstorming that was needed to be done was exciting and stimulating.

Describe one thing which you struggled with the most during the CAL project.

The worst part was when we had to come up with a research question: we took the longest time doing that and had to go through rejecting 3 other topics before we landed on a completely new one.

What skills did you develop during the CaL process? Explain with one example.

I have developed in terms of working with a partner well as doing efficient work while using creative processes which usually are inefficient in most cases.

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