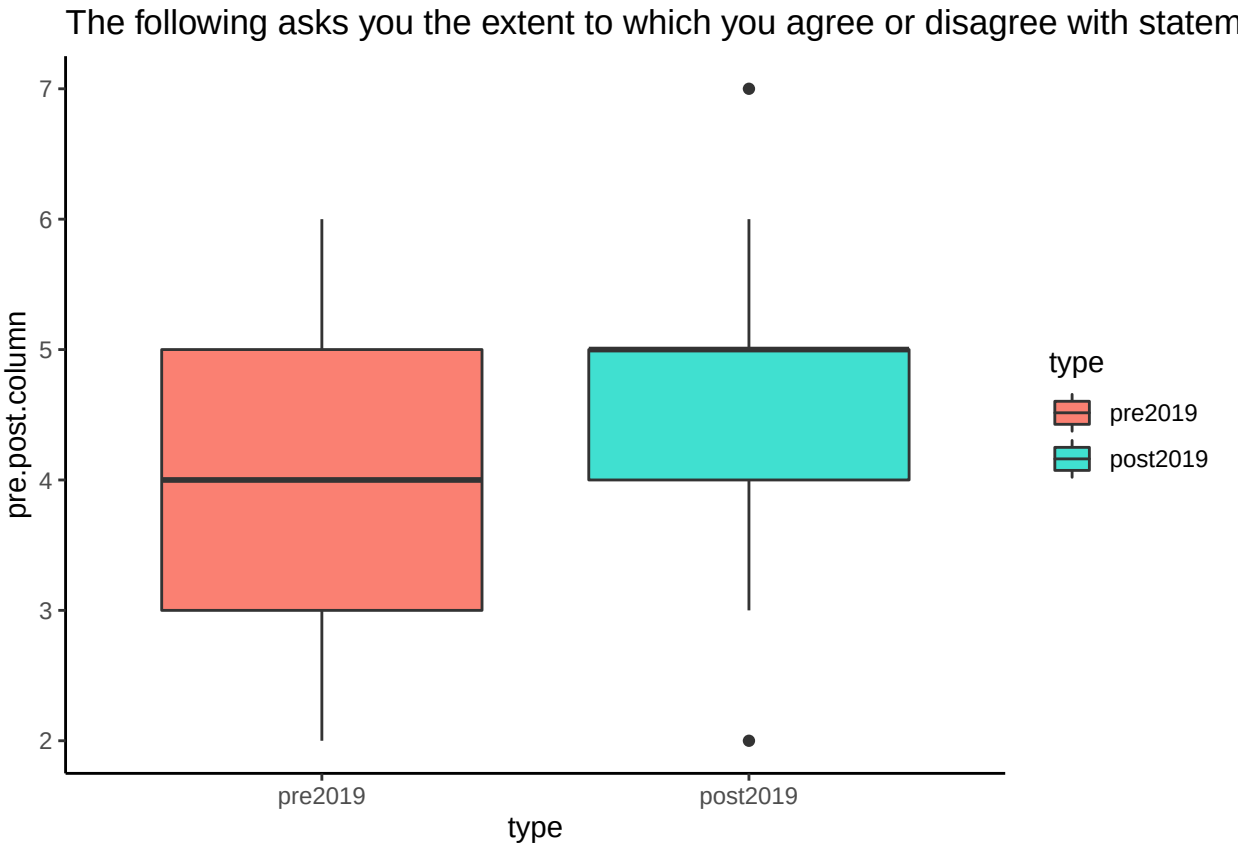
11_lecture-survey-popcure2019

Deidre Jaeger

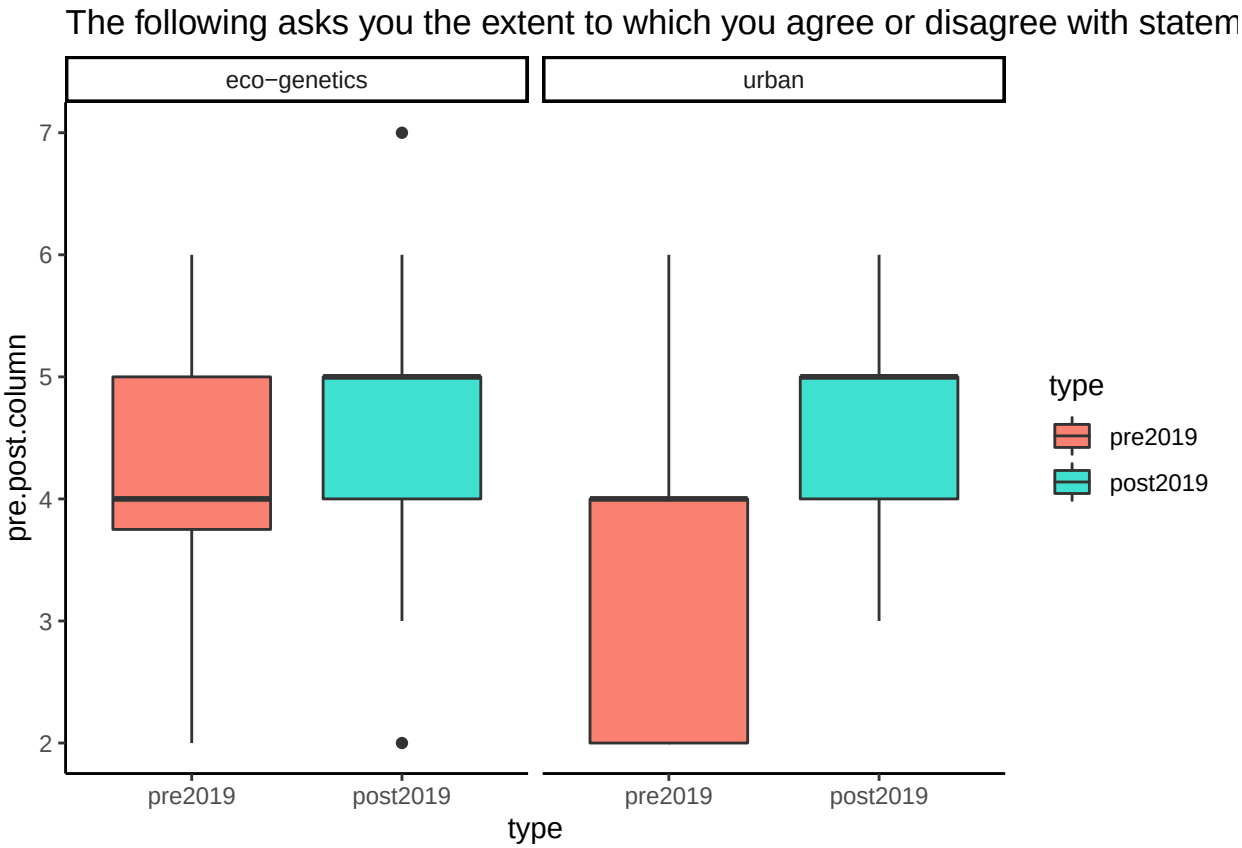
4/15/2020

```
## [1] "The following asks you the extent to which you agree or disagree with statements about the surr
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -2.1331, df = 57.474, p-value = 0.0372
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.29238689 -0.04094644
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.000000               4.666667
##
##
## [[2]]
```




```
##
## [[3]]
##
```

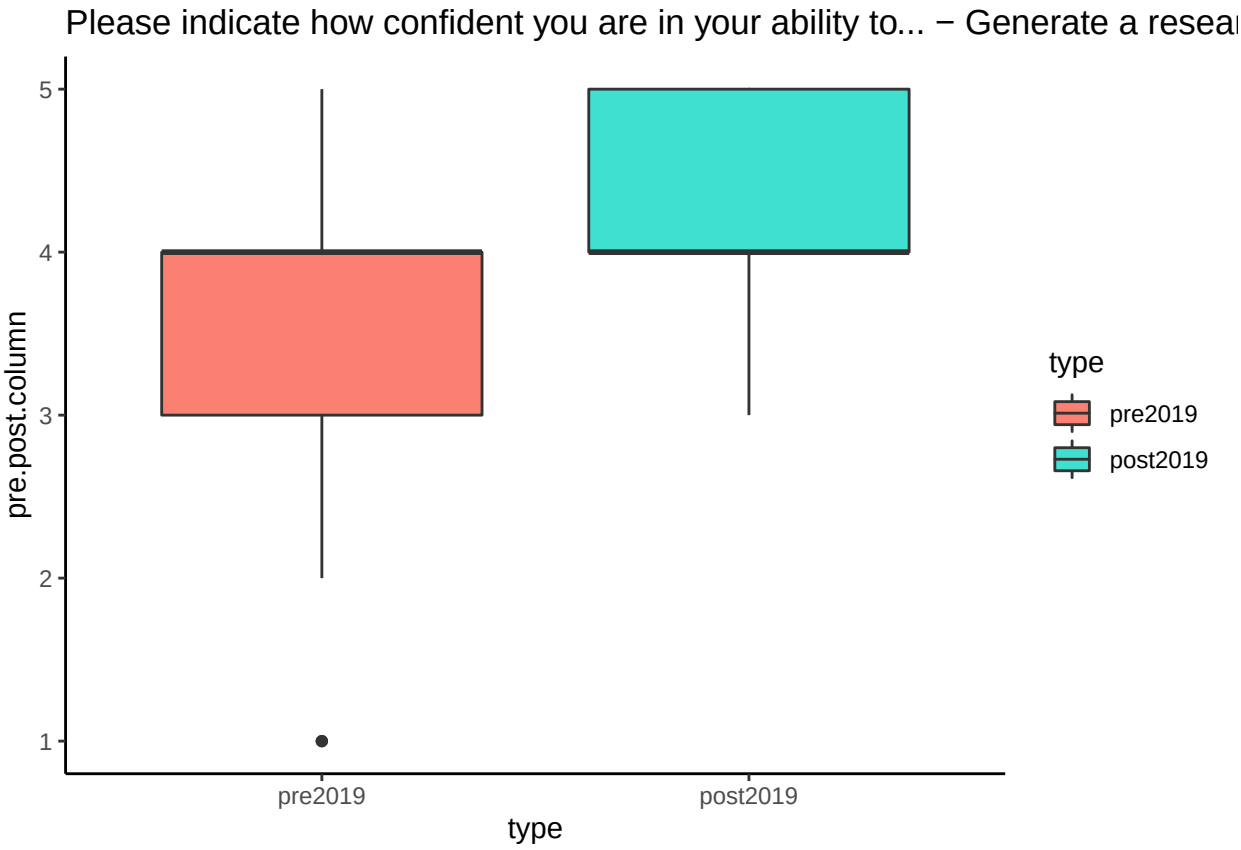
```
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -2.286, df = 20.929, p-value = 0.03278
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -2.07150363 -0.09772714
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.615385               4.700000
##
##
## [[4]]
```



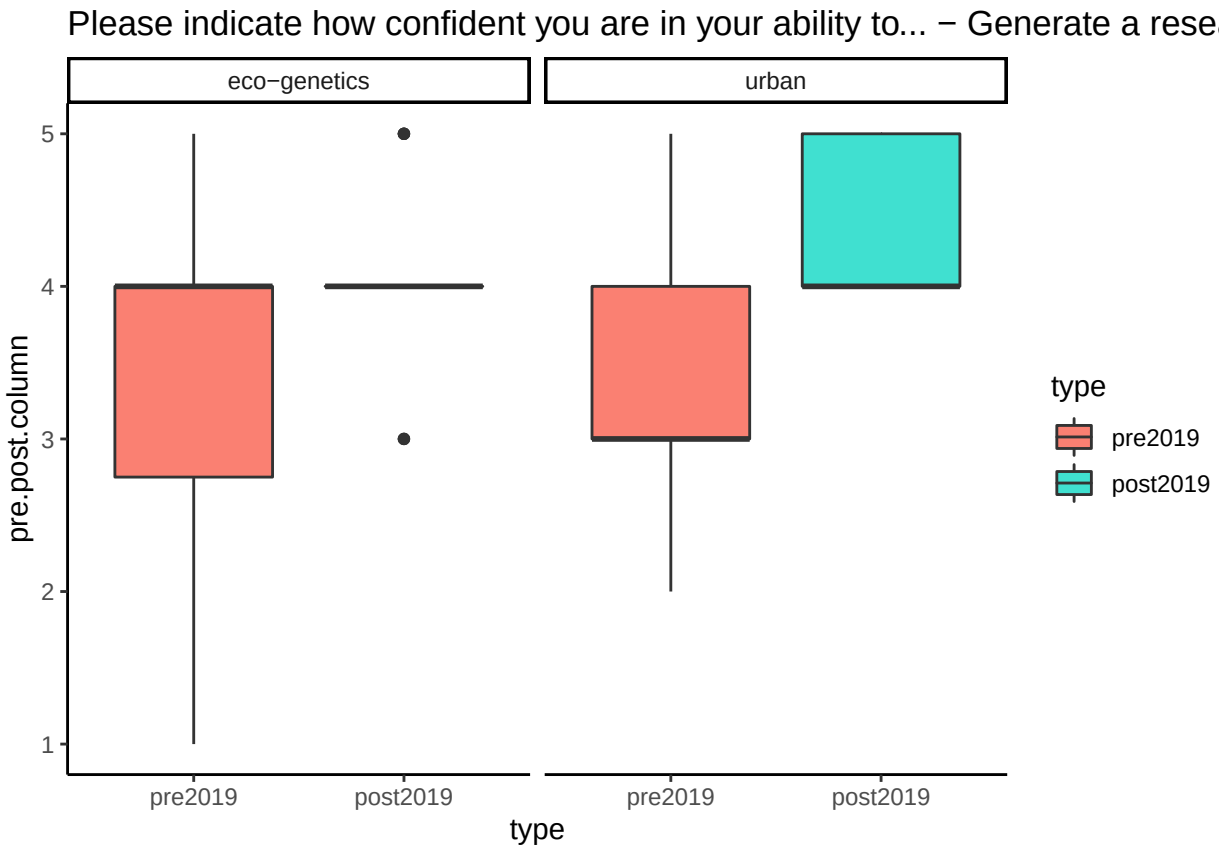

```
## [1] "Please indicate how confident you are in your ability to... - Generate a research question to a
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -3.5993, df = 53.085, p-value = 0.0007015
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.2321590 -0.3503326
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.393939               4.185185
```

```
##
##
## [[2]]
```

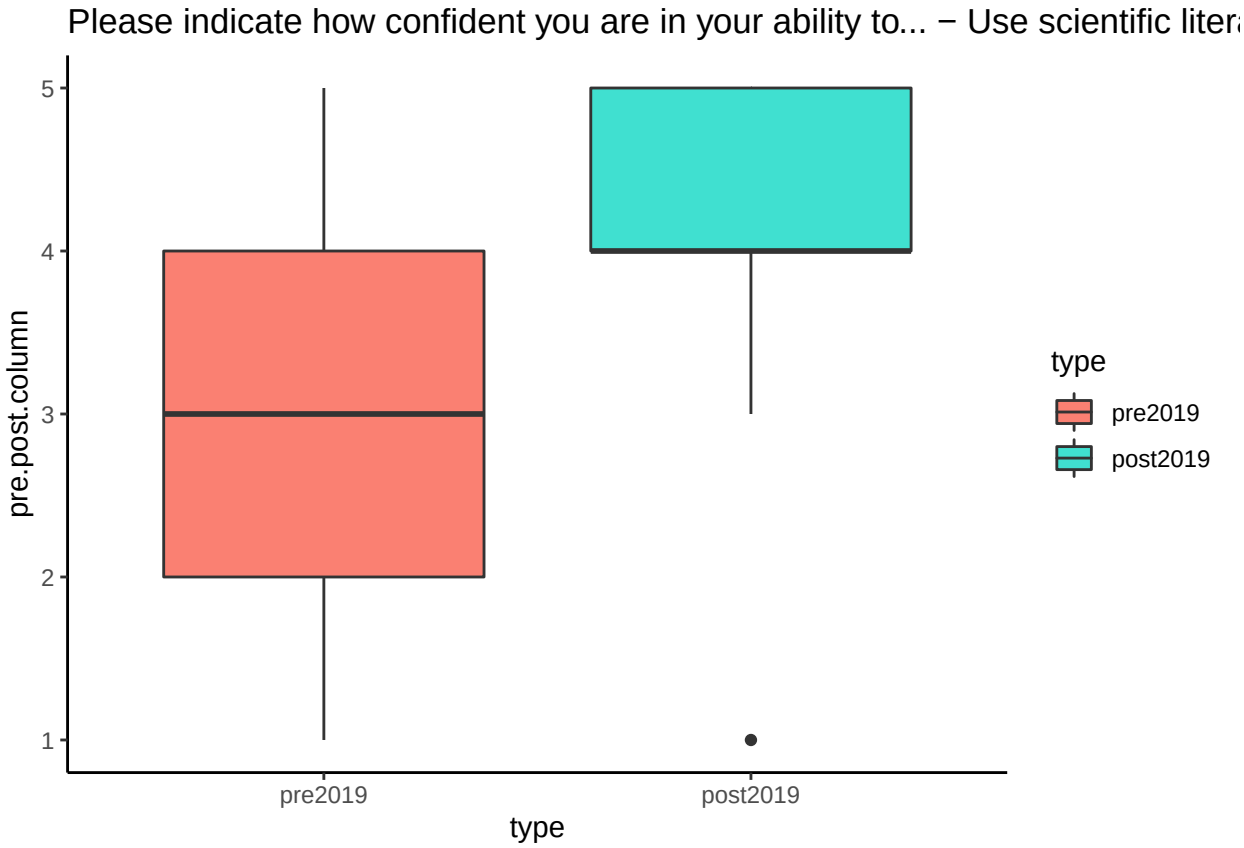



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -3.473, df = 20.661, p-value = 0.002314
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.500972 -0.375951
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.461538               4.400000
##
##
## [[4]]
```

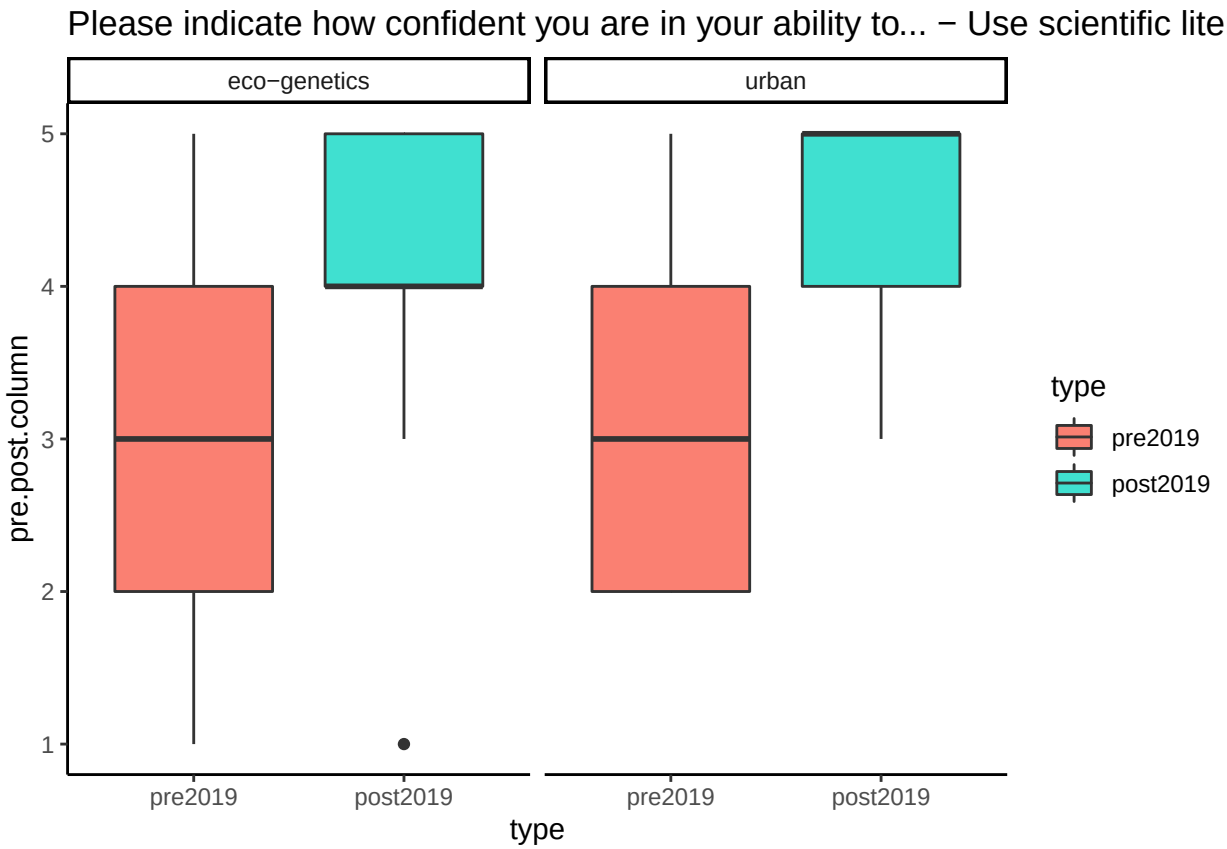



```
## [1] "Please indicate how confident you are in your ability to... - Use scientific literature and/or
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -3.8426, df = 57.986, p-value = 0.0003044
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.6079844 -0.5064937
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.090909               4.148148
##
##
## [[2]]
```



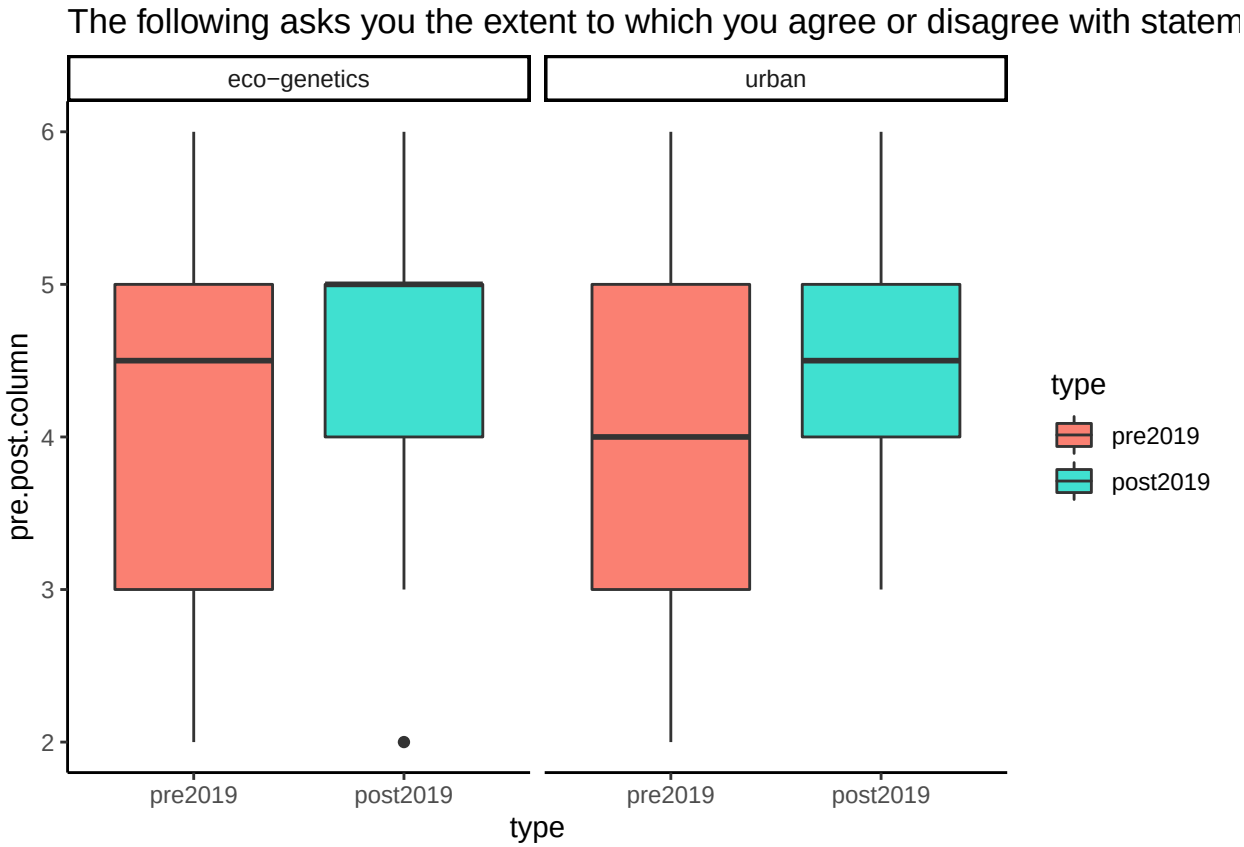

```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -3.5353, df = 20.859, p-value = 0.001978
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -2.0161611 -0.5223005
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.230769               4.500000
##
##
## [[4]]
```




```
## [1] "The following asks you the extent to which you agree or disagree with statements about the surr
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.5181, df = 57.746, p-value = 0.1344
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.0227155  0.1405607
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.151515               4.592593
##
##
## [[2]]
```

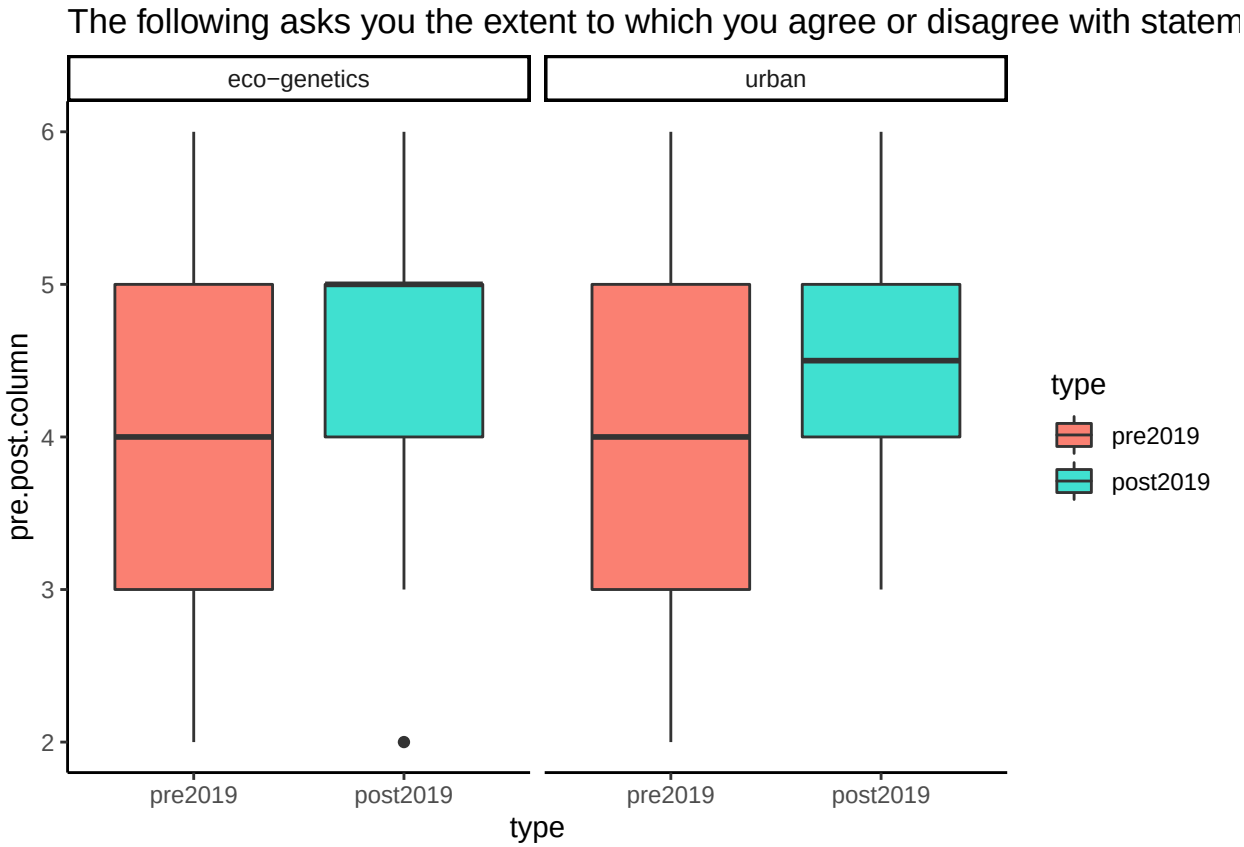

```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.4611, df = 20.997, p-value = 0.1588
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.640391  0.286545
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.923077               4.600000
##
##
## [[4]]
```




```
## [1] "The following asks you the extent to which you agree or disagree with statements about the surro
```

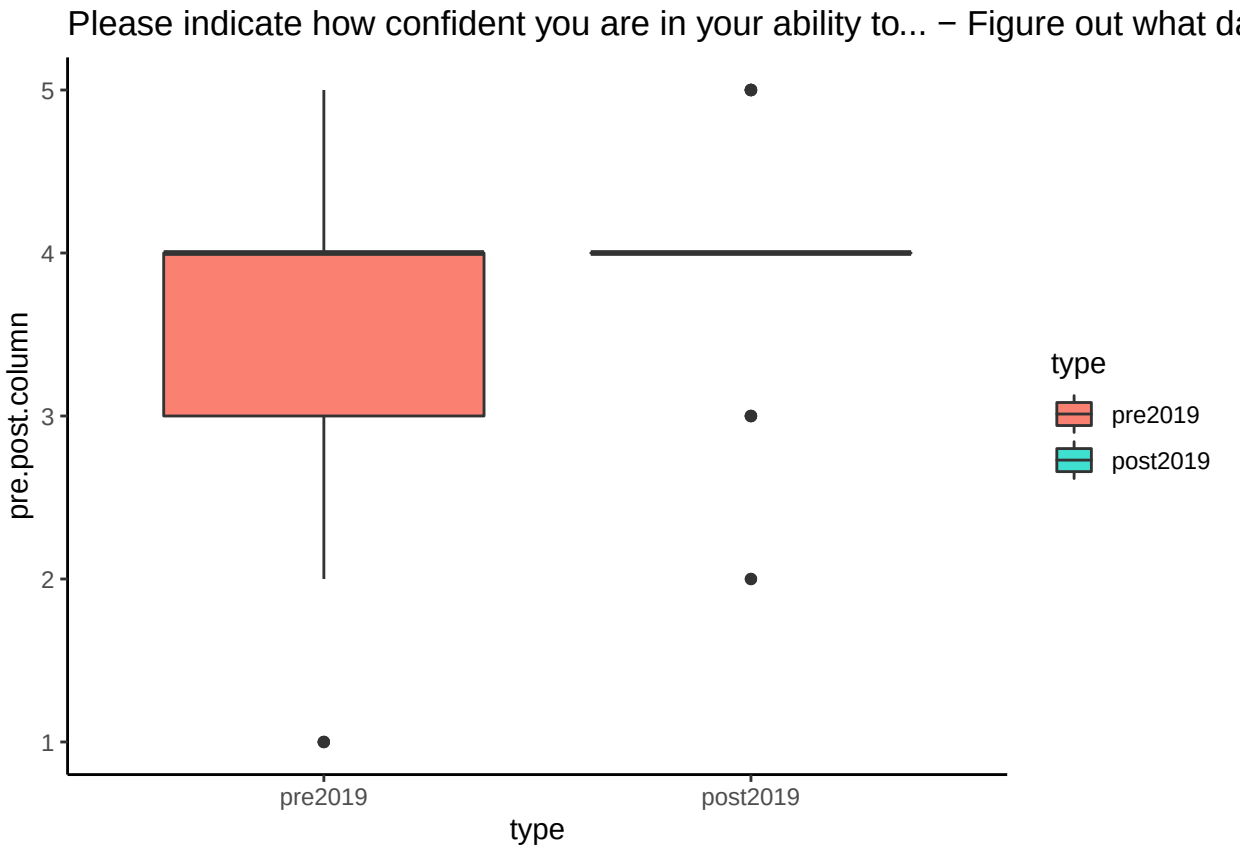
```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.8912, df = 57.854, p-value = 0.0636
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.14359566  0.03248455
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.000000               4.555556
##
##
## [[2]]
```


```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.6579, df = 20.955, p-value = 0.1122
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.6995546  0.1918623
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.846154               4.600000
##
##
## [[4]]
```

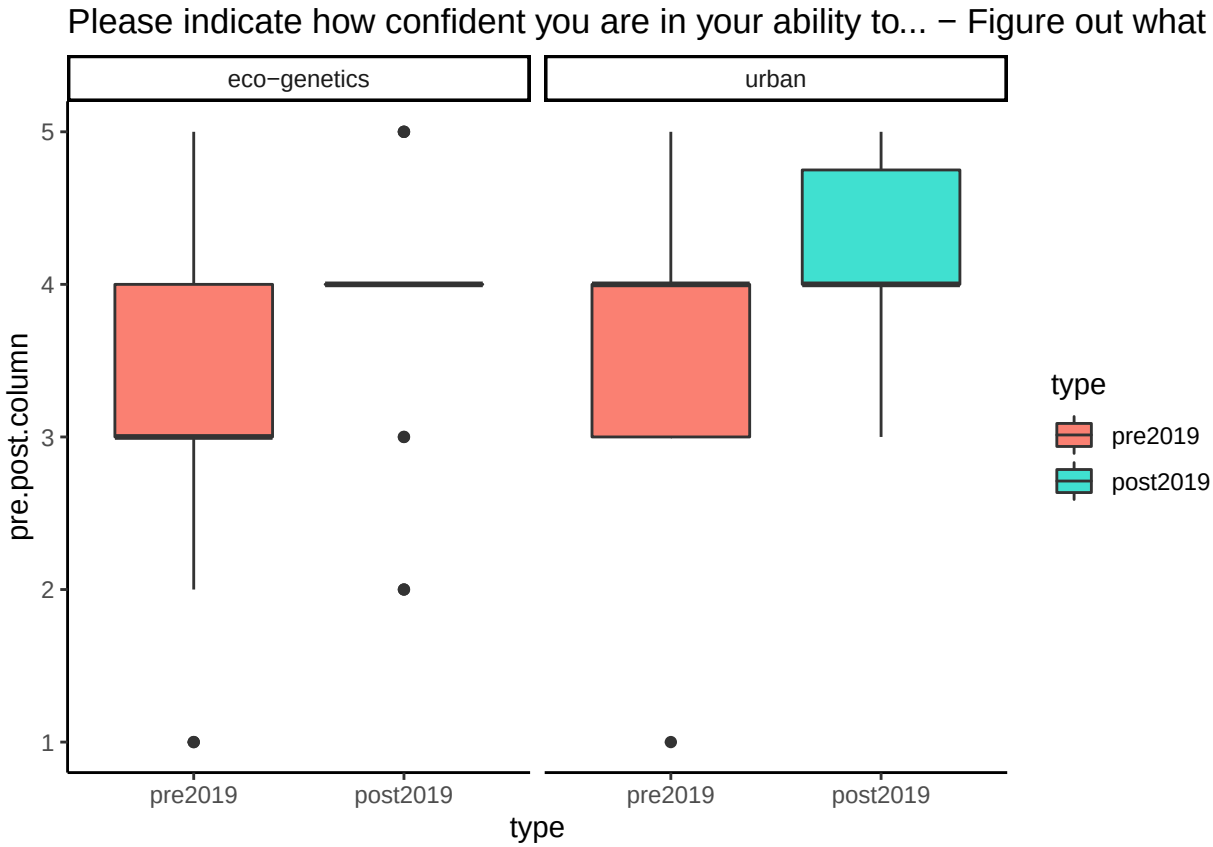



```
## [1] "Please indicate how confident you are in your ability to... - Figure out what data/observations
```

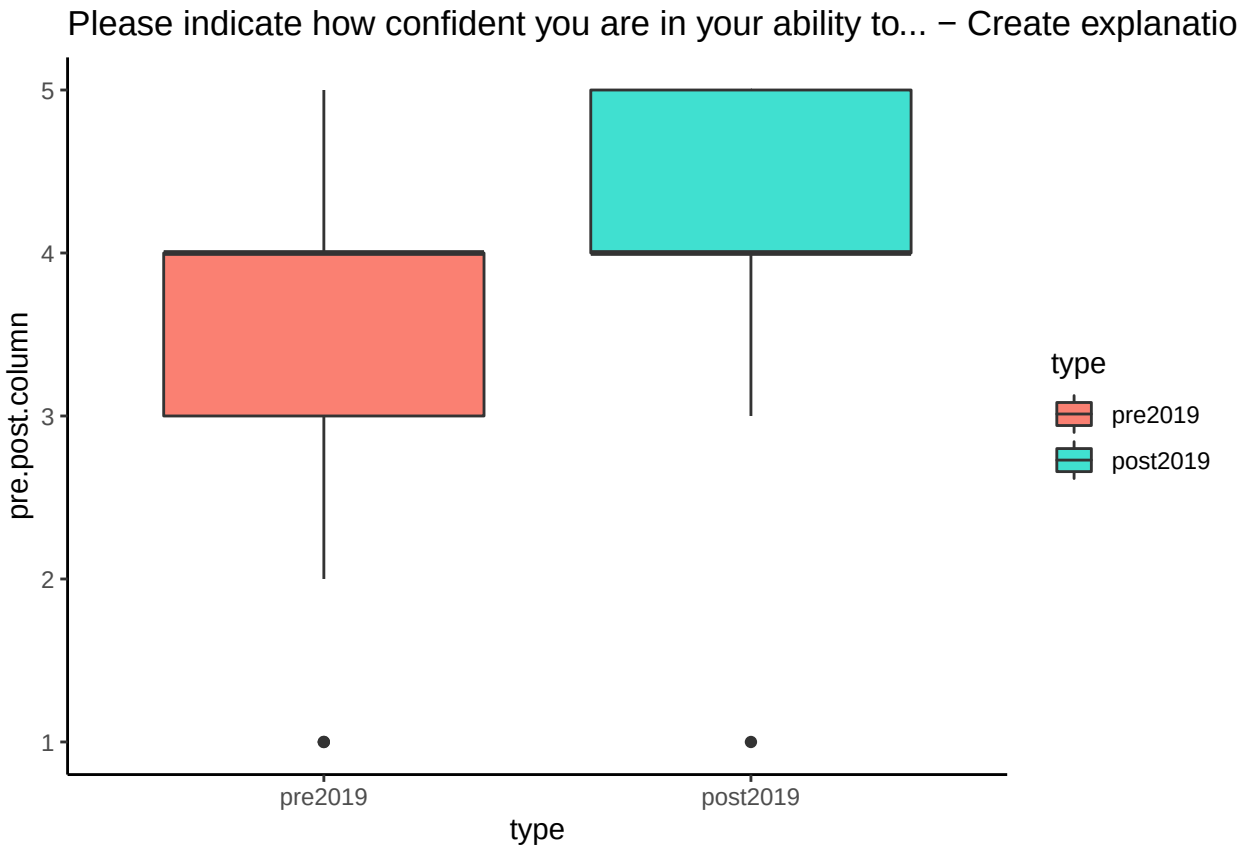
```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -2.2183, df = 57.991, p-value = 0.03046
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.01203387 -0.05193919
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.393939               3.925926
##
##
## [[2]]
```



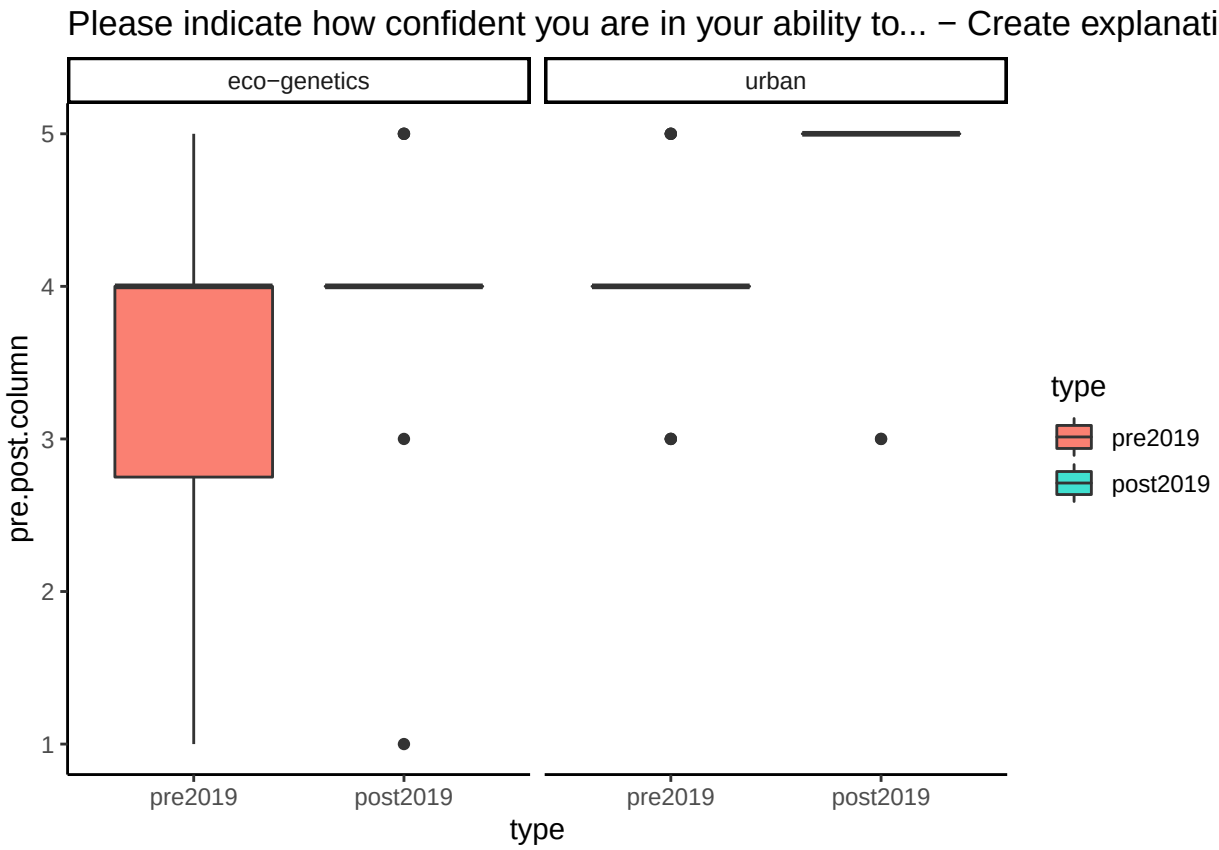

```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.1043, df = 20.928, p-value = 0.282
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.1756191  0.3602344
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.692308               4.100000
##
##
## [[4]]
```



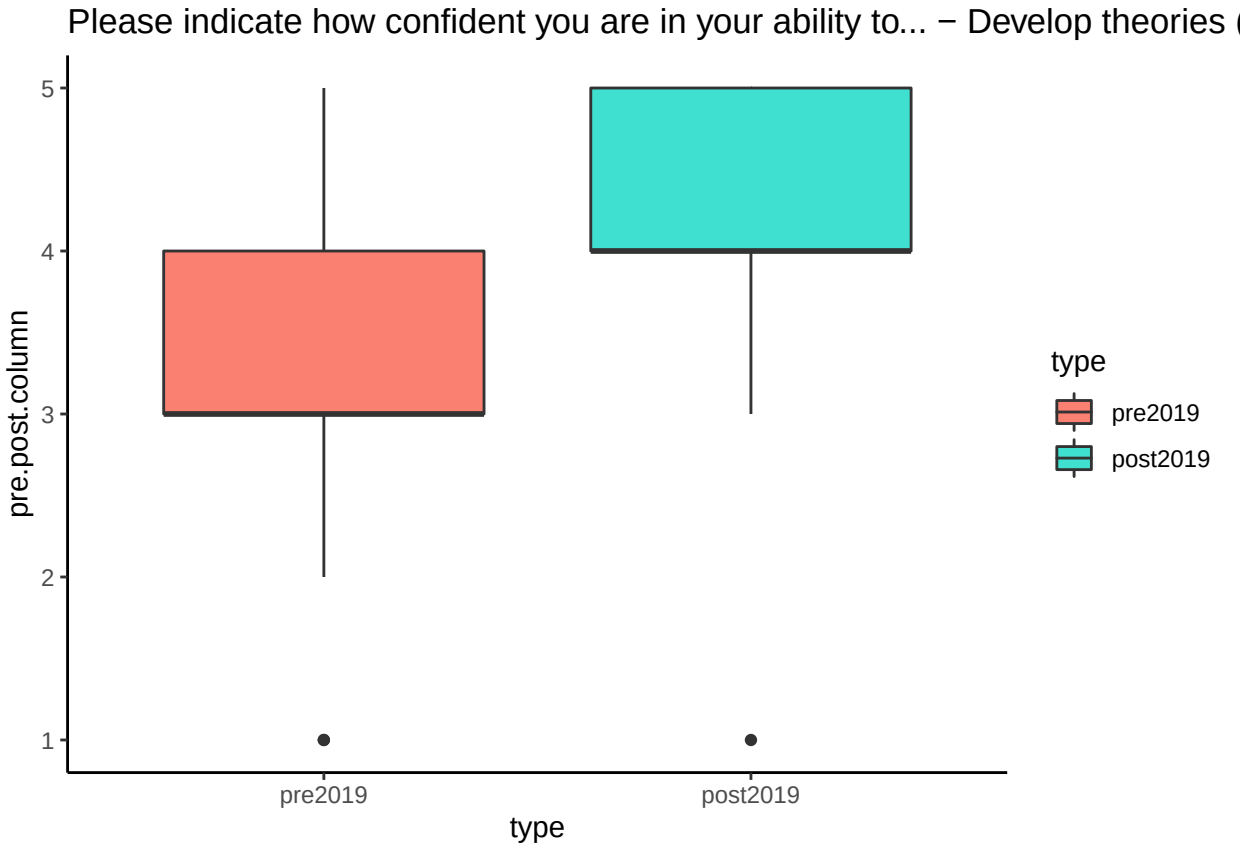

```
## [1] "Please indicate how confident you are in your ability to... - Create explanations for the resul
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -2.3795, df = 57.774, p-value = 0.02066
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.12213223 -0.09672299
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.575758               4.185185
##
##
## [[2]]
```



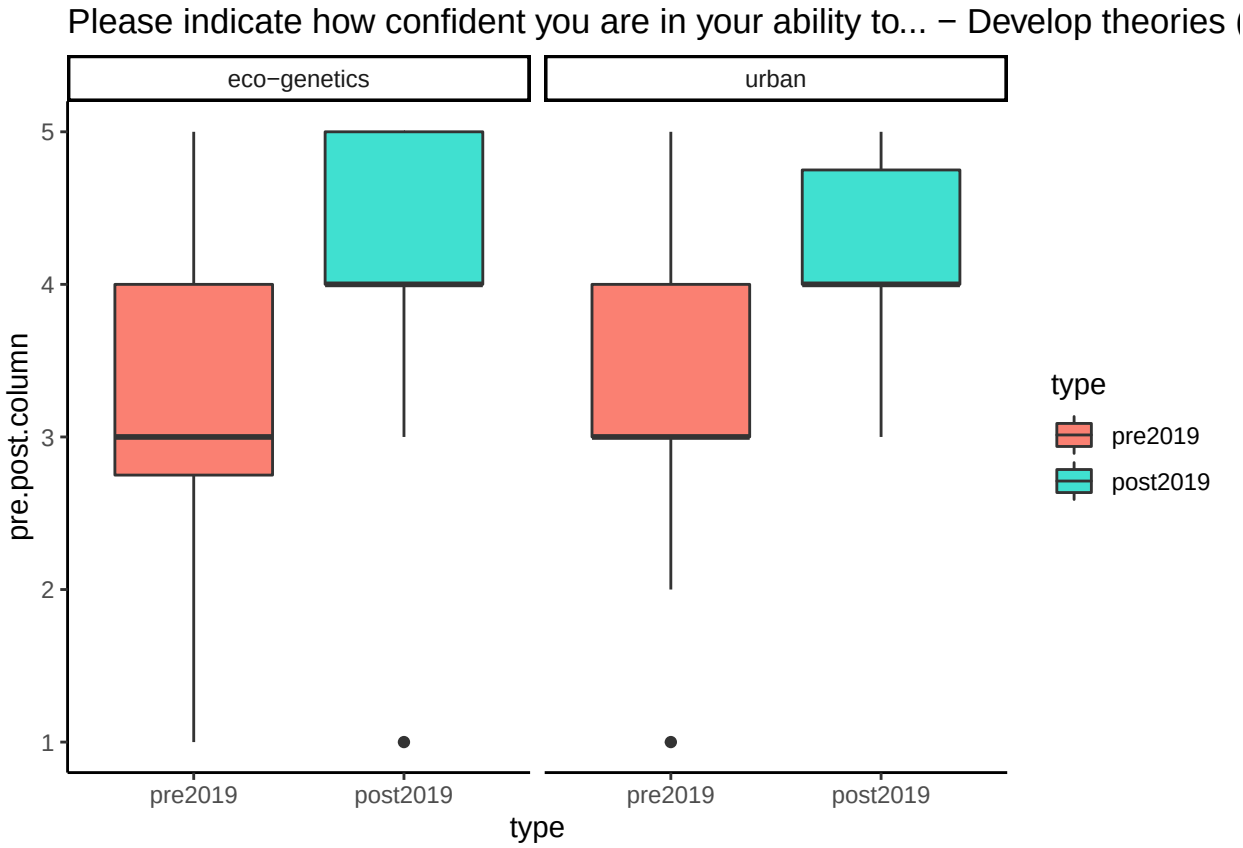

```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.8126, df = 17.524, p-value = 0.08706
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.29679963  0.09679963
## sample estimates:
##  mean in group pre2019 mean in group post2019
##                    4.0                    4.6
##
##
## [[4]]
```




```
## [1] "Please indicate how confident you are in your ability to... - Develop theories (integrate and c
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -3.3482, df = 57.987, p-value = 0.001433
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.4472049 -0.3642429
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.242424               4.148148
##
##
## [[2]]
```

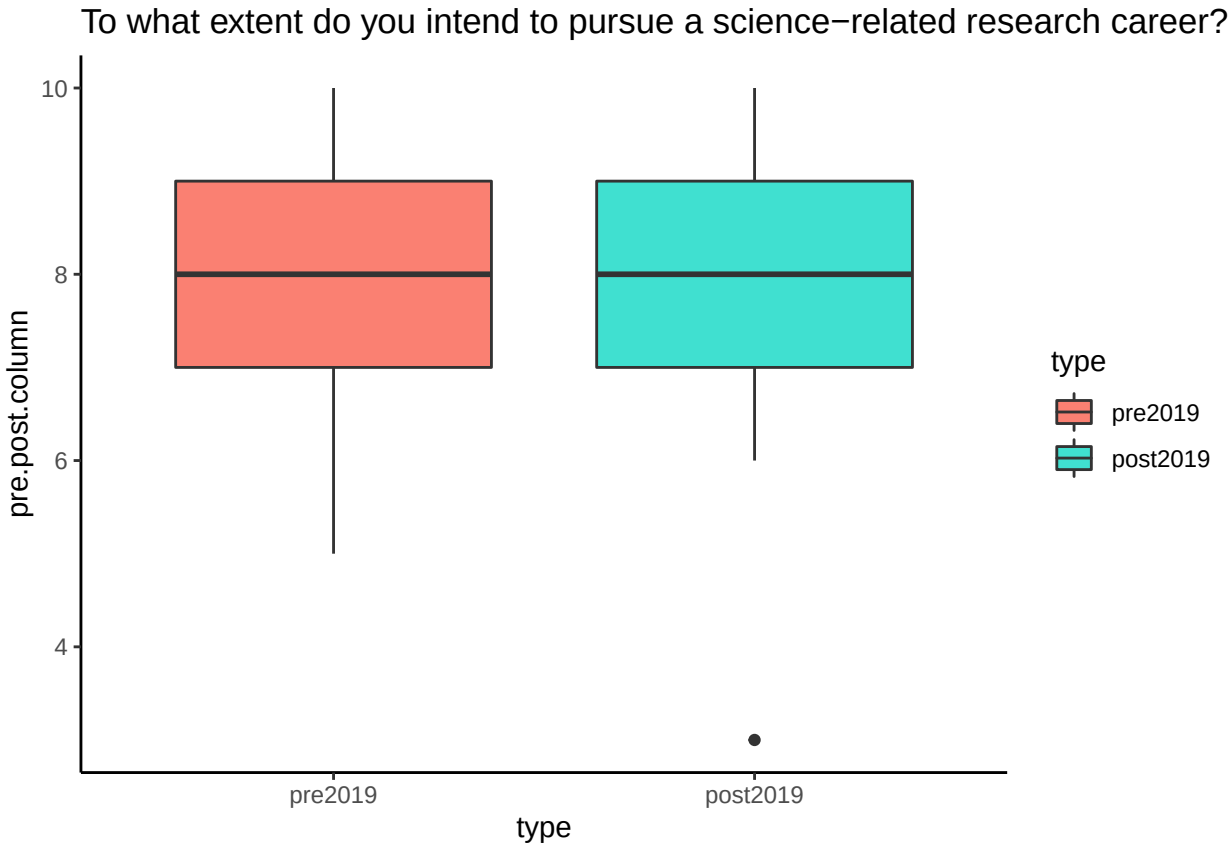



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.7017, df = 19.824, p-value = 0.1044
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.5928126  0.1620434
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.384615               4.100000
##
##
## [[4]]
```

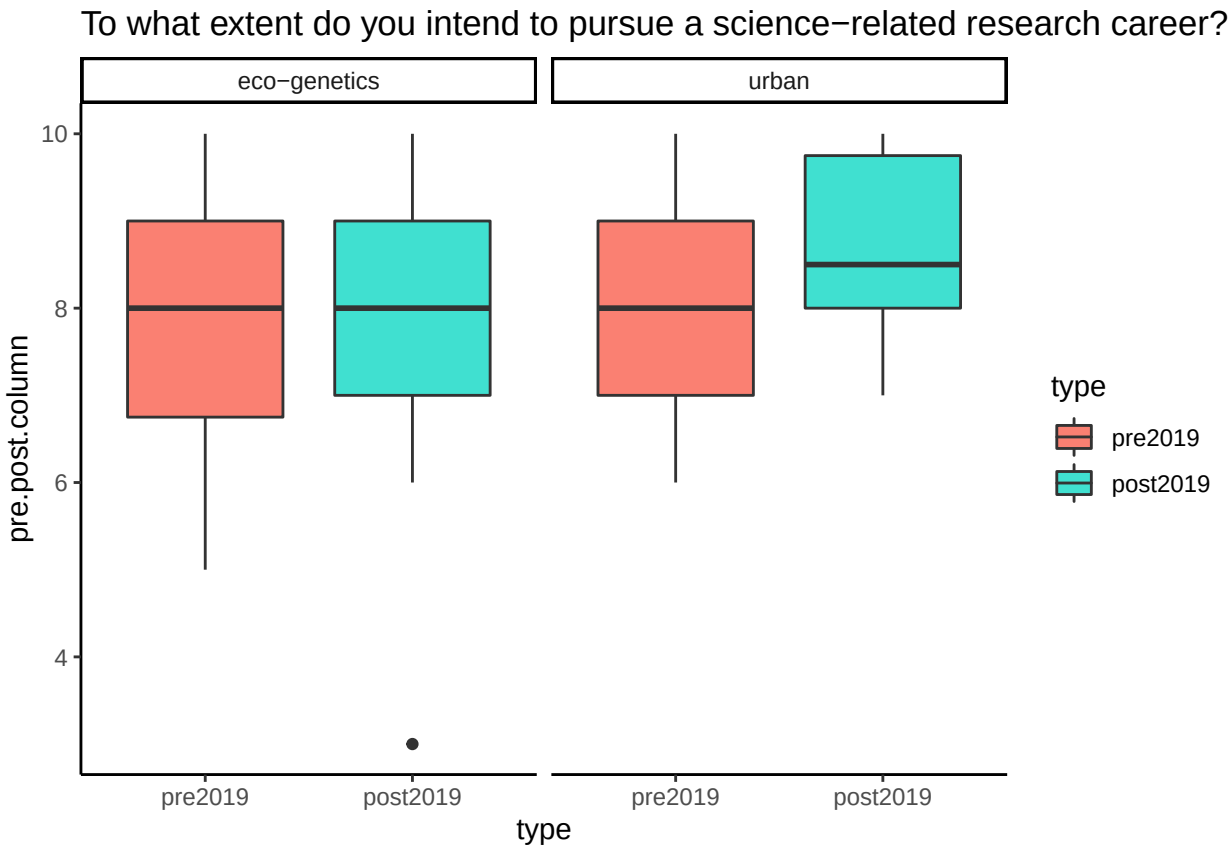



```
## [1] "To what extent do you intend to pursue a science-related research career?"
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = 0, df = 52.158, p-value = 1
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.8081374  0.8081374
## sample estimates:
##  mean in group pre2019 mean in group post2019
##                      8                      8
##
##
## [[2]]
```

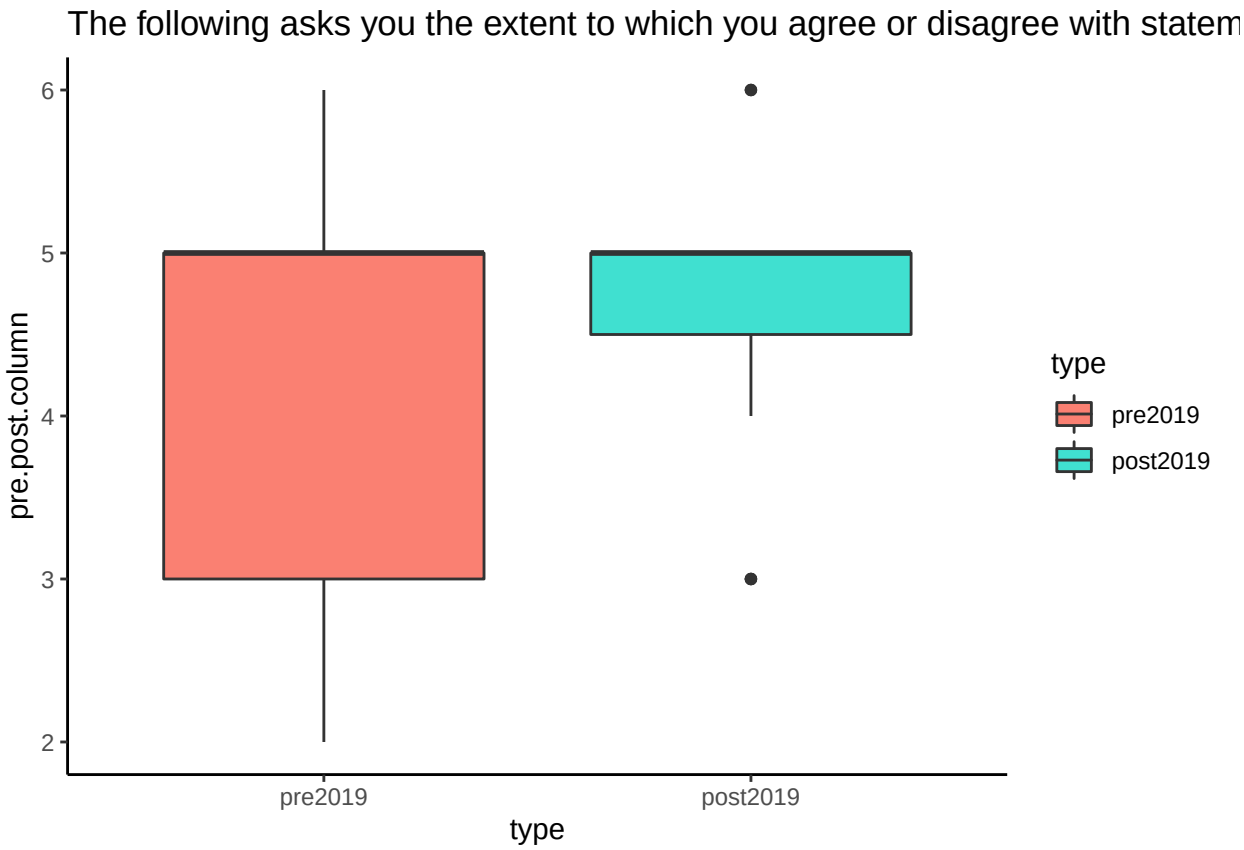



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.84796, df = 20.598, p-value = 0.4062
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.5416385  0.6493308
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               8.153846               8.600000
##
##
## [[4]]
```

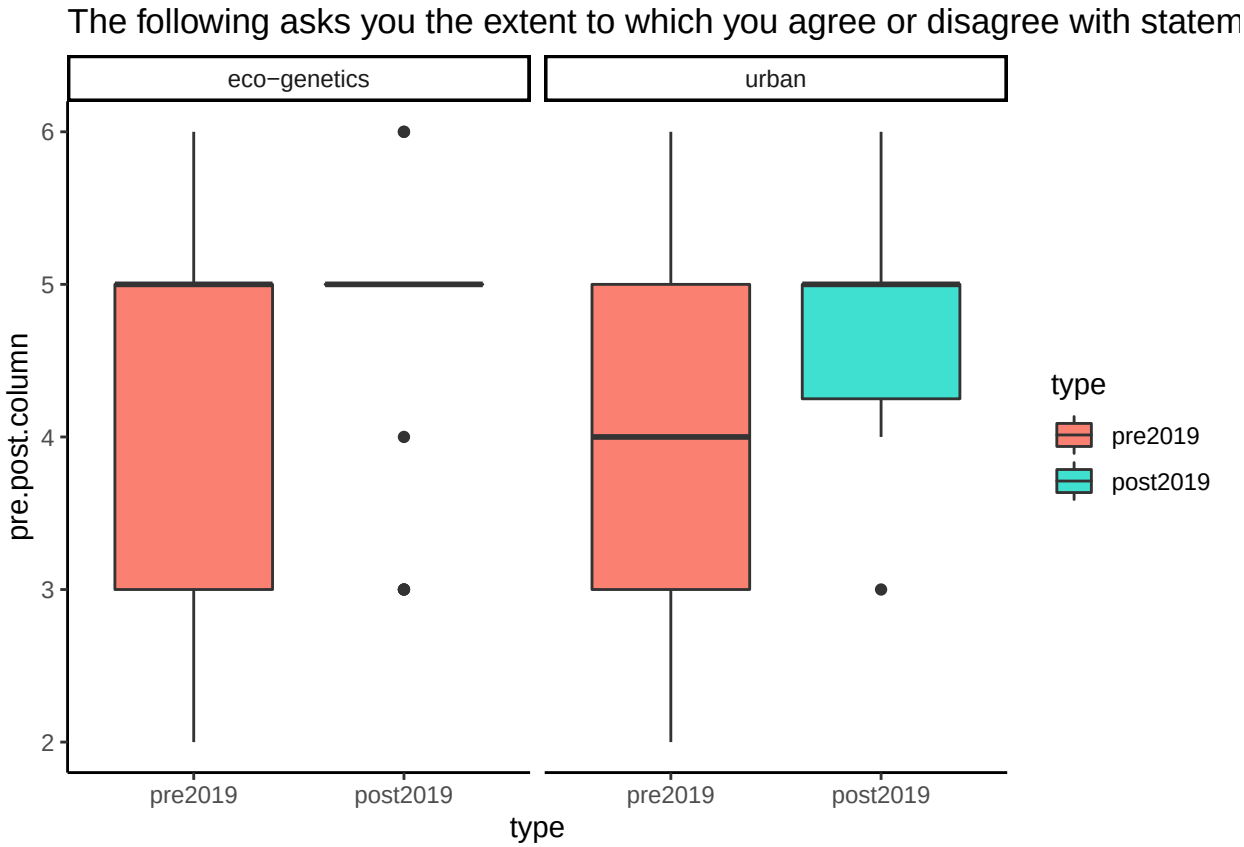



```
## [1] "The following asks you the extent to which you agree or disagree with statements about the CU Bo
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.6272, df = 57.428, p-value = 0.1092
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.96124421  0.09929135
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.272727               4.703704
##
##
## [[2]]
```

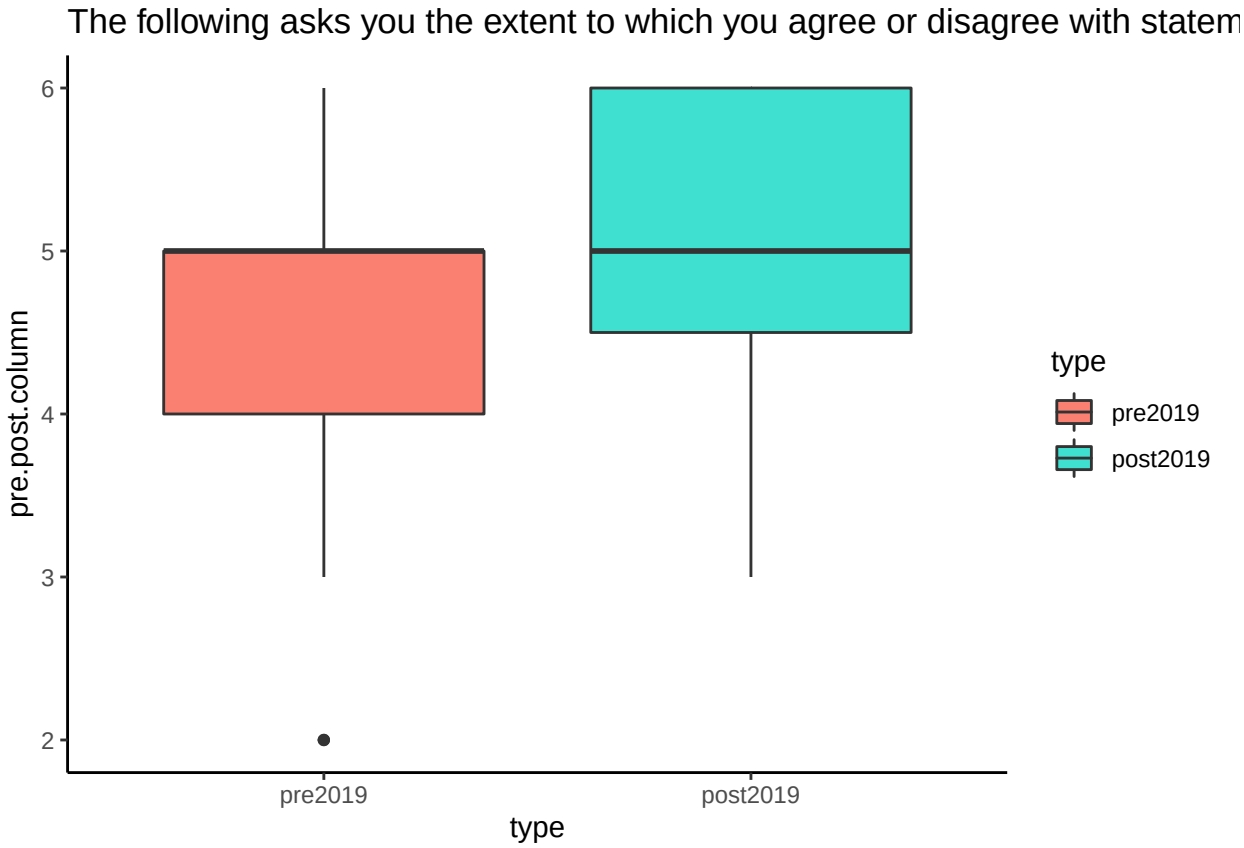



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.0221, df = 20.062, p-value = 0.3189
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.4267138  0.4882523
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.230769               4.700000
##
##
## [[4]]
```

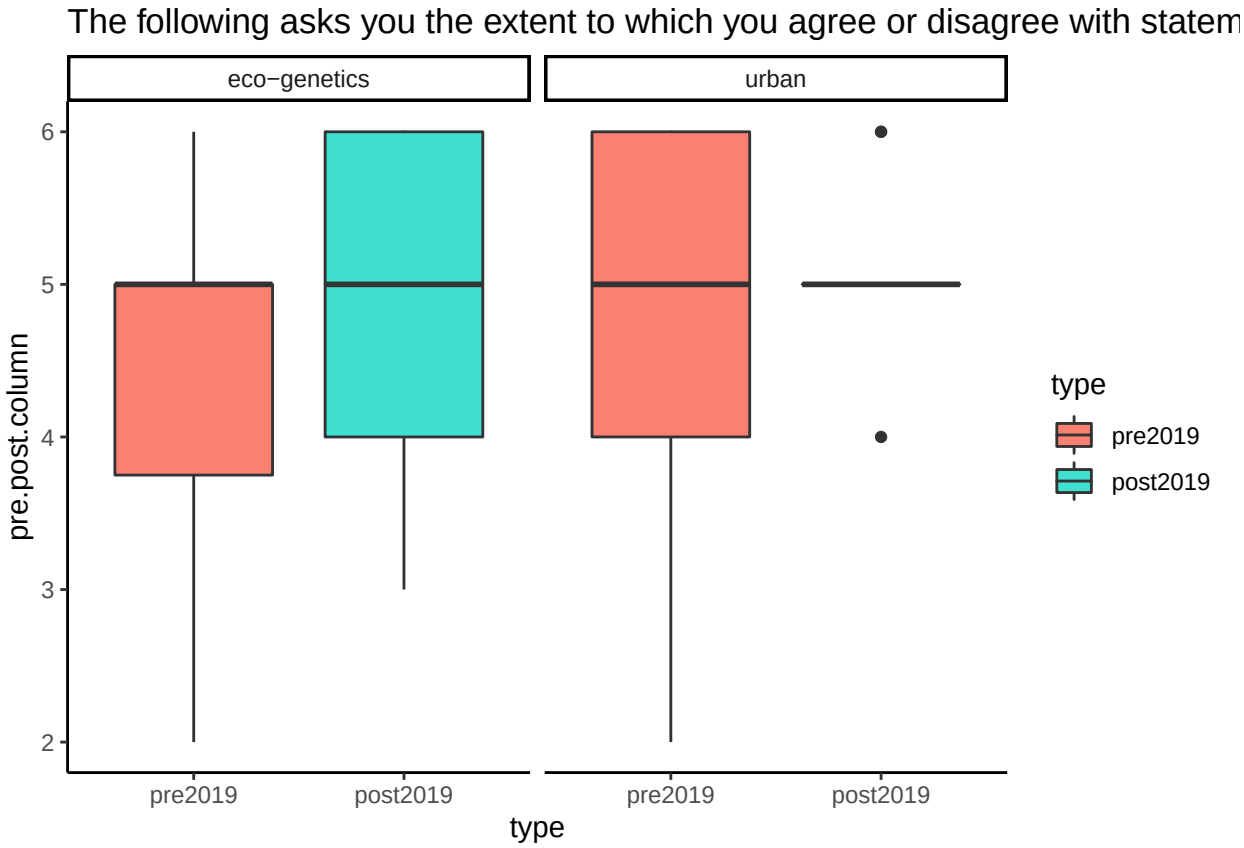



```
## [1] "The following asks you the extent to which you agree or disagree with statements about the CU Bo
```

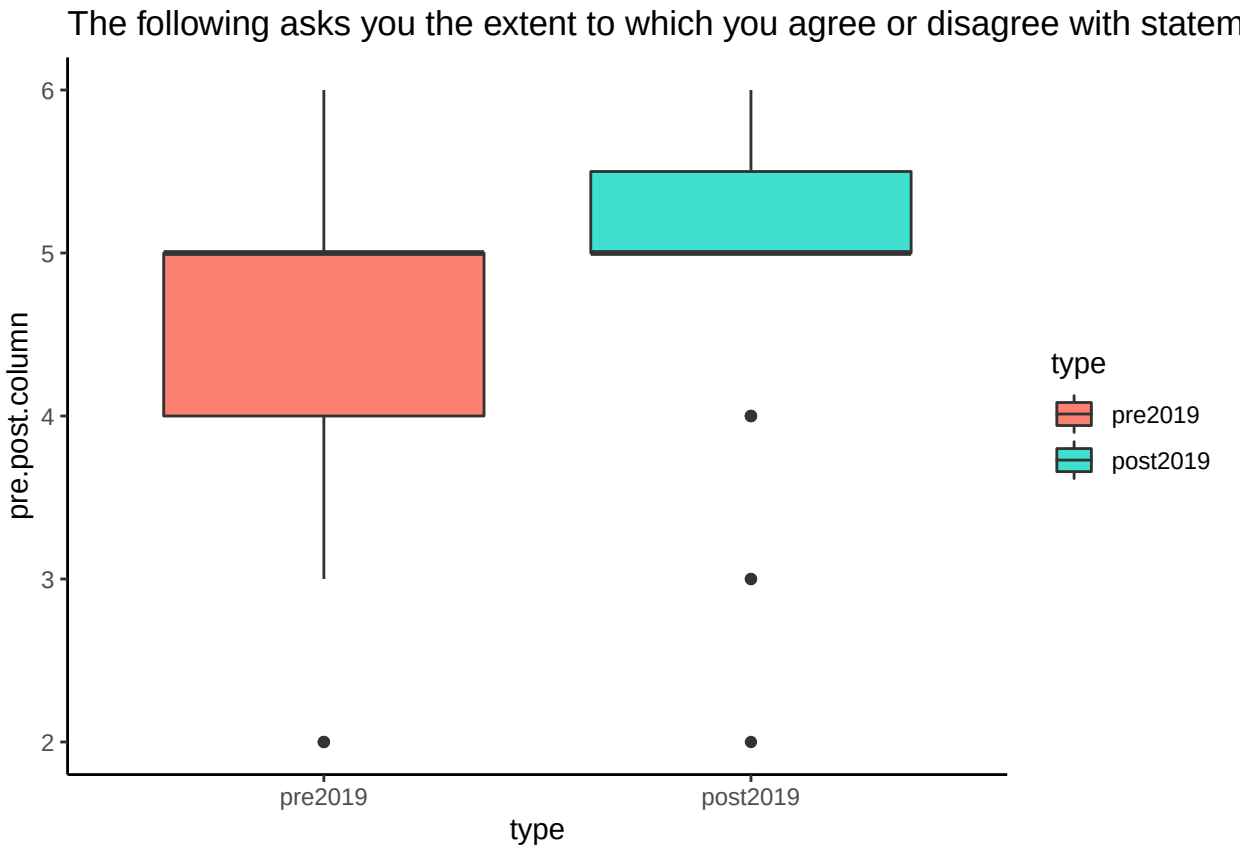
```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.0014, df = 57.854, p-value = 0.3208
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.7977136  0.2657270
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.696970               4.962963
##
##
## [[2]]
```



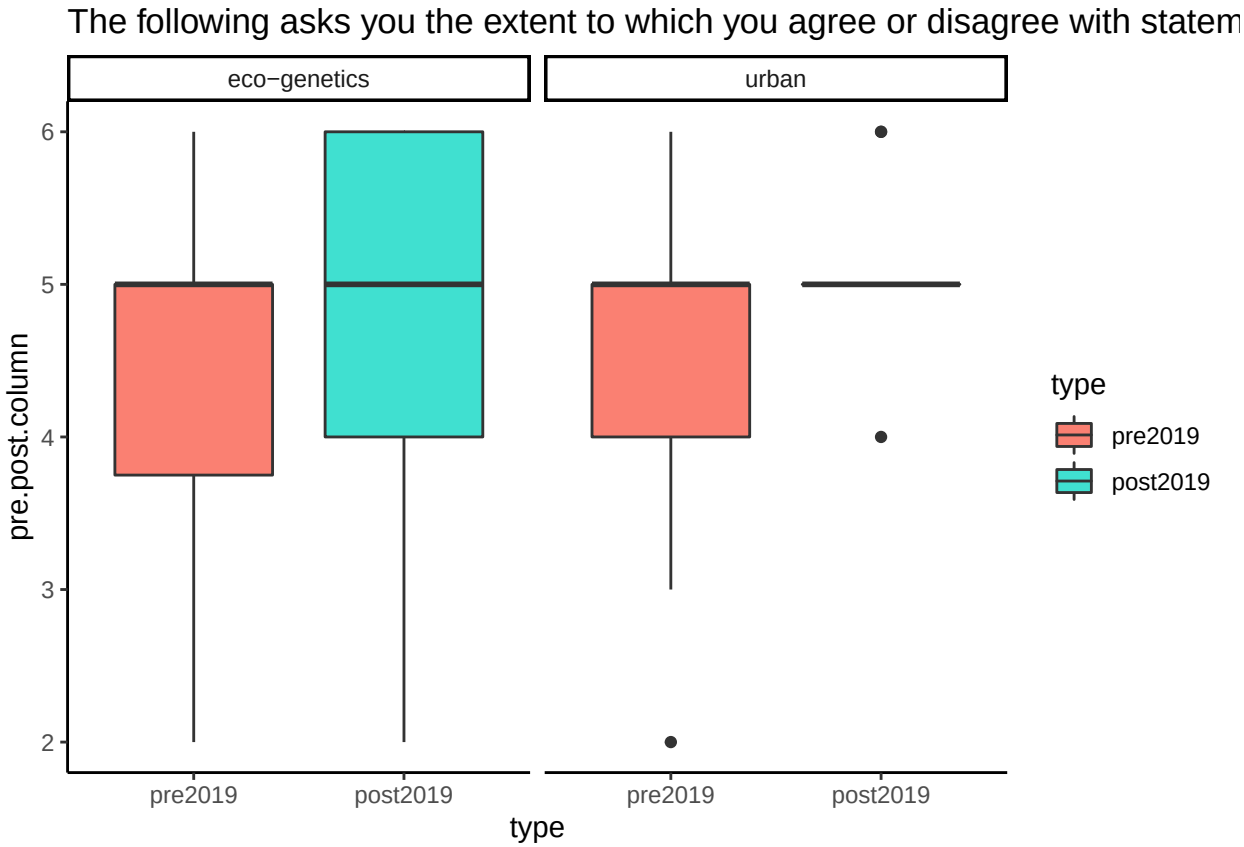

```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.69654, df = 18.402, p-value = 0.4948
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.0183028  0.5106105
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.846154               5.100000
##
##
## [[4]]
```




```
## [1] "The following asks you the extent to which you agree or disagree with statements about the CU Bo
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.1225, df = 57.629, p-value = 0.2663
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.8716002  0.2453376
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.575758               4.888889
##
##
## [[2]]
```

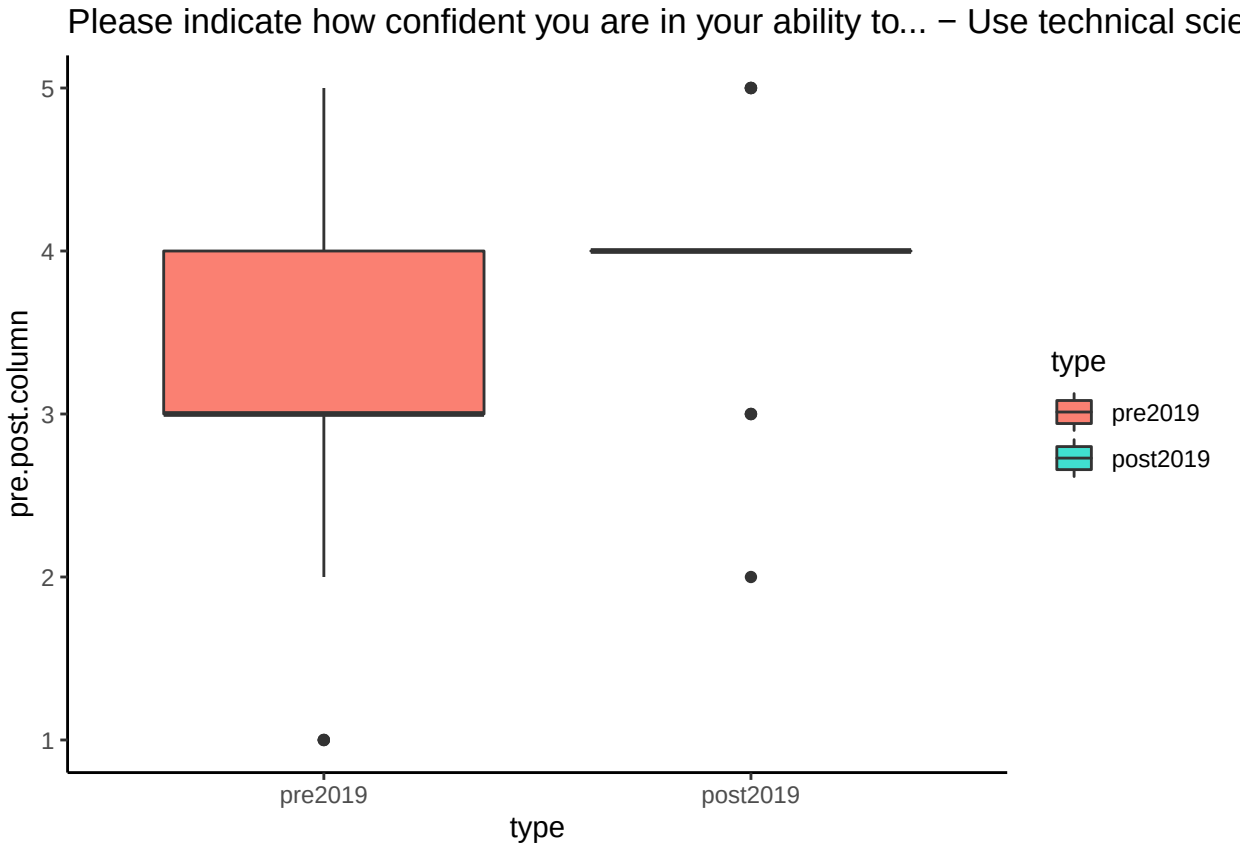



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.35, df = 18.582, p-value = 0.1932
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.2371233  0.2678926
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.615385               5.100000
##
##
## [[4]]
```

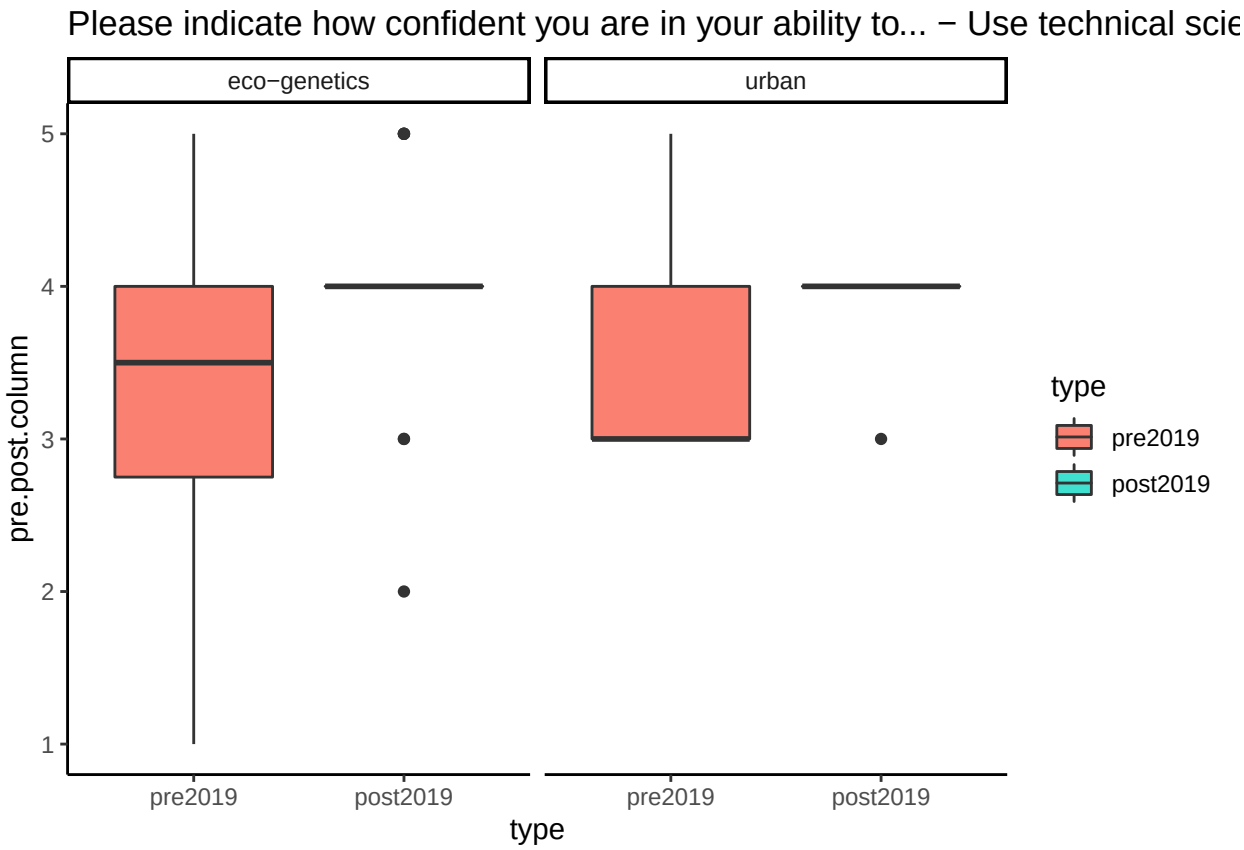



```
## [1] "Please indicate how confident you are in your ability to... - Use technical science skills (use
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -2.2878, df = 52.146, p-value = 0.02623
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.01119732 -0.06624376
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.424242               3.962963
##
##
## [[2]]
```

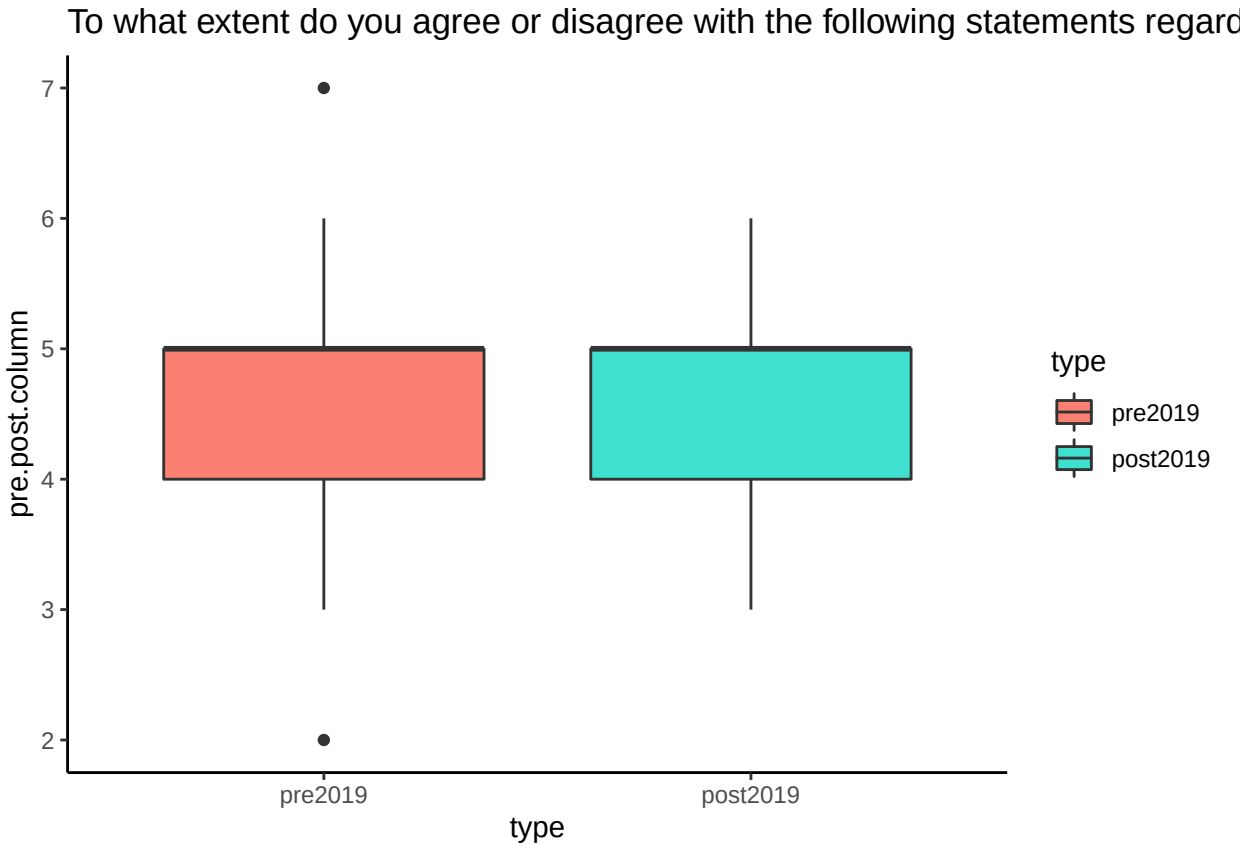



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.80714, df = 15.975, p-value = 0.4314
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.7532530  0.3378684
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.692308               3.900000
##
##
## [[4]]
```

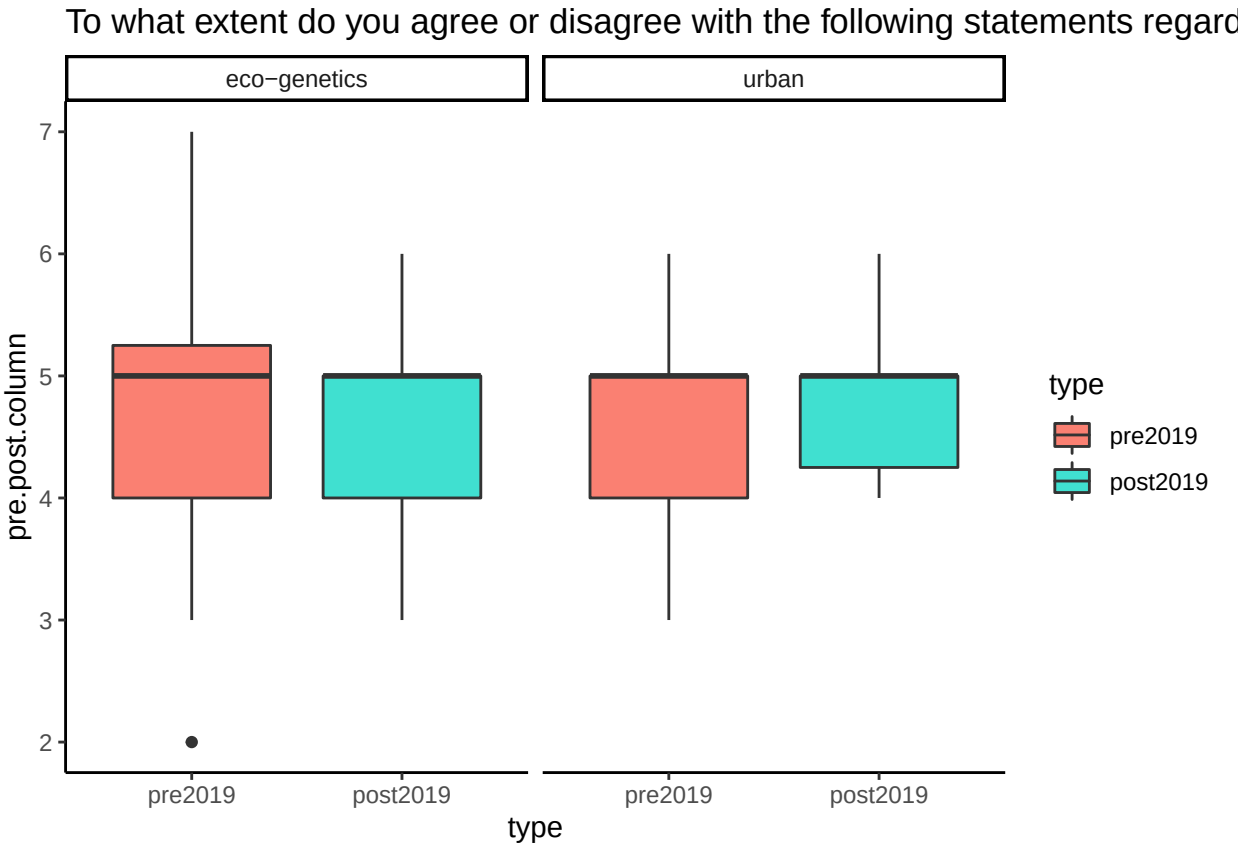



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.4993, df = 57.996, p-value = 0.6195
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.6240207  0.3748624
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.727273               4.851852
##
##
## [[2]]
```

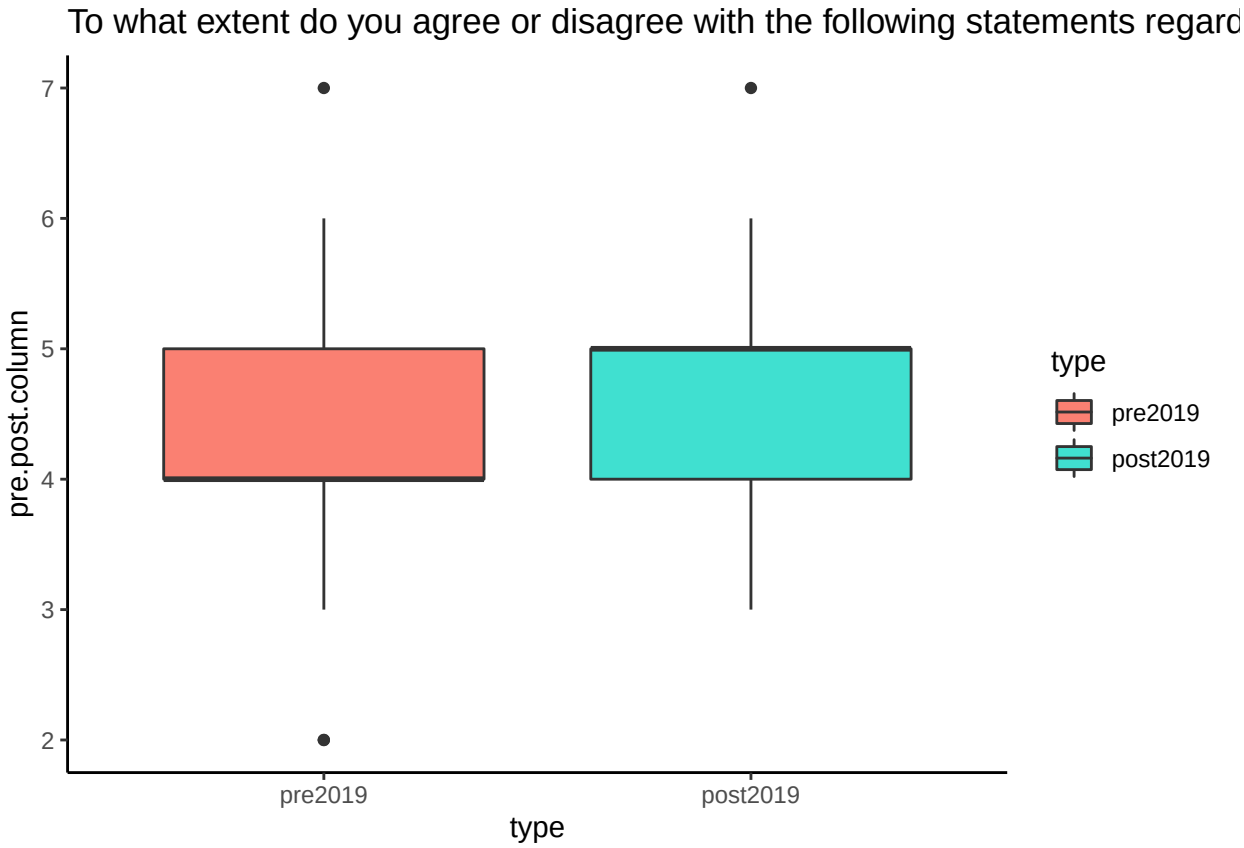



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.62435, df = 20.66, p-value = 0.5392
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.9001732  0.4847886
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.692308               4.900000
##
##
## [[4]]
```

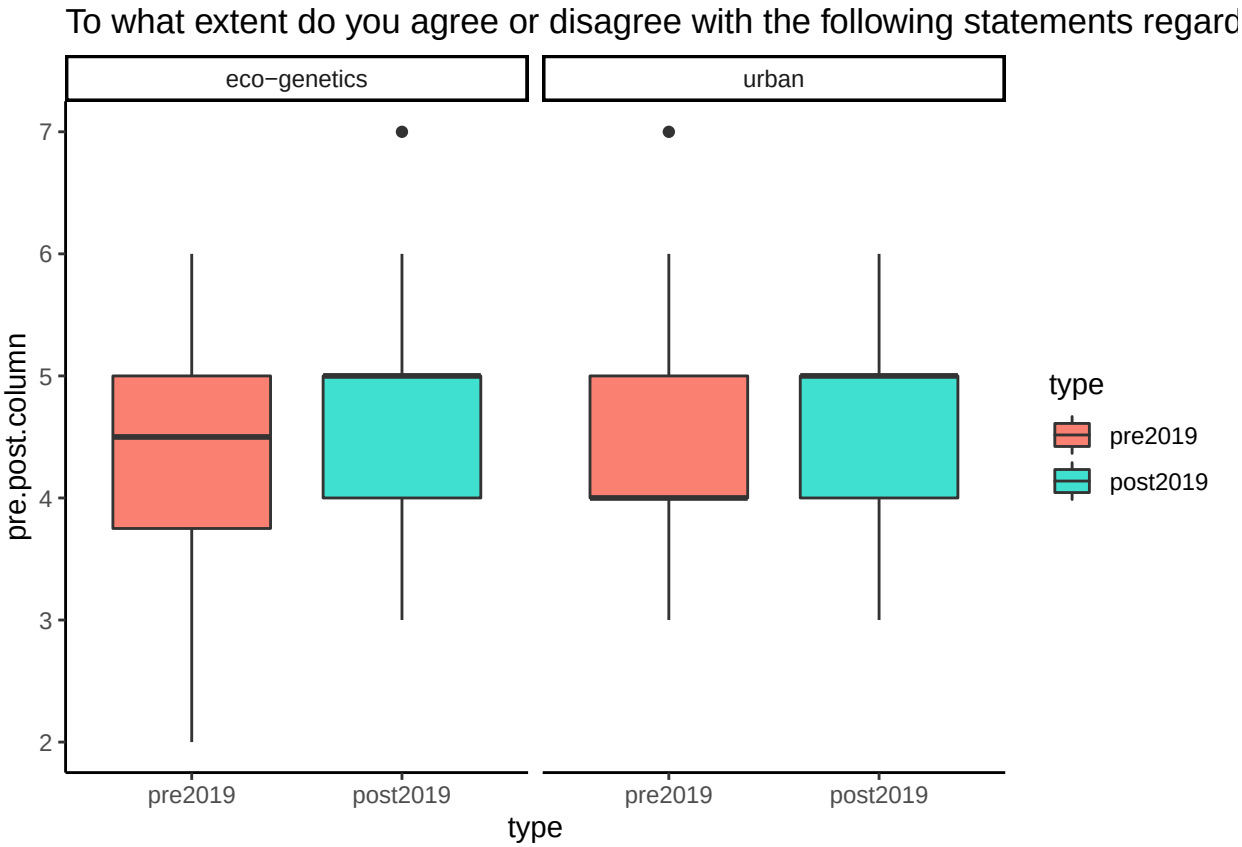



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.2463, df = 57.947, p-value = 0.2177
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.9038087  0.2102060
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.393939               4.740741
##
##
## [[2]]
```

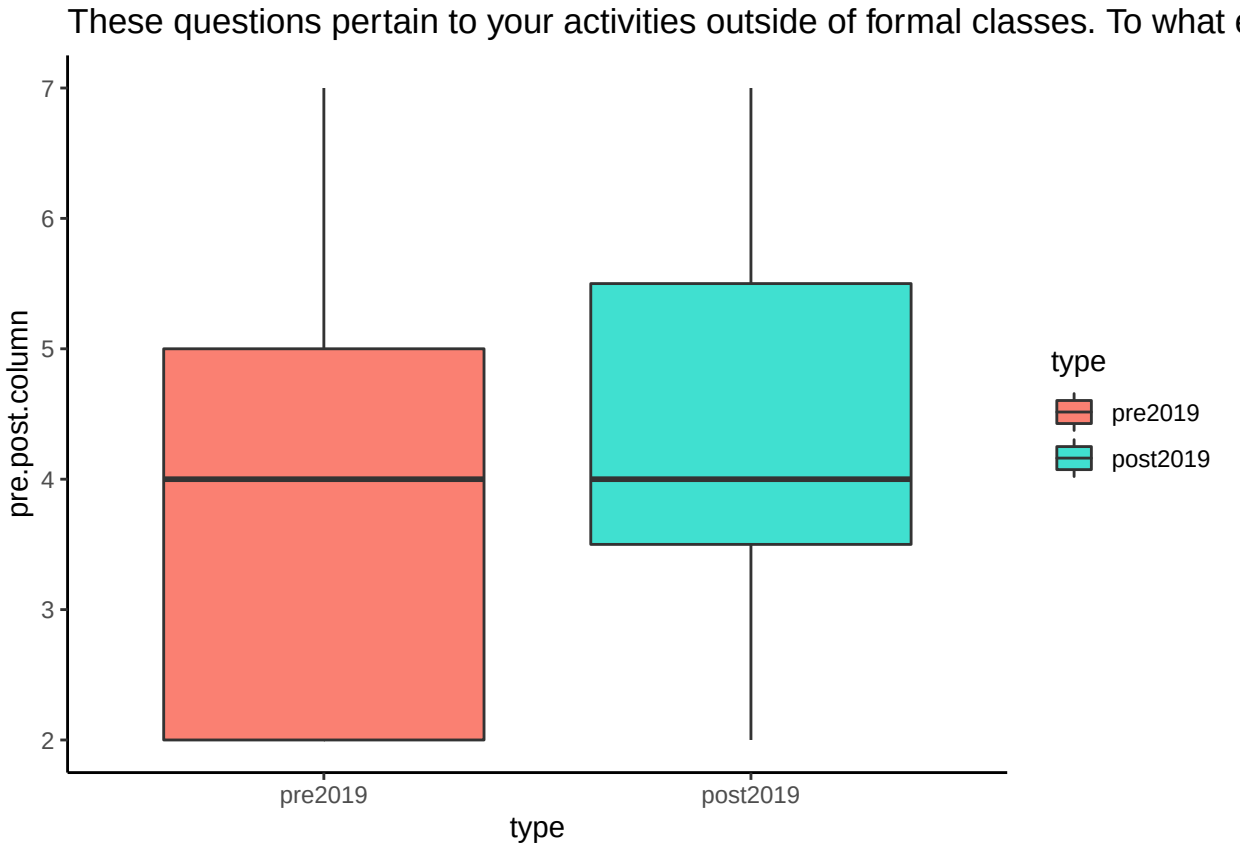



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.37292, df = 20.779, p-value = 0.713
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.0629422  0.7398653
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.538462               4.700000
##
##
## [[4]]
```

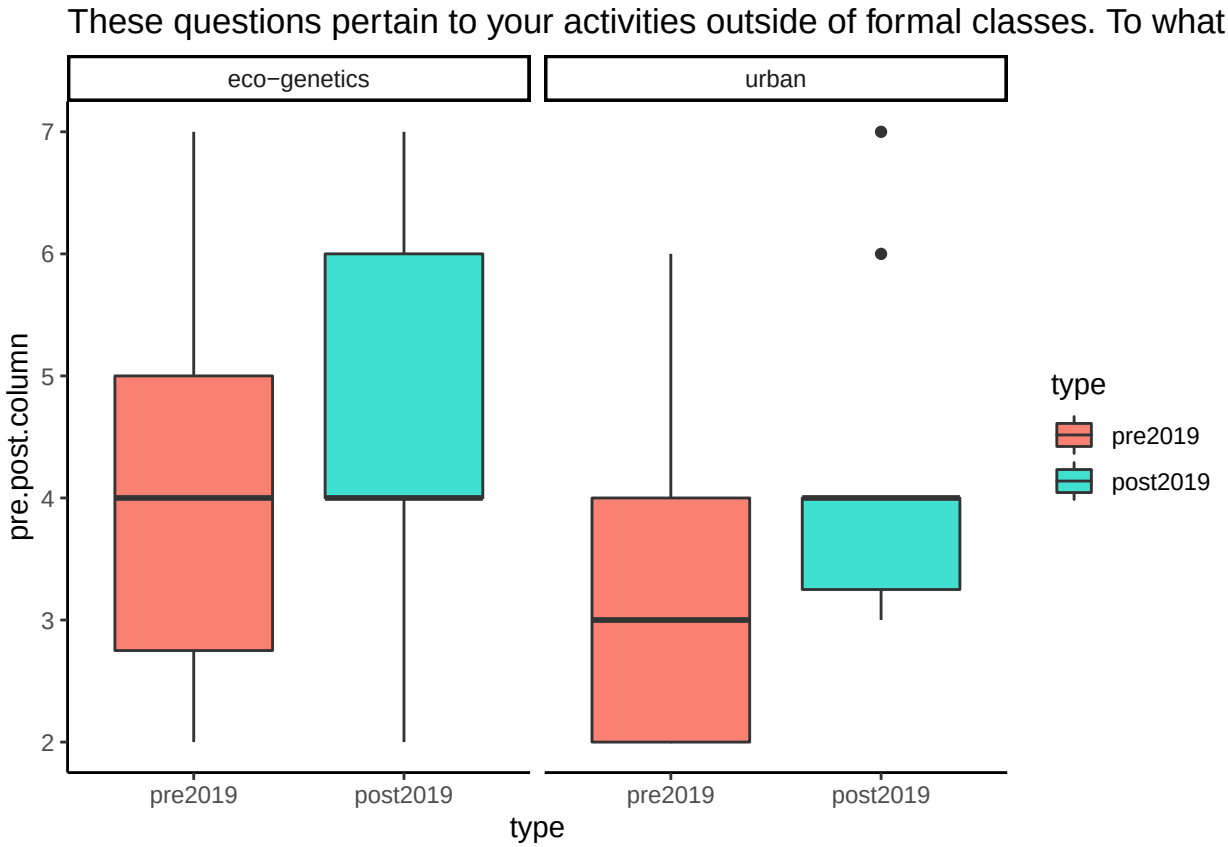



```
## [1] "These questions pertain to your activities outside of formal classes. To what extent do you agr
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.6143, df = 56.571, p-value = 0.112
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.388138  0.149081
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.787879               4.407407
##
##
## [[2]]
```

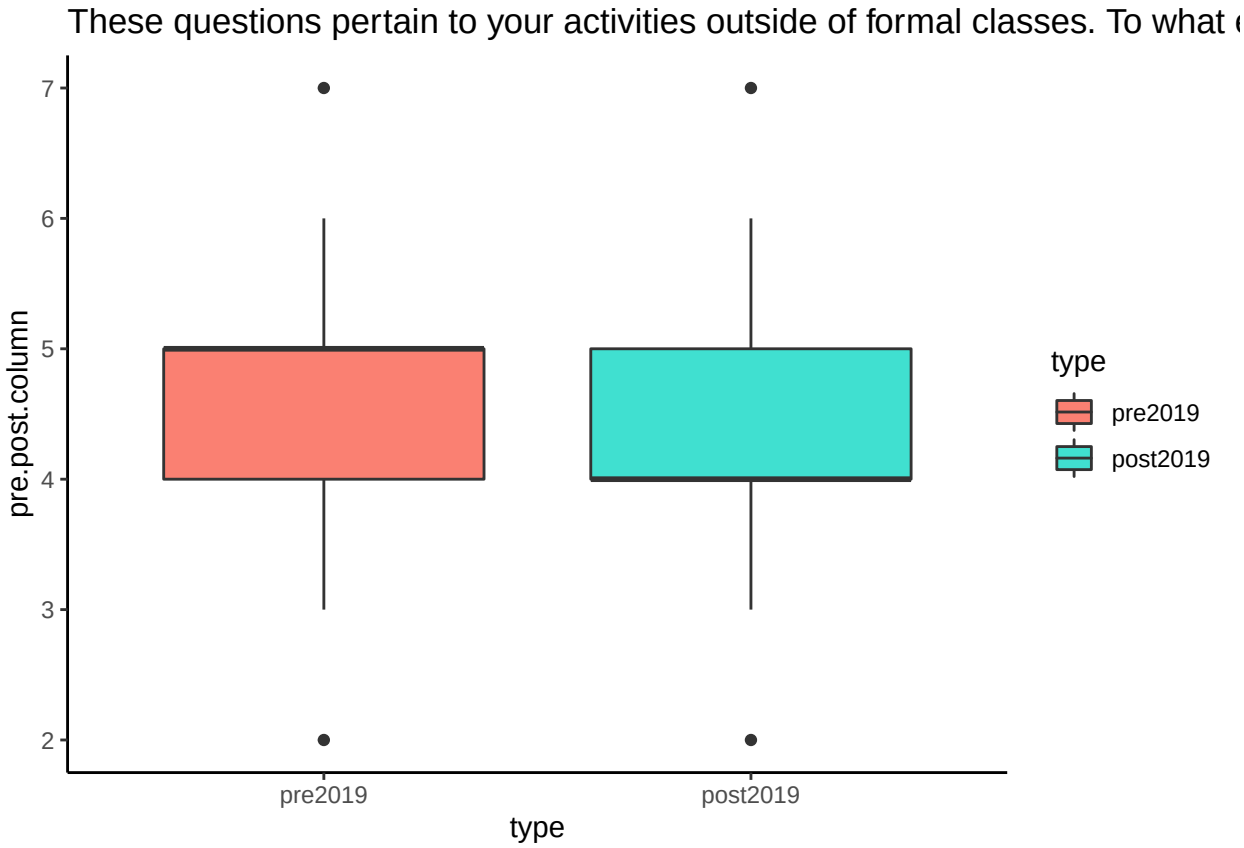



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.3275, df = 19.613, p-value = 0.1996
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.9002745  0.4233514
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.461538               4.200000
##
##
## [[4]]
```

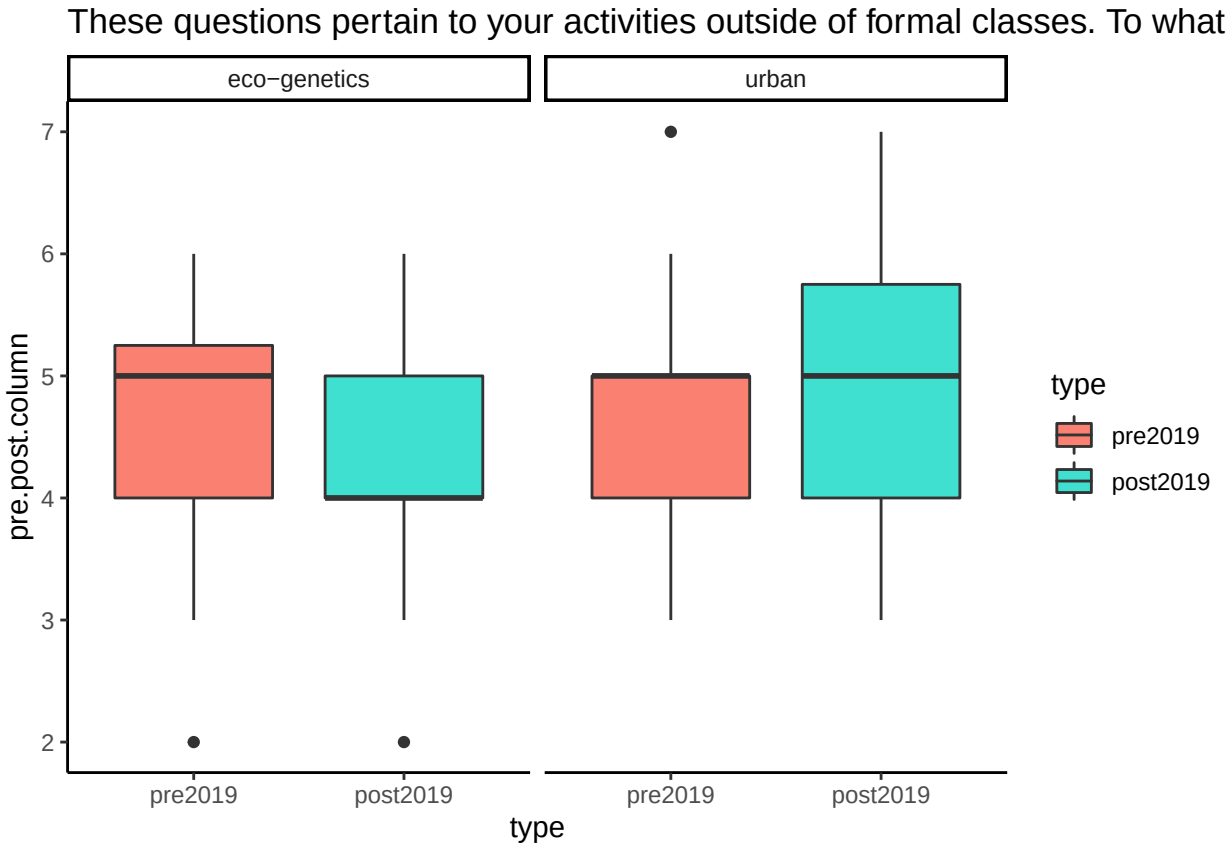



```
## [1] "These questions pertain to your activities outside of formal classes. To what extent do you agr
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = 0.17108, df = 54.89, p-value = 0.8648
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.5411282  0.6421383
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.606061               4.555556
##
##
## [[2]]
```

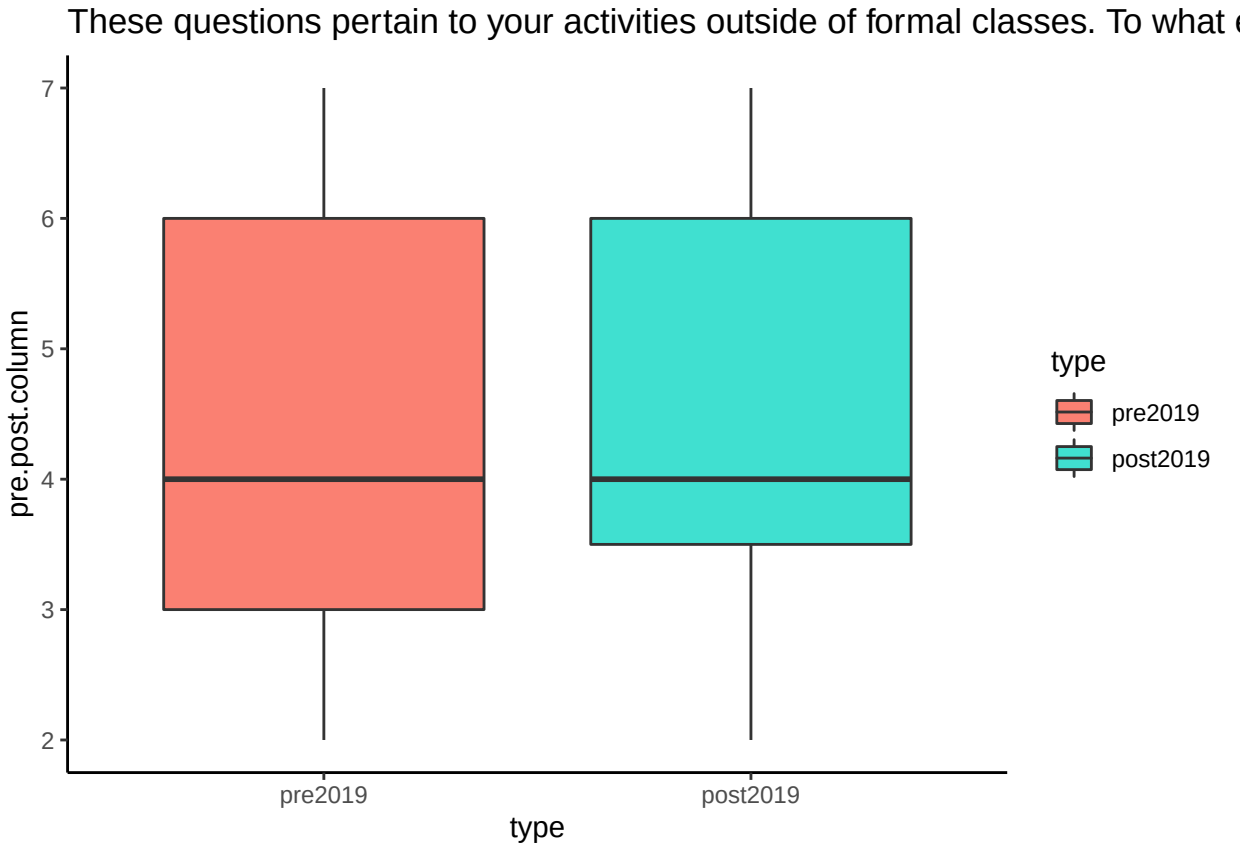



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.58099, df = 18.814, p-value = 0.5681
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.3106292  0.7413984
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.615385               4.900000
##
##
## [[4]]
```

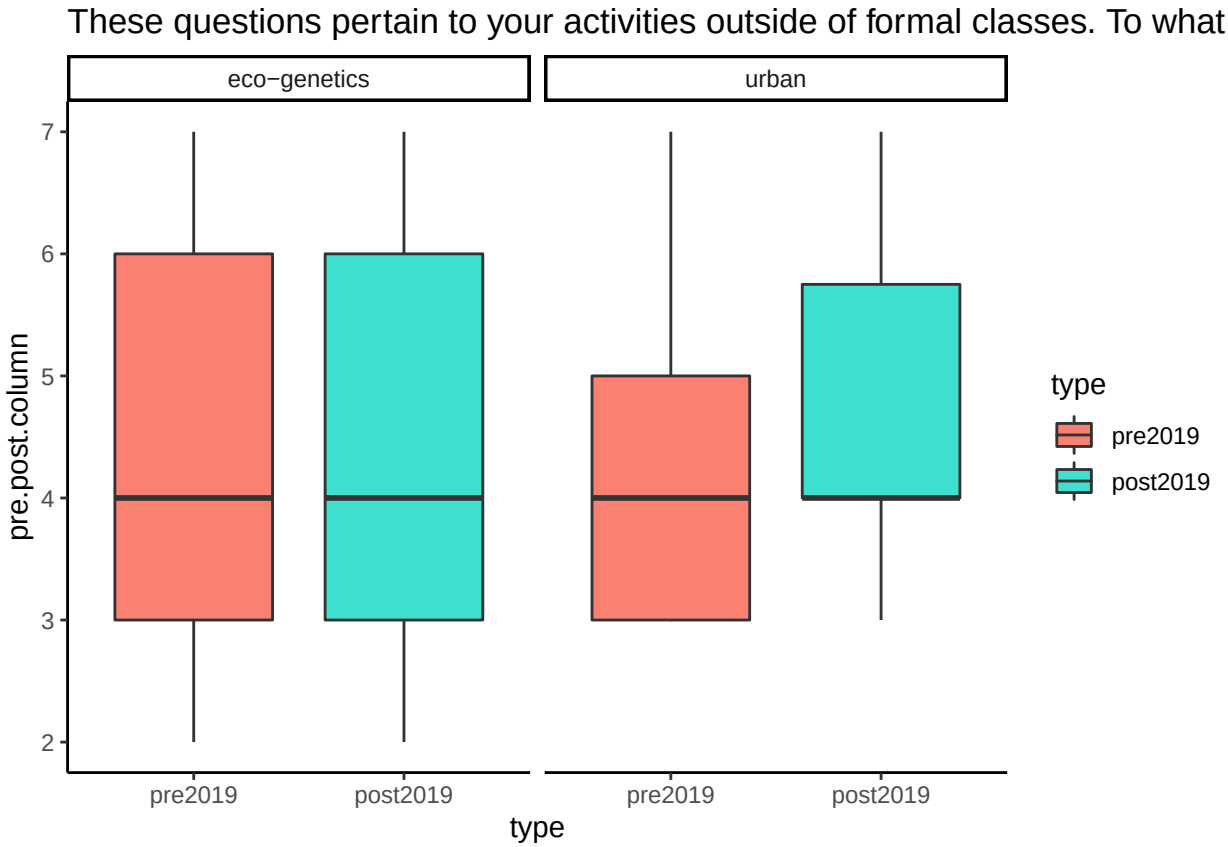



```
## [1] "These questions pertain to your activities outside of formal classes. To what extent do you agr
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.093409, df = 57.117, p-value = 0.9259
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.8309845  0.7569105
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.333333               4.370370
##
##
## [[2]]
```

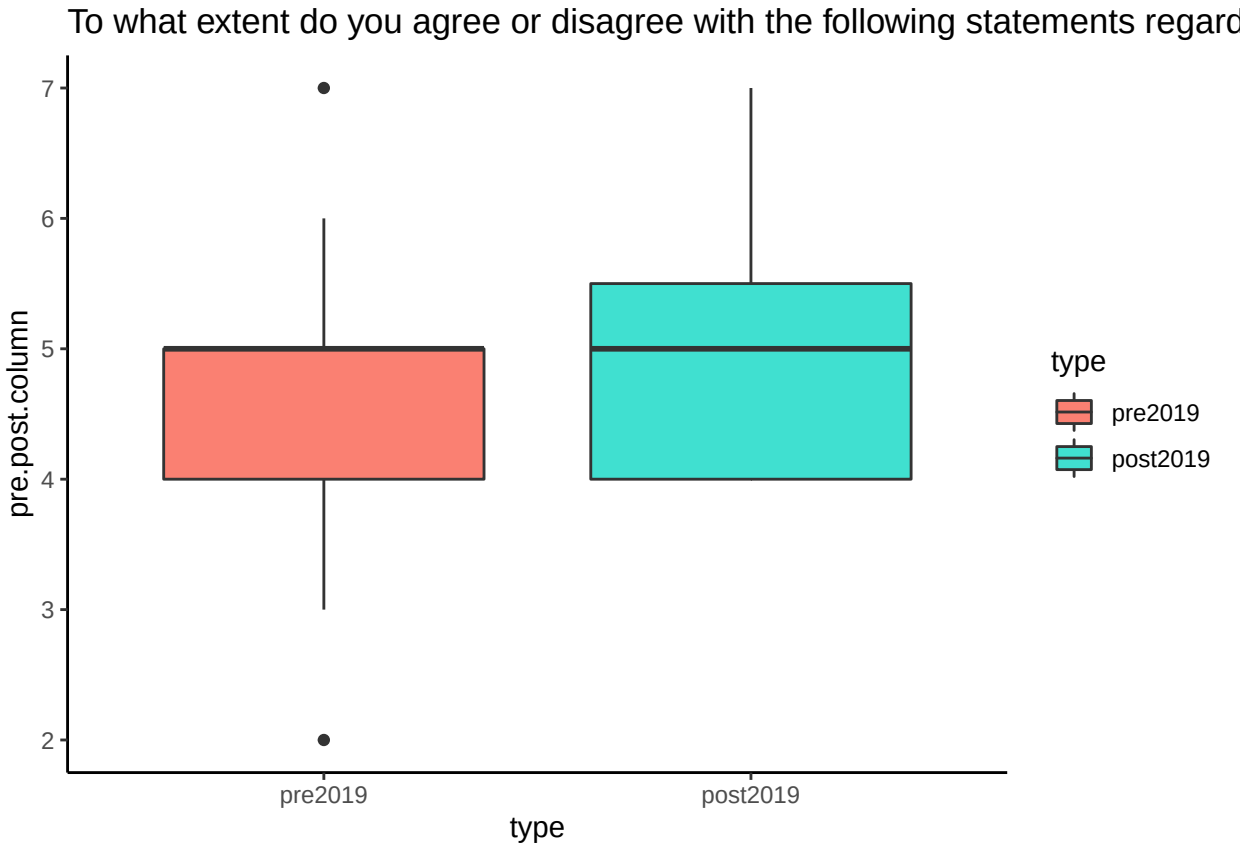



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.36778, df = 20.132, p-value = 0.7169
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.436489  1.005720
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.384615               4.600000
##
##
## [[4]]
```

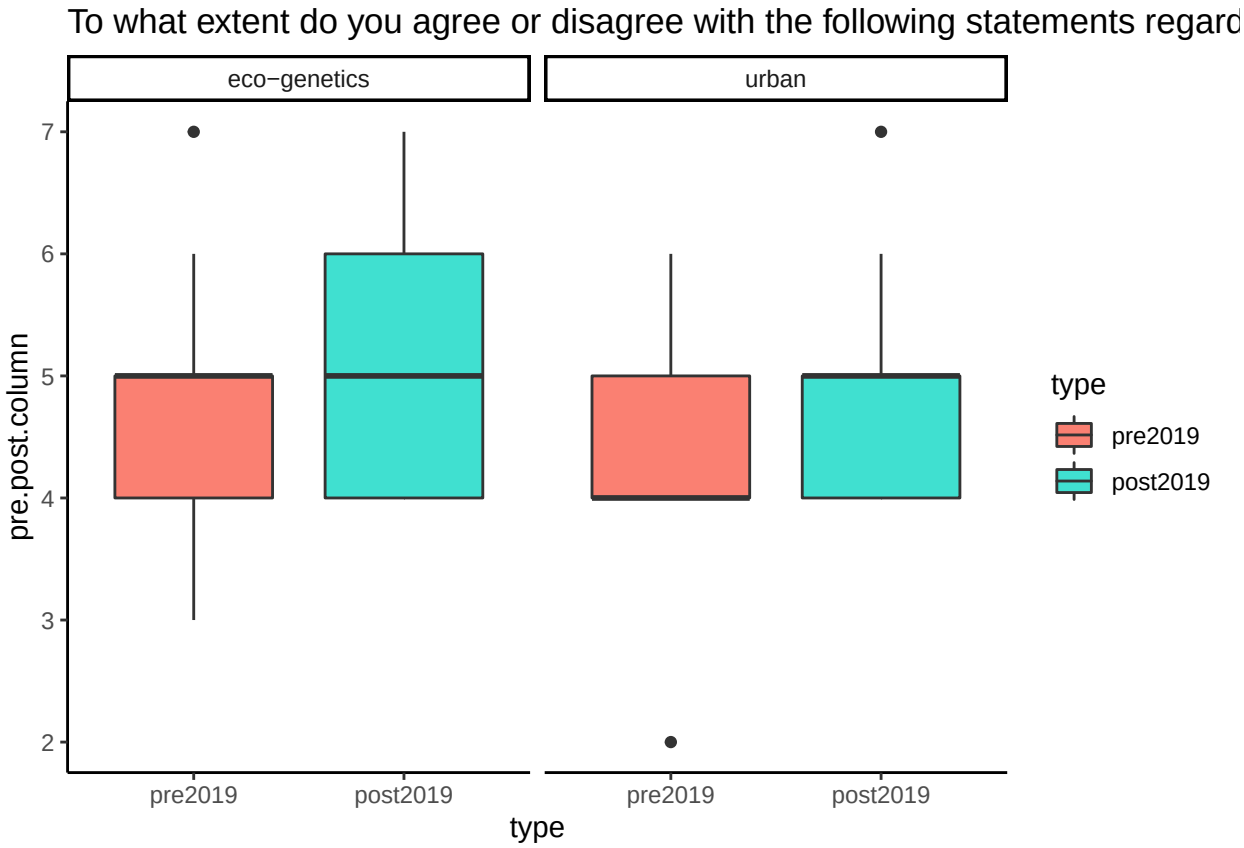



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.66372, df = 56.543, p-value = 0.5096
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.6763609  0.3396606
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.757576               4.925926
##
##
## [[2]]
```

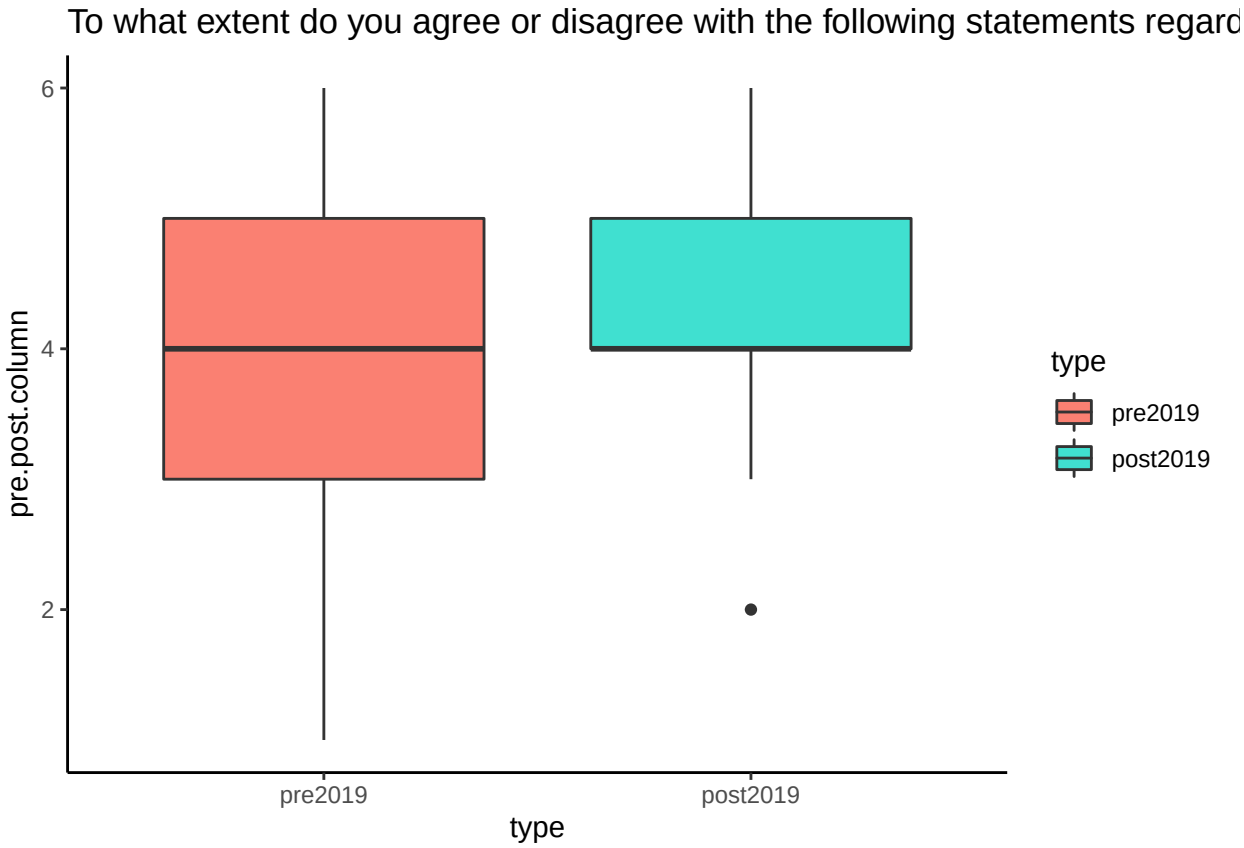



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.81555, df = 20.533, p-value = 0.4241
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.2847261  0.5616492
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.538462               4.900000
##
##
## [[4]]
```

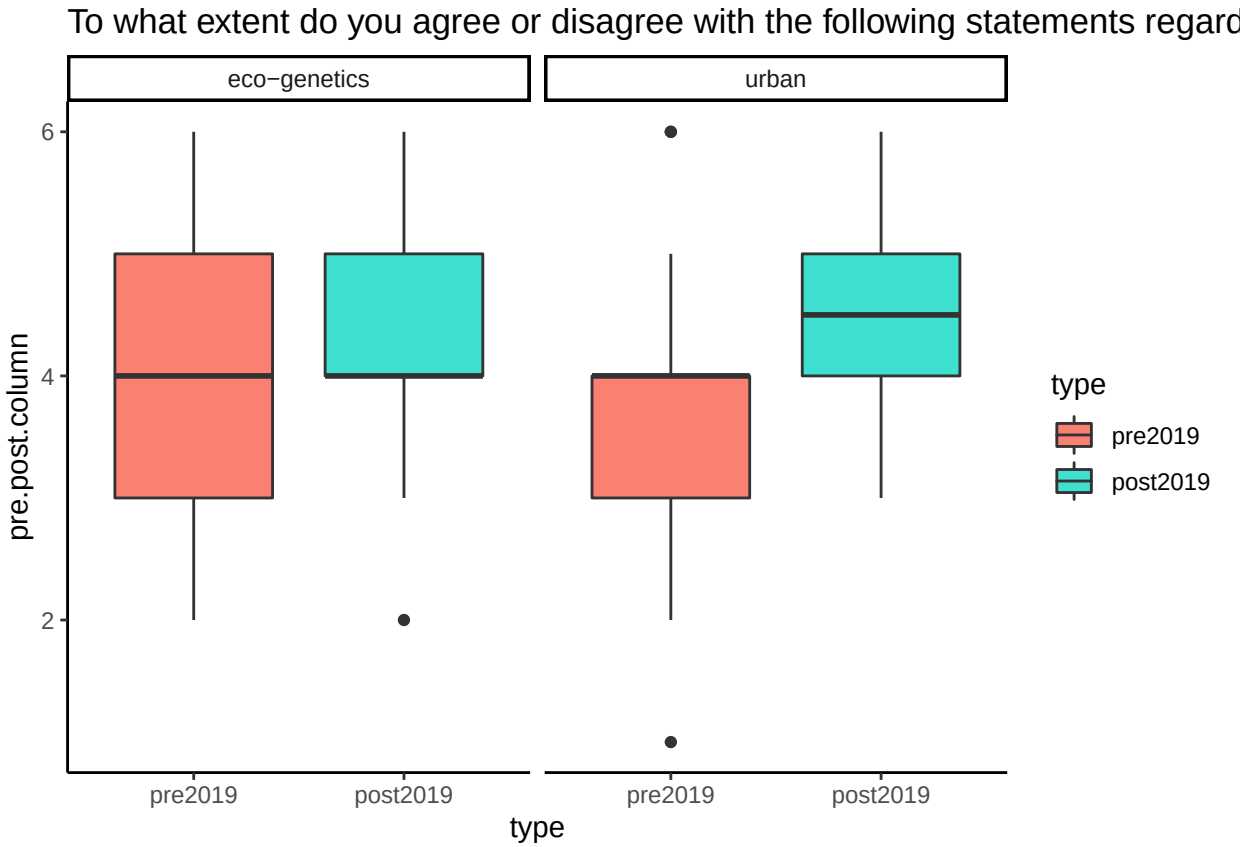



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

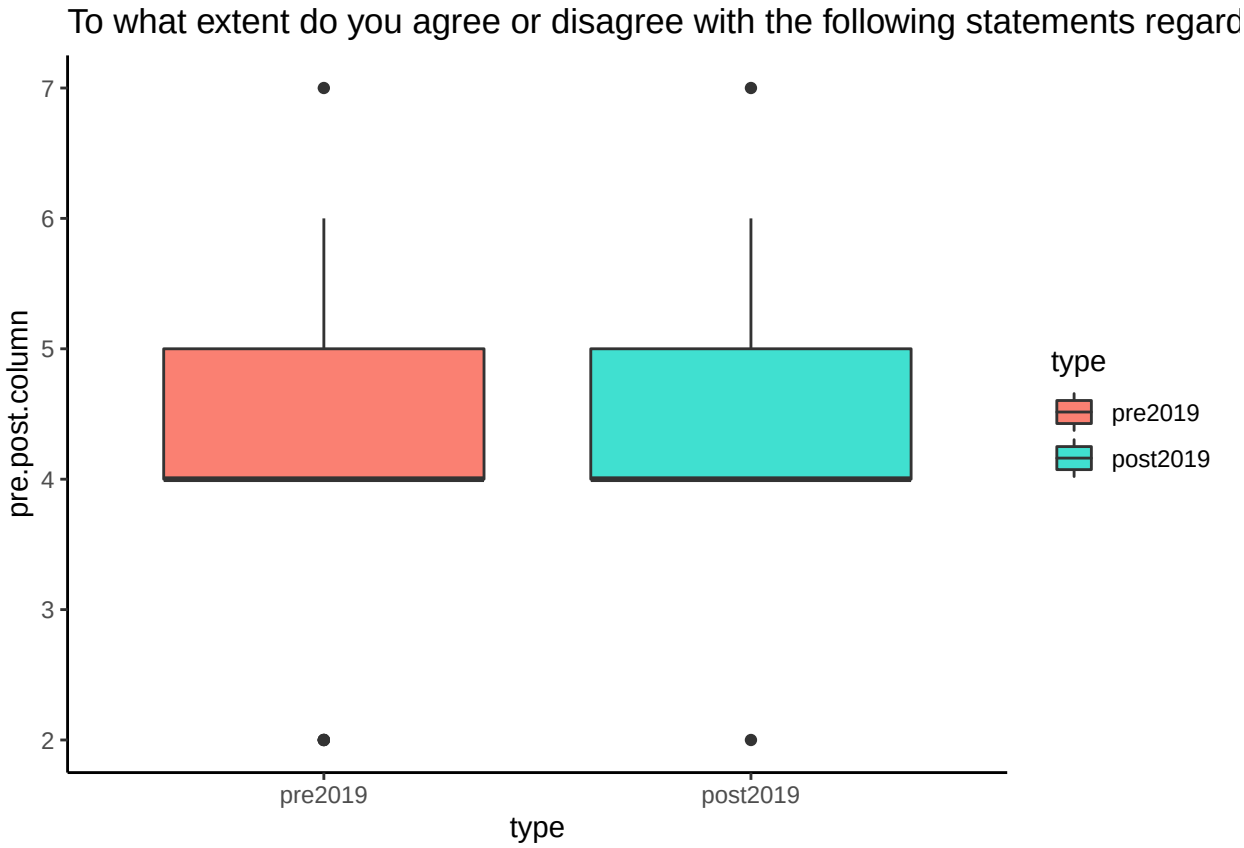
```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.4216, df = 57.985, p-value = 0.1605
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.0053756  0.1703588
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.878788               4.296296
##
##
## [[2]]
```



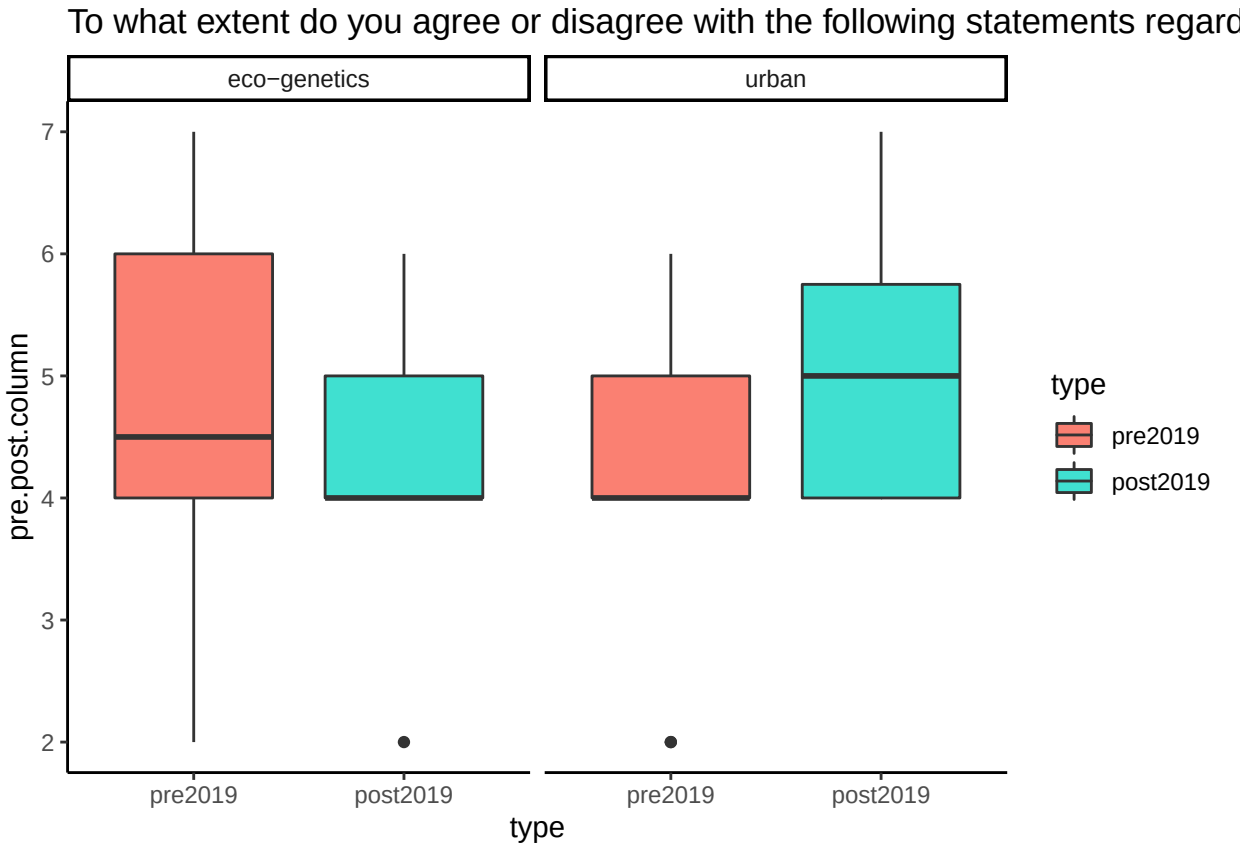

```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.2617, df = 20.997, p-value = 0.2209
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.7315297  0.4238374
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               3.846154               4.500000
##
##
## [[4]]
```




```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.60823, df = 57.999, p-value = 0.5454
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.7801881  0.4165517
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.484848               4.666667
##
##
## [[2]]
```

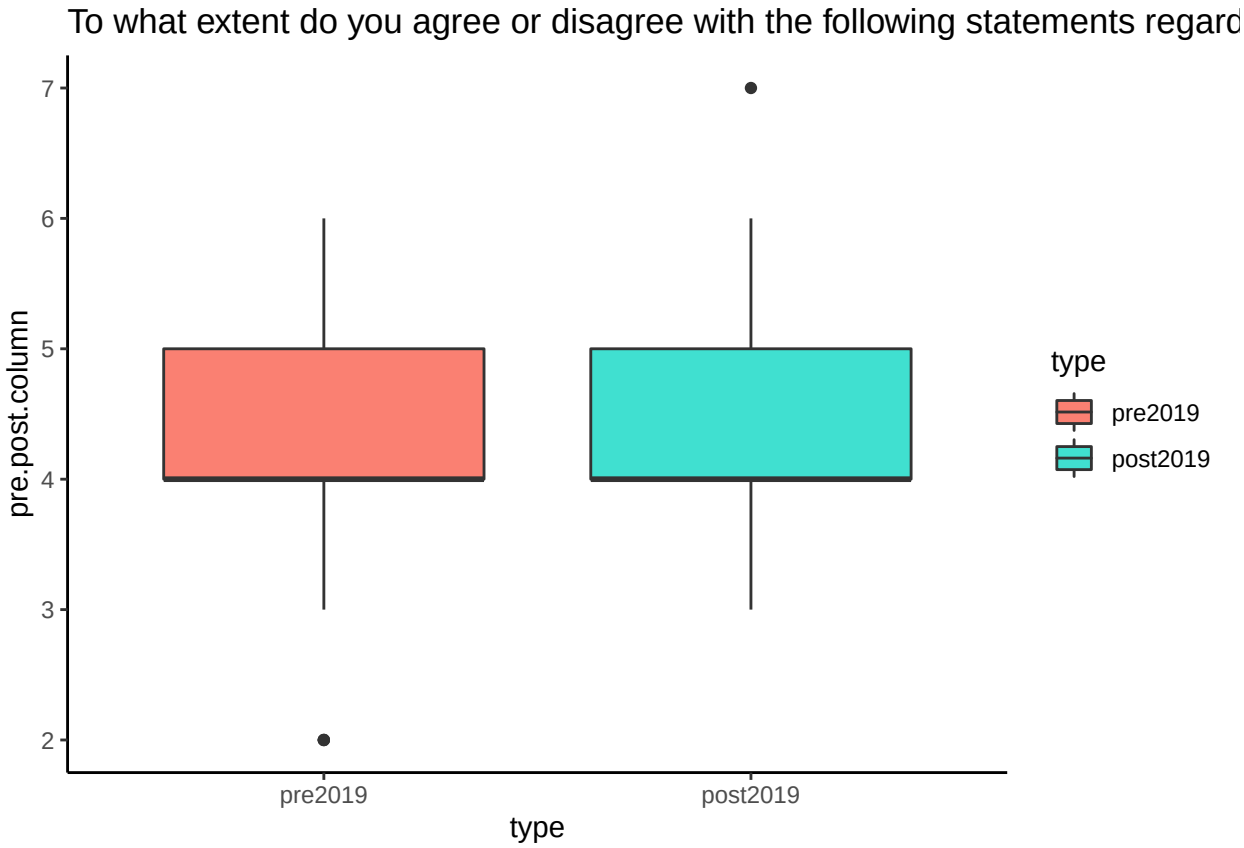



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.6093, df = 20.718, p-value = 0.1227
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.7640768  0.2256153
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.230769               5.000000
##
##
## [[4]]
```

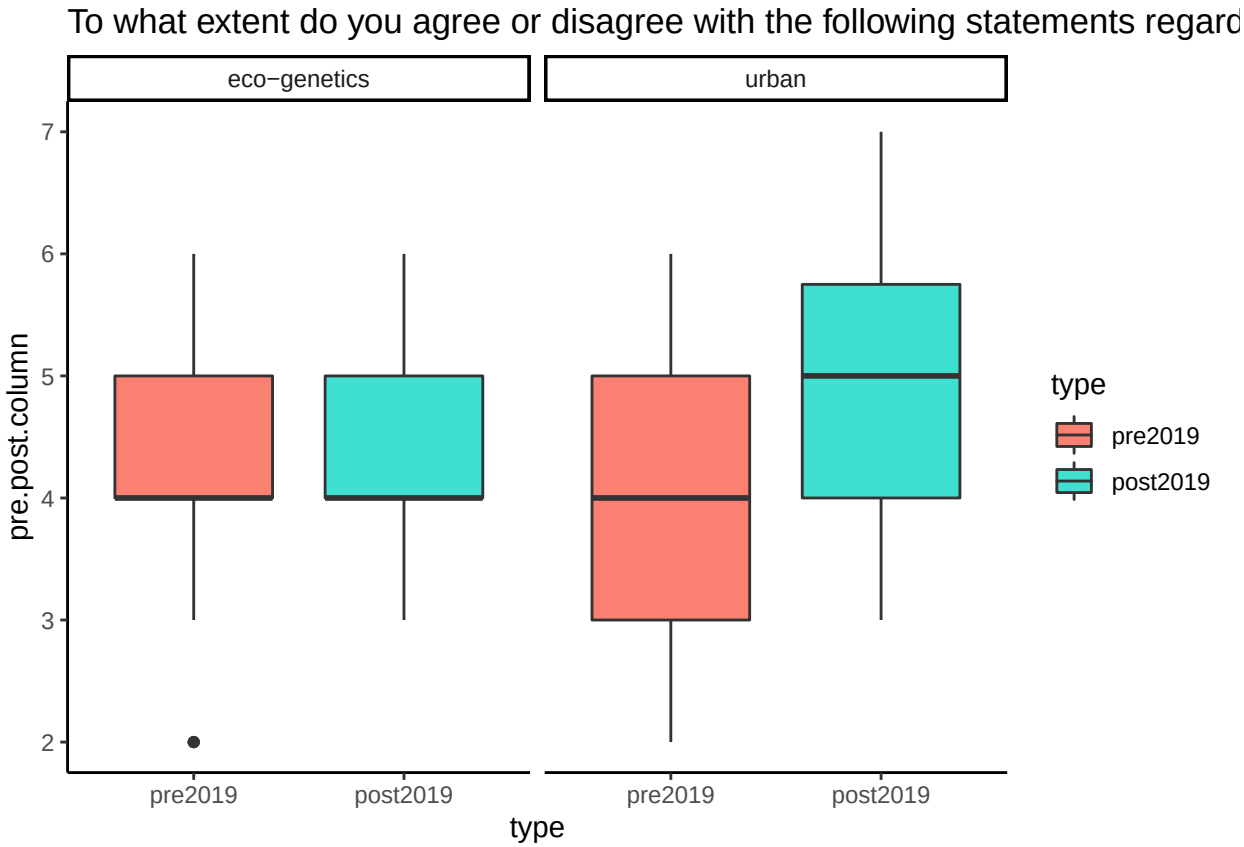



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.98907, df = 57.617, p-value = 0.3268
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.8349444  0.2827558
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.242424               4.518519
##
##
## [[2]]
```

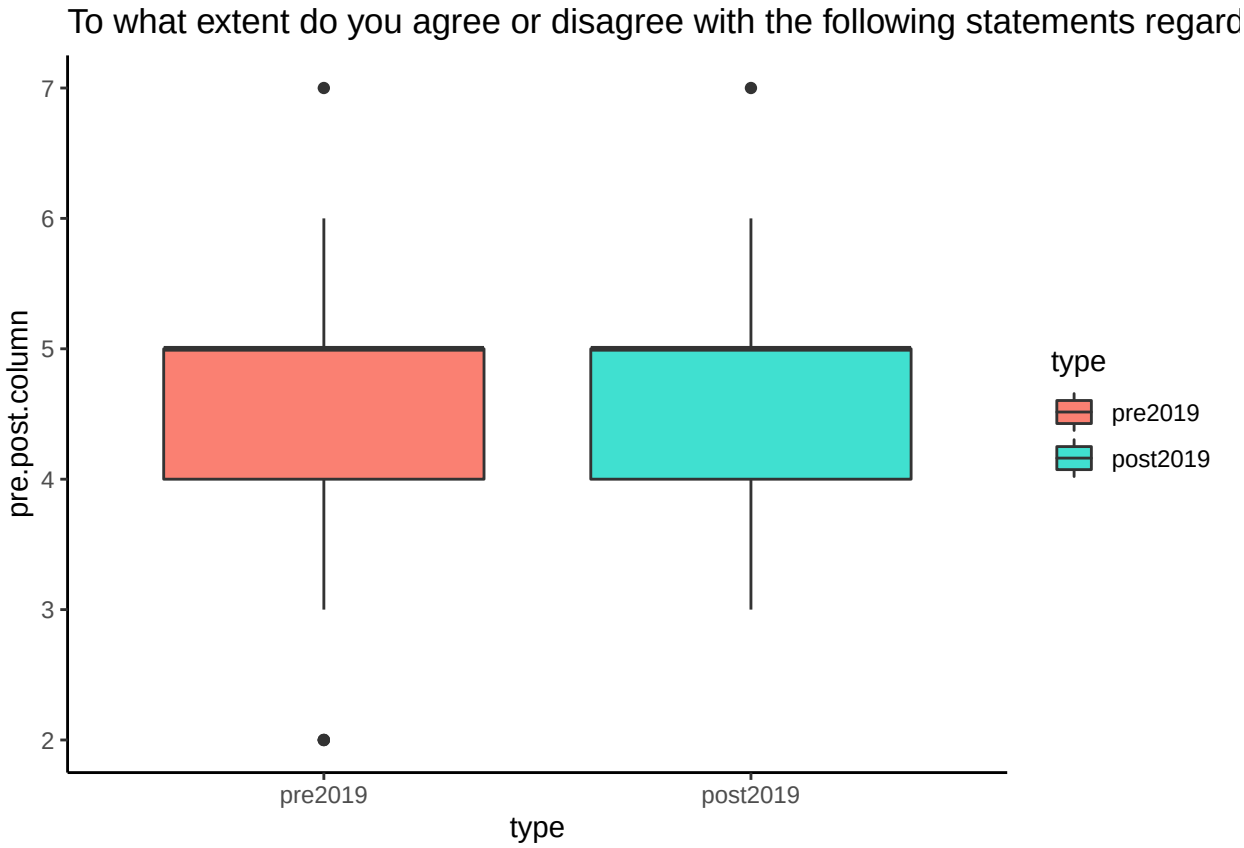



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -1.3107, df = 19.811, p-value = 0.2049
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.7349314  0.3964699
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.230769               4.900000
##
##
## [[4]]
```

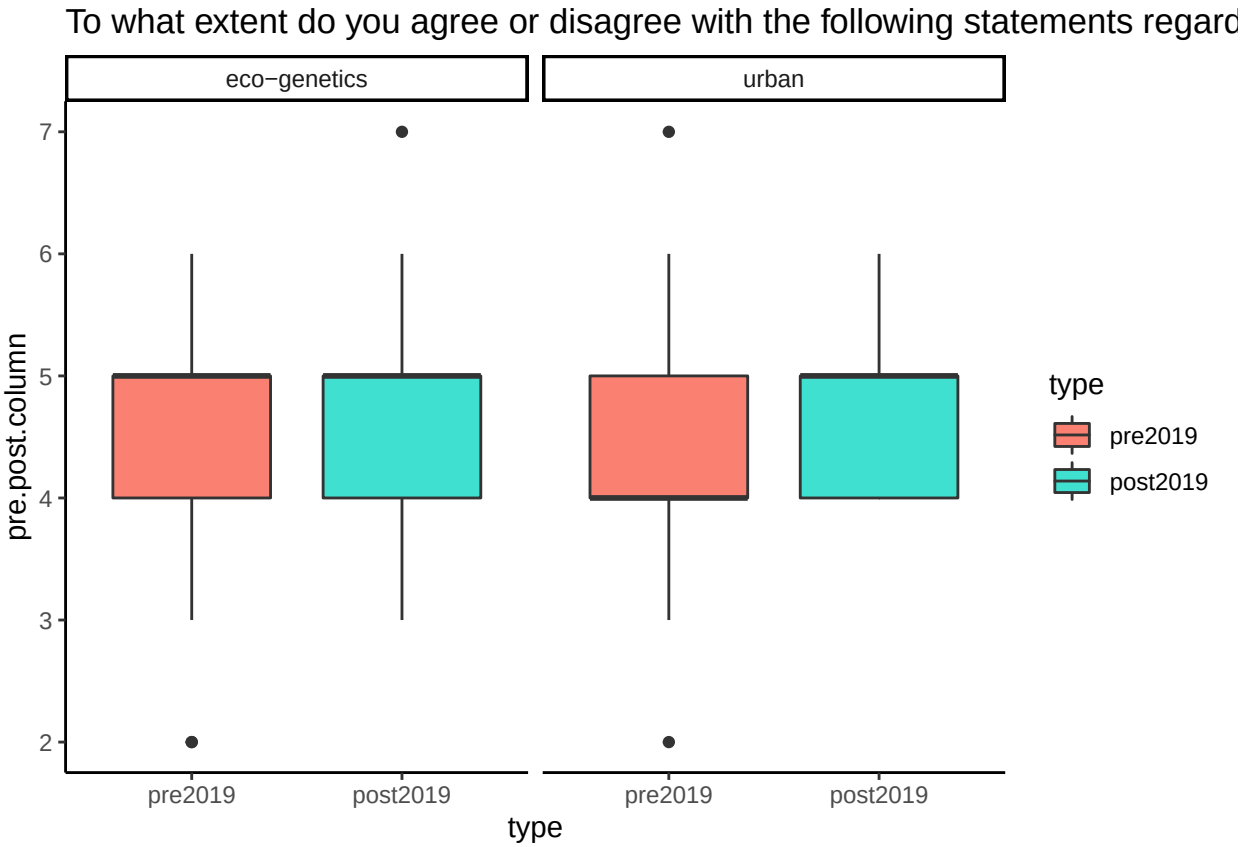



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -1.158, df = 57.732, p-value = 0.2516
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.8820336  0.2355689
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.454545               4.777778
##
##
## [[2]]
```

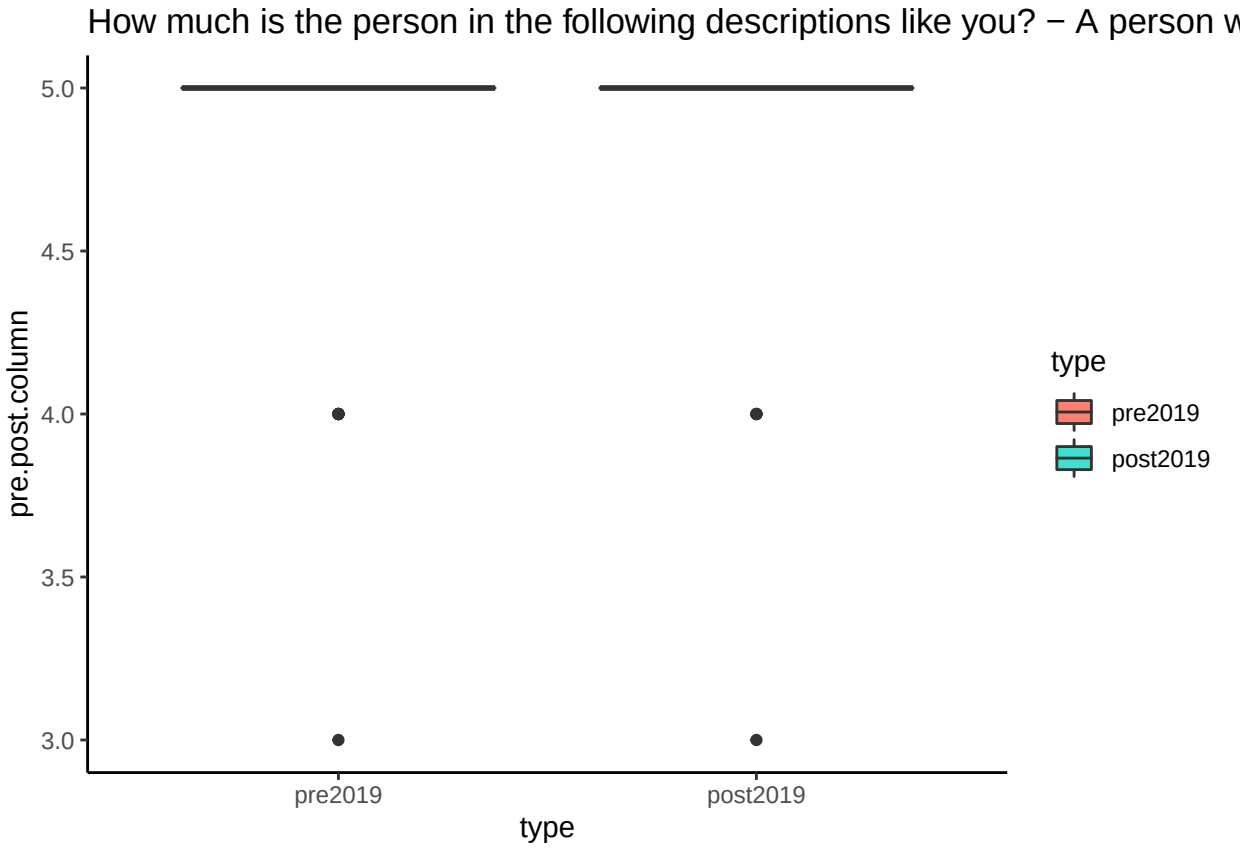



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.73659, df = 19.568, p-value = 0.4701
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.2983136  0.6213905
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.461538               4.800000
##
##
## [[4]]
```

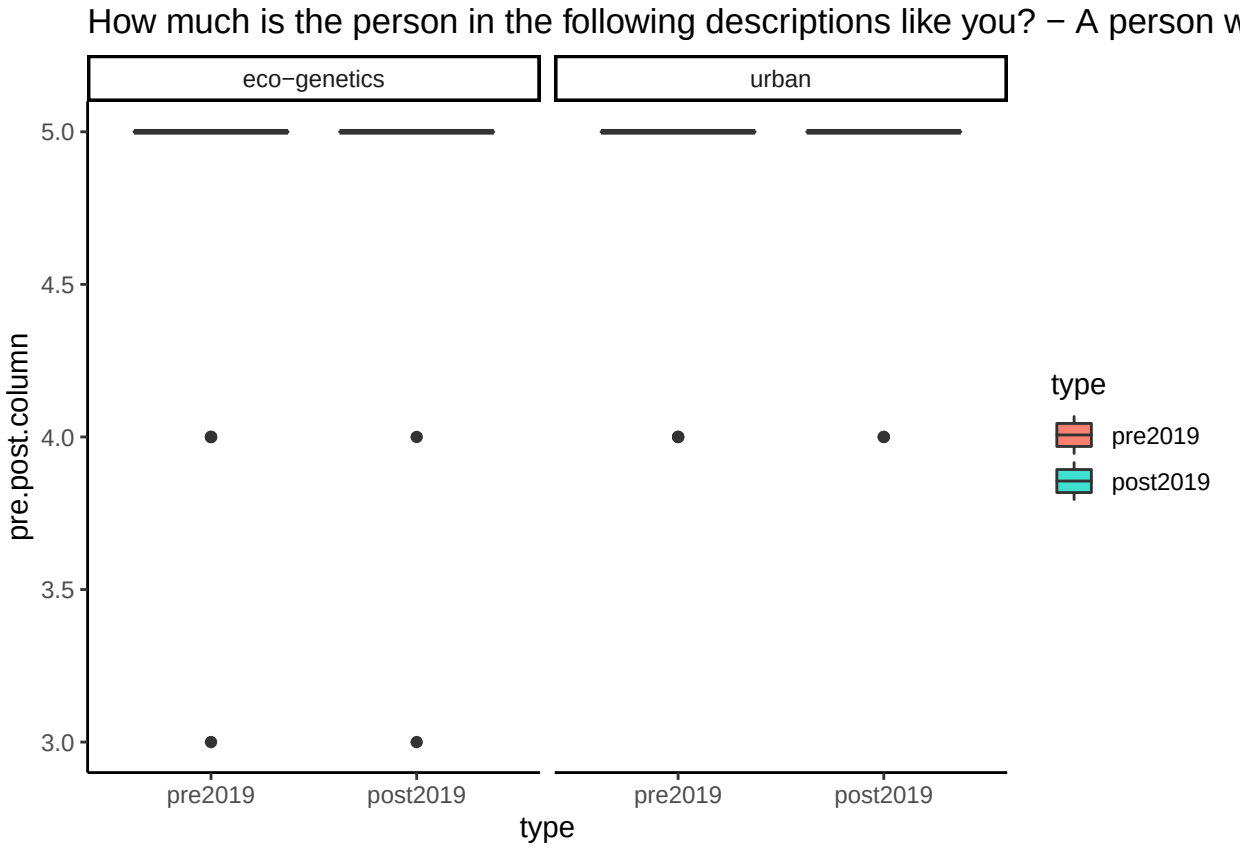



```
## [1] "How much is the person in the following descriptions like you? - A person who feels discovering
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.44853, df = 56.427, p-value = 0.6555
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.3128406  0.1983625
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.757576               4.814815
##
##
## [[2]]
```

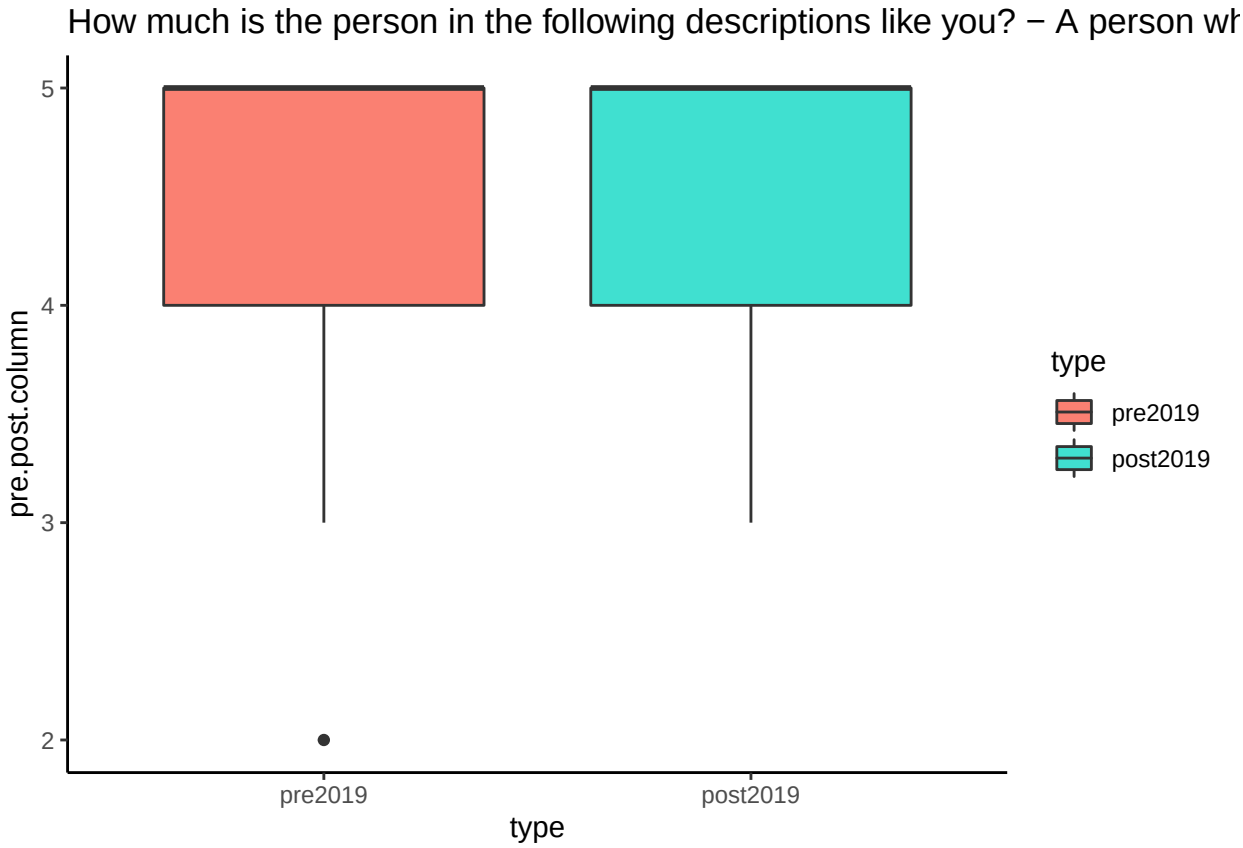



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.17049, df = 19.884, p-value = 0.8663
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.4073714  0.3458329
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.769231               4.800000
##
##
## [[4]]
```

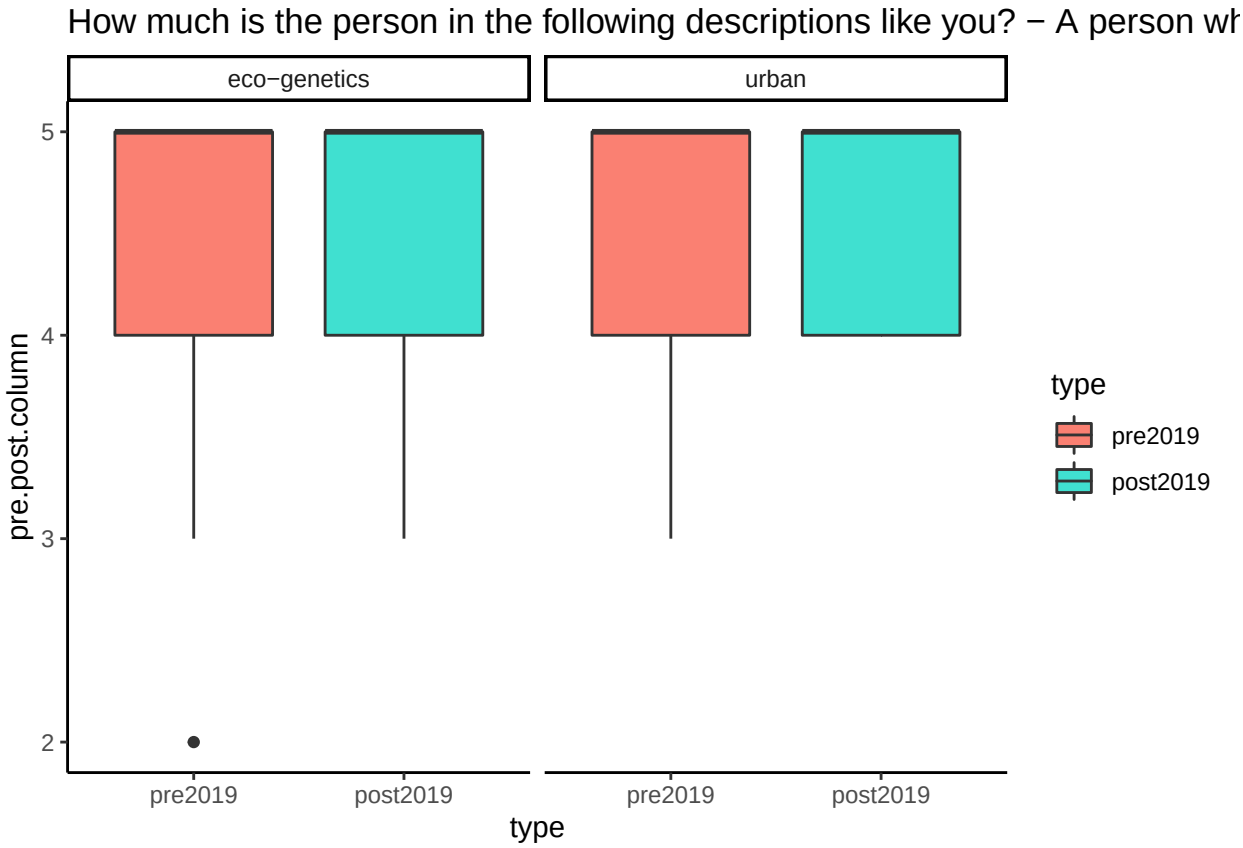



```
## [1] "How much is the person in the following descriptions like you? - A person who thinks discussing
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.80576, df = 57.716, p-value = 0.4237
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.4810274  0.2049331
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.454545               4.592593
##
##
## [[2]]
```

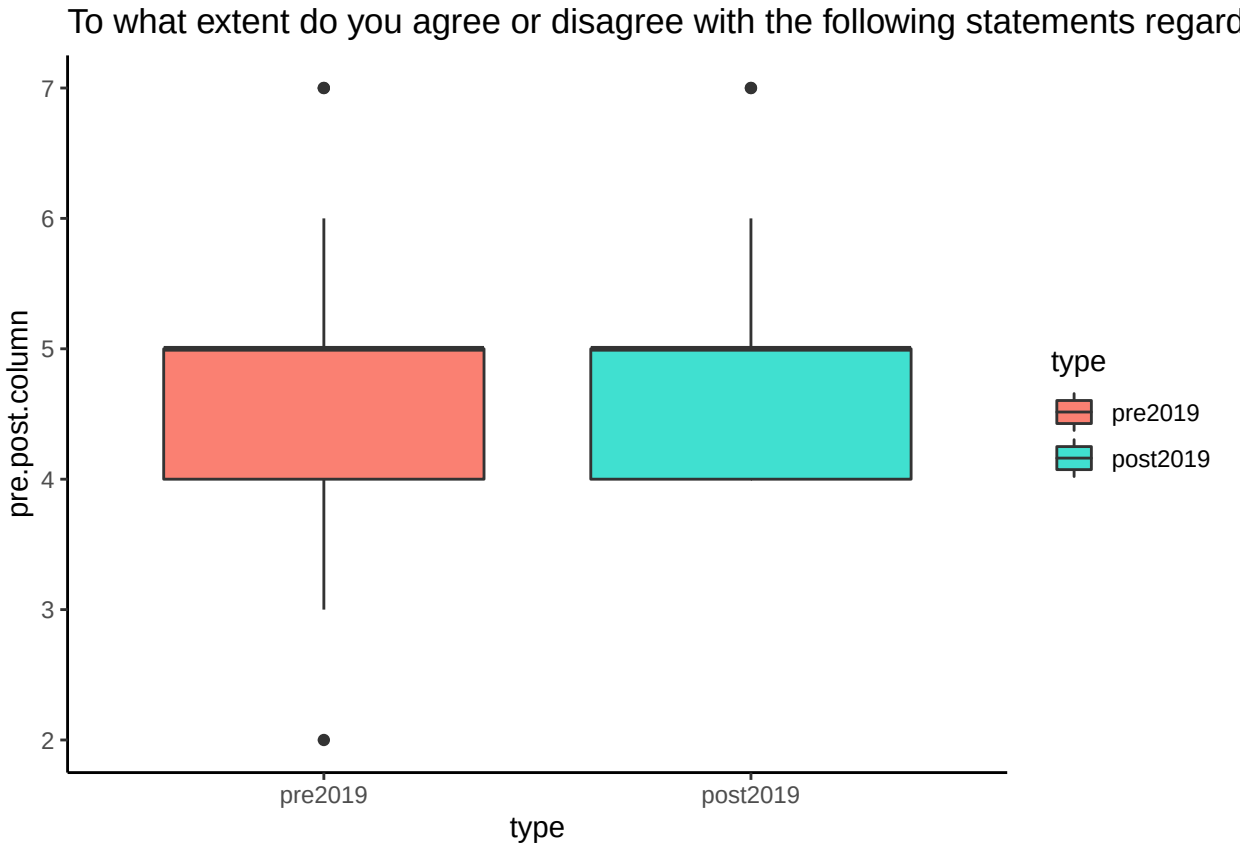



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.25082, df = 20.982, p-value = 0.8044
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.5718007  0.4487238
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.538462               4.600000
##
##
## [[4]]
```

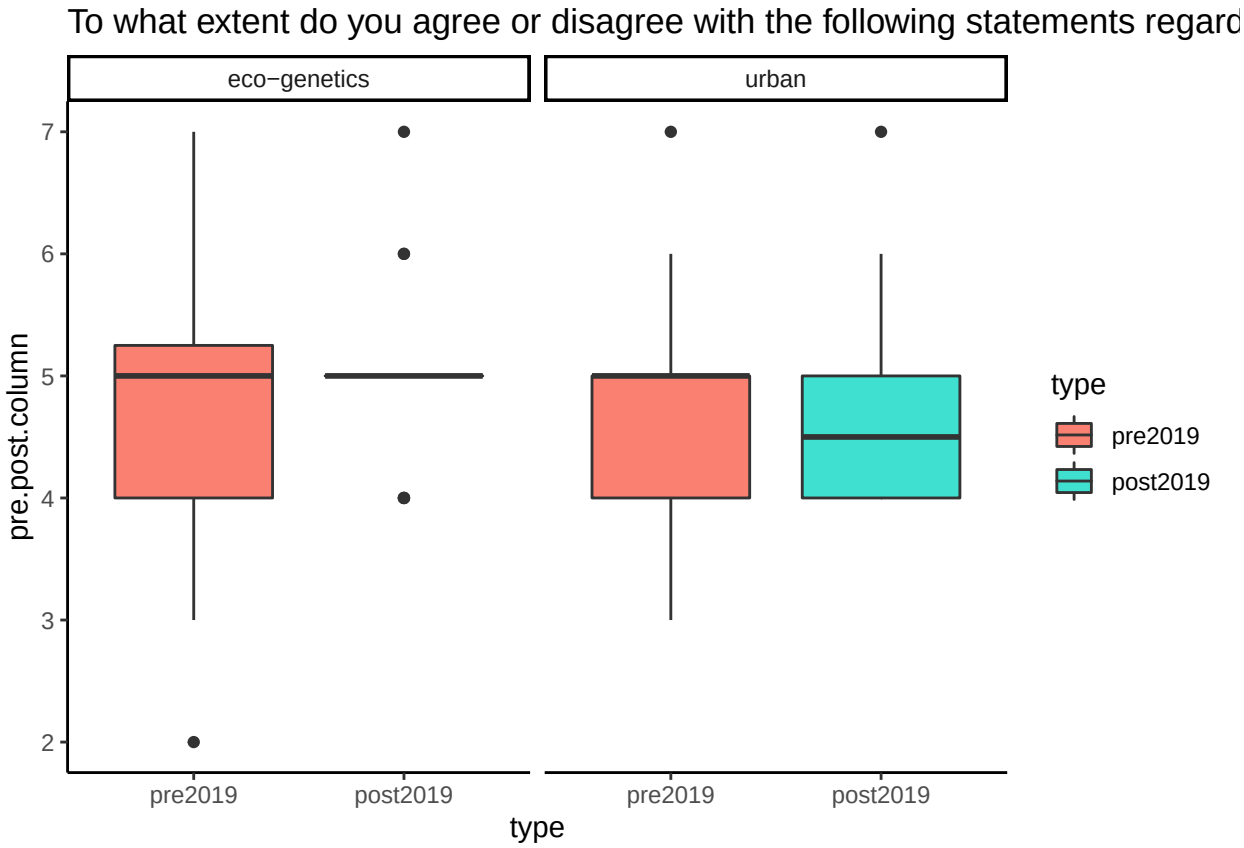



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.6638, df = 57.983, p-value = 0.5095
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.6760216  0.3393213
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.757576               4.925926
##
##
## [[2]]
```

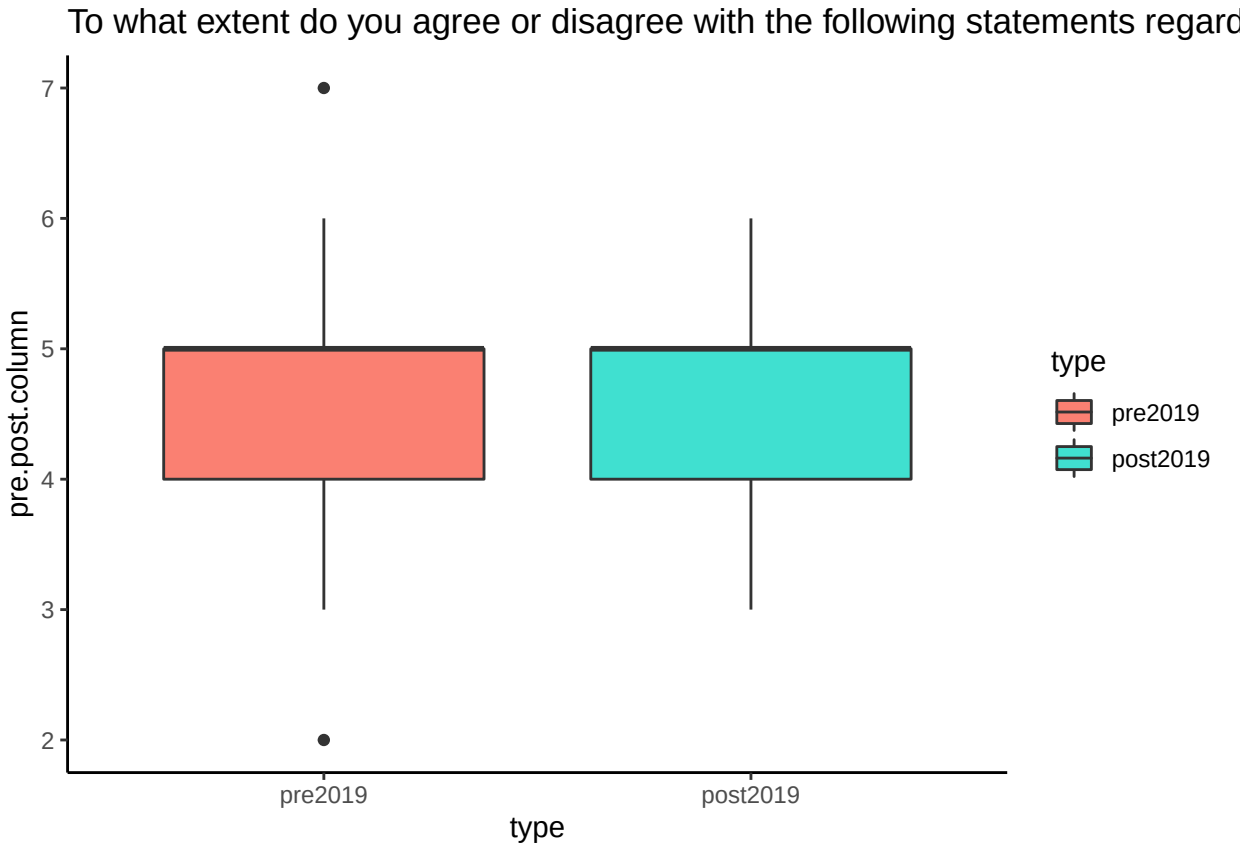



```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.24803, df = 19.5, p-value = 0.8067
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.0148863  0.7995017
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.692308               4.800000
##
##
## [[4]]
```

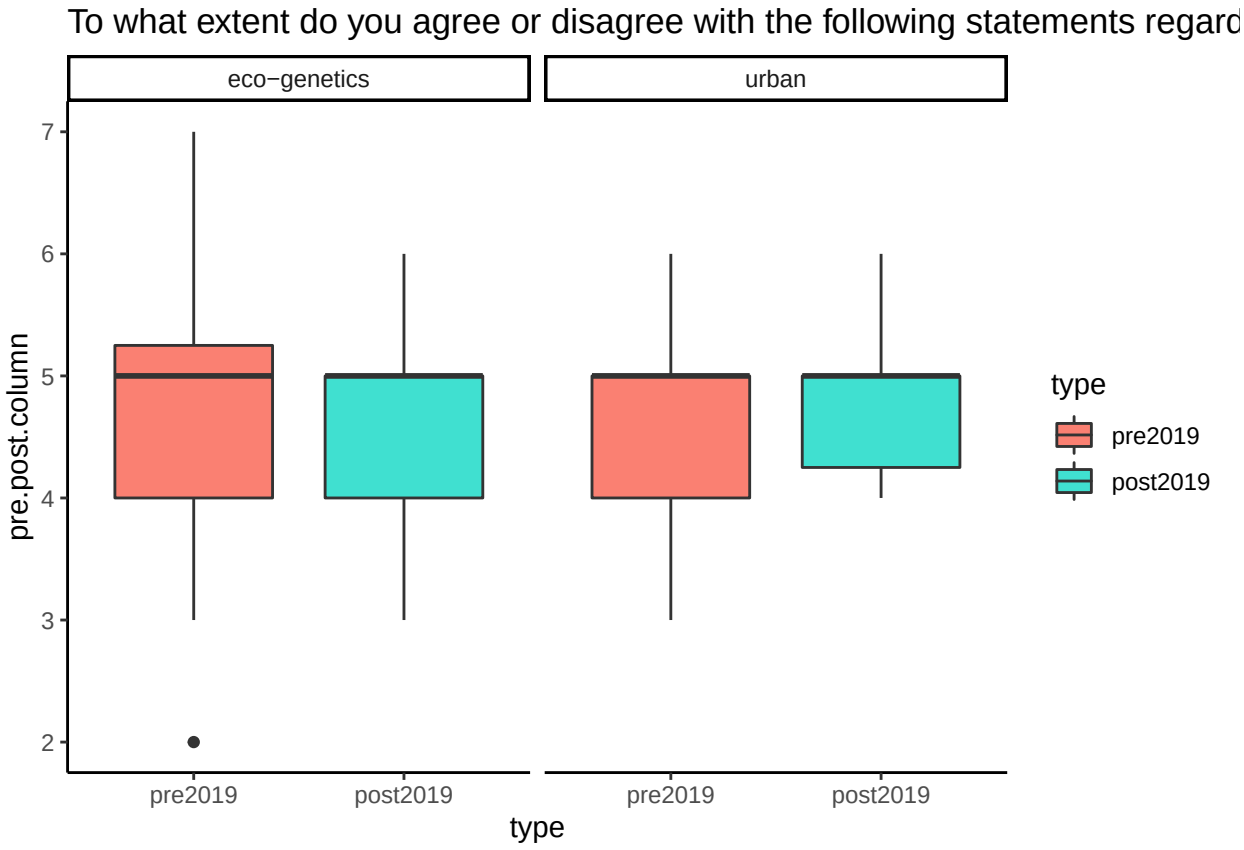



```
## [1] "To what extent do you agree or disagree with the following statements regarding using your biol
```

```
## [[1]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.column by pre.post$type
## t = -0.4993, df = 57.996, p-value = 0.6195
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.6240207  0.3748624
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.727273               4.851852
##
##
## [[2]]
```




```
##
## [[3]]
##
##  Welch Two Sample t-test
##
## data:  pre.post.u.col by pre.post.u$type
## t = -0.62435, df = 20.66, p-value = 0.5392
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.9001732  0.4847886
## sample estimates:
##  mean in group pre2019 mean in group post2019
##               4.692308               4.900000
##
##
## [[4]]
```


To what extent do you agree or disagree with the following statements regard
eco−genetics
urban
pre.post.column
7
6
5
4
3
2
pre2019
post2019
pre2019
post2019
type
type
pre2019
post2019