Weekly report

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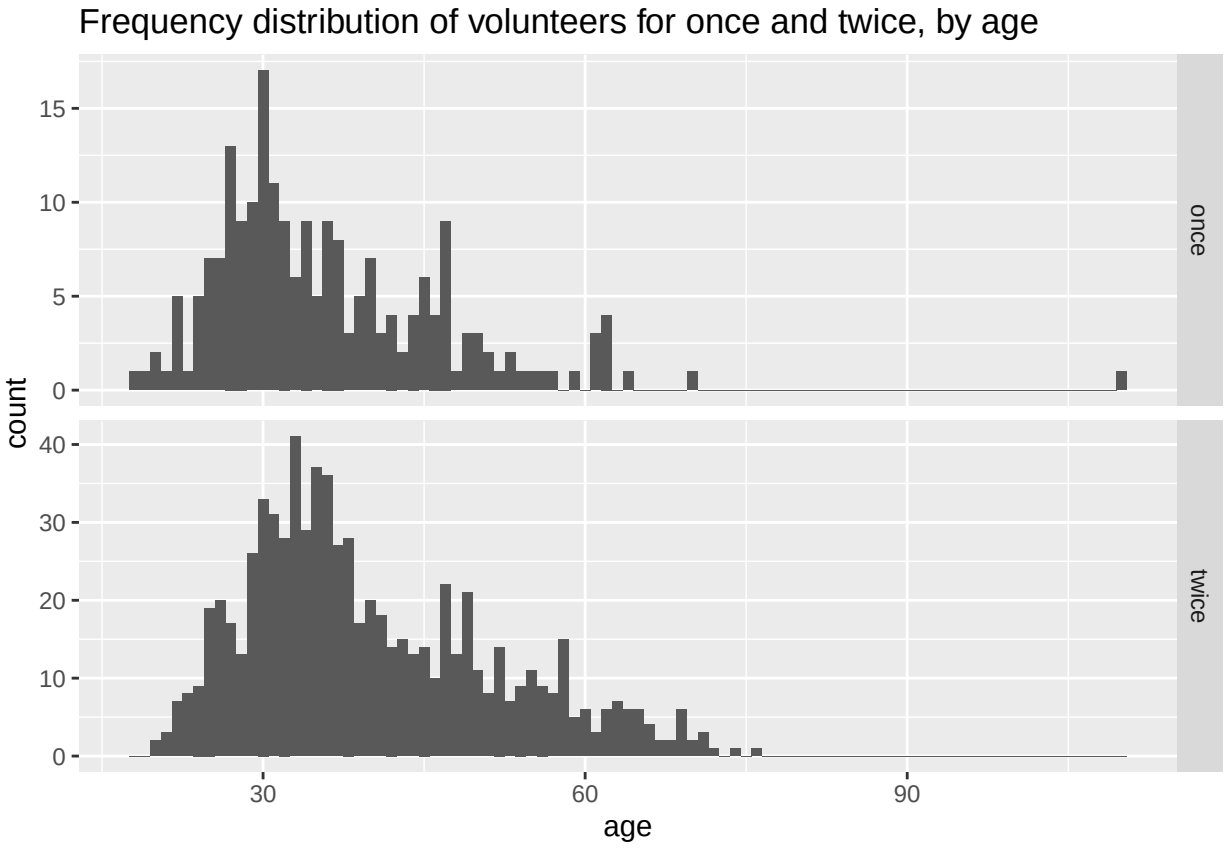
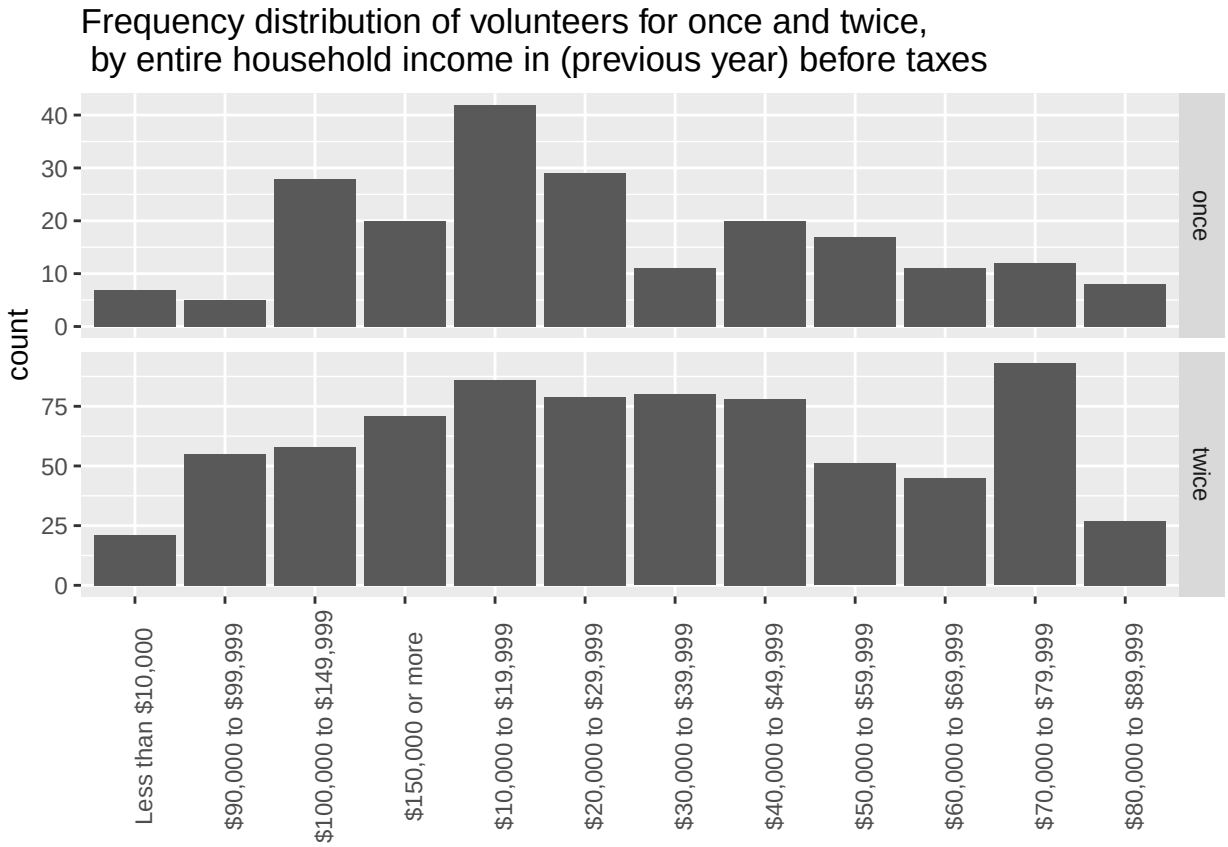
0. What I did this week

- Finished the first part our analysis (**data checking**)
- Started to do the third part: **Cat owners versus dogs owners**

1. Data Checking

As I mentioned in the email, I didn't see much difference between the frequency distribution of demographic information of people who completed once and twice.





2. Cat owners versus dogs owners

The following analysis is on people who responded twice and have consistent data for age and gender

2.1 Common questions for wave1 and wave2

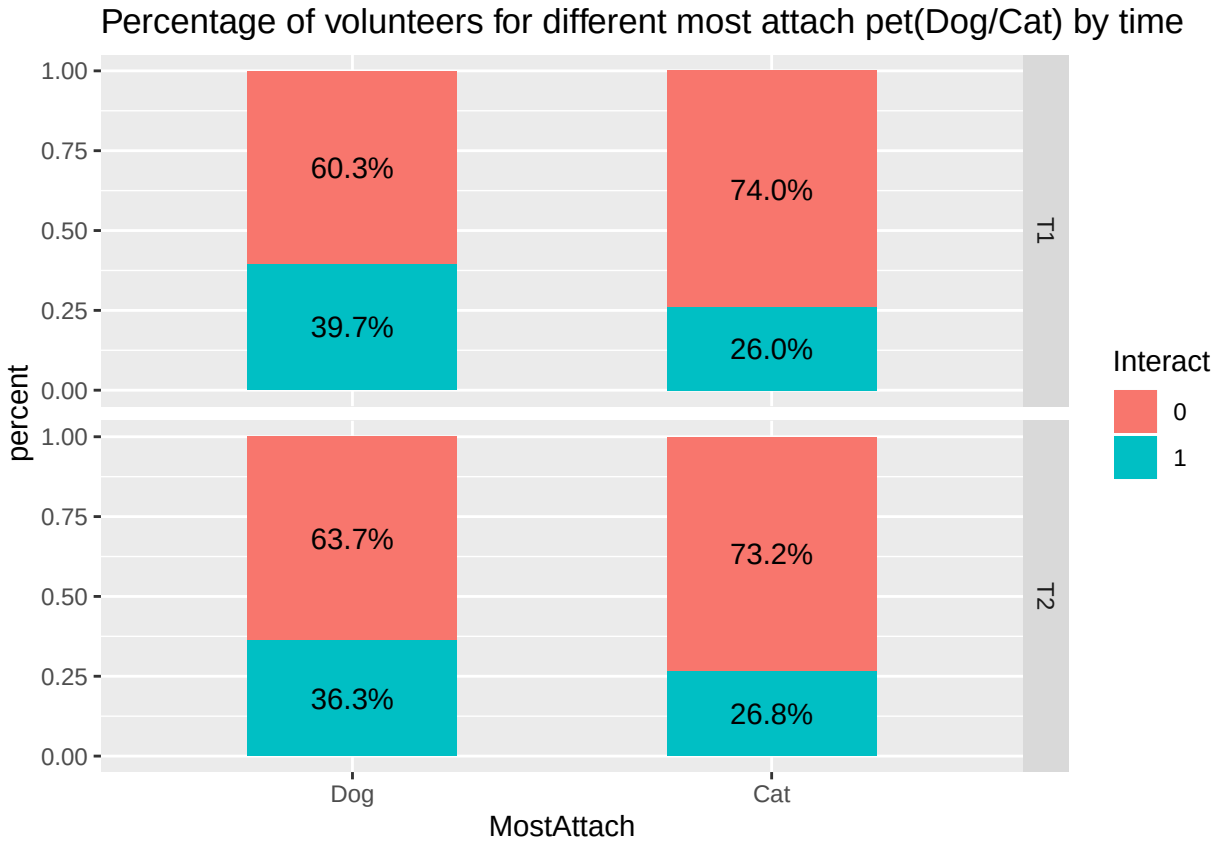
Our interested outcomes are listed below:

- **Compliance** (Yes:1;No:0) : Does your pet/companion animal(s) influence your compliance with quarantine recommendations and requirements in your region?
- **Interact** (Yes:1;No:0) : Has COVID-19 affected your normal activities and interactions with your pet/companion animal(s)?
- **Plans** (Yes:1;No:0): Since the COVID-19 outbreak, have you made plans for caring for your pet/companion animal(s) should you become sick and unable to care for them?
- **PlansWho** (1-7:Family member; Friend; Neighbor; Animal care service provider; boarding facility; Veterinary clinic; Other): Who did you discuss this with?
- **Concern**(1-5: Not at all concerned to Extremely concerned): Overall, how concerned are you about your ability to care for your pets/companion animal(s)?
- **CCAS1-13**: (1-7: Strongly disagree to strongly agree): Question related to comfort/safe/needed/pleasurable that animal/pet provide.

Here we take **Interact** for example:

Let's take a look at our data size: (**Time** represents different time points, "T1" is wave1; "T2" is wave2)

```
# A tibble: 8 x 4
# Groups:   time, MostAttach [4]
  time  MostAttach Interact count
  <fct> <fct>      <fct>    <int>
1 T1    Dog        0          146
2 T1    Dog        1           96
3 T1    Cat        0          125
4 T1    Cat        1           44
5 T2    Dog        0          158
6 T2    Dog        1           90
7 T2    Cat        0          123
8 T2    Cat        1           45
```



2.1.1 Interact ~ MostAttach + age + gender when time="T1"

```
                Estimate Std. Error     z value   Pr(>|z|)
(Intercept)    0.01524956 0.40971596  0.03721982 0.97030973
MostAttachCat -0.65200811 0.22108040 -2.94919003 0.00318608
age           -0.01009855 0.00957056 -1.05516861 0.29134822
genderFemale  -0.05629646 0.21646988 -0.26006600 0.79481286
genderOther    1.45626176 1.24897430  1.16596616 0.24362813
```

Holding age and gender constant, the odd of COVID-19 affected their normal activities and interactions with Cat is **0.52** times those with Dog.

2.1.2 Interact ~ MostAttach + age + gender when time="T2"

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-0.7319821742	0.407725994	-1.79527964	0.07260916
MostAttachCat	-0.4534477354	0.219775737	-2.06322928	0.03909085
age	0.0004469889	0.009443991	0.04733051	0.96224981
genderFemale	0.3230420163	0.215957198	1.49586131	0.13468980
genderOther	0.3194583014	1.243292594	0.25694539	0.79722093

Holding age and gender constant, the odd of COVID-19 affected their normal activities and interactions with Cat is **0.64** times those with Dog.

2.1.3 Interact ~ MostAttach + age + gender + time

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-0.323454902	0.29712917	-1.0886003	0.2763301837
MostAttachCat	-0.551065866	0.15553127	-3.5431195	0.0003954235
age	-0.004659379	0.00670627	-0.6947796	0.4871934320
genderFemale	0.134267996	0.15257112	0.8800355	0.3788400907
genderOther	0.881777265	0.83252869	1.0591554	0.2895290080
timeT2	-0.078502243	0.14894408	-0.5270585	0.5981529759

Q1: Do we need to add more covariates? age, gender

Q2: How to deal with outcomes **CCAS1-13**

- My pet/animal makes me play and laugh
- Having a pet/animal gives me something to love
- I get more exercise because of my pet/animal
- I get comfort from touching my pet/animal
- My pet/animal makes me feel needed
- My pet/animal is a source of constancy in my life
- ...

2.2 Unique questions for wave2

Additional interested outcomes for wave2 are listed below:

- **NonVetService** (Yes:1;No:0) : In the past 12 months have you used an animal care service that does NOT normally require a veterinarian?
- **NonVetLessFreq** (Yes:1;No:0) : Thinking about the time since the COVID-19 outbreak began, have you used any of these non-veterinary services less frequently than before the outbreak began?
- **WhyNonVetLessFreq** (1-7): Which of the following best describes why you are using these services less frequently?
- **VetVisit** (Yes:1;No:0): In the past 12 months, have you visited a veterinarian for preventative care for your pet?
- **VetLessFreq** (Yes:1;No:0) : Thinking about the time since the COVID-19 outbreak began, have you used these preventative veterinary services less frequently than before the outbreak began?
- **WhyVetLessFreq** (1-7): Which of the following best describes why you used these services less frequently?
- **PetHealth**(Yes:1;No:0): Thinking about the time since the COVID-19 outbreak began, has your pet had any health issues (e.g. been sick or injured) that required a veterinarian?
- **PetHealthCovid**: (Yes:1;No:0): Did the COVID-19 outbreak impact how you dealt with this health issue(s)?

Take a look at the dataset:

	workerId	MostAttach	age	gender	NonVetService	NonVetLessFreq
1	A3CI73EFDLS3OF	Dog	29	Female	0	<NA>

```
2 A320QA9HJFUOZO        Cat  33   Male             0           <NA>
3 A3AEU131BOFE9C        Dog  32 Female             0           <NA>
4 A3KP8KFGG6734Q        Dog  56 Female             0           <NA>
5 A270HX8LH9LJ8W        Cat  38   Male             0           <NA>
  WhyNonVetLessFreq VetVisit VetVisitFreq WhyVetLessFreq PetHealth
1              <NA>        1            1              3         0
2              <NA>        1            0           <NA>         1
3              <NA>        1            0           <NA>         0
4              <NA>        0         <NA>           <NA>         0
5              <NA>        1            0           <NA>         0
  PetHealthCovid
1           <NA>
2              0
3           <NA>
4           <NA>
5           <NA>
```

Here are the summary table:

```
$NonVetService

  0   1
322  94

$NonVetLessFreq

 0  1
36 58

$WhyNonVetLessFreq

 1  2  3  4  6  7
13  5 21  1 17  1

$VetVisit

  0   1
134 282

$VetVisitFreq

  0   1
156 126

$WhyVetLessFreq

 1  2  3  4  5  6  7
43 11 46  3  2 18  3

$PetHealth

  0   1
382  34

$PetHealthCovid
```

```
 0  1
16 18
```

Q3: How to deal with these relevant outcomes? Select several of them to analyze?