Appendix

Figures (Question 2a)

Fig 1.

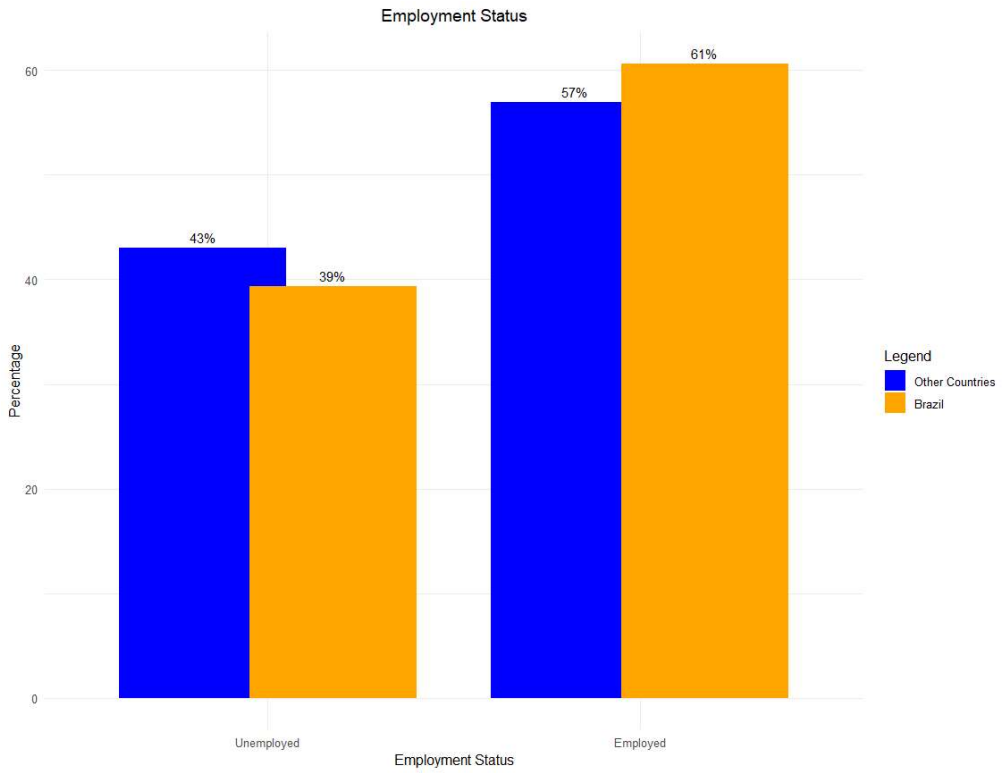


Fig 2.

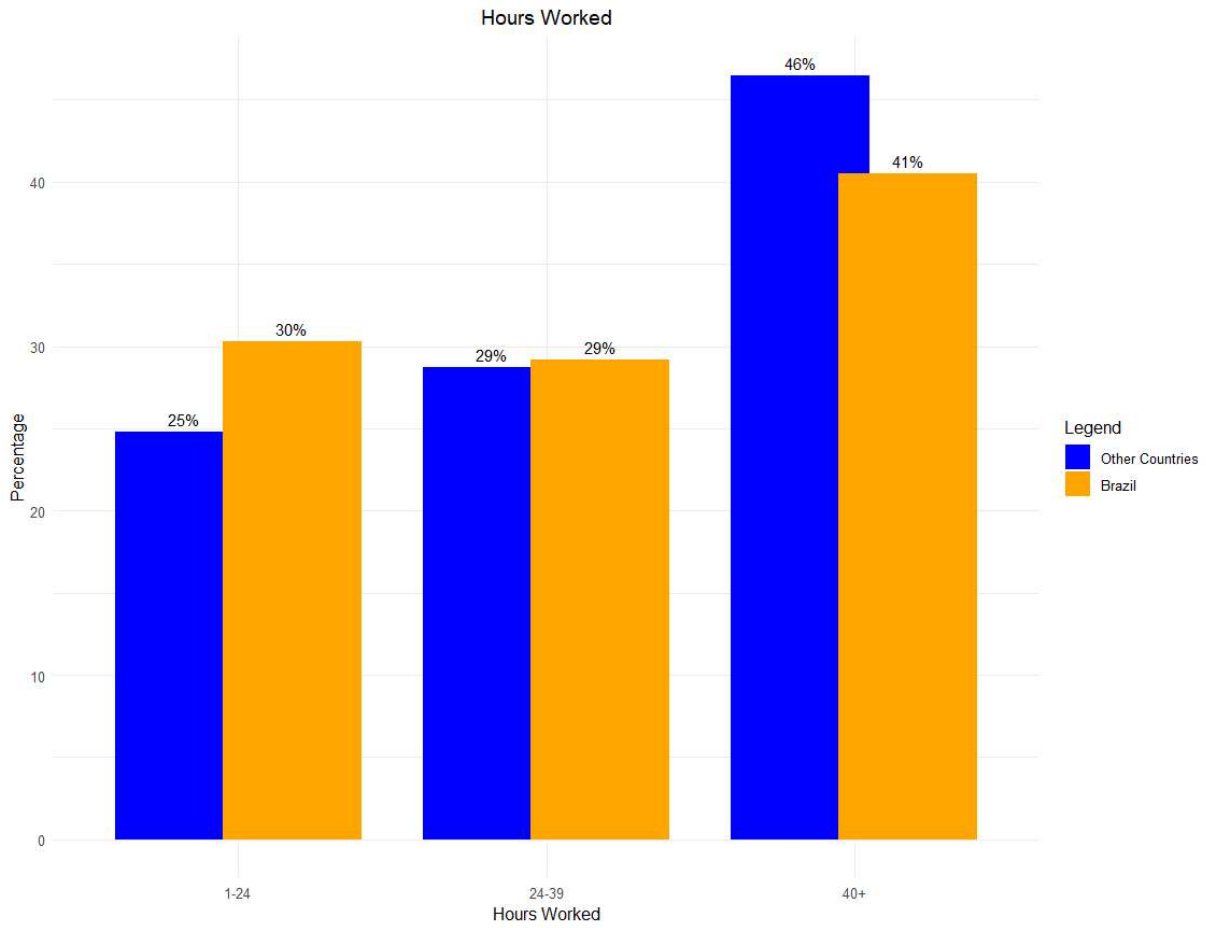


Fig 3.

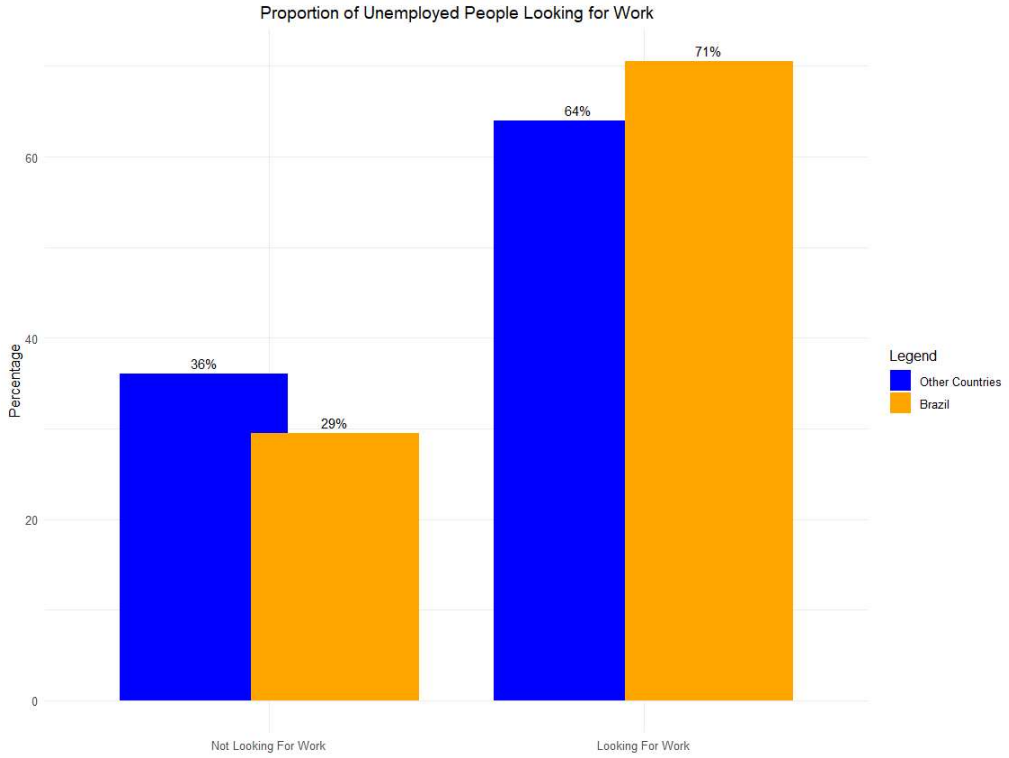

Proportion of Unemployed People Looking for Work
Percentage
0
20
40
60
36%
29%
64%
71%
Not Looking For Work
Looking For Work
Legend
Other Countries
Brazil

Fig 4.

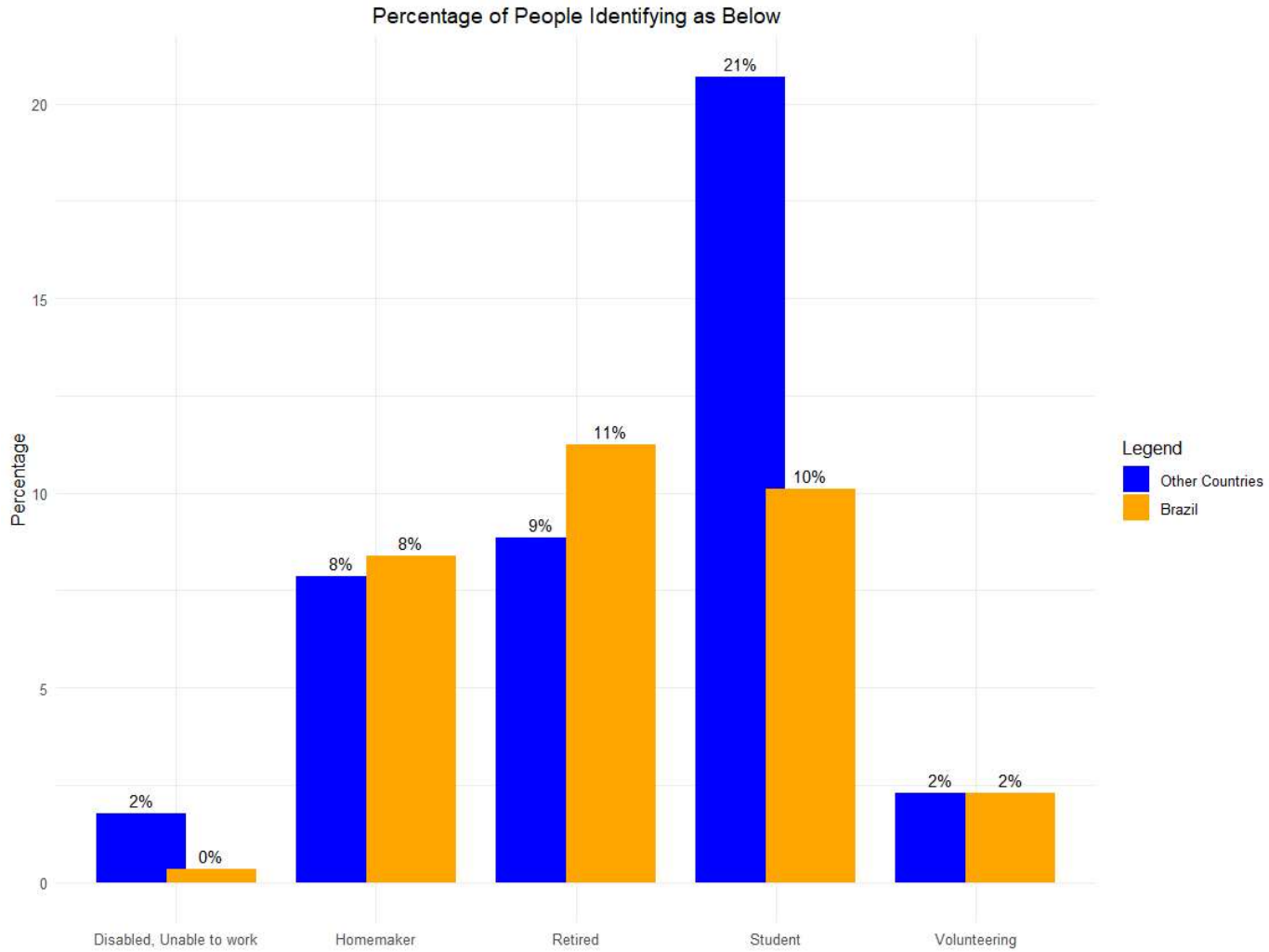

Percentage of People Identifying as Below
Percentage
0
5
10
15
20
2%
0%
8%
8%
9%
11%
21%
10%
2%
2%
Disabled, Unable to work
Homemaker
Retired
Student
Volunteering
Legend
Other Countries
Brazil

Fig 5.

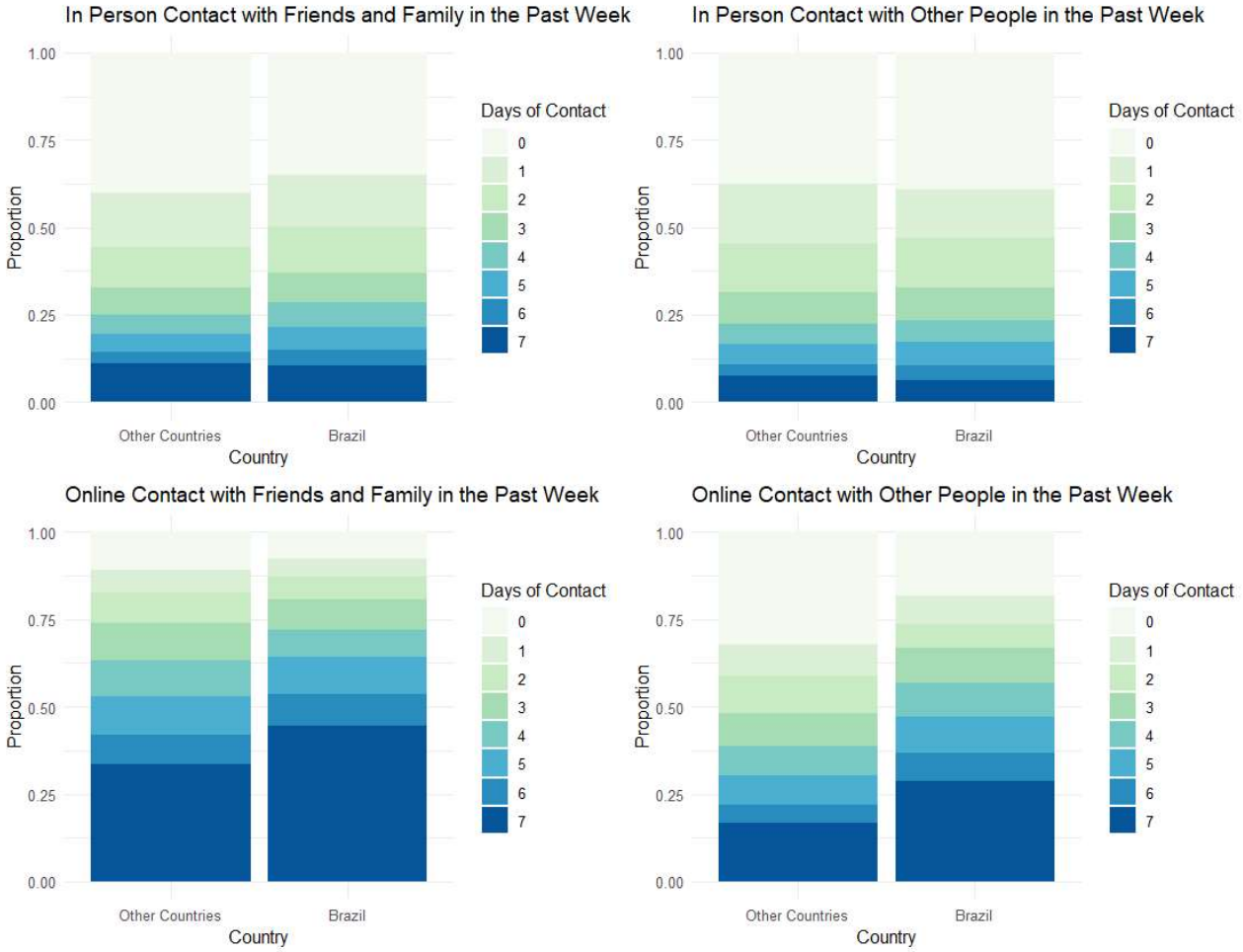

In Person Contact with Friends and Family in the Past Week
In Person Contact with Other People in the Past Week
Online Contact with Friends and Family in the Past Week
Online Contact with Other People in the Past Week
Proportion
1.00
0.75
0.50
0.25
0.00
Other Countries
Brazil
Country
Days of Contact
0
1
2
3
4
5
6
7

Fig 6.

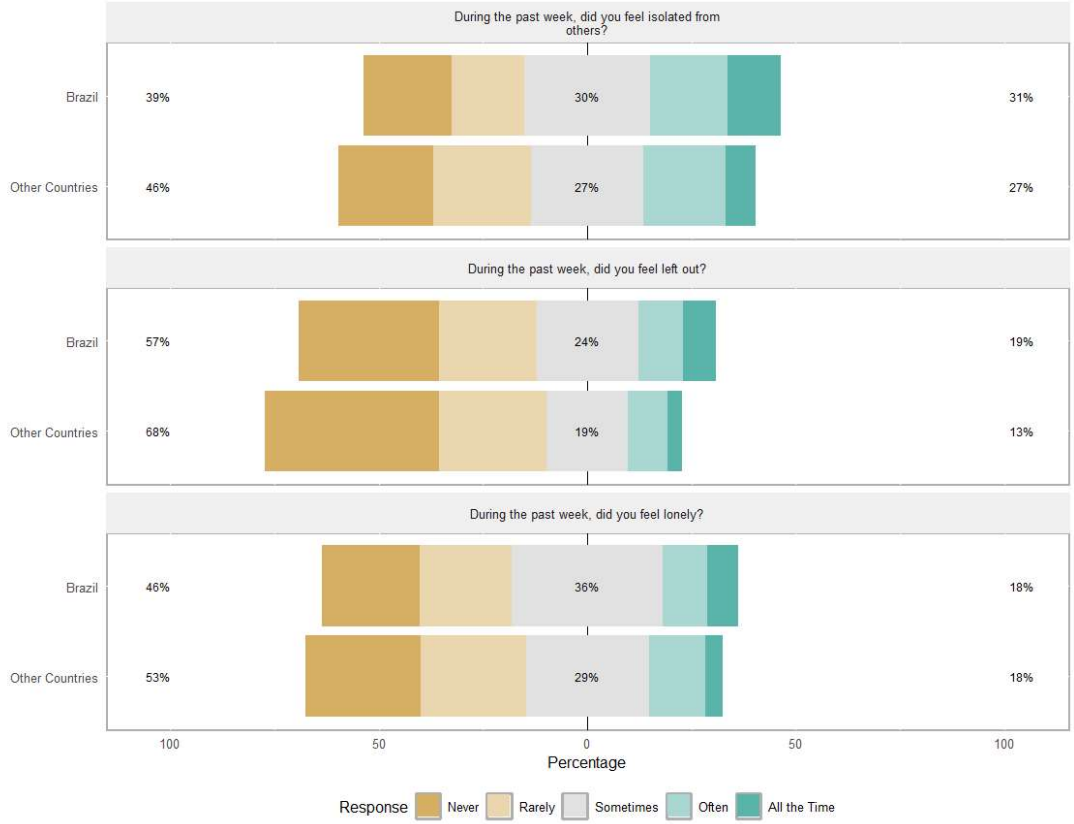

During the past week, did you feel isolated from others?
Brazil
Other Countries
39%
30%
31%
46%
27%
27%
During the past week, did you feel left out?
57%
24%
19%
68%
19%
13%
During the past week, did you feel lonely?
46%
36%
18%
53%
29%
18%
100
50
0
50
100
Percentage
Response
Never
Rarely
Sometimes
Often
All the Time

Fig 7.

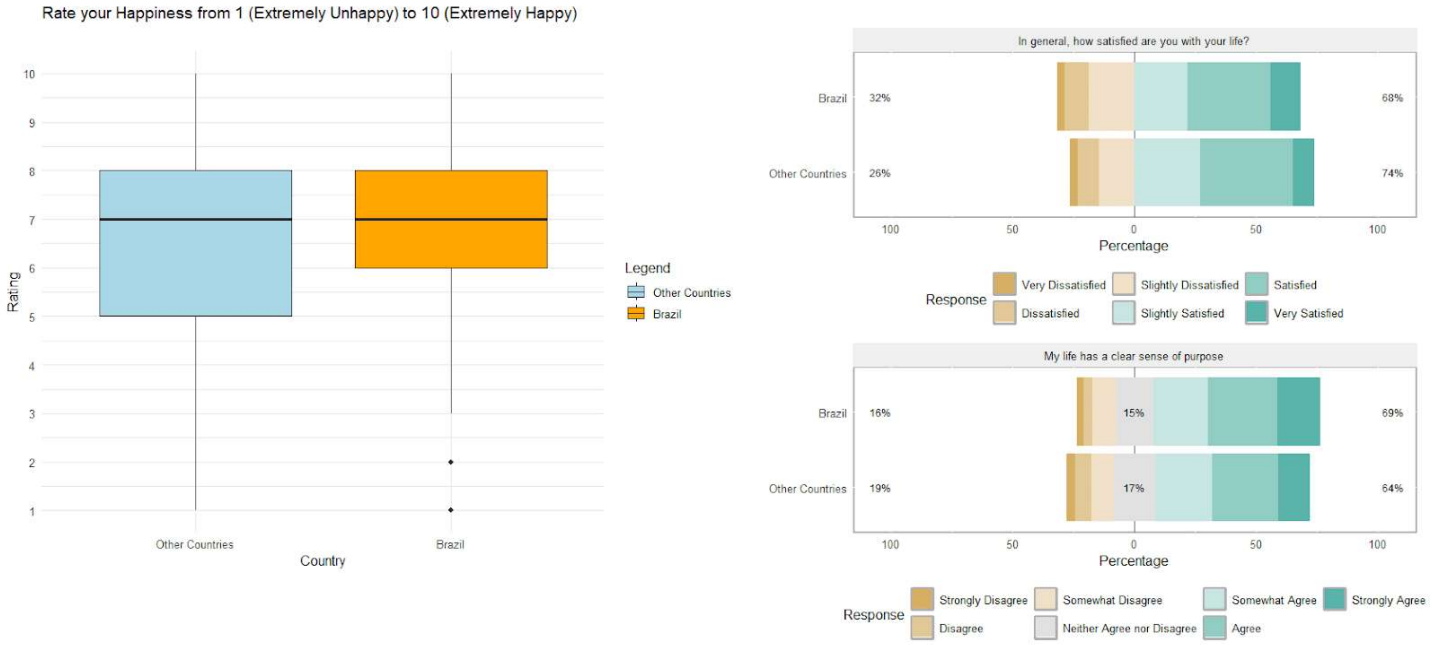

Rate your Happiness from 1 (Extremely Unhappy) to 10 (Extremely Happy)
Rating
Country
Other Countries
Brazil
Legend
In general, how satisfied are you with your life?
Brazil
Other Countries
32%
68%
26%
74%
Percentage
Response
Very Dissatisfied
Slightly Dissatisfied
Satisfied
Dissatisfied
Slightly Satisfied
Very Satisfied
My life has a clear sense of purpose
16%
15%
69%
19%
17%
64%
Strongly Disagree
Somewhat Disagree
Somewhat Agree
Strongly Agree
Disagree
Neither Agree nor Disagree
Agree

Fig 8.

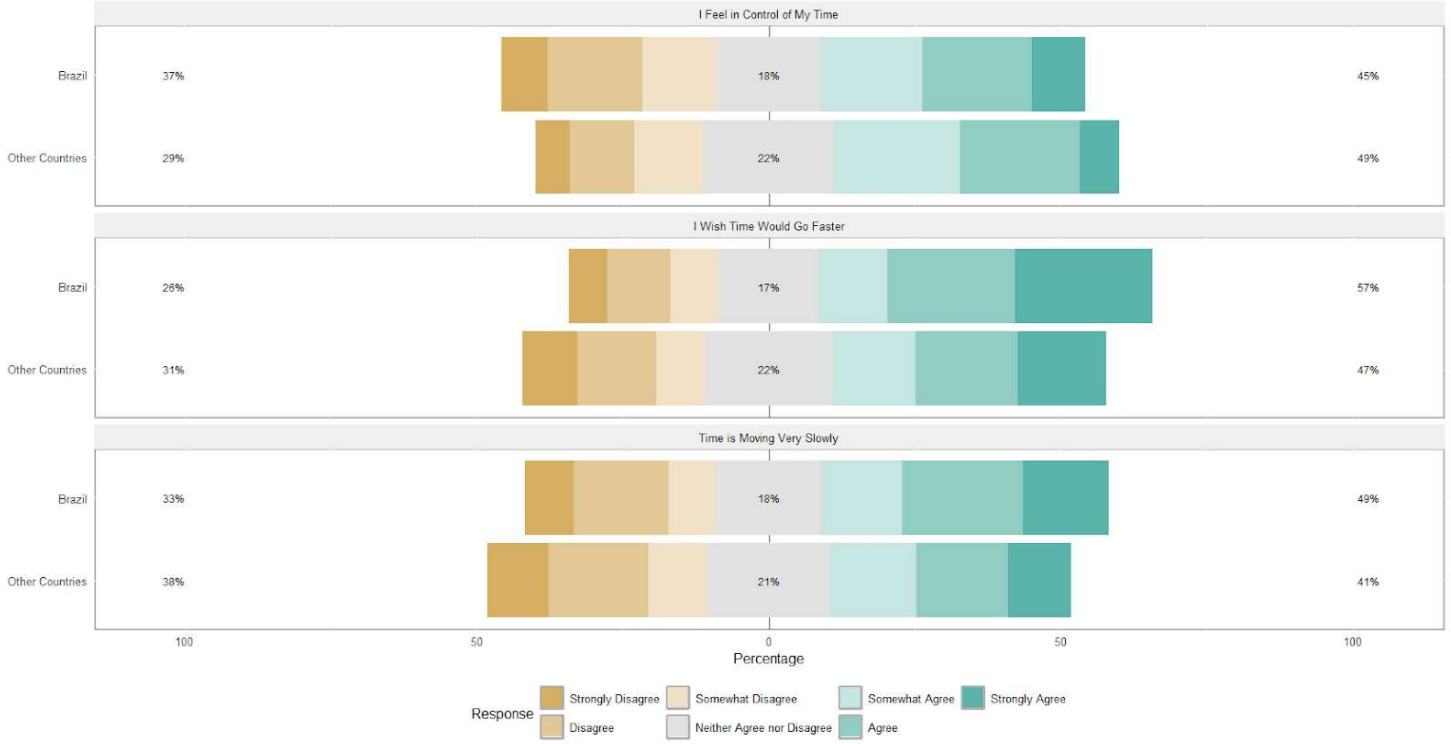

I Feel in Control of My Time
Brazil
Other Countries
37%
18%
45%
29%
22%
49%
I Wish Time Would Go Faster
26%
17%
57%
31%
22%
47%
Time is Moving Very Slowly
33%
18%
49%
38%
21%
41%
Percentage
Response
Strongly Disagree
Somewhat Disagree
Somewhat Agree
Strongly Agree
Disagree
Neither Agree nor Disagree
Agree

Fig 9.

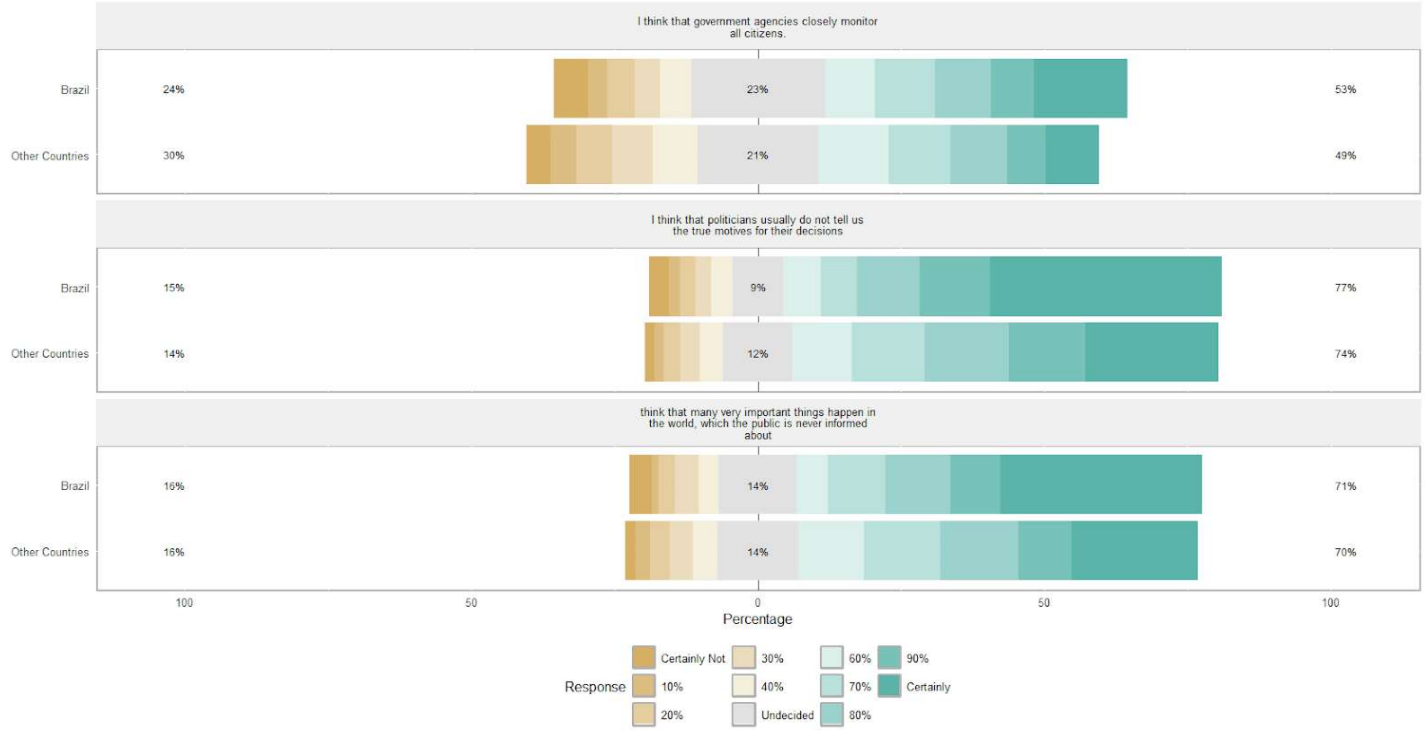

I think that government agencies closely monitor all citizens.
Brazil
24%
23%
53%
Other Countries
30%
21%
49%
I think that politicians usually do not tell us the true motives for their decisions
Brazil
15%
9%
77%
Other Countries
14%
12%
74%
think that many very important things happen in the world, which the public is never informed about
Brazil
16%
14%
71%
Other Countries
16%
14%
70%
100
50
0
50
100
Percentage
Response
Certainly Not
10%
20%
30%
40%
Undecided
60%
70%
80%
90%
Certainly

Fig 10.

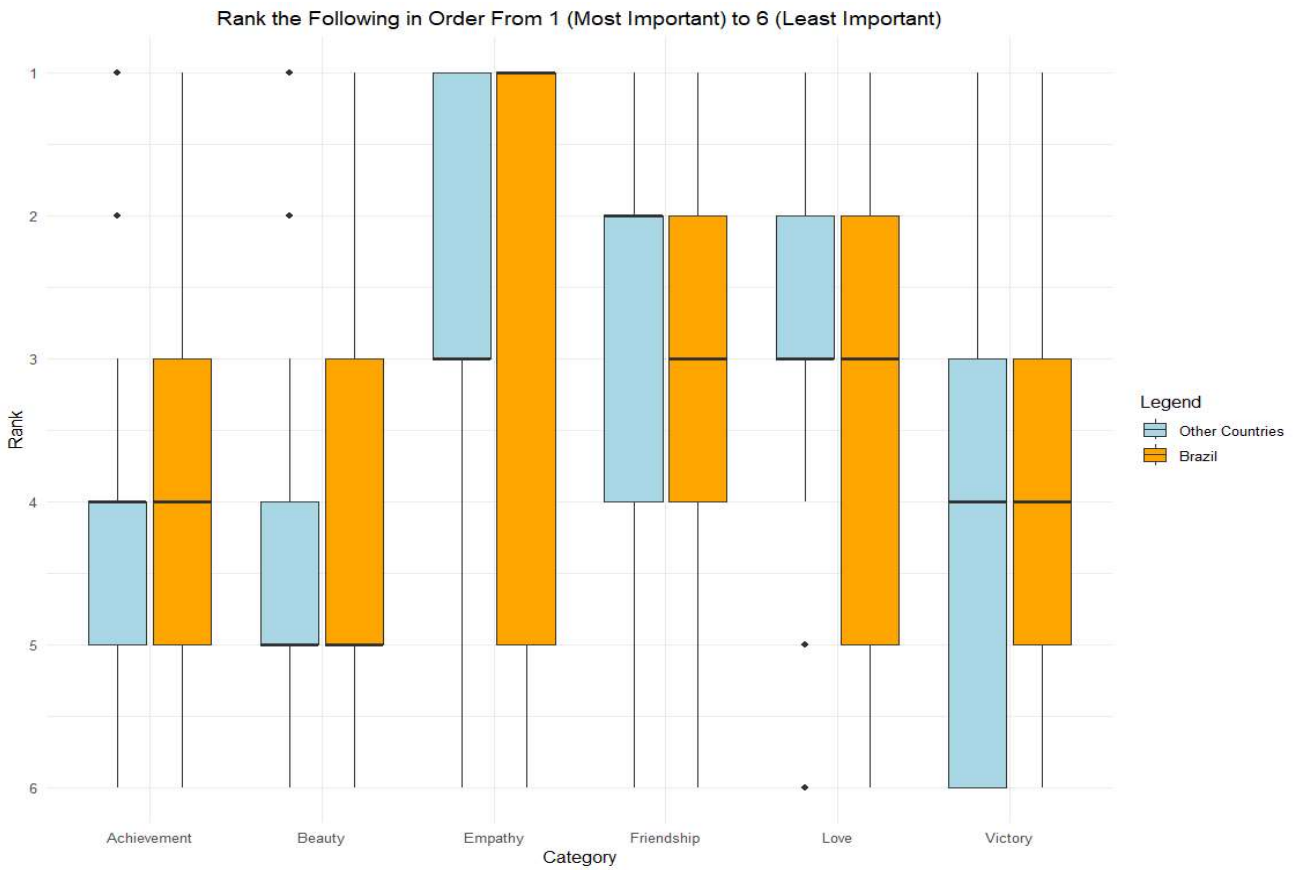

Rank the Following in Order From 1 (Most Important) to 6 (Least Important)
Rank
1
2
3
4
5
6
Achievement
Beauty
Empathy
Friendship
Love
Victory
Category
Legend
Other Countries
Brazil

Fig 11.

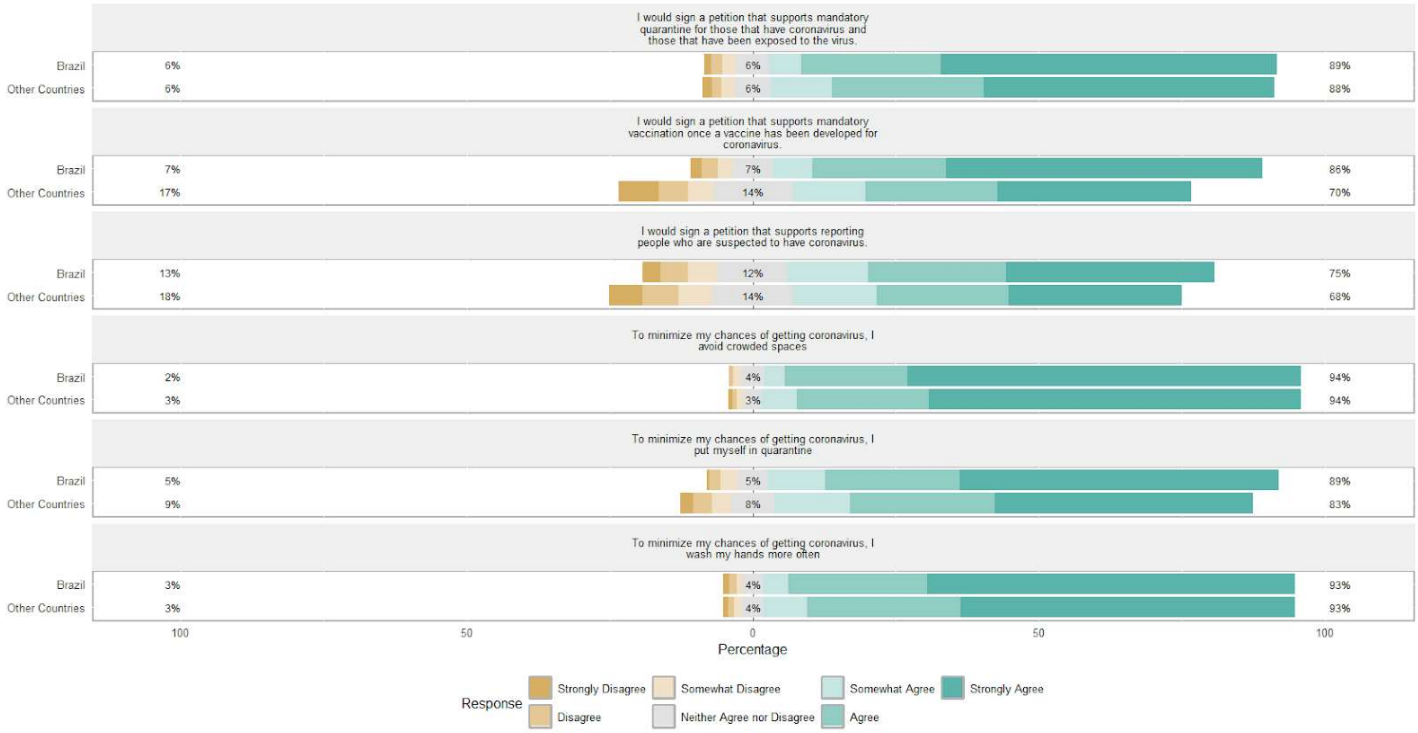

I would sign a petition that supports mandatory quarantine for those that have coronavirus and those that have been exposed to the virus.
Brazil
Other Countries
6%
6%
6%
6%
89%
88%
I would sign a petition that supports mandatory vaccination once a vaccine has been developed for coronavirus.
Brazil
Other Countries
7%
17%
7%
14%
86%
70%
I would sign a petition that supports reporting people who are suspected to have coronavirus.
Brazil
Other Countries
13%
18%
12%
14%
75%
68%
To minimize my chances of getting coronavirus, I avoid crowded spaces
Brazil
Other Countries
2%
3%
4%
3%
94%
94%
To minimize my chances of getting coronavirus, I put myself in quarantine
Brazil
Other Countries
5%
9%
5%
8%
89%
83%
To minimize my chances of getting coronavirus, I wash my hands more often
Brazil
Other Countries
3%
3%
4%
4%
93%
93%
100
50
0
50
100
Percentage
Response
Strongly Disagree
Disagree
Somewhat Disagree
Neither Agree nor Disagree
Somewhat Agree
Agree
Strongly Agree

Fig 12.

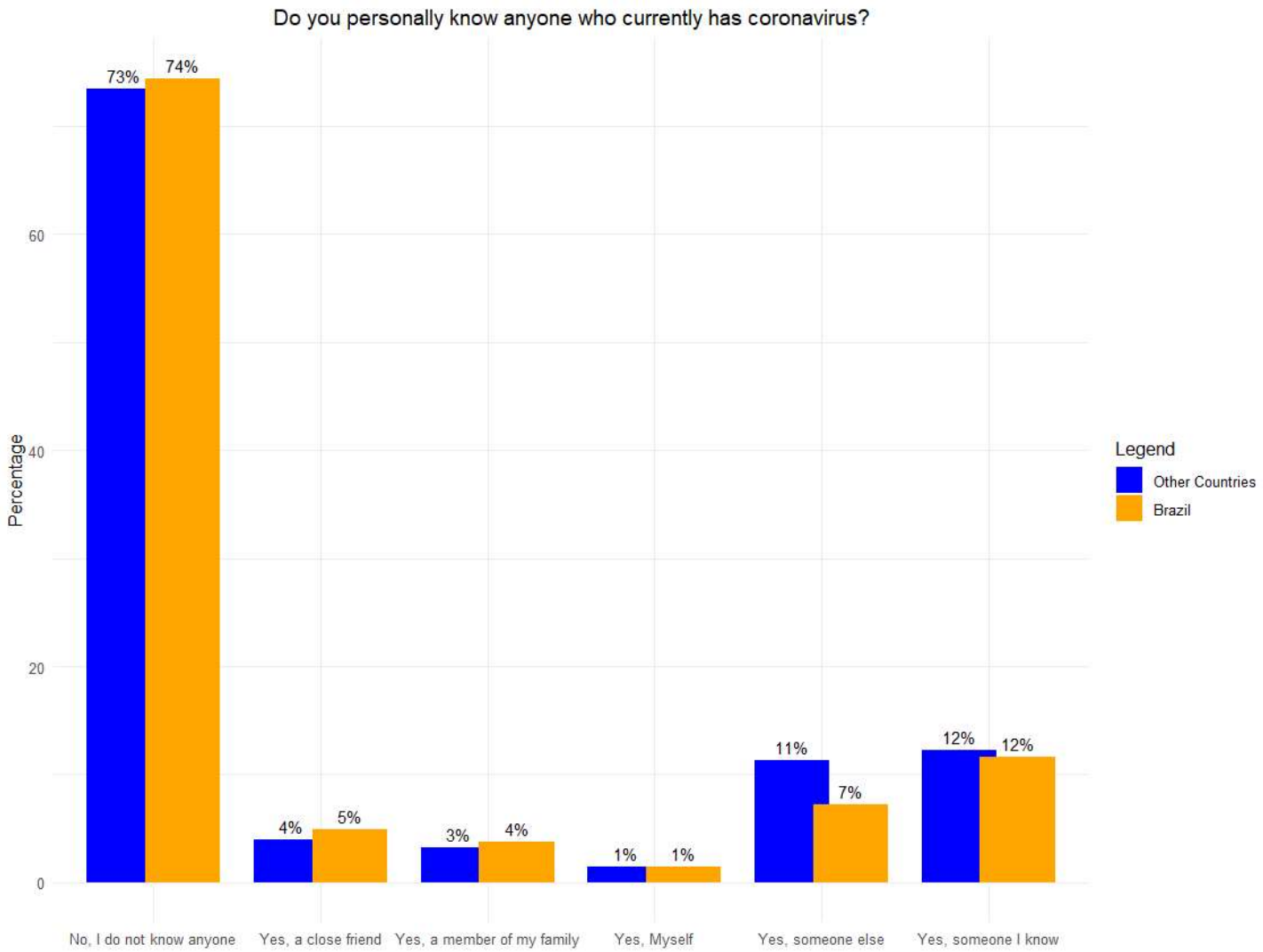

Do you personally know anyone who currently has coronavirus?
Percentage
0
20
40
60
73%
74%
4%
5%
3%
4%
1%
1%
11%
7%
12%
12%
No, I do not know anyone
Yes, a close friend
Yes, a member of my family
Yes, Myself
Yes, someone else
Yes, someone I know
Legend
Other Countries
Brazil

Fig 13.

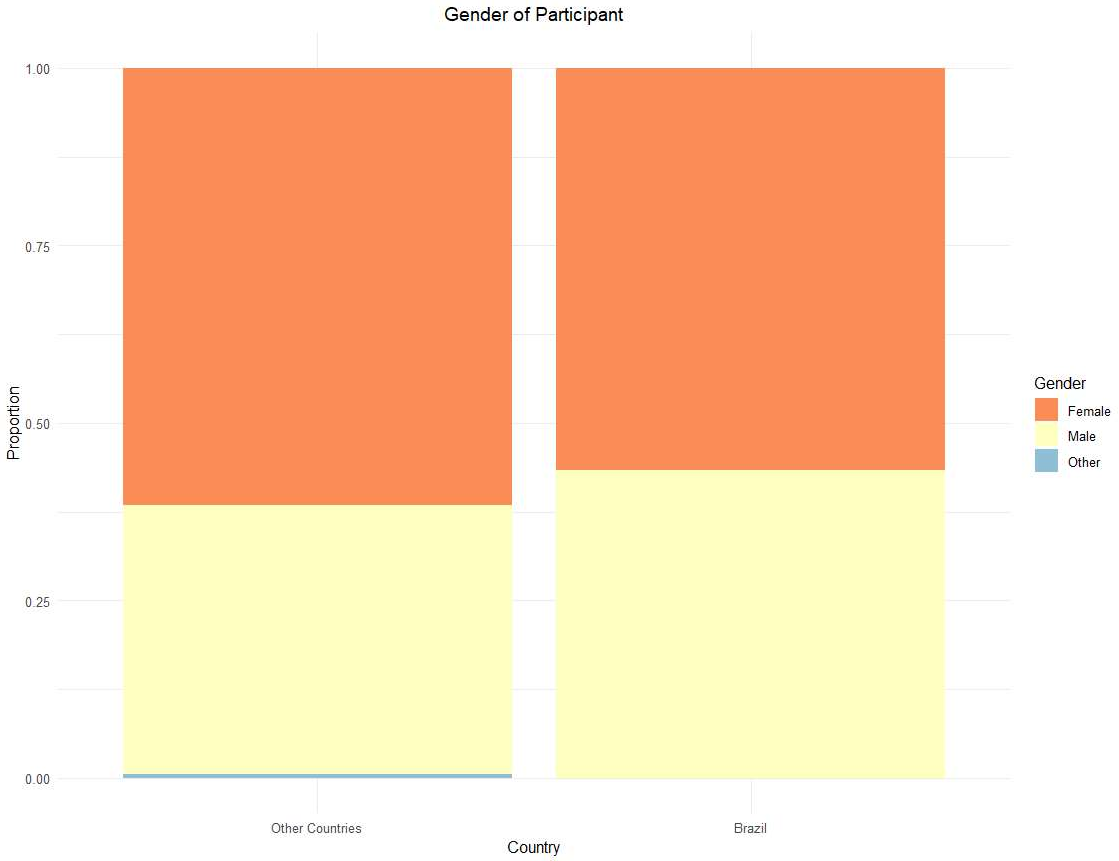

Gender of Participant
1.00
0.75
0.50
0.25
0.00
Proportion
Other Countries
Brazil
Country
Gender
Female
Male
Other

Fig 14.

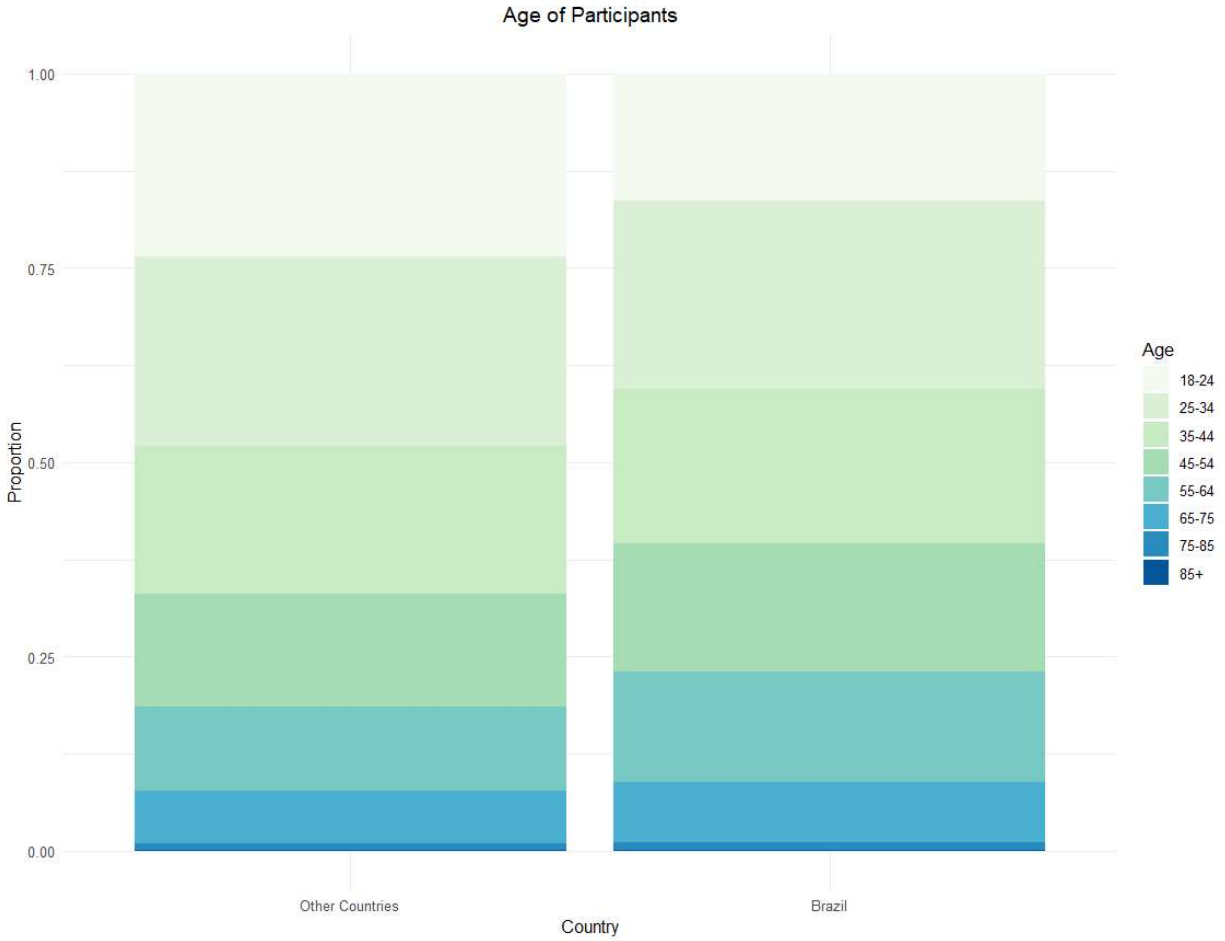

Age of Participants
1.00
0.75
0.50
0.25
0.00
Proportion
Other Countries
Brazil
Country
Age
18-24
25-34
35-44
45-54
55-64
65-75
75-85
85+

Fig 15.

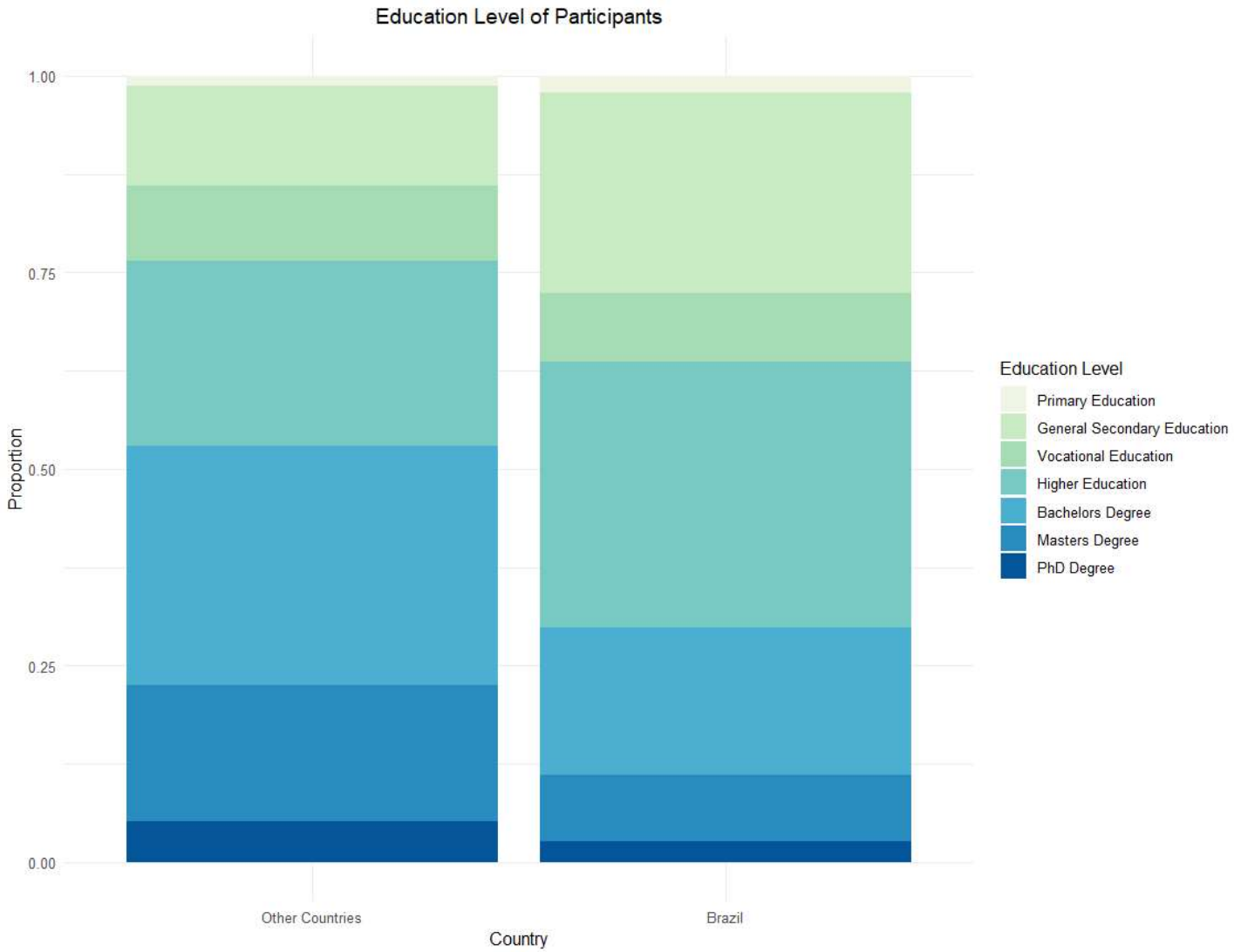

Education Level of Participants
1.00
0.75
0.50
0.25
0.00
Proportion
Other Countries
Brazil
Country
Education Level
Primary Education
General Secondary Education
Vocational Education
Higher Education
Bachelors Degree
Masters Degree
PhD Degree

Fig 16.

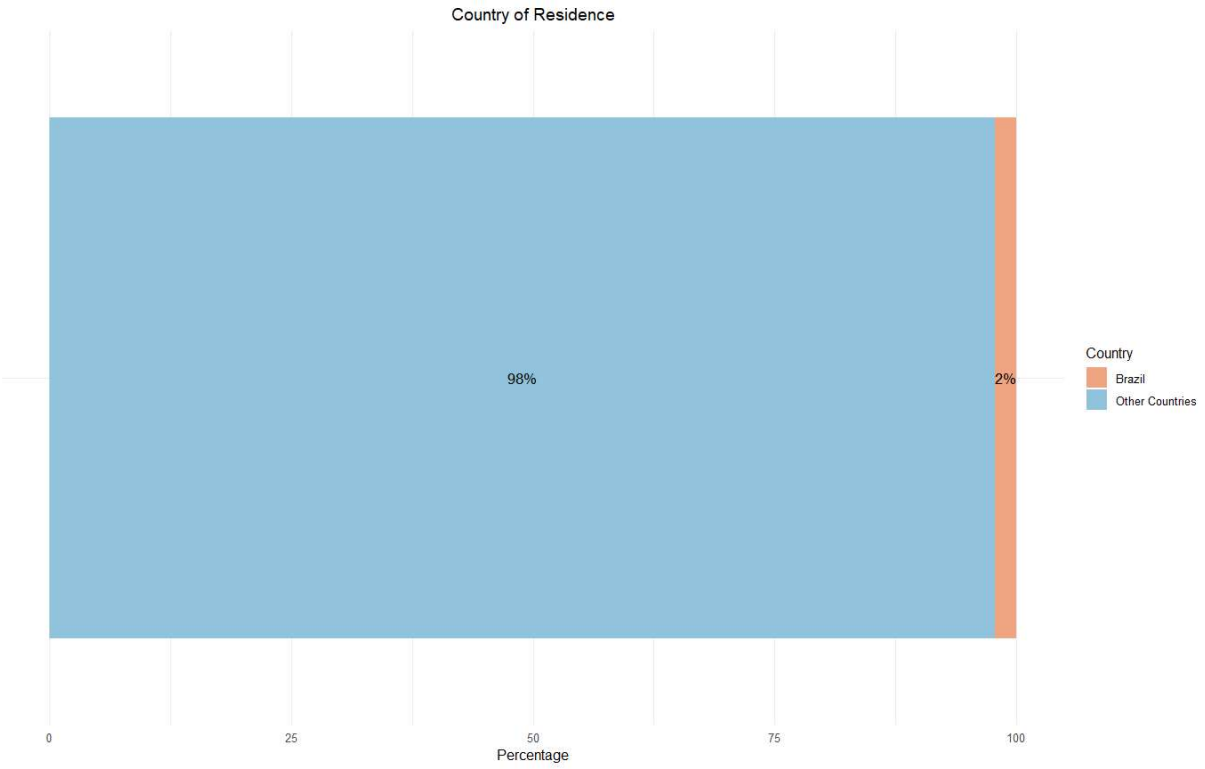
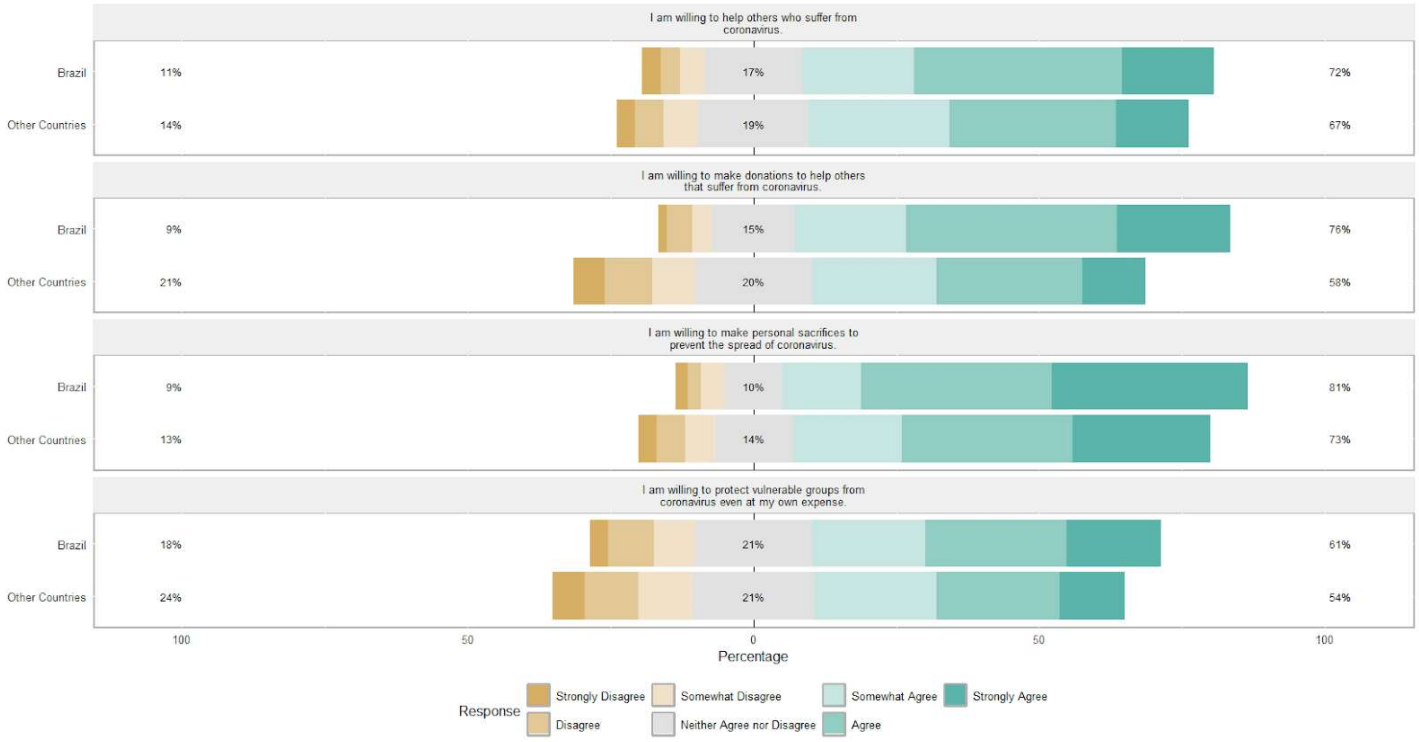

Country of Residence
98%
2%
0
25
50
75
100
Percentage
Country
Brazil
Other Countries

Fig 17.


I am willing to help others who suffer from coronavirus.
Brazil
11%
17%
72%
Other Countries
14%
19%
67%
I am willing to make donations to help others that suffer from coronavirus.
Brazil
9%
15%
76%
Other Countries
21%
20%
58%
I am willing to make personal sacrifices to prevent the spread of coronavirus.
Brazil
9%
10%
81%
Other Countries
13%
14%
73%
I am willing to protect vulnerable groups from coronavirus even at my own expense.
Brazil
18%
21%
61%
Other Countries
24%
21%
54%
100
50
0
50
100
Percentage
Response
Strongly Disagree
Disagree
Somewhat Disagree
Neither Agree nor Disagree
Somewhat Agree
Agree
Strongly Agree

Brazil Regression Data (2b)

Brazil c19ProSo01
R-Squared = 0.1954
P-Value = 6.416e-15
Residual Data:

1Q	Median	3Q
-0.7084	0.2260	0.9187

Attribute	c19perBeh01	bor01	c19RCA01	employstatus_10
Meaning	To minimize my chances of getting coronavirus, I wash my hands more often	I wish time would go by faster	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	I am a volunteer
P-value	9.1e-05	0.00145	0.00305	0.00499
Est. Coefficient	0.268787	0.113238	0.127370	0.915019

```
Residuals:
    Min      1Q  Median      3Q     Max 
-4.2202 -0.7084  0.2260  0.9187  3.2779 

Coefficients: (1 not defined because of singularities)
                      Estimate Std. Error t value Pr(>|t|)    
(Intercept)           1.027648   0.775762   1.325  0.18569    
employstatus_1        0.263493   0.161530   1.631  0.10328    
employstatus_2        0.230316   0.171364   1.344  0.17936    
employstatus_3        0.271696   0.166616   1.631  0.10339    
employstatus_4        0.340280   0.196318   1.733  0.08347 .  
employstatus_5       -0.287392   0.248595  -1.156  0.24803    
employstatus_6        0.019290   0.211161   0.091  0.92724    
employstatus_7       -0.073150   0.208744  -0.350  0.72612    
employstatus_8       -0.349303   0.785307  -0.445  0.65660    
employstatus_9       -0.119180   0.190578  -0.625  0.53193    
employstatus_10       0.915019   0.324902   2.816  0.00499 ** 
isoFriends_inPerson   0.043176   0.022615   1.909  0.05663 .  
isoOthPpl_inPerson   -0.023372   0.026295  -0.889  0.37438    
isoFriends_online     0.046268   0.026524   1.744  0.08152 .  
isoOthPpl_online     -0.001602   0.023274  -0.069  0.94514    
lone01                0.011354   0.059677   0.190  0.84916    
lone02                0.080262   0.052928   1.516  0.12984    
lone03               -0.052826   0.055978  -0.944  0.34564    
happy                 0.037524   0.030649   1.224  0.22123    
lifeSat               0.070330   0.053123   1.324  0.18595    
MLQ                   0.083301   0.040779   2.043  0.04144 *  
bor01                 0.113238   0.035412   3.198  0.00145 ** 
bor02                -0.058301   0.034579  -1.686  0.09222 .  
bor03                 0.010757   0.028551   0.377  0.70647    
consp01              -0.036394   0.022800  -1.596  0.11087    
consp02               0.019609   0.023394   0.838  0.40220    
consp03               0.024733   0.018489   1.338  0.18140    
rank_A                0.062813   0.037088   1.694  0.09076 .  
rank_B                0.010314   0.036635   0.282  0.77838    
rank_C                0.053834   0.036942   1.457  0.14547    
rank_D               -0.040461   0.038456  -1.052  0.29309    
rank_E                0.013177   0.034848   0.378  0.70545    
rank_F                      NA         NA      NA       NA    
c19perBeh01           0.268787   0.068298   3.935  9.1e-05 ***
c19perBeh02          -0.073911   0.090415  -0.817  0.41393    
c19perBeh03          -0.048859   0.054118  -0.903  0.36693    
c19RCA01              0.127370   0.042848   2.973  0.00305 ** 
c19RCA02             -0.027231   0.055925  -0.487  0.62647    
c19RCA03              0.068657   0.034232   2.006  0.04527 *  
coronaClose_1         0.771512   0.435449   1.772  0.07685 .  
coronaClose_2        -0.141697   0.354359  -0.400  0.68937    
coronaClose_3        -0.079037   0.314859  -0.251  0.80187    
coronaClose_4        -0.093658   0.303295  -0.309  0.75756    
coronaClose_5        -0.023083   0.322547  -0.072  0.94297    
coronaClose_6        -0.115375   0.310539  -0.372  0.71035    
gender                0.154669   0.102871   1.504  0.13314    
age                  -0.033869   0.040007  -0.847  0.39752    
edu                  -0.021447   0.035437  -0.605  0.54523    
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.295 on 726 degrees of freedom
  (98 observations deleted due to missingness)
Multiple R-squared:  0.1954,	Adjusted R-squared:  0.1445 
F-statistic: 3.834 on 46 and 726 DF,  p-value: 6.416e-15
```

Brazil c19ProSo02
R-Squared = 0.2553
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.6236	0.1735	0.8230

Attribute	c19RCA01	lifeSat	c19perBeh03	employstatus_10
Meaning	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	In general, how satisfied are you with your life?	To minimize my chances of getting coronavirus, put myself in quarantine.	I am a volunteer
P-Value	0.00124	0.00339	0.01159	0.01991
Est. Coefficient	0.127789	0.143611	0.125953	0.697136

```
Residuals:
    Min      1Q  Median      3Q     Max 
-4.3156 -0.6236  0.1735  0.8230  2.6728 

Coefficients: (1 not defined because of singularities)
                     Estimate Std. Error t value Pr(>|t|)    
(Intercept)          1.670808   0.713423   2.342  0.01945 *  
employstatus_1       0.011165   0.148550   0.075  0.94011    
employstatus_2      -0.045065   0.157594  -0.286  0.77499    
employstatus_3       0.161085   0.153227   1.051  0.29348    
employstatus_4      -0.199893   0.180542  -1.107  0.26858    
employstatus_5       0.080125   0.228618   0.350  0.72608    
employstatus_6      -0.274725   0.194192  -1.415  0.15758    
employstatus_7       0.095659   0.191970   0.498  0.61842    
employstatus_8       0.998532   0.722201   1.383  0.16721    
employstatus_9      -0.121033   0.175264  -0.691  0.49005    
employstatus_10      0.697136   0.298793   2.333  0.01991 *  
isoFriends_inPerson  0.024682   0.020798   1.187  0.23571    
isoOthPpl_inPerson  -0.018222   0.024182  -0.754  0.45138    
isoFriends_online    0.005755   0.024393   0.236  0.81354    
isoOthPpl_online     0.042170   0.021404   1.970  0.04919 *  
lone01              -0.019528   0.054882  -0.356  0.72208    
lone02               0.100749   0.048675   2.070  0.03882 *  
lone03              -0.020733   0.051479  -0.403  0.68726    
happy                0.058195   0.028186   2.065  0.03931 *  
lifeSat              0.143611   0.048854   2.940  0.00339 ** 
MLQ                  0.012099   0.037502   0.323  0.74708    
bor01                0.066722   0.032566   2.049  0.04084 *  
bor02               -0.015403   0.031801  -0.484  0.62828    
bor03                0.019142   0.026257   0.729  0.46622    
consp01             -0.002034   0.020967  -0.097  0.92274    
consp02              0.015281   0.021514   0.710  0.47777    
consp03             -0.016183   0.017003  -0.952  0.34154    
rank_A               0.011387   0.034107   0.334  0.73858    
rank_B               0.057070   0.033691   1.694  0.09071 .  
rank_C               0.007494   0.033973   0.221  0.82547    
rank_D              -0.060389   0.035366  -1.708  0.08815 .  
rank_E              -0.024894   0.032047  -0.777  0.43754    
rank_F                     NA         NA      NA       NA    
c19perBeh01          0.111697   0.062810   1.778  0.07577 .  
c19perBeh02         -0.018788   0.083149  -0.226  0.82130    
c19perBeh03          0.125953   0.049769   2.531  0.01159 *  
c19RCA01             0.127789   0.039405   3.243  0.00124 ** 
c19RCA02             0.048456   0.051431   0.942  0.34642    
c19RCA03             0.052867   0.031482   1.679  0.09352 .  
coronaClose_1        0.283990   0.400457   0.709  0.47845    
coronaClose_2        0.236835   0.325883   0.727  0.46762    
coronaClose_3       -0.154801   0.289557  -0.535  0.59308    
coronaClose_4       -0.056437   0.278922  -0.202  0.83971    
coronaClose_5        0.002255   0.296628   0.008  0.99394    
coronaClose_6       -0.130565   0.285584  -0.457  0.64768    
gender              -0.176988   0.094604  -1.871  0.06177 .  
age                 -0.076370   0.036792  -2.076  0.03827 *  
edu                 -0.070252   0.032590  -2.156  0.03144 *  
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.191 on 726 degrees of freedom
  (98 observations deleted due to missingness)
Multiple R-squared:  0.2553,	Adjusted R-squared:  0.2081 
F-statistic: 5.409 on 46 and 726 DF,  p-value: < 2.2e-16
```

Brazil c19ProSo03
R-Squared = 0.16
P-Value = 5.383e-10
Residual Data:

1Q	Median	3Q
-0.9242	0.2141	1.0945

Attribute	bor01	c19RCA01	Age	employstatus_10
Meaning	I wish time would go by faster	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	Age range of the participant	I am a volunteer
P-Value	0.00119	0.01492	0.02046	0.02774
Est Coefficient	0.134965	0.122448	-0.108830	0.839129

```
Residuals:
    Min      1Q  Median      3Q     Max 
-4.6792 -0.9242  0.2141  1.0945  3.4769 

Coefficients: (1 not defined because of singularities)
                     Estimate Std. Error t value Pr(>|t|)    
(Intercept)          2.430460   0.908476   2.675  0.00763 ** 
employstatus_1       0.090490   0.189164   0.478  0.63253    
employstatus_2      -0.022153   0.200681  -0.110  0.91213    
employstatus_3       0.355649   0.195120   1.823  0.06876 .  
employstatus_4      -0.104329   0.229903  -0.454  0.65011    
employstatus_5      -0.465195   0.291124  -1.598  0.11049    
employstatus_6      -0.407070   0.247285  -1.646  0.10016    
employstatus_7      -0.138237   0.244455  -0.565  0.57191    
employstatus_8       1.191698   0.919654   1.296  0.19545    
employstatus_9      -0.268513   0.223182  -1.203  0.22932    
employstatus_10      0.839129   0.380485   2.205  0.02774 *  
isoFriends_inPerson  0.001448   0.026484   0.055  0.95640    
isoOthPpl_inPerson   0.006000   0.030793   0.195  0.84556    
isoFriends_online   -0.015948   0.031062  -0.513  0.60782    
isoOthPpl_online     0.023825   0.027256   0.874  0.38234    
lone01               0.052119   0.069886   0.746  0.45605    
lone02              -0.017933   0.061983  -0.289  0.77242    
lone03              -0.044430   0.065554  -0.678  0.49814    
happy                0.051016   0.035892   1.421  0.15564    
lifeSat              0.072471   0.062211   1.165  0.24443    
MLQ                 -0.002210   0.047756  -0.046  0.96311    
bor01                0.134965   0.041470   3.255  0.00119 ** 
bor02               -0.048549   0.040495  -1.199  0.23096    
bor03                0.006588   0.033436   0.197  0.84386    
consp01             -0.009626   0.026700  -0.361  0.71856    
consp02             -0.040639   0.027396  -1.483  0.13841    
consp03              0.036862   0.021652   1.703  0.08909 .  
rank_A              -0.012032   0.043432  -0.277  0.78183    
rank_B               0.031185   0.042902   0.727  0.46753    
rank_C               0.028300   0.043262   0.654  0.51322    
rank_D              -0.068832   0.045035  -1.528  0.12685    
rank_E               0.020534   0.040809   0.503  0.61500    
rank_F                     NA         NA      NA       NA    
c19perBeh01          0.117567   0.079982   1.470  0.14202    
c19perBeh02         -0.137439   0.105882  -1.298  0.19469    
c19perBeh03          0.121422   0.063376   1.916  0.05577 .  
c19RCA01             0.122448   0.050178   2.440  0.01492 *  
c19RCA02             0.087163   0.065492   1.331  0.18364    
c19RCA03             0.058055   0.040089   1.448  0.14800    
coronaClose_1        0.403860   0.509944   0.792  0.42864    
coronaClose_2        0.212182   0.414981   0.511  0.60929    
coronaClose_3       -0.077462   0.368724  -0.210  0.83366    
coronaClose_4       -0.220577   0.355181  -0.621  0.53478    
coronaClose_5       -0.346819   0.377727  -0.918  0.35883    
coronaClose_6       -0.422310   0.363664  -1.161  0.24592    
gender               0.115122   0.120469   0.956  0.33959    
age                 -0.108830   0.046852  -2.323  0.02046 *  
edu                 -0.063071   0.041500  -1.520  0.12900    
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.517 on 726 degrees of freedom
  (98 observations deleted due to missingness)
Multiple R-squared:  0.16,	Adjusted R-squared:  0.1068 
F-statistic: 3.006 on 46 and 726 DF,  p-value: 5.383e-10
```

Brazil c19ProSo04
R-Squared = 0.1901
P-Value = 3.858e-14
Residual Data:

1Q	Median	3Q
-0.4133	0.3121	0.8257

Attribute	c19RCA01	c19RCA03	isoFriends_online
Meaning	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	I would sign a petition that supports reporting people who are suspected to have coronavirus.	I wish time would go by faster
P-Value	0.01492	0.00854	0.03176
Est Coefficient	0.1358647	0.0901534	0.0569937

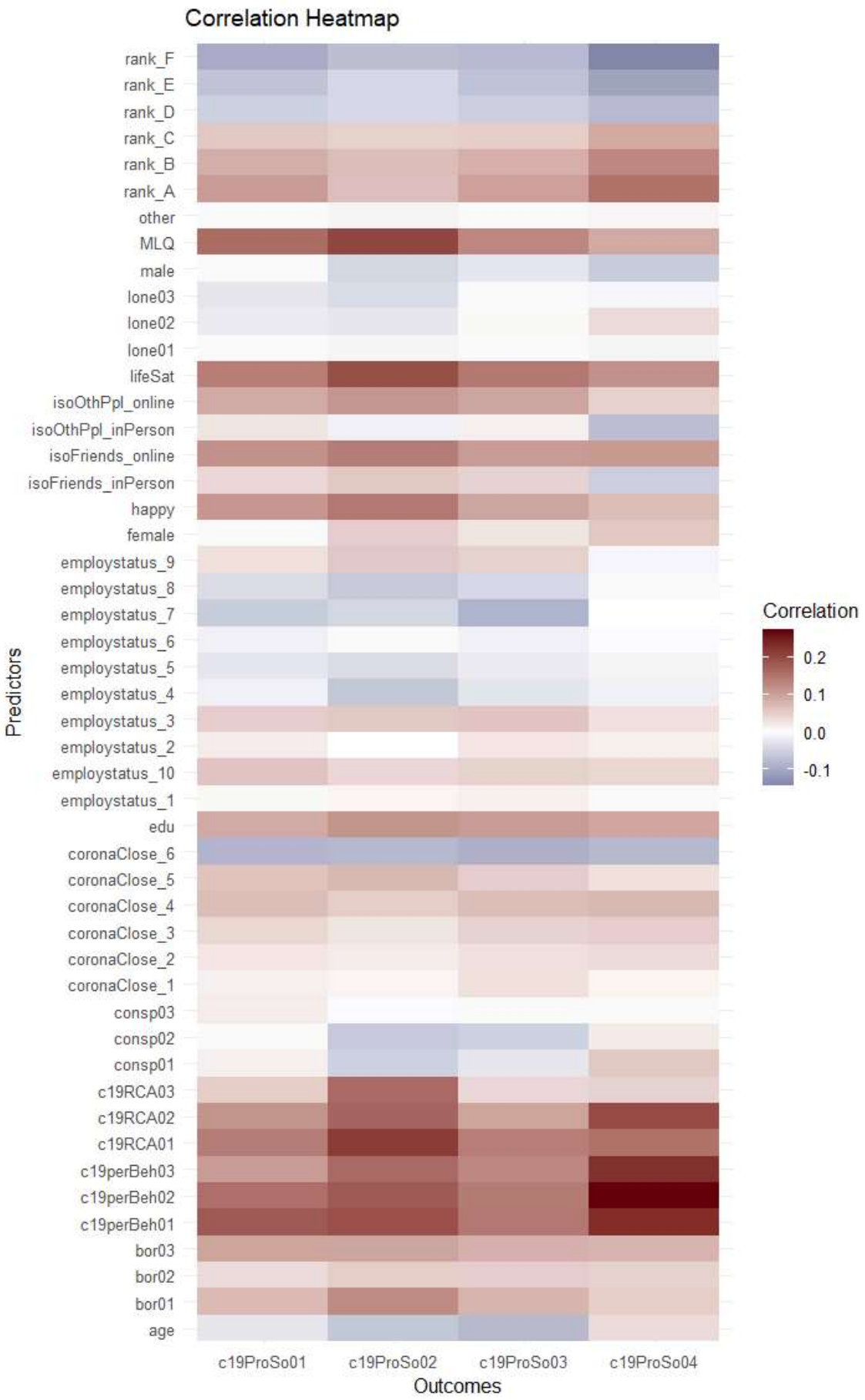
```
Residuals:
    Min      1Q  Median      3Q     Max 
-5.5642 -0.4133  0.3121  0.8257  2.7743 

Coefficients: (1 not defined because of singularities)
                      Estimate Std. Error t value Pr(>|t|)    
(Intercept)          2.2751588  0.7747280   2.937  0.00342 ** 
employstatus_1      -0.1183917  0.1613148  -0.734  0.46324    
employstatus_2      -0.0250093  0.1711359  -0.146  0.88385    
employstatus_3       0.0038777  0.1663937   0.023  0.98141    
employstatus_4      -0.2515086  0.1960562  -1.283  0.19996    
employstatus_5      -0.4768038  0.2482636  -1.921  0.05518 .  
employstatus_6      -0.2047836  0.2108793  -0.971  0.33183    
employstatus_7      -0.0592808  0.2084662  -0.284  0.77621    
employstatus_8      -1.0398693  0.7842605  -1.326  0.18528    
employstatus_9      -0.1179101  0.1903244  -0.620  0.53577    
employstatus_10      0.3161200  0.3244691   0.974  0.33025    
isoFriends_inPerson -0.0040385  0.0225848  -0.179  0.85813    
isoOthPpl_inPerson  -0.0288592  0.0262599  -1.099  0.27214    
isoFriends_online    0.0569937  0.0264890   2.152  0.03176 *  
isoOthPpl_online    -0.0092966  0.0232429  -0.400  0.68929    
lone01               0.0727040  0.0595976   1.220  0.22289    
lone02               0.0506576  0.0528578   0.958  0.33819    
lone03              -0.0874885  0.0559029  -1.565  0.11802    
happy                0.0218903  0.0306079   0.715  0.47472    
lifeSat             -0.0323361  0.0530518  -0.610  0.54237    
MLQ                  0.0677020  0.0407250   1.662  0.09686 .  
bor01               -0.0130650  0.0353646  -0.369  0.71191    
bor02               -0.0274963  0.0345333  -0.796  0.42616    
bor03               -0.0112197  0.0285133  -0.393  0.69407    
consp01             -0.0035295  0.0227691  -0.155  0.87685    
consp02             -0.0172329  0.0233631  -0.738  0.46099    
consp03              0.0056164  0.0184641   0.304  0.76108    
rank_A               0.0079735  0.0370381   0.215  0.82961    
rank_B               0.0232812  0.0365858   0.636  0.52475    
rank_C               0.0501839  0.0368928   1.360  0.17417    
rank_D              -0.0525643  0.0384048  -1.369  0.17152    
rank_E              -0.0079695  0.0348013  -0.229  0.81893    
rank_F                      NA         NA      NA       NA    
c19perBeh01          0.1188910  0.0682069   1.743  0.08174 .  
c19perBeh02          0.0246880  0.0902940   0.273  0.78461    
c19perBeh03          0.0844274  0.0540460   1.562  0.11869    
c19RCA01             0.1358647  0.0427910   3.175  0.00156 ** 
c19RCA02             0.0841600  0.0558501   1.507  0.13227    
c19RCA03             0.0901534  0.0341869   2.637  0.00854 ** 
coronaClose_1        0.5105984  0.4348688   1.174  0.24072    
coronaClose_2        0.2122314  0.3538868   0.600  0.54888    
coronaClose_3        0.1326609  0.3144393   0.422  0.67323    
coronaClose_4       -0.1024818  0.3028903  -0.338  0.73520    
coronaClose_5        0.0012178  0.3221172   0.004  0.99698    
coronaClose_6       -0.1159476  0.3101247  -0.374  0.70861    
gender               0.0004325  0.1027335   0.004  0.99664    
age                 -0.0353432  0.0399541  -0.885  0.37667    
edu                  0.0046347  0.0353900   0.131  0.89584    
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.294 on 726 degrees of freedom
  (98 observations deleted due to missingness)
Multiple R-squared:  0.1901,	Adjusted R-squared:  0.1388 
F-statistic: 3.705 on 46 and 726 DF,  p-value: 3.858e-14
```

Other Country Regression Data (2c)

Correlation Heatmap



Other Countries c19ProSo01
R-Squared = 0.1132
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.7466	0.1934	0.9671

Attribute	c19perBeh01	MLQ	c19perBeh02	c19RCA01
Meaning	To minimize my chances of getting coronavirus, I wash my hands more often.	My life has a clear sense of purpose.	To minimize my chances of getting coronavirus, I avoid crowded spaces.	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.
P-Value	< 2e-16	< 2e-16	5.14e-14	< 2e-16
Correlation Coeff.	0.180313299	0.159279332	0.155676679	0.139918773

```
Residuals:
    Min      1Q  Median      3Q     Max 
-5.1093 -0.7466  0.1934  0.9671  4.3675 

Coefficients: (1 not defined because of singularities)
                     Estimate Std. Error t value Pr(>|t|)    
(Intercept)          0.387515   0.120251   3.223 0.001272 ** 
employstatus_1       0.018206   0.027030   0.674 0.500603    
employstatus_2       0.054737   0.027973   1.957 0.050385 .  
employstatus_3       0.113453   0.026812   4.231 2.33e-05 ***
employstatus_4       0.082883   0.031430   2.637 0.008366 ** 
employstatus_5      -0.035424   0.036781  -0.963 0.335498    
employstatus_6      -0.055208   0.030598  -1.804 0.071193 .  
employstatus_7      -0.242475   0.037339  -6.494 8.48e-11 ***
employstatus_8      -0.152375   0.059498  -2.561 0.010441 *  
employstatus_9       0.120152   0.026411   4.549 5.40e-06 ***
employstatus_10      0.484736   0.049517   9.789  < 2e-16 ***
isoFriends_inPerson  0.019756   0.003479   5.679 1.36e-08 ***
isoOthPpl_inPerson   0.025332   0.003991   6.347 2.22e-10 ***
isoFriends_online    0.018236   0.003475   5.248 1.55e-07 ***
isoOthPpl_online     0.013079   0.003210   4.075 4.62e-05 ***
lone01               0.071885   0.009545   7.531 5.15e-14 ***
lone02              -0.046929   0.008385  -5.597 2.20e-08 ***
lone03               0.033941   0.009086   3.736 0.000187 ***
happy                0.020489   0.005412   3.786 0.000153 ***
lifeSat              0.041795   0.009332   4.479 7.53e-06 ***
MLQ                  0.078555   0.006132  12.811  < 2e-16 ***
bor01                0.037546   0.005357   7.009 2.45e-12 ***
bor02                0.003549   0.005365   0.661 0.508311    
bor03                0.049355   0.004979   9.912  < 2e-16 ***
consp01              0.011888   0.003930   3.025 0.002488 ** 
consp02             -0.020811   0.004129  -5.040 4.67e-07 ***
consp03              0.012056   0.003110   3.877 0.000106 ***
rank_A               0.097377   0.006530  14.912  < 2e-16 ***
rank_B               0.077142   0.006360  12.130  < 2e-16 ***
rank_C               0.052390   0.005835   8.978  < 2e-16 ***
rank_D               0.028256   0.006267   4.508 6.55e-06 ***
rank_E               0.012327   0.006190   1.992 0.046428 *  
rank_F                     NA         NA      NA       NA    
c19perBeh01          0.123015   0.009042  13.604  < 2e-16 ***
c19perBeh02          0.082324   0.010931   7.531 5.14e-14 ***
c19perBeh03          0.008987   0.006329   1.420 0.155572    
c19RCA01             0.072492   0.004753  15.253  < 2e-16 ***
c19RCA02             0.013186   0.007793   1.692 0.090665 .  
c19RCA03            -0.026169   0.005115  -5.116 3.14e-07 ***
coronaClose_1        0.190557   0.072163   2.641 0.008278 ** 
coronaClose_2        0.096500   0.047706   2.023 0.043102 *  
coronaClose_3        0.197590   0.043595   4.532 5.85e-06 ***
coronaClose_4        0.147931   0.035623   4.153 3.29e-05 ***
coronaClose_5        0.124053   0.036077   3.439 0.000585 ***
coronaClose_6       -0.030178   0.037060  -0.814 0.415471    
gender               0.092804   0.015893   5.839 5.28e-09 ***
age                  0.001838   0.006754   0.272 0.785533    
edu                  0.046091   0.005644   8.166 3.29e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.384 on 34359 degrees of freedom
  (4684 observations deleted due to missingness)
Multiple R-squared:  0.1132,	Adjusted R-squared:  0.112 
F-statistic: 95.33 on 46 and 34359 DF,  p-value: < 2.2e-16
```

Other Countries c19ProSo02
R-Squared = 0.1648
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.8799	0.2287	1.0734

Attribute	c19RCA01	MLQ	lifeSat	c19perBeh01
Meaning	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	My life has a clear sense of purpose.	Participant level of life satisfaction	To minimize my chances of getting coronavirus, I wash my hands more often.
P-Value	< 2e-16	< 2e-16	< 2e-16	< 2e-16
Correlation Coeff	0.2153153605	0.2048230515	0.1940621471	0.1900348719

```
Residuals:
    Min      1Q  Median      3Q     Max 
-5.3886 -0.8799  0.2287  1.0734  5.1448 

Coefficients: (1 not defined because of singularities)
                      Estimate Std. Error t value Pr(>|t|)    
(Intercept)          -0.2044875  0.1307070  -1.564  0.11772    
employstatus_1       -0.0006562  0.0293832  -0.022  0.98218    
employstatus_2       -0.0154220  0.0304095  -0.507  0.61206    
employstatus_3        0.1351896  0.0291472   4.638 3.53e-06 ***
employstatus_4       -0.1868611  0.0341667  -5.469 4.55e-08 ***
employstatus_5       -0.1192877  0.0399798  -2.984  0.00285 ** 
employstatus_6        0.0265635  0.0332582   0.799  0.42447    
employstatus_7       -0.0798194  0.0405811  -1.967  0.04920 *  
employstatus_8       -0.3354086  0.0646721  -5.186 2.16e-07 ***
employstatus_9        0.0832932  0.0287113   2.901  0.00372 ** 
employstatus_10       0.3590305  0.0537925   6.674 2.52e-11 ***
isoFriends_inPerson   0.0399927  0.0037815  10.576  < 2e-16 ***
isoOthPpl_inPerson   -0.0009605  0.0043386  -0.221  0.82480    
isoFriends_online     0.0192032  0.0037778   5.083 3.73e-07 ***
isoOthPpl_online      0.0249117  0.0034892   7.140 9.54e-13 ***
lone01                0.0729763  0.0103760   7.033 2.06e-12 ***
lone02               -0.0515241  0.0091152  -5.653 1.59e-08 ***
lone03                0.0357931  0.0098760   3.624  0.00029 ***
happy                 0.0255530  0.0058826   4.344 1.40e-05 ***
lifeSat               0.1025233  0.0101443  10.107  < 2e-16 ***
MLQ                   0.0935499  0.0066652  14.035  < 2e-16 ***
bor01                 0.0706815  0.0058243  12.136  < 2e-16 ***
bor02                -0.0064454  0.0058328  -1.105  0.26916    
bor03                 0.0291595  0.0054130   5.387 7.21e-08 ***
consp01              -0.0167712  0.0042725  -3.925 8.68e-05 ***
consp02              -0.0343117  0.0044885  -7.644 2.15e-14 ***
consp03               0.0124897  0.0033800   3.695  0.00022 ***
rank_A                0.0627755  0.0070972   8.845  < 2e-16 ***
rank_B                0.0731485  0.0069131  10.581  < 2e-16 ***
rank_C                0.0478222  0.0063423   7.540 4.81e-14 ***
rank_D                0.0171703  0.0068121   2.521  0.01172 *  
rank_E                0.0146447  0.0067276   2.177  0.02950 *  
rank_F                       NA         NA      NA       NA    
c19perBeh01           0.0999531  0.0098298  10.168  < 2e-16 ***
c19perBeh02           0.0755121  0.0118837   6.354 2.12e-10 ***
c19perBeh03           0.0546291  0.0068809   7.939 2.10e-15 ***
c19RCA01              0.1120986  0.0051667  21.696  < 2e-16 ***
c19RCA02             -0.0064143  0.0084715  -0.757  0.44896    
c19RCA03              0.0536485  0.0055605   9.648  < 2e-16 ***
coronaClose_1         0.0604747  0.0784385   0.771  0.44072    
coronaClose_2         0.1218388  0.0518552   2.350  0.01880 *  
coronaClose_3         0.1041132  0.0473860   2.197  0.02802 *  
coronaClose_4         0.0903662  0.0387220   2.334  0.01962 *  
coronaClose_5         0.1678458  0.0392149   4.280 1.87e-05 ***
coronaClose_6        -0.0499935  0.0402832  -1.241  0.21459    
gender               -0.0440540  0.0172762  -2.550  0.01078 *  
age                  -0.0409899  0.0073402  -5.584 2.36e-08 ***
edu                   0.0843874  0.0061349  13.755  < 2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.504 on 34357 degrees of freedom
  (4686 observations deleted due to missingness)
Multiple R-squared:  0.1648,	Adjusted R-squared:  0.1637 
F-statistic: 147.4 on 46 and 34357 DF,  p-value: < 2.2e-16
```

Other Countries c19ProSo03
R-Squared = 0.1127
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.9851	0.1877	1.1803

Attribute	c19perBeh01	lifeSat	c19perBeh02	c19RCA01
Meaning	To minimize my chances of getting coronavirus, I wash my hands more often.	Participant level of life satisfaction	To minimize my chances of getting coronavirus, I avoid crowded spaces.	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.
P-Value	< 2e-16	< 2e-16	3.09e-11	< 2e-16
Correlation Coeff	0.144347155	0.143268372	0.141135792	0.137849017

```
Residuals:
    Min      1Q  Median      3Q     Max 
-5.2460 -0.9851  0.1877  1.1803  5.0641 

Coefficients: (1 not defined because of singularities)
                      Estimate Std. Error t value Pr(>|t|)    
(Intercept)          0.2622534  0.1367490   1.918 0.055148 .  
employstatus_1       0.0719239  0.0307396   2.340 0.019301 *  
employstatus_2       0.0952044  0.0318163   2.992 0.002771 ** 
employstatus_3       0.1899040  0.0304966   6.227 4.81e-10 ***
employstatus_4       0.0074101  0.0357548   0.207 0.835817    
employstatus_5      -0.0126318  0.0418183  -0.302 0.762605    
employstatus_6      -0.0322816  0.0347991  -0.928 0.353592    
employstatus_7      -0.2451900  0.0424601  -5.775 7.78e-09 ***
employstatus_8      -0.1631371  0.0677150  -2.409 0.015994 *  
employstatus_9       0.1065238  0.0300432   3.546 0.000392 ***
employstatus_10      0.4195813  0.0563150   7.451 9.51e-14 ***
isoFriends_inPerson  0.0288377  0.0039562   7.289 3.18e-13 ***
isoOthPpl_inPerson   0.0194965  0.0045392   4.295 1.75e-05 ***
isoFriends_online    0.0111174  0.0039519   2.813 0.004909 ** 
isoOthPpl_online     0.0235657  0.0036505   6.455 1.09e-10 ***
lone01               0.0257323  0.0108554   2.370 0.017772 *  
lone02              -0.0166177  0.0095362  -1.743 0.081415 .  
lone03               0.0783423  0.0103308   7.583 3.45e-14 ***
happy                0.0085016  0.0061547   1.381 0.167193    
lifeSat              0.1096175  0.0106134  10.328  < 2e-16 ***
MLQ                  0.0419493  0.0069719   6.017 1.80e-09 ***
bor01                0.0345127  0.0060917   5.666 1.48e-08 ***
bor02                0.0182705  0.0061009   2.995 0.002749 ** 
bor03                0.0509905  0.0056622   9.005  < 2e-16 ***
consp01              0.0008307  0.0044697   0.186 0.852558    
consp02             -0.0457165  0.0046959  -9.735  < 2e-16 ***
consp03              0.0123473  0.0035366   3.491 0.000481 ***
rank_A               0.1026117  0.0074262  13.818  < 2e-16 ***
rank_B               0.0815709  0.0072333  11.277  < 2e-16 ***
rank_C               0.0492398  0.0066357   7.420 1.19e-13 ***
rank_D               0.0182195  0.0071273   2.556 0.010583 *  
rank_E               0.0011651  0.0070394   0.166 0.868543    
rank_F                      NA         NA      NA       NA    
c19perBeh01          0.0889968  0.0102819   8.656  < 2e-16 ***
c19perBeh02          0.0825991  0.0124312   6.644 3.09e-11 ***
c19perBeh03          0.0566608  0.0071978   7.872 3.59e-15 ***
c19RCA01             0.0847317  0.0054055  15.675  < 2e-16 ***
c19RCA02             0.0072678  0.0088639   0.820 0.412264    
c19RCA03            -0.0358425  0.0058180  -6.161 7.32e-10 ***
coronaClose_1        0.3480063  0.0819844   4.245 2.19e-05 ***
coronaClose_2        0.0578040  0.0542499   1.066 0.286651    
coronaClose_3        0.1572460  0.0495861   3.171 0.001520 ** 
coronaClose_4        0.0948932  0.0405265   2.342 0.019211 *  
coronaClose_5       -0.0017412  0.0410323  -0.042 0.966153    
coronaClose_6       -0.1251235  0.0421534  -2.968 0.002997 ** 
gender               0.0426353  0.0180731   2.359 0.018327 *  
age                 -0.0572341  0.0076794  -7.453 9.34e-14 ***
edu                  0.0670659  0.0064180  10.450  < 2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.574 on 34358 degrees of freedom
  (4685 observations deleted due to missingness)
Multiple R-squared:  0.1127,	Adjusted R-squared:  0.1116 
F-statistic: 94.91 on 46 and 34358 DF,  p-value: < 2.2e-16
```

Other Countries c19ProSo04
R-Squared = 0.1542
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.7002	0.3045	1.0251

Attribute	c19perBeh02	c19perBeh01	c19perBeh03	c19RCA02
Meaning	To minimize my chances of getting coronavirus, I avoid crowded spaces.	To minimize my chances of getting coronavirus, I wash my hands more often.	To minimize my chances of getting coronavirus, I put myself in quarantine.	"I would sign a petition that Supports mandatory quarantine for those that have coronavirus and those that have been exposed to the virus.
P-Value	< 2e-16	< 2e-16	< 2e-16	< 2e-16
Correlation Coeff	0.2723188175	0.2304197578	0.2274017933	0.1976518559

```
Residuals:
    Min      1Q  Median      3Q     Max 
-5.5919 -0.7002  0.3045  1.0251  4.5343 

Coefficients: (1 not defined because of singularities)
                     Estimate Std. Error t value Pr(>|t|)    
(Intercept)         -0.260354   0.123984  -2.100 0.035746 *  
employstatus_1       0.072248   0.027877   2.592 0.009554 ** 
employstatus_2       0.131332   0.028852   4.552 5.33e-06 ***
employstatus_3       0.182691   0.027654   6.606 4.00e-11 ***
employstatus_4       0.085308   0.032411   2.632 0.008491 ** 
employstatus_5       0.063117   0.037923   1.664 0.096050 .  
employstatus_6      -0.004522   0.031548  -0.143 0.886027    
employstatus_7      -0.024691   0.038497  -0.641 0.521282    
employstatus_8       0.180367   0.061398   2.938 0.003309 ** 
employstatus_9       0.057576   0.027234   2.114 0.034512 *  
employstatus_10      0.321918   0.051026   6.309 2.84e-10 ***
isoFriends_inPerson  0.001262   0.003586   0.352 0.724936    
isoOthPpl_inPerson   0.003124   0.004115   0.759 0.447711    
isoFriends_online    0.014678   0.003583   4.097 4.20e-05 ***
isoOthPpl_online     0.001854   0.003310   0.560 0.575349    
lone01              -0.014092   0.009841  -1.432 0.152177    
lone02               0.030378   0.008647   3.513 0.000443 ***
lone03               0.057512   0.009367   6.140 8.35e-10 ***
happy               -0.003120   0.005580  -0.559 0.576042    
lifeSat              0.085665   0.009622   8.903  < 2e-16 ***
MLQ                  0.012623   0.006321   1.997 0.045826 *  
bor01                0.004310   0.005523   0.780 0.435192    
bor02                0.028930   0.005532   5.230 1.70e-07 ***
bor03                0.042559   0.005133   8.290  < 2e-16 ***
consp01              0.031578   0.004052   7.794 6.67e-15 ***
consp02             -0.028629   0.004257  -6.725 1.78e-11 ***
consp03             -0.003217   0.003206  -1.003 0.315628    
rank_A               0.120205   0.006733  17.854  < 2e-16 ***
rank_B               0.102794   0.006558  15.675  < 2e-16 ***
rank_C               0.073416   0.006016  12.204  < 2e-16 ***
rank_D               0.037915   0.006462   5.868 4.46e-09 ***
rank_E               0.012020   0.006382   1.883 0.059665 .  
rank_F                     NA         NA      NA       NA    
c19perBeh01          0.092067   0.009322   9.876  < 2e-16 ***
c19perBeh02          0.173799   0.011270  15.421  < 2e-16 ***
c19perBeh03          0.095715   0.006525  14.668  < 2e-16 ***
c19RCA01             0.055457   0.004900  11.317  < 2e-16 ***
c19RCA02             0.108286   0.008036  13.475  < 2e-16 ***
c19RCA03            -0.059966   0.005274 -11.369  < 2e-16 ***
coronaClose_1        0.275338   0.074327   3.704 0.000212 ***
coronaClose_2        0.140499   0.049179   2.857 0.004281 ** 
coronaClose_3        0.233126   0.044937   5.188 2.14e-07 ***
coronaClose_4        0.127819   0.036724   3.481 0.000501 ***
coronaClose_5       -0.019730   0.037192  -0.531 0.595768    
coronaClose_6       -0.105598   0.038203  -2.764 0.005710 ** 
gender              -0.003037   0.016385  -0.185 0.852941    
age                  0.027287   0.006962   3.919 8.89e-05 ***
edu                  0.041789   0.005818   7.182 7.00e-13 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.427 on 34359 degrees of freedom
  (4684 observations deleted due to missingness)
Multiple R-squared:  0.1542,	Adjusted R-squared:  0.1531 
F-statistic: 136.2 on 46 and 34359 DF,  p-value: < 2.2e-16
```

otherCountry correlation table

	c19ProSo01	c19ProSo02	c19ProSo03	c19ProSo04
employstatus_1	0.005690684	0.007876043	0.01504904	0.002280419
employstatus_2	0.017322067	-0.000269734	0.022111273	0.016030365
employstatus_3	0.050193795	0.056889835	0.059104804	0.029292891
employstatus_4	-0.013119962	-0.065082966	-0.029949354	-0.01629027
employstatus_5	-0.026957254	-0.038209971	-0.023262907	-0.01076053
employstatus_6	-0.015644074	0.002157015	-0.016109347	-0.000594386
employstatus_7	-0.058498234	-0.047136751	-0.088743128	0.000408755
employstatus_8	-0.039129835	-0.064082763	-0.04206523	-0.001825513
employstatus_9	0.030750078	0.054431321	0.045695057	-0.007448108
employstatus_10	0.060195894	0.039673773	0.04686414	0.040741807
isoFriends_inPerson	0.038657381	0.05580354	0.044051257	-0.057985553
isoOthPpl_inPerson	0.025911129	-0.015447905	0.01341513	-0.073410306
isoFriends_online	0.116414262	0.139636591	0.107626858	0.108620455
isoOthPpl_online	0.088804622	0.112604007	0.096319095	0.047321767
lone01	-0.003570964	-0.009848553	0.004660972	-0.011564971
lone02	-0.022345259	-0.028569688	0.005663251	0.033240857
lone03	-0.028343179	-0.04133845	0.002034925	-0.007884432
happy	0.110052729	0.14323159	0.094796566	0.06674562
lifeSat	0.139136372	0.194062147	0.143268372	0.118217472

MLQ	0.159279332	0.204823052	0.125799591	0.090918061
bor01	0.073531489	0.124882548	0.079812534	0.050729181
bor02	0.034224735	0.053613819	0.050176638	0.047939675
bor03	0.097304395	0.094082769	0.081074099	0.078697082
consp01	0.014469735	-0.053717878	-0.028814464	0.055463471
consp02	-0.004152228	-0.060655347	-0.053276161	0.020745296
consp03	0.017638715	-0.000755384	-0.004483439	-0.001936446
c19perBeh01	0.180313299	0.190034872	0.144347155	0.230419758
c19perBeh02	0.155676679	0.179383269	0.141135792	0.272318818
c19perBeh03	0.103307652	0.162838533	0.127008955	0.227401793
c19RCA01	0.139918773	0.215315361	0.137849017	0.153732618
c19RCA02	0.114335122	0.167444743	0.097442399	0.197651856
c19RCA03	0.050509761	0.160004685	0.037672341	0.044588693
coronaClose_1	0.014752024	0.006558037	0.031443933	0.010476016
coronaClose_2	0.021955326	0.018866324	0.027362029	0.033195318
coronaClose_3	0.041821901	0.025328569	0.04443174	0.049005077
coronaClose_4	0.067199603	0.052328971	0.069771644	0.074871853
coronaClose_5	0.06090847	0.074140151	0.048743045	0.030790429
coronaClose_6	-0.087131918	-0.082702171	-0.091978763	-0.083115798
female	0.002757872	0.049007517	0.025245693	0.05826052
male	-0.003624739	-0.047760424	-0.026079779	-0.059616209
other	0.004566622	-0.010605923	0.005109789	0.008863094
age	-0.027991852	-0.064709905	-0.081602734	0.034417664
edu	0.089990182	0.113952473	0.105555285	0.092243774

rank_E	-0.068648646	-0.044402233	-0.070981355	-0.109582083
rank_C	0.055906945	0.04716458	0.051959649	0.091741654
rank_D	-0.053791387	-0.043371073	-0.056936039	-0.080836199
rank_B	0.084410729	0.069274541	0.081565217	0.127264336
rank_A	0.105536254	0.065467606	0.098196463	0.153914696
rank_F	-0.097638482	-0.075457151	-0.080415957	-0.144836061

Clustering (3a)

Clustering Table of Values

coded_country	ghs_overall_score	GDP_per_capita_2021	unemployment.rate.2021	happiness_score_2019	birth_rate_per_1000_2021	press_freedom_score_2021	CPI_score_2021
Albania	45	6377.2031	12.59	4.719	10.24	30.59	35
Algeria	26.2	3700.3147	13.729	5.211	21.524	47.26	33
Argentina	54.4	10650.8605	8.74	6.086	13.902	28.99	38
Armenia	61.8	4972.7832	10.01	4.559	12.049	28.83	49
Australia	71.1	60697.2454	5.12	7.228	12.1	19.79	73
Austria	56.9	53517.8904	6.46	7.246	9.6	16.34	74
Azerbaijan	34.7	5408.0454	6.04	5.208	11.1	58.77	30
Bahrain	36.3	26850.0034	1.548	6.199	11.926	61.1	42
Bangladesh	35.5	2457.924	5.246	4.456	17.821	49.71	26
Belarus	43.9	7489.7189	3.9	5.323	9.283	50.82	41
Belgium	59.3	51850.3972	6.26	6.923	10.2	11.69	73
Benin	25.4	1360.9115	1.784	4.883	36.608	38.18	42
Bosnia and Herzegovina	35.4	7230.1988	14.9	5.386	8.42	28.34	35

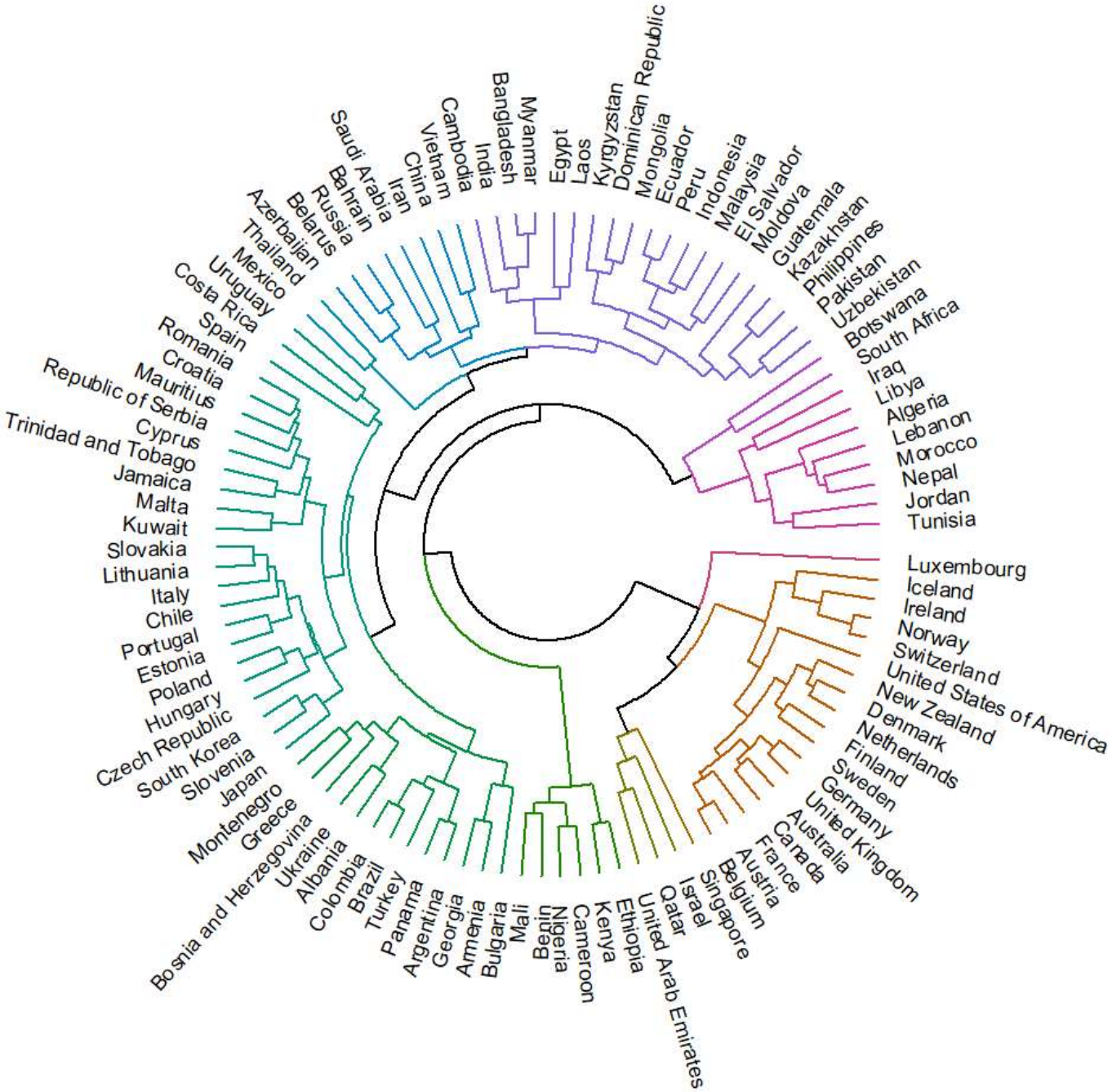
Botswana	33.6	7238.7961	23.11	3.488	23.576	23.25	55
Brazil	51.2	7696.7848	13.16	6.3	12.883	36.25	38
Bulgaria	59.9	12219.3419	5.27	5.011	8.5	37.29	42
Cambodia	31.1	1625.235	0.4	4.7	19.334	46.84	23
Cameroon	28.6	1654.257	4.145	5.044	34.938	43.78	27
Canada	69.8	52515.1998	7.53	7.278	9.6	15.25	74
Chile	56.2	16240.6078	9.28	6.444	11.788	27.89	67
China	47.5	12617.5051	4.55	5.191	7.52	78.72	45
Colombia	53.2	6182.7071	13.9	6.125	14.204	43.74	39
Costa Rica	40.8	12604.0488	15.14	7.167	11.873	8.76	58
Croatia	48.8	17809.0324	7.61	5.432	9.4	27.95	47
Cyprus	41.9	32745.8438	7.51	6.046	10.313	19.85	53
Czech Republic	52.8	26822.5142	2.8	6.852	10.6	23.38	54
Denmark	64.4	69268.6518	5.04	7.6	10.8	8.57	88
Dominican Republic	34.5	8476.7496	7.7	5.425	18.432	25.6	30
Ecuador	50.8	5965.1329	4.55	6.028	16.817	32.83	36
Egypt	28	3886.7225	7.44	4.166	22.558	56.17	33
El Salvador	40.8	4664.3112	4.33	6.253	16.025	30.49	34
Estonia	55.5	27943.7012	6.18	5.893	10	15.25	74
Ethiopia	37.8	925.0007	3.93	4.286	32.383	33.63	39
Finland	70.9	53504.6937	7.61	7.769	9	6.99	88
France	61.9	43671.3084	7.86	6.592	10.9	22.6	71
Georgia	52.6	5023.2744	11.851	4.519	13.412	28.64	55
Germany	65.5	51426.7504	3.64	6.985	9.6	15.24	80
Greece	51.5	20310.6825	14.66	5.287	8	29.01	49
Guatemala	29.1	5029.4776	2.17	6.436	21.12	38.45	25
Hungary	54.4	18753.0469	4.05	5.758	9.7	31.76	43

Iceland	48.5	68710.2442	6.03	7.494	13.1	15.37	74
India	42.8	2238.1271	6.38	4.015	16.419	46.56	40
Indonesia	50.4	4334.216	3.83	5.192	16.425	37.4	38
Iran	36.5	4084.2003	9.28	4.548	13.699	72.7	25
Iraq	24	4770.8353	16.17	4.437	27.367	55.57	23
Ireland	55.3	102001.7982	6.19	7.021	11.6	11.91	74
Israel	47.2	52129.516	4.81	7.139	19.7	30.9	59
Italy	51.9	36449.2583	9.5	6.223	6.8	23.39	56
Jamaica	31.8	5183.581	6.156	5.89	11.712	9.96	44
Japan	60.5	40058.5373	2.83	5.886	6.6	28.88	73
Jordan	42.8	4152.758	19.84	4.906	21.95	42.89	49
Kazakhstan	46.1	10373.7898	5.572	5.809	23.5	50.28	37
Kenya	38.8	2069.6611	5.69	4.509	27.685	33.65	30
Kuwait	36.8	32324.8409	2.943	6.021	10.41	34.36	43
Kyrgyzstan	42.4	1365.5083	4.1	5.261	22.4	30.37	27
Laos	34.8	2535.6234	4.15	4.796	21.973	70.56	30
Lebanon	33.4	4136.1466	12.777	5.197	14.948	34.93	24
Libya	25.3	5908.9513	19.71	5.525	17.828	55.73	17
Lithuania	59.5	23849.6157	7.11	6.149	8.3	20.15	61
Luxembourg	48.4	133711.7944	5.25	7.09	10.5	17.56	81
Malaysia	56.4	11134.623	4.083	5.339	15.24	39.47	48
Mali	29	881.5101	2.44	4.39	41.643	33.5	29
Malta	40.2	34881.2913	3.39	6.726	8.5	30.46	54
Mauritius	39.7	9068.9802	7.72	5.888	10.3	28.74	54
Mexico	57	10359.1499	4.09	6.595	14.857	46.71	31
Moldova	41	5274.7448	0.79	5.529	12.432	31.61	36
Mongolia	41	4566.1401	7.75	5.285	21.413	28.97	35
Montenegro	44.1	9465.9615	16.54	5.523	11.4	34.33	46

Morocco	33.6	3767.5249	11.219	5.208	17.545	43.94	39
Myanmar	38.3	1231.6947	4.34	4.36	17.103	46.14	28
Nepal	34	1229.3942	12.581	4.913	20.402	34.62	33
Netherlands	64.7	58727.8705	4.21	7.488	10.2	9.67	82
New Zealand	62.5	49996.4207	3.78	7.307	11.48	10.04	88
Nigeria	38	2065.7744	5.264	5.265	37.117	39.69	24
Norway	60.2	93072.8925	4.37	7.554	10.4	6.72	85
Pakistan	30.4	1506.1083	6.34	5.653	27.519	46.86	28
Panama	53.5	15491.2898	10.451	6.321	17.692	29.94	36
Peru	54.9	6635.4641	5.1	5.697	17.622	31.71	36
Philippines	45.7	3460.5394	3.4	5.631	21.813	45.64	33
Poland	55.7	18050.2794	3.36	6.182	8.8	28.84	56
Portugal	54.7	24661.1665	6.58	5.693	7.7	10.11	62
Qatar	48.7	66858.7417	0.14	6.374	9.816	42.6	63
Republic of Serbia	45	9232.9616	10.06	5.603	9.1	32.03	38
Romania	45.7	14946.625	5.59	6.07	9.3	24.91	45
Russia	49.1	12532.0508	4.72	5.648	9.6	48.71	29
Saudi Arabia	44.9	24315.6185	6.62	6.375	17.473	62.73	53
Singapore	57.4	77710.0892	4.64	6.262	8.6	55.2	85
Slovakia	54.4	21768.1487	6.89	6.198	10.4	23.02	52
Slovenia	67.8	29331.0647	4.74	6.118	9	23.1	57
South Africa	45.8	7073.6128	28.77	4.722	19.821	21.59	44
South Korea	65.4	35142.2643	3.64	5.895	5.1	23.43	62
Spain	60.9	30488.821	14.78	6.354	7.1	20.44	61
Sweden	64.9	61417.6809	8.72	7.343	11	7.24	85
Switzerland	58.8	93446.4345	5.1	7.48	10.3	10.55	84

Thailand	68.2	7060.8977	1.21	6.008	8.999	45.22	35
Trinidad and Tobago	36.8	16056.302	4.45	6.192	11.687	21.55	41
Tunisia	31.5	3807.1841	18.524	4.461	16.093	29.53	44
Turkey	50	9743.2131	11.98	5.373	14.678	49.79	38
Ukraine	38.9	4827.8457	9.83	4.332	7.3	32.96	32
United Arab Emirates	39.6	44332.34	3.11	6.825	10.307	43.13	69
United Kingdom	67.2	46869.7591	4.826	7.054	10.1	21.59	78
United States of America	75.9	70219.4725	5.35	6.892	11	23.93	67
Uruguay	40.3	17923.9953	9.29	6.293	10.473	16.38	73
Uzbekistan	39	1993.4245	5.419	6.174	25.9	50.74	28
Vietnam	42.9	3756.4889	2.38	5.175	15.008	78.46	39

Coloured Circular Dendrogram with 12 Clusters



Cluster Countries Regression Models Data

Cluster Countries c19ProSo01
R-Squared = 0.1089
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.7907	0.2045	0.9902

Attribute	MLQ	rank_A	c19RCA01	consp01
Meaning	My life has a clear sense of purpose.	Ranking 1-6 of Beauty	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	I think that many very important things happen in the world, which the public is never informed about.
P-Value	1.27e-08	8.92e-07	6.71e-06	1.53e-05
Est. Coefficient	0.0926819	0.0916628	0.0565728	0.0493682

```
Residuals:
    Min      1Q  Median      3Q     Max 
-4.8447 -0.7907  0.2045  0.9902  3.8340 

Coefficients: (1 not defined because of singularities)
                      Estimate Std. Error t value Pr(>|t|)    
(Intercept)          0.7723929  0.3501975   2.206 0.027464 *  
employstatus_1       0.0157241  0.0759820   0.207 0.836062    
employstatus_2      -0.0526234  0.0776278  -0.678 0.497875    
employstatus_3       0.0822537  0.0760700   1.081 0.279628    
employstatus_4       0.0391649  0.0814781   0.481 0.630768    
employstatus_5      -0.0314161  0.0957488  -0.328 0.742844    
employstatus_6      -0.0740902  0.0857313  -0.864 0.387518    
employstatus_7      -0.1605385  0.0989431  -1.623 0.104761    
employstatus_8      -0.2233712  0.2251089  -0.992 0.321116    
employstatus_9       0.1106871  0.0764727   1.447 0.147855    
employstatus_10      0.5298172  0.1459711   3.630 0.000287 ***
isoFriends_inPerson  0.0074621  0.0104703   0.713 0.476078    
isoOthPpl_inPerson   0.0106515  0.0116037   0.918 0.358703    
isoFriends_online    0.0212334  0.0104352   2.035 0.041932 *  
isoOthPpl_online     0.0097742  0.0086414   1.131 0.258076    
lone01               0.1007008  0.0253238   3.977 7.11e-05 ***
lone02              -0.0336653  0.0219418  -1.534 0.125028    
lone03              -0.0531078  0.0249833  -2.126 0.033582 *  
happy                0.0152495  0.0145959   1.045 0.296183    
lifeSat              0.0085534  0.0238339   0.359 0.719707    
MLQ                  0.0926819  0.0162573   5.701 1.27e-08 ***
bor01                0.0221403  0.0161920   1.367 0.171585    
bor02                0.0414155  0.0167545   2.472 0.013478 *  
bor03                0.0292034  0.0136983   2.132 0.033070 *  
consp01              0.0493682  0.0114022   4.330 1.53e-05 ***
consp02             -0.0422189  0.0120617  -3.500 0.000469 ***
consp03              0.0152717  0.0083626   1.826 0.067890 .  
rank_A               0.0916628  0.0186260   4.921 8.92e-07 ***
rank_B               0.0441067  0.0178023   2.478 0.013265 *  
rank_C               0.0447921  0.0159993   2.800 0.005139 ** 
rank_D              -0.0011365  0.0171143  -0.066 0.947058    
rank_E               0.0009513  0.0172477   0.055 0.956019    
rank_F                      NA         NA      NA       NA    
c19perBeh01          0.1025110  0.0271468   3.776 0.000161 ***
c19perBeh02          0.0977793  0.0330194   2.961 0.003080 ** 
c19perBeh03         -0.0074680  0.0229199  -0.326 0.744569    
c19RCA01             0.0565728  0.0125489   4.508 6.71e-06 ***
c19RCA02            -0.0090499  0.0232178  -0.390 0.696715    
c19RCA03             0.0505328  0.0152336   3.317 0.000917 ***
coronaClose_1        0.1840976  0.2385769   0.772 0.440364    
coronaClose_2        0.4580518  0.2028342   2.258 0.023979 *  
coronaClose_3        0.2748079  0.1691882   1.624 0.104390    
coronaClose_4        0.3143930  0.1285745   2.445 0.014516 *  
coronaClose_5        0.2649074  0.1288655   2.056 0.039872 *  
coronaClose_6        0.0799271  0.1329117   0.601 0.547635    
gender               0.0689548  0.0454608   1.517 0.129390    
age                 -0.0209137  0.0186694  -1.120 0.262685    
edu                  0.0186264  0.0176966   1.053 0.292610    
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.382 on 4367 degrees of freedom
  (413 observations deleted due to missingness)
Multiple R-squared:  0.1089,	Adjusted R-squared:  0.09953 
F-statistic:  11.6 on 46 and 4367 DF,  p-value: < 2.2e-16
```

Cluster Countries c19ProSo02
R-Squared = 0.135
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.9669	0.1969	0.9902

Attribute	c19RCA01	consp02	c19RCA03	MLQ
Meaning	I would sign a petition that Supports mandatory vaccination once a vaccine has been developed for coronavirus.	I think that politicians usually do not tell us the true motives for their decisions.	I would sign a petition that supports reporting people who are suspected to have coronavirus.	My life has a clear sense of purpose.
P-Value	1.65e-15	1.19e-07	4.19e-07	7.09e-07
Est. Coefficient	0.1114517	-0.0711024	0.0858048	0.0896536

```
Residuals:
    Min      1Q  Median      3Q     Max 
-4.5184 -0.9669  0.1969  1.1420  4.6669 

Coefficients: (1 not defined because of singularities)
                      Estimate Std. Error t value Pr(>|t|)    
(Intercept)          0.9902513  0.3889172   2.546  0.01093 *  
employstatus_1       0.0688647  0.0843775   0.816  0.41446    
employstatus_2      -0.0976046  0.0862203  -1.132  0.25768    
employstatus_3       0.1448959  0.0844831   1.715  0.08640 .  
employstatus_4      -0.0468258  0.0904674  -0.518  0.60476    
employstatus_5       0.0164012  0.1063224   0.154  0.87741    
employstatus_6       0.0369527  0.0951752   0.388  0.69784    
employstatus_7      -0.0581479  0.1098897  -0.529  0.59673    
employstatus_8      -0.2552901  0.2500028  -1.021  0.30724    
employstatus_9      -0.0813326  0.0849055  -0.958  0.33816    
employstatus_10      0.4203892  0.1612603   2.607  0.00917 ** 
isoFriends_inPerson  0.0094257  0.0116291   0.811  0.41768    
isoOthPpl_inPerson  -0.0103097  0.0128890  -0.800  0.42382    
isoFriends_online    0.0238760  0.0115899   2.060  0.03945 *  
isoOthPpl_online     0.0114264  0.0095989   1.190  0.23396    
lone01               0.0648160  0.0281384   2.303  0.02130 *  
lone02               0.0124755  0.0243711   0.512  0.60875    
lone03              -0.0597593  0.0277492  -2.154  0.03133 *  
happy                0.0329642  0.0162148   2.033  0.04212 *  
lifeSat              0.0668246  0.0264741   2.524  0.01163 *  
MLQ                  0.0896536  0.0180533   4.966 7.09e-07 ***
bor01                0.0150094  0.0180074   0.834  0.40460    
bor02                0.0377822  0.0186318   2.028  0.04264 *  
bor03                0.0387597  0.0152124   2.548  0.01087 *  
consp01              0.0207205  0.0126804   1.634  0.10232    
consp02             -0.0711024  0.0134056  -5.304 1.19e-07 ***
consp03              0.0291618  0.0092880   3.140  0.00170 ** 
rank_A               0.0069838  0.0206851   0.338  0.73566    
rank_B               0.0337896  0.0197718   1.709  0.08753 .  
rank_C              -0.0168595  0.0177711  -0.949  0.34282    
rank_D              -0.0003811  0.0190127  -0.020  0.98401    
rank_E              -0.0109159  0.0191566  -0.570  0.56883    
rank_F                      NA         NA      NA       NA    
c19perBeh01          0.1261559  0.0301505   4.184 2.92e-05 ***
c19perBeh02          0.0655612  0.0366934   1.787  0.07405 .  
c19perBeh03          0.0694169  0.0255118   2.721  0.00653 ** 
c19RCA01             0.1114517  0.0139407   7.995 1.65e-15 ***
c19RCA02            -0.0564964  0.0257905  -2.191  0.02853 *  
c19RCA03             0.0858048  0.0169320   5.068 4.19e-07 ***
coronaClose_1        0.2796232  0.2649702   1.055  0.29135    
coronaClose_2        0.2230252  0.2252798   0.990  0.32223    
coronaClose_3        0.1463917  0.1879100   0.779  0.43599    
coronaClose_4        0.0303251  0.1428111   0.212  0.83185    
coronaClose_5        0.0934284  0.1431264   0.653  0.51394    
coronaClose_6       -0.1843869  0.1476287  -1.249  0.21174    
gender              -0.0104764  0.0505034  -0.207  0.83568    
age                 -0.0885717  0.0207387  -4.271 1.99e-05 ***
edu                  0.0123471  0.0196543   0.628  0.52990    
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.535 on 4366 degrees of freedom
  (414 observations deleted due to missingness)
Multiple R-squared:  0.135,	Adjusted R-squared:  0.1259 
F-statistic: 14.81 on 46 and 4366 DF,  p-value: < 2.2e-16
```

Cluster Countries c19ProSo03
R-Squared = 0.1075
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-1.1176	0.1274	1.2131

Attribute	bor03	rank_A	c19RCA01	rank_B
Meaning	I feel in control of my time.	1-6 ranking of beauty	I would sign a petition that supports mandatory vaccination once a vaccine has been developed for coronavirus.	1-6 ranking of achievement
P-Value	1.72e-07	2.10e-06	1.30e-05	6.48e-05
Est. Coefficient	0.082811	0.102227	0.063305	0.082274

```
Residuals:
    Min      1Q  Median      3Q     Max 
-4.3267 -1.1176  0.1274  1.2131  4.2020 

Coefficients: (1 not defined because of singularities)
                     Estimate Std. Error t value Pr(>|t|)    
(Intercept)         -0.011991   0.404627  -0.030 0.976359    
employstatus_1       0.209534   0.087758   2.388 0.017000 *  
employstatus_2       0.137522   0.089724   1.533 0.125417    
employstatus_3       0.201134   0.087921   2.288 0.022205 *  
employstatus_4       0.100094   0.094165   1.063 0.287860    
employstatus_5       0.126670   0.110492   1.146 0.251686    
employstatus_6      -0.054326   0.099091  -0.548 0.583557    
employstatus_7      -0.369173   0.114352  -3.228 0.001254 ** 
employstatus_8      -0.056088   0.260195  -0.216 0.829340    
employstatus_9       0.294886   0.088391   3.336 0.000857 ***
employstatus_10      0.557775   0.168723   3.306 0.000954 ***
isoFriends_inPerson  0.011340   0.012096   0.938 0.348537    
isoOthPpl_inPerson   0.032533   0.013410   2.426 0.015306 *  
isoFriends_online    0.015793   0.012060   1.310 0.190428    
isoOthPpl_online     0.020473   0.009988   2.050 0.040454 *  
lone01               0.002858   0.029271   0.098 0.922212    
lone02              -0.013511   0.025348  -0.533 0.594065    
lone03               0.067853   0.028843   2.353 0.018689 *  
happy                0.049817   0.016861   2.954 0.003149 ** 
lifeSat              0.096792   0.027530   3.516 0.000443 ***
MLQ                 -0.015466   0.018767  -0.824 0.409897    
bor01                0.046552   0.018713   2.488 0.012897 *  
bor02                0.019882   0.019360   1.027 0.304496    
bor03                0.082811   0.015818   5.235 1.72e-07 ***
consp01              0.017343   0.013173   1.317 0.188072    
consp02             -0.062561   0.013941  -4.488 7.39e-06 ***
consp03              0.033631   0.009664   3.480 0.000506 ***
rank_A               0.102227   0.021522   4.750 2.10e-06 ***
rank_B               0.082274   0.020576   3.998 6.48e-05 ***
rank_C               0.031439   0.018492   1.700 0.089170 .  
rank_D               0.039175   0.019781   1.980 0.047712 *  
rank_E               0.008570   0.019936   0.430 0.667312    
rank_F                     NA         NA      NA       NA    
c19perBeh01          0.071234   0.031319   2.274 0.022987 *  
c19perBeh02          0.086841   0.038138   2.277 0.022834 *  
c19perBeh03          0.081073   0.026488   3.061 0.002221 ** 
c19RCA01             0.063305   0.014502   4.365 1.30e-05 ***
c19RCA02             0.025758   0.026837   0.960 0.337215    
c19RCA03            -0.045543   0.017601  -2.587 0.009700 ** 
coronaClose_1       -0.080699   0.272665  -0.296 0.767271    
coronaClose_2        0.169967   0.234093   0.726 0.467837    
coronaClose_3        0.315138   0.195393   1.613 0.106851    
coronaClose_4        0.198901   0.148356   1.341 0.180089    
coronaClose_5        0.016222   0.148702   0.109 0.913136    
coronaClose_6       -0.032219   0.153285  -0.210 0.833527    
gender               0.083495   0.052539   1.589 0.112092    
age                 -0.079134   0.021579  -3.667 0.000248 ***
edu                  0.004417   0.020448   0.216 0.828983    
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.597 on 4368 degrees of freedom
  (412 observations deleted due to missingness)
Multiple R-squared:  0.1075,	Adjusted R-squared:  0.09808 
F-statistic: 11.44 on 46 and 4368 DF,  p-value: < 2.2e-16
```

Cluster Countries c19ProSo04
R-Squared = 0.1633
P-Value < 2.2e-16
Residual Data:

1Q	Median	3Q
-0.7730	0.3061	1.0591

Attribute	c19perBeh02	c19perBeh03	rank_A	rank_B
Meaning	To minimize my chances of getting coronavirus, I avoid crowded spaces.	To minimize my chances of getting coronavirus, I put myself in quarantine.	1-6 ranking of beauty	1-6 ranking of achievement
P-Value	1.58e-08	5.63e-07	1.53e-06	4.61e-06
Est. Coefficient	0.197263	0.121215	0.094614	0.086211

```
Residuals:
    Min      1Q  Median      3Q     Max 
-5.3105 -0.7730  0.3061  1.0591  4.2463 

Coefficients: (1 not defined because of singularities)
                     Estimate Std. Error t value Pr(>|t|)    
(Intercept)         -0.393842   0.369511  -1.066 0.286552    
employstatus_1       0.052403   0.080137   0.654 0.513200    
employstatus_2       0.098132   0.081935   1.198 0.231107    
employstatus_3       0.208001   0.080288   2.591 0.009610 ** 
employstatus_4       0.017812   0.085977   0.207 0.835881    
employstatus_5       0.135756   0.100893   1.346 0.178519    
employstatus_6      -0.109791   0.090459  -1.214 0.224928    
employstatus_7      -0.087642   0.104428  -0.839 0.401372    
employstatus_8       0.003047   0.237624   0.013 0.989769    
employstatus_9       0.267357   0.080697   3.313 0.000930 ***
employstatus_10      0.397750   0.153273   2.595 0.009490 ** 
isoFriends_inPerson -0.034476   0.011041  -3.122 0.001805 ** 
isoOthPpl_inPerson  -0.007383   0.012245  -0.603 0.546569    
isoFriends_online    0.031634   0.011012   2.873 0.004090 ** 
isoOthPpl_online     0.016374   0.009122   1.795 0.072723 .  
lone01               0.005107   0.026732   0.191 0.848507    
lone02              -0.008923   0.023150  -0.385 0.699933    
lone03               0.040973   0.026337   1.556 0.119850    
happy               -0.009453   0.015399  -0.614 0.539339    
lifeSat              0.096692   0.025142   3.846 0.000122 ***
MLQ                  0.022306   0.017136   1.302 0.193091    
bor01                0.030430   0.017090   1.781 0.075044 .  
bor02                0.033865   0.017681   1.915 0.055518 .  
bor03                0.039317   0.014445   2.722 0.006516 ** 
consp01              0.054177   0.012031   4.503 6.87e-06 ***
consp02             -0.048047   0.012732  -3.774 0.000163 ***
consp03              0.012592   0.008825   1.427 0.153665    
rank_A               0.094614   0.019653   4.814 1.53e-06 ***
rank_B               0.086211   0.018791   4.588 4.61e-06 ***
rank_C               0.057144   0.016888   3.384 0.000721 ***
rank_D               0.047990   0.018065   2.656 0.007926 ** 
rank_E               0.002136   0.018206   0.117 0.906601    
rank_F                     NA         NA      NA       NA    
c19perBeh01          0.037615   0.028603   1.315 0.188555    
c19perBeh02          0.197263   0.034831   5.664 1.58e-08 ***
c19perBeh03          0.121215   0.024190   5.011 5.63e-07 ***
c19RCA01             0.037012   0.013244   2.795 0.005218 ** 
c19RCA02             0.098897   0.024509   4.035 5.55e-05 ***
c19RCA03            -0.011030   0.016074  -0.686 0.492645    
coronaClose_1       -0.077576   0.249021  -0.312 0.755417    
coronaClose_2        0.262715   0.213793   1.229 0.219203    
coronaClose_3        0.172493   0.178446   0.967 0.333777    
coronaClose_4        0.092912   0.135489   0.686 0.492905    
coronaClose_5       -0.038214   0.135805  -0.281 0.778428    
coronaClose_6       -0.131288   0.139992  -0.938 0.348387    
gender              -0.028888   0.047983  -0.602 0.547184    
age                  0.012654   0.019707   0.642 0.520829    
edu                  0.047641   0.018671   2.552 0.010758 *  
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.459 on 4369 degrees of freedom
  (411 observations deleted due to missingness)
Multiple R-squared:  0.1633,	Adjusted R-squared:  0.1545 
F-statistic: 18.54 on 46 and 4369 DF,  p-value: < 2.2e-16
```

Libraries Used

Ggplot2:
Graphing and plotting functions
Dplyr:
For data wrangling and dataframe manipulation
TidyR:
Pivoting tables to long and wide formats
Patchwork:
Easy combination of plots
Likert:
Easy processing and plotting of likert scale (or similar) data
RColorBrewer:
Graph customisation
Dendextend:
Dendrogram customisation
Circlize:
Circular graph creation.

R Code

```
library(ggplot2)
library(dplyr)
library(tidyr)
library(patchwork)
library(likert)
library(RColorBrewer)


##########################################################
#data setup
##########################################################

rm(list = ls())
set.seed(32471033) # XXXXXXXX = your student ID
cvbase = read.csv("PsyCoronaBaselineExtract.csv")
cvbase <- cvbase[sample(nrow(cvbase), 40000), ] # 40000 rows

##########################################################
#1a
##########################################################

#get num of rows and columns
dim(cvbase)

##########################################################
#1b
##########################################################

#filter out responses where all relevant questions are left blank
cvbase <- cvbase %>%
```

```
  filter(rowSums(!is.na(select(., -coded_country))) > 0)

#convert all hours worked into 1 column
cvbase <- cvbase %>%
  transform(employstatus_hours = case_when
    (
      employstatus_1 == 1 ~ 1,
      employstatus_2 == 1 ~ 2,
      employstatus_3 == 1 ~ 3,
      TRUE ~ NA
    )
  )

cvbase <- cvbase %>%
  transform(employstatus_lookingForWork = case_when
    (
      employstatus_4 == 1 ~ 1,
      employstatus_5 == 1 ~ 0,
      TRUE ~ NA
    )
  )

#create new column for employed or unemployed
cvbase <- cvbase %>%
  transform(employstatus_employed = ifelse(is.na(employstatus_hours), 0, 1))

#add focus country indicator
cvbase <- cvbase %>%
  mutate(focusCountry = ifelse(coded_country == "Brazil", 1, 0))

##########################################################
#2a
##########################################################

#################
#Fig1
#################

#create new dataframe for employment percentage values
percentage_data_employment <- cvbase %>%
  group_by(focusCountry, employstatus_employed) %>%
  summarise(count = n()) %>%
  group_by(focusCountry) %>%
  mutate(total_count = sum(count)) %>%
  mutate(percentage = count / total_count * 100)

#Factor Variables for graph labelling
percentage_data_employment$employstatus_employed <-
factor(percentage_data_employment$employstatus_employed, levels = c(0, 1), labels = c("Unemployed",
"Employed"))
```

```
percentage_data_employment$focusCountry <- factor(percentage_data_employment$focusCountry, levels =
c(0, 1), labels = c("Other Countries", "Brazil"))

# Create the dodged bar chart
ggplot(percentage_data_employment, aes(x = employstatus_employed, y = percentage, fill = focusCountry)) +

  geom_bar(position = position_dodge(width = 0.7), stat = "identity") +

  geom_text(aes(label = paste0(round(percentage), "%")),
            position = position_dodge(width = 0.7), vjust = -0.5, size = 3.5, color = "black") +

  scale_fill_manual(values = c("Other Countries" = "blue", "Brazil" = "orange")) +

  labs(title = "Employment Status", x = "Employment Status", y = "Percentage", fill = "Legend") +

  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig2
#################

#create new dataframe for hours worked percentage values
percentage_data_hours <- cvbase %>%
  group_by(focusCountry, employstatus_hours) %>%
  summarise(count = n()) %>%
  group_by(focusCountry)
  percentage_data_hours <- na.omit(percentage_data_hours) %>%
  mutate(total_count = sum(count)) %>%
  mutate(percentage = count / total_count * 100)

#Factor Variables for graph labelling
percentage_data_hours$employstatus_hours <- factor(percentage_data_hours$employstatus_hours, levels =
c(1, 2, 3), labels = c("1-24", "24-39", "40+"))

percentage_data_hours$focusCountry <- factor(percentage_data_hours$focusCountry, levels = c(0, 1), labels
= c("Other Countries", "Brazil"))

# Create dodged bar chart
ggplot(percentage_data_hours, aes(x = employstatus_hours, y = percentage, fill = focusCountry)) +

  geom_bar(position = position_dodge(width = 0.7), stat = "identity") +

  geom_text(aes(label = paste0(round(percentage), "%")),
            position = position_dodge(width = 0.7), vjust = -0.5, size = 3.5, color = "black") +

  scale_fill_manual(values = c("Other Countries" = "blue", "Brazil" = "orange")) +

  labs(title = "Hours Worked", x = "Hours Worked", y = "Percentage", fill = "Legend") +

  theme_minimal() +
```

```
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig3
#################

#create new dataframe for looking for work percentage values
percentage_lookingForWork <- cvbase %>%
  group_by(focusCountry, employstatus_lookingForWork) %>%
  summarise(count = n()) %>%
  group_by(focusCountry)
percentage_lookingForWork <- na.omit(percentage_lookingForWork) %>%
  mutate(total_count = sum(count)) %>%
  mutate(percentage = count / total_count * 100)

#Factor Variables for graph labelling
percentage_lookingForWork$employstatus_lookingForWork <-
factor(percentage_lookingForWork$employstatus_lookingForWork, levels = c(0, 1), labels = c("Not Looking
For Work", "Looking For Work"))

percentage_lookingForWork$focusCountry <- factor(percentage_lookingForWork$focusCountry, levels = c(0,
1), labels = c("Other Countries", "Brazil"))

#create dodged bar chart
ggplot(percentage_lookingForWork, aes(x = employstatus_lookingForWork, y = percentage, fill =
focusCountry)) +

  geom_bar(position = position_dodge(width = 0.7), stat = "identity") +

  geom_text(aes(label = paste0(round(percentage), "%")),
            position = position_dodge(width = 0.7), vjust = -0.5, size = 3.5, color = "black") +

  scale_fill_manual(values = c("Other Countries" = "blue", "Brazil" = "orange")) +

  labs(title = "Proportion of Unemployed People Looking for Work", x = "", y = "Percentage", fill = "Legend") +

  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig4
#################

#Create new dataframe for the rest of employstatus attributes
percentage_employstatusRest <- cvbase %>%
  group_by(focusCountry) %>%
  summarise(
    employstatus_6 = sum(employstatus_6 == 1, na.rm = TRUE),
    employstatus_7 = sum(employstatus_7 == 1, na.rm = TRUE),
    employstatus_8 = sum(employstatus_8 == 1, na.rm = TRUE),
    employstatus_9 = sum(employstatus_9 == 1, na.rm = TRUE),
```

```
    employstatus_10 = sum(employstatus_10 == 1, na.rm = TRUE),
    total_count = sum(focusCountry %in% c(0, 1), na.rm = TRUE),  # Calculate total count for country 0 or 1
  )

#convert to long format
percentage_employstatusRest <- percentage_employstatusRest %>%
  pivot_longer(cols = starts_with("employstatus_"),
               names_to = "employment_status",
               values_to = "count")

#calculate percentages
percentage_employstatusRest <- percentage_employstatusRest %>%
  mutate(percentage = count / total_count * 100)

#Rename column factors for labelling purposes
percentage_employstatusRest <- percentage_employstatusRest %>%
  mutate(employment_status = case_when(
    employment_status == "employstatus_6" ~ "Homemaker",
    employment_status == "employstatus_7" ~ "Retired",
    employment_status == "employstatus_8" ~ "Disabled, Unable to work",
    employment_status == "employstatus_9" ~ "Student",
    employment_status == "employstatus_10" ~ "Volunteering"
  ))

#factor data for labelling purposes
percentage_employstatusRest$focusCountry <- factor(percentage_employstatusRest$focusCountry, levels =
c(0, 1), labels = c("Other Countries", "Brazil"))

# Plot the dodged bar chart
ggplot(percentage_employstatusRest, aes(x = employment_status, y = percentage, fill = focusCountry)) +

  geom_bar(position = position_dodge(width = 0.7), stat = "identity") +

  geom_text(aes(label = paste0(round(percentage), "%")),
            position = position_dodge(width = 0.7), vjust = -0.5, size = 3.5, color = "black") +

  scale_fill_manual(values = c("Other Countries" = "blue", "Brazil" = "orange")) +

  labs(title = "Percentage of People Identifying as Below", x = "", y = "Percentage", fill = "Legend") +

  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

##################
#Fig5
##################

#create new dataframe for isoFriends_inPerson
isoFriends_inPerson <- cvbase[, c("isoFriends_inPerson", "focusCountry")]

#remove NA values
```

```
isoFriends_inPerson <- na.omit(isoFriends_inPerson)

#factor data for labelling
isoFriends_inPerson$focusCountry <- factor(isoFriends_inPerson$focusCountry, levels = c(0, 1), labels =
c("Other Countries", "Brazil"))

#draw graph 1
isoPlot1 <- ggplot(isoFriends_inPerson, aes(x = factor(focusCountry), fill = factor(isoFriends_inPerson))) +
  geom_bar(position = "fill") +
  scale_fill_brewer(palette = "GnBu") +
  labs(title = "In Person Contact with Friends and Family in the Past Week", x = "Country", y = "Proportion", fill
= "Days of Contact") +
  theme_minimal()

#create new dataframe for isoOthPpl_inPerson
isoOthPpl_inPerson <- cvbase[, c("isoOthPpl_inPerson", "focusCountry")]

#remove NA values
isoOthPpl_inPerson <- na.omit(isoOthPpl_inPerson)

#factor data for labelling
isoOthPpl_inPerson$focusCountry <- factor(isoOthPpl_inPerson$focusCountry, levels = c(0, 1), labels =
c("Other Countries", "Brazil"))

#draw graph 2
isoPlot2 <- ggplot(isoOthPpl_inPerson, aes(x = factor(focusCountry), fill = factor(isoOthPpl_inPerson))) +
  geom_bar(position = "fill") +
  scale_fill_brewer(palette = "GnBu") +
  labs(title = "In Person Contact with Other People in the Past Week", x = "Country", y = "Proportion", fill =
"Days of Contact") +
  theme_minimal()

#create new dataframe for isoFriends_Online
isoFriends_online <- cvbase[, c("isoFriends_online", "focusCountry")]

#remove NA values
isoFriends_online <- na.omit(isoFriends_online)

#factor data for labelling
isoFriends_online$focusCountry <- factor(isoFriends_online$focusCountry, levels = c(0, 1), labels = c("Other
Countries", "Brazil"))

#draw graph 3
isoPlot3 <- ggplot(isoFriends_online, aes(x = factor(focusCountry), fill = factor(isoFriends_online))) +
  geom_bar(position = "fill") +
  scale_fill_brewer(palette = "GnBu") +
  labs(title = "Online Contact with Friends and Family in the Past Week", x = "Country", y = "Proportion", fill =
"Days of Contact") +
  theme_minimal()

#create new dataframe for isoOthPpl_Online
```

```
isoOthPpl_online <- cvbase[, c("isoOthPpl_online", "focusCountry")]

#remove NA values
isoOthPpl_online <- na.omit(isoOthPpl_online)

#factor data for labelling
isoOthPpl_online$focusCountry <- factor(isoOthPpl_online$focusCountry, levels = c(0, 1), labels = c("Other
Countries", "Brazil"))

#draw graph 4
isoPlot4 <- ggplot(isoOthPpl_online, aes(x = factor(focusCountry), fill = factor(isoOthPpl_online))) +
  geom_bar(position = "fill") +
  scale_fill_brewer(palette = "GnBu") +
  labs(title = "Online Contact with Other People in the Past Week", x = "Country", y = "Proportion", fill = "Days
of Contact") +
  theme_minimal()

#combine plots using patchwork library

isoPlot1 +
isoPlot2 +
isoPlot3 +
isoPlot4

#################
#Fig6
#################

#NOTES
#Refer to https://stackoverflow.com/questions/27061286/likert-grouping-with-different-levels-in-r
#for future likert plotting
#extremely helpful

#create dataframe for loneliness
lone_data <- cvbase[, c("focusCountry", "lone01", "lone02", "lone03")]

#apply factor function to all question responses to give response levels
lone_data[2:4] <- lapply(lone_data[2:4], factor, levels = 1:5, labels = c("Never", "Rarely", "Sometimes", "Often",
"All the Time"))

#factor focusCountry to get label names
lone_data$focusCountry <- factor(lone_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#rename question columns to represent the question text
lone_data <- lone_data %>%
  rename("During the past week, did you feel lonely?" = lone01,
       "During the past week, did you feel isolated from others?" = lone02,
       "During the past week, did you feel left out?" = lone03
   )
```

```
#convert responses to a likert object, and group by focus country
lone_likert <- likert(lone_data[, c(2:4)], grouping = lone_data$focusCountry)

#plot the graph
plot(lone_likert)

#################
#Fig7
#################

#create dataframe for happy

happy_data <- cvbase[, c("focusCountry", "happy")]
happy_data <- na.omit(happy_data)

#factor for labelling
happy_data$focusCountry <- factor(happy_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#create and store boxplot
happy_plot <- ggplot(happy_data, aes(x = focusCountry, y = happy, fill = focusCountry)) +

  geom_boxplot() +

  scale_y_continuous(breaks = seq(0, 10, by = 1)) +

  scale_fill_manual(values = c("Other Countries" = "lightblue", "Brazil" = "orange")) +

  labs(title = "Rate your Happiness from 1 (Extremely Unhappy) to 10 (Extremely Happy)", x = "Country", y =
"Rating", fill = "Legend") +

  theme_minimal()

#create dataframe for lifeSat
lifeSat_data <- cvbase[, c("focusCountry", "lifeSat")]
lifeSat_data <- na.omit(lifeSat_data)

#assign levels to response values
lifeSat_data[2] <- lapply(lifeSat_data[2], factor, levels = 1:6, labels = c("Very Dissatisfied", "Dissatisfied",
"Slightly Dissatisfied", "Slightly Satisfied", "Satisfied", "Very Satisfied"))

#factor to assign labels to focusCountry
lifeSat_data$focusCountry <- factor(lifeSat_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#rename question column to represent the actual question
lifeSat_data <- lifeSat_data %>%
  rename("In general, how satisfied are you with your life?" = lifeSat
    )

#convert to likert object
```

```
lifeSat_likert <- likert(items=lifeSat_data[,2, drop=FALSE], grouping = lifeSat_data$focusCountry)

#Store the plot
lifeSat_plot <- plot(lifeSat_likert)

#create dataframe for MLQ
mlq_data <- cvbase[, c("focusCountry", "MLQ")]
mlq_data <- na.omit(mlq_data)

#convert values from -3:3 to 1:7 because idk how to assign levels to negative numbers
mlq_data <- mlq_data %>%
  mutate(
    MLQ = MLQ + 4
    )

#assign levels to response values
mlq_data[2] <- lapply(mlq_data[2], factor, levels = 1:7,
          labels = c("Strongly Disagree", "Disagree", "Somewhat Disagree", "Neither Agree nor Disagree",
"Somewhat Agree", "Agree", "Strongly Agree")
                    )

#assign labels to focusCountry
mlq_data$focusCountry <- factor(mlq_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#rename question name
mlq_data <- mlq_data %>%
  rename("My life has a clear sense of purpose" = MLQ
  )

#convert to likert object
mlq_likert <- likert(items=mlq_data[,2, drop=FALSE], grouping = mlq_data$focusCountry)

mlq_plot <- plot(mlq_likert)

#combine plots
happy_plot + lifeSat_plot / mlq_plot

##################
#Fig8
##################

#create dataframe for boredom
bor_data <- cvbase[, c("focusCountry", "bor01", "bor02", "bor03")]

#convert from -3:3 to 1:7
bor_data <- bor_data %>%
  mutate(
    bor01 = bor01 + 4,
    bor02 = bor02 + 4,
    bor03 = bor03 + 4
```

```
  )

#assign levels to response values
bor_data[2:4] <- lapply(bor_data[2:4], factor, levels = 1:7,
                        labels = c("Strongly Disagree", "Disagree", "Somewhat Disagree", "Neither Agree nor Disagree",
"Somewhat Agree", "Agree", "Strongly Agree")
)

#factor focusCountry to get label names
bor_data$focusCountry <- factor(bor_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#rename question columns to represent the question text
bor_data <- bor_data %>%
  rename("I Wish Time Would Go Faster" = bor01,
         "Time is Moving Very Slowly" = bor02,
         "I Feel in Control of My Time" = bor03
  )

#convert responses to a likert object, and group by focus country
bor_likert <- likert(bor_data[, c(2:4)], grouping = bor_data$focusCountry)

#plot the graph
plot(bor_likert)

#################
#Fig9
#################

#create dataframe for Conspiracy
consp_data <- cvbase[, c("focusCountry", "consp01", "consp02", "consp03")]

#assign levels to response values
consp_data[2:4] <- lapply(consp_data[2:4], factor, levels = 0:10,
  labels = c("Certainly Not", "10%", "20%", "30%", "40%", "Undecided", "60%", "70%", "80%", "90%",
"Certainly")
)

#factor focusCountry to get label names
consp_data$focusCountry <- factor(consp_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#rename question columns to represent the question text
consp_data <- consp_data %>%
  rename("think that many very important things happen in the world, which the public is never informed about"
= consp01,
         "I think that politicians usually do not tell us the true motives for their decisions" = consp02,
         "I think that government agencies closely monitor all citizens." = consp03
  )

#convert responses to a likert object, and group by focus country
```

```
consp_likert <- likert(consp_data[, c(2:4)], grouping = consp_data$focusCountry)

#plot the graph
plot(consp_likert)

#################
#Fig10
#################

#create dataframe for rankOrdLife
rankOrd_data <- cvbase[, c("focusCountry", "rankOrdLife_1", "rankOrdLife_2", "rankOrdLife_3",
"rankOrdLife_4", "rankOrdLife_5", "rankOrdLife_6")]

#pivot table
rankOrd_data <- rankOrd_data %>%
  pivot_longer(cols = starts_with("rankOrdLife"), names_to = "rank", values_to = "category")

#omit NA vals
rankOrd_data <- na.omit(rankOrd_data)

#rename row values to numerical ranking
rankOrd_data <- rankOrd_data %>%
  mutate(rank = case_when(
    rank == "rankOrdLife_1" ~ 1,
    rank == "rankOrdLife_2" ~ 2,
    rank == "rankOrdLife_3" ~ 3,
    rank == "rankOrdLife_4" ~ 4,
    rank == "rankOrdLife_5" ~ 5,
    rank == "rankOrdLife_6" ~ 6
  ))

#rename row values to categories
rankOrd_data <- rankOrd_data %>%
  mutate(category = case_when(
    category == "A" ~ "Beauty",
    category == "B" ~ "Achievement",
    category == "C" ~ "Victory",
    category == "D" ~ "Friendship",
    category == "E" ~ "Love",
    category == "F" ~ "Empathy"
  ))

#label country
rankOrd_data$focusCountry <- factor(rankOrd_data$focusCountry, levels = c(0, 1), labels = c("Other
Countries", "Brazil"))

#draw boxplot
ggplot(rankOrd_data, aes(x=category, y=rank, fill=focusCountry)) +

  geom_boxplot() +
  scale_fill_manual(values = c("Other Countries" = "lightblue", "Brazil" = "orange")) +
```

```
  scale_y_continuous(trans = "reverse", breaks = unique(rankOrd_data$rank)) +
  labs(title = "Rank the Following in Order From 1 (Most Important) to 6 (Least Important)", x = "Category", y =
"Rank", fill = "Legend") +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig11
#################

#create dataframe for c19perBeh and c19RCA
c19Resp_data <- cvbase[, c("focusCountry", "c19perBeh01", "c19perBeh02", "c19perBeh03", "c19RCA01",
"c19RCA02", "c19RCA03")]

#convert from -3:3 to 1:7
c19Resp_data <- c19Resp_data %>%
  mutate(
    c19perBeh01 = c19perBeh01 + 4,
    c19perBeh02 = c19perBeh02 + 4,
    c19perBeh03 = c19perBeh03 + 4,
    c19RCA01 = c19RCA01 + 4,
    c19RCA02 = c19RCA02 + 4,
    c19RCA03 = c19RCA03 + 4
  )

#assign levels to response values
c19Resp_data[2:7] <- lapply(c19Resp_data[2:7], factor, levels = 1:7,
                    labels = c("Strongly Disagree", "Disagree", "Somewhat Disagree", "Neither Agree nor
Disagree", "Somewhat Agree", "Agree", "Strongly Agree")
)

#factor focusCountry to get label names
c19Resp_data$focusCountry <- factor(c19Resp_data$focusCountry, levels = c(0, 1), labels = c("Other
Countries", "Brazil"))

#rename question columns to represent the question text
c19Resp_data <- c19Resp_data %>%
  rename("To minimize my chances of getting coronavirus, I wash my hands more often" = c19perBeh01,
         "To minimize my chances of getting coronavirus, I avoid crowded spaces" = c19perBeh02,
         "To minimize my chances of getting coronavirus, I put myself in quarantine" = c19perBeh03,
         "I would sign a petition that supports mandatory vaccination once a vaccine has been developed for
coronavirus." = c19RCA01,
         "I would sign a petition that supports mandatory quarantine for those that have coronavirus and those
that have been exposed to the virus." = c19RCA02,
         "I would sign a petition that supports reporting people who are suspected to have coronavirus." =
c19RCA03
  )

#convert responses to a likert object, and group by focus country
c19Resp_likert <- likert(c19Resp_data[, c(2:7)], grouping = c19Resp_data$focusCountry)
```

```
#plot the graph
plot(c19Resp_likert)

#################
#Fig12
#################

#Create new dataframe for coronaClose
percentage_coronaClose <- cvbase %>%
  group_by(focusCountry) %>%
  summarise(
    coronaClose_1 = sum(coronaClose_1 == 1, na.rm = TRUE),
    coronaClose_2 = sum(coronaClose_2 == 1, na.rm = TRUE),
    coronaClose_3 = sum(coronaClose_3 == 1, na.rm = TRUE),
    coronaClose_4 = sum(coronaClose_4 == 1, na.rm = TRUE),
    coronaClose_5 = sum(coronaClose_5 == 1, na.rm = TRUE),
    coronaClose_6 = sum(coronaClose_6 == 1, na.rm = TRUE),
    total_count = sum(focusCountry %in% c(0, 1), na.rm = TRUE),  # Calculate total count for country 0 or 1
  )

#convert to long format
percentage_coronaClose <- percentage_coronaClose %>%
  pivot_longer(cols = starts_with("coronaClose_"),
               names_to = "coronaClose",
               values_to = "count")

#calculate percentages
percentage_coronaClose <- percentage_coronaClose %>%
  mutate(percentage = count / total_count * 100)

#Rename column factors for labelling purposes
percentage_coronaClose <- percentage_coronaClose %>%
  mutate(coronaClose = case_when(
    coronaClose == "coronaClose_1" ~ "Yes, Myself",
    coronaClose == "coronaClose_2" ~ "Yes, a member of my family",
    coronaClose == "coronaClose_3" ~ "Yes, a close friend",
    coronaClose == "coronaClose_4" ~ "Yes, someone I know",
    coronaClose == "coronaClose_5" ~ "Yes, someone else",
    coronaClose == "coronaClose_6" ~ "No, I do not know anyone"
  ))

percentage_coronaClose$focusCountry <- factor(percentage_coronaClose$focusCountry, levels = c(0, 1),
labels = c("Other Countries", "Brazil"))

# Plot the dodged bar chart
ggplot(percentage_coronaClose, aes(x = coronaClose, y = percentage, fill = focusCountry)) +

  geom_bar(position = position_dodge(width = 0.7), stat = "identity") +
  geom_text(aes(label = paste0(round(percentage), "%")),
            position = position_dodge(width = 0.7), vjust = -0.5, size = 3.5, color = "black") +
```

```
  scale_fill_manual(values = c("Other Countries" = "blue", "Brazil" = "orange")) +
  labs(title = "Do you personally know anyone who currently has coronavirus?", x = "", y = "Percentage", fill =
"Legend") +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig13
#################

#create dataframe for gender
gender_data <- cvbase[, c("focusCountry", "gender")]

#remove NA values
gender_data <- na.omit(gender_data)

#factor data for labelling
gender_data$focusCountry <- factor(gender_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

gender_data$gender <- factor(gender_data$gender, levels = (1:3), labels = c("Female", "Male", "Other"))

#draw stacked bar chart
ggplot(gender_data, aes(x = factor(focusCountry), fill = factor(gender))) +
  geom_bar(position = "fill") +
  scale_fill_brewer(palette = "RdYlBu") +
  labs(title = "Gender of Participant", x = "Country", y = "Proportion", fill = "Gender") +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig14
#################

#create dataframe for age
age_data <- cvbase[, c("focusCountry", "age")]

#remove NA values
age_data <- na.omit(age_data)

#factor focusCountry for labelling
age_data$focusCountry <- factor(age_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#factor age values for labelling
age_data$age <- factor(age_data$age, levels = (1:8), labels = c("18-24", "25-34", "35-44", "45-54", "55-64",
"65-75", "75-85", "85+"))

#draw graph 4
ggplot(age_data, aes(x = factor(focusCountry), fill = factor(age))) +
  geom_bar(position = "fill") +
```

```
  scale_fill_brewer(palette = "GnBu") +
  labs(title = "Age of Participants", x = "Country", y = "Proportion", fill = "Age") +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig15
#################

#create dataframe for education level
edu_data <- cvbase[, c("focusCountry", "edu")]

#remove NA values
edu_data <- na.omit(edu_data)

#factor focusCountry for labelling
edu_data$focusCountry <- factor(edu_data$focusCountry, levels = c(0, 1), labels = c("Other Countries",
"Brazil"))

#factor age values for labelling
edu_data$edu <- factor(edu_data$edu, levels = (1:7),
    labels = c("Primary Education", "General Secondary Education", "Vocational Education", "Higher
Education", "Bachelors Degree", "Masters Degree", "PhD Degree"))

#draw graph 4
ggplot(edu_data, aes(x = factor(focusCountry), fill = factor(edu))) +
  geom_bar(position = "fill") +
  scale_fill_brewer(palette = "GnBu") +
  labs(title = "Education Level of Participants", x = "Country", y = "Proportion", fill = "Education Level") +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig16
#################

#create dataframe for country data
country_data <- cvbase %>%
  summarise(
    "Other Countries" = sum(focusCountry == 0, na.rm = TRUE),
    "Brazil" = sum(focusCountry == 1, na.rm = TRUE),
  )

#pivot to longer, and add percentage column
country_data <- country_data %>%
  pivot_longer(everything(), names_to = "focusCountry", values_to = "count") %>%
  mutate(
    percentage = count / sum(count) * 100
  )

#create plot
```

```
ggplot(country_data, aes(x = "", y = percentage, fill = focusCountry)) +
  geom_bar(stat = "identity") +
  coord_flip() +
  geom_text(aes(label = paste0(round(percentage), "%")),
            position = position_stack(vjust = 0.5), size = 4, color = "black") +
  scale_fill_manual(values = c("Brazil" = "#f4a582", "Other Countries" = "#92c5de")) +
  labs(title = "Country of Residence",
       x = NULL, y = "Percentage", fill = "Country") +
  theme_minimal() +
  theme(plot.title = element_text(hjust = 0.5))

#################
#Fig17
#################

#create dataframe for c19ProSo
c19ProSo_data <- cvbase[, c("focusCountry", "c19ProSo01", "c19ProSo02", "c19ProSo03", "c19ProSo04")]

#convert from -3:3 to 1:7
c19ProSo_data <- c19ProSo_data %>%
  mutate(
    c19ProSo01 = c19ProSo01 + 4,
    c19ProSo02 = c19ProSo02 + 4,
    c19ProSo03 = c19ProSo03 + 4,
    c19ProSo04 = c19ProSo04 + 4
  )

#assign levels to response values
c19ProSo_data[2:5] <- lapply(c19ProSo_data[2:5], factor, levels = 1:7,
                     labels = c("Strongly Disagree", "Disagree", "Somewhat Disagree", "Neither Agree nor
Disagree", "Somewhat Agree", "Agree", "Strongly Agree")
)

#factor focusCountry to get label names
c19ProSo_data$focusCountry <- factor(c19ProSo_data$focusCountry, levels = c(0, 1), labels = c("Other
Countries", "Brazil"))

#rename question columns to represent the question text
c19ProSo_data <- c19ProSo_data %>%
  rename("I am willing to help others who suffer from coronavirus." = c19ProSo01,
         "I am willing to make donations to help others that suffer from coronavirus." = c19ProSo02,
         "I am willing to protect vulnerable groups from coronavirus even at my own expense." = c19ProSo03,
         "I am willing to make personal sacrifices to prevent the spread of coronavirus." = c19ProSo04,
  )

#convert responses to a likert object, and group by focus country
c19ProSo_likert <- likert(c19ProSo_data[, c(2:5)], grouping = c19ProSo_data$focusCountry)

#plot the graph
plot(c19ProSo_likert)
```

```
##########################################################
#2b and 2c
##########################################################

#assign dataframe
regression_data <- cvbase

#change na vals to 0 for dummy vars
regression_data[, c(1:10, 39:44)][is.na(regression_data[, c(1:10, 39:44)])] <- 0

#convert scales that include neg vals to positive only
regression_data <- regression_data %>%
  mutate(
    c19ProSo01 = c19ProSo01 + 4,
    c19ProSo02 = c19ProSo02 + 4,
    c19ProSo03 = c19ProSo03 + 4,
    c19ProSo04 = c19ProSo04 + 4,
    c19perBeh01 = c19perBeh01 + 4,
    c19perBeh02 = c19perBeh02 + 4,
    c19perBeh03 = c19perBeh03 + 4,
    c19RCA01 = c19RCA01 + 4,
    c19RCA02 = c19RCA02 + 4,
    c19RCA03 = c19RCA03 + 4,
    bor01 = bor01 + 4,
    bor02 = bor02 + 4,
    bor03 = bor03 + 4,
    MLQ = MLQ + 4
  )

#convert rankOrd to be in terms of category, rather than rank
regression_processing <- regression_data %>%
  mutate(rowNum = row_number()) %>%
  pivot_longer(
    cols = starts_with("rankOrdLife"),
    names_to = "rank",
    values_to = "category"
  )

#NA out rankOrd responses where multiple categories have the same rank (idk how this would even occur
given the nature of the question)
#look at rowNum == 141 for example
regression_processing <- regression_processing %>%
  group_by(rowNum) %>%
  mutate(category = if (!any(is.na(category)) && length(unique(category)) < 6) NA else category = category)
%>%
  ungroup()

#rename column text values to be numerical
regression_processing <- regression_processing %>%
  mutate(rank = case_when(
    rank == "rankOrdLife_1" ~ 1,
```

```
    rank == "rankOrdLife_2" ~ 2,
    rank == "rankOrdLife_3" ~ 3,
    rank == "rankOrdLife_4" ~ 4,
    rank == "rankOrdLife_5" ~ 5,
    rank == "rankOrdLife_6" ~ 6
  ))

#pivot back to wide format to return to correct num of rows
regression_processing <- regression_processing %>%
  pivot_wider(
    id_cols = rowNum,
    names_from = category,
    values_from = rank,
    names_prefix = "rank_"
  )

#remove NA ranking column and rowNum column
regression_processing <- regression_processing %>%
  select(-c(rowNum, rank_NA))

#when pivoting back to wide format, list columns were created, due to the NA values
#we will have to convert the list columns back into regular columns to make any more changes
regression_processing <- unnest_longer(regression_processing, col = c(rank_C, rank_E, rank_F, rank_D,
rank_A, rank_B), keep_empty = TRUE)

#Replace NULL (No Value) with NA(Missing Value)
regression_processing <- replace(regression_processing, is.null(regression_processing), NA)

#Bind table to retrieve all other data
regression_processing <- regression_data %>%
  select(-starts_with("Rank")) %>%
  bind_cols(regression_processing)

#assign clean and tidy data to regression_data
regression_data <- regression_processing

#Extract data from focus country (Brazil) only
brazil_data <- regression_data[regression_data$focusCountry == 1, ]

#Extract data from other countries only
otherCountry_data <- regression_data[regression_data$focusCountry == 0, ]

#one-hot encode gender data
otherCountry_data <- otherCountry_data %>%
  transform(female = case_when
          (
            gender == 1 ~ 1,
            TRUE ~ 0
          )
  ) %>%
  transform(male = case_when
```

```
        (
          gender == 2 ~ 1,
          TRUE ~ 0
        )
  ) %>%
  transform(other = case_when
        (
          gender == 3 ~ 1,
          TRUE ~ 0
        )
  )
##########################
#Regressions
##########################

#regression for Brazil proso01
brazil_c19ProSo01 = lm(c19ProSo01 ~
                    employstatus_1 +
                    employstatus_2 +
                    employstatus_3 +
                    employstatus_4 +
                    employstatus_5 +
                    employstatus_6 +
                    employstatus_7 +
                    employstatus_8 +
                    employstatus_9 +
                    employstatus_10 +
                    isoFriends_inPerson +
                    isoOthPpl_inPerson +
                    isoFriends_online +
                    isoOthPpl_online +
                    lone01 +
                    lone02 +
                    lone03 +
                    happy +
                    lifeSat +
                    MLQ +
                    bor01 +
                    bor02 +
                    bor03 +
                    consp01 +
                    consp02 +
                    consp03 +
                    rank_A +
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
```

```
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                    data = brazil_data)

#regression for Brazil proso02
brazil_c19ProSo02 = lm(c19ProSo02 ~
                     employstatus_1 +
                     employstatus_2 +
                     employstatus_3 +
                     employstatus_4 +
                     employstatus_5 +
                     employstatus_6 +
                     employstatus_7 +
                     employstatus_8 +
                     employstatus_9 +
                     employstatus_10 +
                     isoFriends_inPerson +
                     isoOthPpl_inPerson +
                     isoFriends_online +
                     isoOthPpl_online +
                     lone01 +
                     lone02 +
                     lone03 +
                     happy +
                     lifeSat +
                     MLQ +
                     bor01 +
                     bor02 +
                     bor03 +
                     consp01 +
                     consp02 +
                     consp03 +
                     rank_A +
                     rank_B +
                     rank_C +
                     rank_D +
                     rank_E +
                     rank_F +
                     c19perBeh01 +
                     c19perBeh02 +
```

```
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                   data = brazil_data)

#regression for Brazil proso03
brazil_c19ProSo03 = lm(c19ProSo03 ~
                    employstatus_1 +
                    employstatus_2 +
                    employstatus_3 +
                    employstatus_4 +
                    employstatus_5 +
                    employstatus_6 +
                    employstatus_7 +
                    employstatus_8 +
                    employstatus_9 +
                    employstatus_10 +
                    isoFriends_inPerson +
                    isoOthPpl_inPerson +
                    isoFriends_online +
                    isoOthPpl_online +
                    lone01 +
                    lone02 +
                    lone03 +
                    happy +
                    lifeSat +
                    MLQ +
                    bor01 +
                    bor02 +
                    bor03 +
                    consp01 +
                    consp02 +
                    consp03 +
                    rank_A +
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
```

```
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                   data = brazil_data)

#regression for Brazil proso04
brazil_c19ProSo04 = lm(c19ProSo04 ~
                    employstatus_1 +
                    employstatus_2 +
                    employstatus_3 +
                    employstatus_4 +
                    employstatus_5 +
                    employstatus_6 +
                    employstatus_7 +
                    employstatus_8 +
                    employstatus_9 +
                    employstatus_10 +
                    isoFriends_inPerson +
                    isoOthPpl_inPerson +
                    isoFriends_online +
                    isoOthPpl_online +
                    lone01 +
                    lone02 +
                    lone03 +
                    happy +
                    lifeSat +
                    MLQ +
                    bor01 +
                    bor02 +
                    bor03 +
                    consp01 +
                    consp02 +
                    consp03 +
                    rank_A +
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
```

```
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                  data = brazil_data)

#create brazil summaries
brazil_proSo1_summary <- summary(brazil_c19ProSo01)
brazil_proSo2_summary <- summary(brazil_c19ProSo02)
brazil_proSo3_summary <- summary(brazil_c19ProSo03)
brazil_proSo4_summary <- summary(brazil_c19ProSo04)

#create otherCountry regressions
#regression for otherCountry proso01
otherCountry_c19ProSo01 = lm(c19ProSo01 ~
                        employstatus_1 +
                        employstatus_2 +
                        employstatus_3 +
                        employstatus_4 +
                        employstatus_5 +
                        employstatus_6 +
                        employstatus_7 +
                        employstatus_8 +
                        employstatus_9 +
                        employstatus_10 +
                        isoFriends_inPerson +
                        isoOthPpl_inPerson +
                        isoFriends_online +
                        isoOthPpl_online +
                        lone01 +
                        lone02 +
                        lone03 +
                        happy +
                        lifeSat +
                        MLQ +
                        bor01 +
                        bor02 +
                        bor03 +
                        consp01 +
                        consp02 +
                        consp03 +
                        rank_A +
```

```
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                  data = otherCountry_data)

#regression for otherCountry proso02
otherCountry_c19ProSo02 = lm(c19ProSo02 ~
                      employstatus_1 +
                      employstatus_2 +
                      employstatus_3 +
                      employstatus_4 +
                      employstatus_5 +
                      employstatus_6 +
                      employstatus_7 +
                      employstatus_8 +
                      employstatus_9 +
                      employstatus_10 +
                      isoFriends_inPerson +
                      isoOthPpl_inPerson +
                      isoFriends_online +
                      isoOthPpl_online +
                      lone01 +
                      lone02 +
                      lone03 +
                      happy +
                      lifeSat +
                      MLQ +
                      bor01 +
                      bor02 +
                      bor03 +
                      consp01 +
                      consp02 +
                      consp03 +
                      rank_A +
```

```
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                   data = otherCountry_data)

#regression for otherCountry proso03
otherCountry_c19ProSo03 = lm(c19ProSo03 ~
                    employstatus_1 +
                    employstatus_2 +
                    employstatus_3 +
                    employstatus_4 +
                    employstatus_5 +
                    employstatus_6 +
                    employstatus_7 +
                    employstatus_8 +
                    employstatus_9 +
                    employstatus_10 +
                    isoFriends_inPerson +
                    isoOthPpl_inPerson +
                    isoFriends_online +
                    isoOthPpl_online +
                    lone01 +
                    lone02 +
                    lone03 +
                    happy +
                    lifeSat +
                    MLQ +
                    bor01 +
                    bor02 +
                    bor03 +
                    consp01 +
                    consp02 +
                    consp03 +
                    rank_A +
```

```
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                   data = otherCountry_data)

#regression for otherCountry proso04
otherCountry_c19ProSo04 = lm(c19ProSo04 ~
                    employstatus_1 +
                    employstatus_2 +
                    employstatus_3 +
                    employstatus_4 +
                    employstatus_5 +
                    employstatus_6 +
                    employstatus_7 +
                    employstatus_8 +
                    employstatus_9 +
                    employstatus_10 +
                    isoFriends_inPerson +
                    isoOthPpl_inPerson +
                    isoFriends_online +
                    isoOthPpl_online +
                    lone01 +
                    lone02 +
                    lone03 +
                    happy +
                    lifeSat +
                    MLQ +
                    bor01 +
                    bor02 +
                    bor03 +
                    consp01 +
                    consp02 +
                    consp03 +
                    rank_A +
```

```
                    rank_B +
                    rank_C +
                    rank_D +
                    rank_E +
                    rank_F +
                    c19perBeh01 +
                    c19perBeh02 +
                    c19perBeh03 +
                    c19RCA01 +
                    c19RCA02 +
                    c19RCA03 +
                    coronaClose_1 +
                    coronaClose_2 +
                    coronaClose_3 +
                    coronaClose_4 +
                    coronaClose_5 +
                    coronaClose_6 +
                    gender +
                    age +
                    edu,
                  data = otherCountry_data)

#create otherCountry summaries
otherCountry_proSo1_summary <- summary(otherCountry_c19ProSo01)
otherCountry_proSo2_summary <- summary(otherCountry_c19ProSo02)
otherCountry_proSo3_summary <- summary(otherCountry_c19ProSo03)
otherCountry_proSo4_summary <- summary(otherCountry_c19ProSo04)

#view summaries (highlight to use)
brazil_proSo1_summary
brazil_proSo2_summary
brazil_proSo3_summary
brazil_proSo4_summary
otherCountry_proSo1_summary
otherCountry_proSo2_summary
otherCountry_proSo3_summary
otherCountry_proSo4_summary

#create correlation table for otherCountries
otherCountry_corTable <- cor(cbind(otherCountry_data[, c(1:38, 57:59, 40:41, 51:56, 43:46)]), use =
"complete.obs")

#take only relevant columns
otherCountry_corTable <- otherCountry_corTable[, 50:53]

#convert matrix to a dataframe
otherCountry_corTable <- as.data.frame(otherCountry_corTable)

#assign rows to remove (rows should be predictors, columns should be outcomes)
rows_to_remove <- c("c19ProSo01",
                    "c19ProSo02",
```

```
                "c19ProSo03",
                "c19ProSo04")

#remove outcome rows, keeping only outcome columns
otherCountry_corTable <- subset(otherCountry_corTable, subset = !(rownames(otherCountry_corTable) %in%
rows_to_remove))

#create correlation heatmap
#add rownames (predictors) as a column
otherCountry_corTable$predictor <- rownames(otherCountry_corTable)

#pivot the table to get correlation of variable pairs
otherCountry_corHeatmap <- pivot_longer(otherCountry_corTable, cols = -predictor, names_to = "outcome",
values_to = "Correlation")

#plot the heatmap
ggplot(otherCountry_corHeatmap, aes(x = outcome, y = predictor, fill = Correlation)) +
  geom_tile() +
  scale_fill_gradient2(low = "#08306b", mid = "white", high = "#67000d", midpoint = 0) +
  theme_minimal() +
  labs(
    title = "Correlation Heatmap",
    x = "Outcomes",
    y = "Predictors",
    fill = "Correlation"
  )

View(otherCountry_corTable)

##########################################################
#3b
##########################################################

#label cluster countries
regression_data <- regression_data %>%
  mutate(clusterCountry = ifelse(coded_country %in% c("Bulgaria",
                                 "Armenia",
                                 "Georgia",
                                 "Argentina",
                                 "Panama",
                                 "Turkey",
                                 "Colombia",
                                 "Albania",
                                 "Ukraine",
                                 "Bosnia and Herzegovina",
                                 "Greece",
                                 "Montenegro"), 1, 0))

#extract cluster country data
clusterCountry_data <- regression_data[regression_data$clusterCountry == 1, ]
```

```
clusterCountry_c19ProSo01 = lm(c19ProSo01 ~
                                 employstatus_1 +
                                 employstatus_2 +
                                 employstatus_3 +
                                 employstatus_4 +
                                 employstatus_5 +
                                 employstatus_6 +
                                 employstatus_7 +
                                 employstatus_8 +
                                 employstatus_9 +
                                 employstatus_10 +
                                 isoFriends_inPerson +
                                 isoOthPpl_inPerson +
                                 isoFriends_online +
                                 isoOthPpl_online +
                                 lone01 +
                                 lone02 +
                                 lone03 +
                                 happy +
                                 lifeSat +
                                 MLQ +
                                 bor01 +
                                 bor02 +
                                 bor03 +
                                 consp01 +
                                 consp02 +
                                 consp03 +
                                 rank_A +
                                 rank_B +
                                 rank_C +
                                 rank_D +
                                 rank_E +
                                 rank_F +
                                 c19perBeh01 +
                                 c19perBeh02 +
                                 c19perBeh03 +
                                 c19RCA01 +
                                 c19RCA02 +
                                 c19RCA03 +
                                 coronaClose_1 +
                                 coronaClose_2 +
                                 coronaClose_3 +
                                 coronaClose_4 +
                                 coronaClose_5 +
                                 coronaClose_6 +
                                 gender +
                                 age +
                                 edu,
                               data = clusterCountry_data)

#regression for otherCountry proso02
```

```
clusterCountry_c19ProSo02 = lm(c19ProSo02 ~
                                 employstatus_1 +
                                 employstatus_2 +
                                 employstatus_3 +
                                 employstatus_4 +
                                 employstatus_5 +
                                 employstatus_6 +
                                 employstatus_7 +
                                 employstatus_8 +
                                 employstatus_9 +
                                 employstatus_10 +
                                 isoFriends_inPerson +
                                 isoOthPpl_inPerson +
                                 isoFriends_online +
                                 isoOthPpl_online +
                                 lone01 +
                                 lone02 +
                                 lone03 +
                                 happy +
                                 lifeSat +
                                 MLQ +
                                 bor01 +
                                 bor02 +
                                 bor03 +
                                 consp01 +
                                 consp02 +
                                 consp03 +
                                 rank_A +
                                 rank_B +
                                 rank_C +
                                 rank_D +
                                 rank_E +
                                 rank_F +
                                 c19perBeh01 +
                                 c19perBeh02 +
                                 c19perBeh03 +
                                 c19RCA01 +
                                 c19RCA02 +
                                 c19RCA03 +
                                 coronaClose_1 +
                                 coronaClose_2 +
                                 coronaClose_3 +
                                 coronaClose_4 +
                                 coronaClose_5 +
                                 coronaClose_6 +
                                 gender +
                                 age +
                                 edu,
                               data = clusterCountry_data)

#regression for otherCountry proso03
```

```
clusterCountry_c19ProSo03 = lm(c19ProSo03 ~
                                 employstatus_1 +
                                 employstatus_2 +
                                 employstatus_3 +
                                 employstatus_4 +
                                 employstatus_5 +
                                 employstatus_6 +
                                 employstatus_7 +
                                 employstatus_8 +
                                 employstatus_9 +
                                 employstatus_10 +
                                 isoFriends_inPerson +
                                 isoOthPpl_inPerson +
                                 isoFriends_online +
                                 isoOthPpl_online +
                                 lone01 +
                                 lone02 +
                                 lone03 +
                                 happy +
                                 lifeSat +
                                 MLQ +
                                 bor01 +
                                 bor02 +
                                 bor03 +
                                 consp01 +
                                 consp02 +
                                 consp03 +
                                 rank_A +
                                 rank_B +
                                 rank_C +
                                 rank_D +
                                 rank_E +
                                 rank_F +
                                 c19perBeh01 +
                                 c19perBeh02 +
                                 c19perBeh03 +
                                 c19RCA01 +
                                 c19RCA02 +
                                 c19RCA03 +
                                 coronaClose_1 +
                                 coronaClose_2 +
                                 coronaClose_3 +
                                 coronaClose_4 +
                                 coronaClose_5 +
                                 coronaClose_6 +
                                 gender +
                                 age +
                                 edu,
                               data = clusterCountry_data)

#regression for otherCountry proso04
```

```
clusterCountry_c19ProSo04 = lm(c19ProSo04 ~
                                 employstatus_1 +
                                 employstatus_2 +
                                 employstatus_3 +
                                 employstatus_4 +
                                 employstatus_5 +
                                 employstatus_6 +
                                 employstatus_7 +
                                 employstatus_8 +
                                 employstatus_9 +
                                 employstatus_10 +
                                 isoFriends_inPerson +
                                 isoOthPpl_inPerson +
                                 isoFriends_online +
                                 isoOthPpl_online +
                                 lone01 +
                                 lone02 +
                                 lone03 +
                                 happy +
                                 lifeSat +
                                 MLQ +
                                 bor01 +
                                 bor02 +
                                 bor03 +
                                 consp01 +
                                 consp02 +
                                 consp03 +
                                 rank_A +
                                 rank_B +
                                 rank_C +
                                 rank_D +
                                 rank_E +
                                 rank_F +
                                 c19perBeh01 +
                                 c19perBeh02 +
                                 c19perBeh03 +
                                 c19RCA01 +
                                 c19RCA02 +
                                 c19RCA03 +
                                 coronaClose_1 +
                                 coronaClose_2 +
                                 coronaClose_3 +
                                 coronaClose_4 +
                                 coronaClose_5 +
                                 coronaClose_6 +
                                 gender +
                                 age +
                                 edu,
                               data = clusterCountry_data)

#create otherCountry summaries
```

```
clusterCountry_proSo1_summary <- summary(clusterCountry_c19ProSo01)
clusterCountry_proSo2_summary <- summary(clusterCountry_c19ProSo02)
clusterCountry_proSo3_summary <- summary(clusterCountry_c19ProSo03)
clusterCountry_proSo4_summary <- summary(clusterCountry_c19ProSo04)

#show summaries
clusterCountry_proSo1_summary
clusterCountry_proSo2_summary
clusterCountry_proSo3_summary
clusterCountry_proSo4_summary
```

Clustering R Code:

```
library(dplyr)
library(dendextend)
library(circlize)

################################
#Data Gathering and Cleaning
################################

#load cvbase
cvbase = read.csv("PsyCoronaBaselineExtract.csv")

#extract countries
countryList <- data.frame("coded_country" = cvbase$coded_country)

#remove duplicates
clustering_data <- unique(countryList)

#remove NA values and blanks
clustering_data <- clustering_data %>%
  filter_all(any_vars(!is.na(.) & . != ""))

#load ghs data
ghs_data <- read.csv("2021-GHS-Index-April-2022.csv")

#rename columns
ghs_data <- data.frame(
    "coded_country" = ghs_data$"Country",
    "ghs_overall_score" = ghs_data$"OVERALL.SCORE")

#rename countries to match original data country names
ghs_data <- ghs_data %>%
  transform(coded_country = case_when
          (
            coded_country == "Bosnia and Hercegovina" ~ "Bosnia and Herzegovina",
            coded_country == "Kyrgyz Republic" ~ "Kyrgyzstan",
```

```
            coded_country == "Serbia" ~ "Republic of Serbia",
            TRUE ~ coded_country
          )
  )

#merge by country
clustering_data <- merge(clustering_data, ghs_data, by = "coded_country")

#load gdp per capita data (worldbank)
gdpPC2021_data <-read.csv("API_NY.GDP.PCAP.CD_DS2_en_csv_v2_133.csv")

#rename columns
gdpPC2021_data <- data.frame(
  "coded_country" = gdpPC2021_data$"Country.Name",
  "GDP_per_capita_2021" = gdpPC2021_data$"X2021")

#rename countries to match original dataframe country names
gdpPC2021_data <- gdpPC2021_data %>%
  transform(coded_country = case_when
          (
            coded_country == "Egypt, Arab Rep." ~ "Egypt",
            coded_country == "Venezuela, RB" ~ "Venezuela",
            coded_country == "Lao PDR" ~ "Laos",
            coded_country == "Iran, Islamic Rep." ~ "Iran",
            coded_country == "Kyrgyz Republic" ~ "Kyrgyzstan",
            coded_country == "Viet Nam" ~ "Vietnam",
            coded_country == "Brunei Darussalam" ~ "Brunei",
            coded_country == "Serbia" ~ "Republic of Serbia",
            coded_country == "Russian Federation" ~ "Russia",
            coded_country == "Turkiye" ~ "Turkey",
            coded_country == "Czechia" ~ "Czech Republic",
            coded_country == "Slovak Republic" ~ "Slovakia",
            coded_country == "Korea, Rep." ~ "South Korea",
            coded_country == "United States" ~ "United States of America",
            TRUE ~ coded_country
          )
  )

#add data to the clustering table
clustering_data <- merge(clustering_data, gdpPC2021_data, by = "coded_country")

#load unemployment rate data (worldbank)
unemployment2021_data <-read.csv("world bank unemployment.csv")

#rename columns
unemployment2021_data <- data.frame(
  "coded_country" = unemployment2021_data$"Country.Name",
  "unemployment rate 2021" = unemployment2021_data$"X2021")

#rename countries to match original dataframe country names
unemployment2021_data <- unemployment2021_data %>%
```

```
  transform(coded_country = case_when
          (
            coded_country == "Egypt, Arab Rep." ~ "Egypt",
            coded_country == "Venezuela, RB" ~ "Venezuela",
            coded_country == "Lao PDR" ~ "Laos",
            coded_country == "Iran, Islamic Rep." ~ "Iran",
            coded_country == "Kyrgyz Republic" ~ "Kyrgyzstan",
            coded_country == "Viet Nam" ~ "Vietnam",
            coded_country == "Brunei Darussalam" ~ "Brunei",
            coded_country == "Serbia" ~ "Republic of Serbia",
            coded_country == "Russian Federation" ~ "Russia",
            coded_country == "Turkiye" ~ "Turkey",
            coded_country == "Czechia" ~ "Czech Republic",
            coded_country == "Slovak Republic" ~ "Slovakia",
            coded_country == "Korea, Rep." ~ "South Korea",
            coded_country == "United States" ~ "United States of America",
            TRUE ~ coded_country
          )
  )

clustering_data <- merge(clustering_data, unemployment2021_data, by = "coded_country")

#load world happiness index data
happiness_data_2019 <- read.csv("World Happiness Index 2019.csv")

#rename columns
happiness_data_2019 <- data.frame(
  "coded_country" = happiness_data_2019$"Country.or.region",
  "happiness_score_2019" = happiness_data_2019$"Score")

#rename countries to match existing ones in data
happiness_data_2019 <- happiness_data_2019 %>%
  transform(coded_country = case_when
          (
            coded_country == "United States" ~ "United States of America",
            coded_country == "Trinidad & Tobago" ~ "Trinidad and Tobago",
            coded_country == "Serbia" ~ "Republic of Serbia",
            TRUE ~ coded_country
          )
  )

#add to clustering table
clustering_data <- merge(clustering_data, happiness_data_2019, by = "coded_country")

#load birth rate per 1000 data (worldbank)
birthRate_per_1000 <- read.csv("birthRate per 1000.csv")

#rename columns
birthRate_per_1000 <- data.frame(
  "coded_country" = birthRate_per_1000$"Country.Name",
  "birth_rate_per_1000_2021" = birthRate_per_1000$"X2021")
```

```
#rename countries to match original dataframe country names
birthRate_per_1000 <- birthRate_per_1000 %>%
  transform(coded_country = case_when
          (
            coded_country == "Egypt, Arab Rep." ~ "Egypt",
            coded_country == "Venezuela, RB" ~ "Venezuela",
            coded_country == "Lao PDR" ~ "Laos",
            coded_country == "Iran, Islamic Rep." ~ "Iran",
            coded_country == "Kyrgyz Republic" ~ "Kyrgyzstan",
            coded_country == "Viet Nam" ~ "Vietnam",
            coded_country == "Brunei Darussalam" ~ "Brunei",
            coded_country == "Serbia" ~ "Republic of Serbia",
            coded_country == "Russian Federation" ~ "Russia",
            coded_country == "Turkiye" ~ "Turkey",
            coded_country == "Czechia" ~ "Czech Republic",
            coded_country == "Slovak Republic" ~ "Slovakia",
            coded_country == "Korea, Rep." ~ "South Korea",
            coded_country == "United States" ~ "United States of America",
            TRUE ~ coded_country
          )
  )

#add to clustering table
clustering_data <- merge(clustering_data, birthRate_per_1000, by = "coded_country")

#load birth rate per 1000 data (worldbank)
press_freedom_2021_data <- read.csv("press-freedom-index-rsf.csv")

#take only 2021 data
press_freedom_2021_data <- press_freedom_2021_data %>%
  filter(Year == 2021)

#remove year and code columns
press_freedom_2021_data$Year <- NULL
press_freedom_2021_data$Code <- NULL

#rename columns
press_freedom_2021_data <- data.frame(
  "coded_country" = press_freedom_2021_data$"Entity",
  "press_freedom_score_2021" = press_freedom_2021_data$"Press.Freedom.Score")

#rename countries to match original dataframe country names
press_freedom_2021_data <- press_freedom_2021_data %>%
  transform(coded_country = case_when
          (
            coded_country == "Serbia" ~ "Republic of Serbia",
            coded_country == "Czechia" ~ "Czech Republic",
            coded_country == "United States" ~ "United States of America",
            TRUE ~ coded_country
          )
```

```
  )

#add to clustering table
clustering_data <- merge(clustering_data, press_freedom_2021_data, by = "coded_country")

#load corruption perception data, and trim whitespace (why is this dataset like this lol)
corruption_perception_2021_data <- read.csv("corruption_data.csv", strip.white=TRUE)

#rename columns
corruption_perception_2021_data <- data.frame(
  "coded_country" = corruption_perception_2021_data$"region_name",
  "CPI_score_2021" = corruption_perception_2021_data$"X2021")

#rename countries
corruption_perception_2021_data <- corruption_perception_2021_data %>%
  transform(coded_country = case_when
          (
            coded_country == "Serbia" ~ "Republic of Serbia",
            coded_country == "United States" ~ "United States of America",
            TRUE ~ coded_country
          )
  )

#add to clustering table
clustering_data <- merge(clustering_data, corruption_perception_2021_data, by = "coded_country")

##################################################################
#Hierarchical Clustering
#for the marker:
#If it is possible I will include all relevant csv files in a zip in the submission,
#otherwise please save the table of values and load it as clustering_data
##################################################################

#

#omit NA Values
clustering_data <- na.omit(clustering_data)

#convert country column into rownames
rownames(clustering_data) <- clustering_data[,1]

#remove country column
clustering_data <- clustering_data[, -1]

#normalise values
clustering_data <- as.data.frame(scale(clustering_data))

#create distance matrix
distance_matrix <- dist(clustering_data, method = "euclidean")

#create cluster
```

```
cluster <- hclust(distance_matrix, method = "average")

#create dendrogram object
dendrogram <- as.dendrogram(cluster)

#customize the dendrogram
dendrogram <- dendrogram %>%
  color_branches(k = 12) %>%
  set("branches_lwd", 2)

#adjust margins so labels are not cutoff
par(mar = c(5, 4, 4, 2))

#plot the dendrogram
circlize_dendrogram(dendrogram, labels_track_height = 0.3)
```

References

Birth rate, crude (per 1,000 people). World Bank Open Data. (n.d.-a). https://data.worldbank.org/indicator/SP.DYN.CBRT.IN

Circular dendrogram in R with circlize and Dendexten. R CHARTS | A collection of charts and graphs made with the R programming language. (2021, March 27). https://r-charts.com/part-whole/circular-dendrogram/

GDP per capita (current US$). World Bank Open Data. (n.d.-b). https://data.worldbank.org/indicator/ny.gdp.pcap.cd

GHS index report and Data. GHS Index. (2023, December 19). https://ghsindex.org/report-model/

Hierarchical Cluster Analysis. Hierarchical Cluster Analysis · UC Business Analytics R Programming Guide. (n.d.). https://uc-r.github.io/hc_clustering

How can I trim leading and trailing white space?. Stack Overflow. (1955, November 1). https://stackoverflow.com/questions/2261079/how-can-i-trim-leading-and-trailing-white-space

Network, S. D. S. (2019, November 27). World happiness report. Kaggle. https://www.kaggle.com/datasets/unsdsn/world-happiness?resource=download

Press freedom index. Our World in Data. (n.d.). https://ourworldindata.org/grapher/press-freedom-index-rsf

R is plotting labels off the page. Stack Overflow. (1956, February 1). https://stackoverflow.com/questions/2807060/r-is-plotting-labels-off-the-page

Tyagi, M. (2022, September 4). World corruption index dataset. Kaggle. https://www.kaggle.com/datasets/tr1gg3rtrash/global-corruption-index

Unemployment, total (% of total labor force) (national estimate). World Bank Open Data. (n.d.-c). https://data.worldbank.org/indicator/SL.UEM.TOTL.NE.ZS?most_recent_year_desc=true

[R] hclust - Error in if (is.na(n) || n > 65536L | Kaggle. (n.d.). Www.kaggle.com. Retrieved April 16, 2024, from https://www.kaggle.com/discussions/questions-and-answers/43142

11.7 Bar Chart Dodge with Labels | Artificial Intelligence Desktop Survival Guide. (n.d.). In onepager.togaware.com. Retrieved April 16, 2024, from https://onepager.togaware.com/bar-chart-dodge-with-labels.html

A general vectorised if — case_when. (n.d.). Dplyr.tidyverse.org. https://dplyr.tidyverse.org/reference/case_when.html

Chanenson, G. J., Chanenson, G. J., & Chanenson, G. J. (2021, June 23). On Likert Scales In R. Jake Chanenson. https://jakec007.github.io/2021-06-23-R-likert/

Controlling Layouts. (n.d.). Patchwork.data-Imaginist.com. Retrieved April 16, 2024, from https://patchwork.data-imaginist.com/articles/guides/layout.html

Convert the values in a column into row names in an existing data frame. (n.d.). Stack Overflow. Retrieved April 16, 2024, from https://stackoverflow.com/questions/5555408/convert-the-values-in-a-column-into-row-names-in-an-existing-data-frame

Copy an R data.frame to an Excel spreadsheet. (n.d.). Stack Overflow. Retrieved April 16, 2024, from https://stackoverflow.com/questions/24704344/copy-an-r-data-frame-to-an-excel-spreadsheet

CRAN: Manuals. (2019). R-Project.org. https://cran.r-project.org/manuals.html

Differences between the base R and magrittr pipes. (n.d.). Www.tidyverse.org. Retrieved April 16, 2024, from https://www.tidyverse.org/blog/2023/04/base-vs-magrittr-pipe/

factor function - RDocumentation. (n.d.). Www.rdocumentation.org. https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/factor

Labelling circular dendextend dendrogram. (n.d.). Stack Overflow. Retrieved April 16, 2024, from https://stackoverflow.com/questions/46238364/labelling-circular-dendextend-dendrogram

Likert grouping with different levels in R. (n.d.). Stack Overflow. Retrieved April 16, 2024, from https://stackoverflow.com/questions/27061286/likert-grouping-with-different-levels-in-r

Muenchen, B. (2013, January 22). Comparing Transformation Styles: attach, transform, mutate and within | R-bloggers. https://www.r-bloggers.com/2013/01/comparing-transformation-styles-attach-transform-mutate-and-within/

par function | R Documentation. (n.d.). Www.rdocumentation.org. https://www.rdocumentation.org/packages/graphics/versions/3.6.2/topics/par

Pivoting. (n.d.). Tidyr.tidyverse.org. https://tidyr.tidyverse.org/articles/pivot.html

r - What do hjust and vjust do when making a plot using ggplot? (n.d.). Stack Overflow. https://stackoverflow.com/questions/7263849/what-do-hjust-and-vjust-do-when-making-a-plot-using-ggplot

R colour Cheatsheet. (n.d.). https://www.nceas.ucsb.edu/sites/default/files/2020-04/colorPaletteCheatsheet.pdf

Return rows with matching conditions — filter. (2020). Tidyverse.org. https://dplyr.tidyverse.org/reference/filter.html

Summarise each group to fewer rows — summarise. (n.d.). Dplyr.tidyverse.org. https://dplyr.tidyverse.org/reference/summarise.html

Wikipedia Contributors. (2019, May 15). Corruption Perceptions Index. Wikipedia; Wikimedia Foundation. https://en.wikipedia.org/wiki/Corruption_Perceptions_Index