May 6, 2024

Supplement for "Partisan differences in risk taking in a simulated pandemic": Variables and Scales (V)

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Abstract

Variables and Scales (V)

Contents

V1 Data preparation V7
V1.1 R Libraries . . . V7
V1.2 Loading dataset . . . V10
V1.3 Variables and scales . . . V10

V2 Exclusion of participants and sample selection V10

V3 Distribution of single-item measures V11
V3.1 Demographics . . . V11
V3.1.1 Gender . . . V11
V3.1.2 Age . . . V12

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V3.1.3 Education . . . V13
V3.2 Postquestionnaire . . . V14
V3.2.1 General motivation . . . V14
V3.2.2 Color estimates . . . V17
V3.2.3 Estimates of other players' choices . . . V18
V3.2.4 Specific Postquestionnaire: Injunctive norms . . . V21
V3.2.5 Comparison of game and pandemic . . . V24
V3.3 Politics and religion . . . V25
V3.3.1 Voting . . . V25
V3.3.2 Presidential candidates . . . V26
V3.3.3 Feeelings about people and political groups . . . V27
V3.3.4 Political position . . . V28
V3.3.5 Political party . . . V29
V3.3.6 Religion . . . V30
V3.4 Other single-item measures . . . V31
V3.4.1 General Risk Taking . . . V31
V3.4.2 Vaccination attitude . . . V31

V4 Game scores and variables V32
V4.1 Comprehension checks . . . V32
V4.2 Game score and decisions by round . . . V34

V5 Scales without subscales V39
V5.1 Collective Narcissism . . . V39
V5.1.1 Source . . . V39
V5.1.2 Items . . . V39
V5.1.3 Item preparation . . . V39
V5.1.4 Item histograms . . . V40
V5.1.5 Inter-correlations . . . V41
V5.1.6 Scale statistics . . . V42
V5.1.7 Scale value histogram . . . V44
V5.2 Social Value Orientation . . . V45
V5.2.1 Source . . . V45
V5.2.2 Item preparation . . . V45
V5.2.3 Item histograms . . . V47
V5.2.4 Scale statistics . . . V50
V5.3 Psychological reactance scale . . . V51
V5.3.1 Source . . . V51
V5.3.2 Items . . . V52
V5.3.3 Item histograms . . . V52
V5.3.4 Inter-correlations . . . V56
V5.3.5 Scale statistics . . . V56
V5.3.6 Scale histogram . . . V58
V5.4 Social distancing support . . . V59
V5.4.1 Source . . . V59

V5.4.2 Items . . . V59
V5.4.3 Item preparation . . . V60
V5.4.4 Item histograms . . . V60
V5.4.5 Inter-correlations . . . V61
V5.4.6 Scale statistics . . . V62
V5.4.7 Scale value histogram . . . V64
V5.5 COVID-19-Misinformation . . . V65
V5.5.1 Source . . . V65
V5.5.2 Items . . . V65
V5.5.3 Item preparation . . . V66
V5.5.4 Item histograms . . . V67
V5.5.5 Inter-correlations . . . V68
V5.5.6 Scale statistics . . . V69
V5.6 Distrust of officialdom . . . V72
V5.6.1 Source . . . V72
V5.6.2 Items . . . V72
V5.6.3 Item preparation . . . V72
V5.6.4 Item histograms . . . V73
V5.6.5 Inter-correlations . . . V73
V5.6.6 Scale statistics . . . V74
V5.6.7 Scale value histogram . . . V76
V5.7 Conspiracy Mentality . . . V77
V5.7.1 Source . . . V77
V5.7.2 Items . . . V77
V5.7.3 Item preparation . . . V78
V5.7.4 Item histograms . . . V78
V5.7.5 Inter-correlations . . . V79
V5.7.6 Scale statistics . . . V80
V5.7.7 Scale value histogram . . . V82
V5.8 Climate change skepticism . . . V83
V5.8.1 Source . . . V83
V5.8.2 Items . . . V83
V5.8.3 Item preparation . . . V84
V5.8.4 Item histograms . . . V84
V5.8.5 Inter-correlations . . . V85
V5.8.6 Scale statistics . . . V86

V6 Scales with subscales V89
V6.1 Social and Economic Conservatism Scale . . . V89
V6.1.1 Source . . . V89
V6.1.2 Items . . . V89
V6.1.3 Item preparation . . . V89
V6.1.4 Item histograms . . . V90
V6.1.5 Inter-correlations . . . V93
V6.1.6 Scale statistics (for subscales) . . . V94

V6.1.7 Scale value histogram V96
V6.2 COVID-19 risk perception V99
V6.2.1 Items V99
V6.2.2 Item preparation V99
V6.2.3 Item histograms V100
V6.2.4 Inter-correlations V101
V6.2.5 Scale statistics (for subscales) V102
V6.3 Threat of COVID-19 . . . . . V104
V6.3.1 Sources V104
V6.3.2 Items V105
V6.3.3 Item preparation V105
V6.3.4 Item histograms V106
V6.3.5 Inter-correlations V107
V6.3.6 Scale statistics V108
V6.3.7 Scale values histogram V110
V6.3.8 Subscale inter-correlations V112
V6.4 Government response to COVID-19 . . . . . V112
V6.4.1 Sources V112
V6.4.2 Items V113
V6.4.3 Missing values V114
V6.4.4 Item preparation V114
V6.4.5 Item histograms V115
V6.4.6 Inter-correlations V117
V6.4.7 Scale statistics V118
V6.4.8 Scale values histogram V121
V6.4.9 Subscale inter-correlations V123
V6.5 American response to COVID-19 . . . . . V124
V6.5.1 Sources V124
V6.5.2 Items V124
V6.5.3 Item preparation V125
V6.5.4 Item histograms V126
V6.5.5 Inter-correlations V127
V6.5.6 Scale statistics V128
V6.5.7 Scale values histogram V130
V6.5.8 Subscale inter-correlations V132
V6.6 Behavioral intentions V132
V6.6.1 Sources V132
V6.6.2 Items V133
V6.6.3 Item preparation V133
V6.6.4 Item histograms V135
V6.6.5 Inter-correlations V137
V6.6.6 Scale statistics V138
V6.6.7 Scale values histogram V141
V6.6.8 Subscale inter-correlations V143
V6.7 Cognitive Reflection Test (CRT) V143

V6.7.1 Source . . . V143
V6.7.2 Items . . . V144
V6.7.3 Item preparation . . . V144
V6.7.4 Item histograms . . . V145
V6.7.5 Item pie charts . . . V145
V6.7.6 Inter-correlations . . . V150
V6.7.7 Scale statistcs (for subscales) . . . V151
V6.7.8 Scale value distribution . . . V154

V7 Qualitative Data V155
V7.1 Messages to players choosing risky and safe options . . . V155
V7.2 Comments regarding the injunctive-norms message . . . V157
V7.3 What the game reminded participants of and general game comments V159
V7.4 Perceived differences between game and pandemic . . . V163
V7.5 Comments at the end of the survey . . . V168

List of Figures

V1 Gender . . . V12
V2 Age . . . V13
V3 Education . . . V13
V4 Post-questionnaire . . . V16
V5 Own color estimate . . . V17
V6 Own color estimate . . . V18
V7 Estimates of H-choices . . . V20
V8 Individual estimates of H-choices . . . V21
V9 Post-questionnaire Injunctive Norms . . . V23
V10 Connection with COVID-19 . . . V24
V11 Comparability with COVID-19 . . . V25
V12 Voting . . . V26
V13 Ratings of presidential candidates . . . V27
V14 Feelings about people and political groups . . . V28
V15 Political position . . . V29
V16 Political party . . . V30
V17 Religion . . . V30
V18 General risk . . . V31
V19 Vaccine attittude . . . V32
V20 Comprehension check errors . . . V35
V21 Final game score . . . V38
V22 H-choices by round . . . V39
V23 Collective narcissism items . . . V41
V24 Collective narcissism inter-correlations . . . V42
V25 Collective narcissism scores . . . V45
V26 SVO items . . . V49
V27 SVO scores . . . V51

V28 Psychological reactance items V55
V29 Psychological reactance inter-correlations V56
V30 Psychological reactance scores V59
V31 Social distancing support items V61
V32 Social distancing support inter-correlations V62
V33 Social distancing support scores V65
V34 CVMI V68
V35 CVMI items V69
V36 CVMI V71
V37 Distrust of officialdom items V73
V38 Distrust of officialdom inter-correlations V74
V39 SECS scores V77
V40 Conspiracy mentality items V79
V41 Conspiracy Mentality inter-correlations V80
V42 Conspiracy mentality scores V83
V43 Climate change skepticism V85
V44 Climate change skepticism items V86
V45 Climate change skepticism V88
V46 SECS items V92
V47 SECS inter-correlations V94
V48 SECS scores V96
V49 SECS scores V98
V50 COVID-19 perceived risk items V101
V51 COVID-19 perceived risk inter-correlations V102
V52 COVID-19 perceived risk scores V104
V53 Threat of COVID-19 items V107
V54 Threat of COVID-19 item inter-correlations V108
V55 Threat of COVID-19 scores V111
V56 Threat of COVID-19 inter-correlations V112
V57 Government response items V116
V58 Government response item inter-correlations V118
V59 Government response scores V122
V60 Government response inter-correlations V123
V61 American COVID-response items V127
V62 American COVID-response item inter-correlations V128
V63 American COVID-response scores V131
V64 American COVID-response inter-correlations V132
V65 Behavioral intentions items V136
V66 Behavioral intentions item inter-correlations V138
V67 Behavioral intentions scores V142
V68 Behavioral intentions subscale inter-correlations V143
V69 CRT items V146
V70 CRT items V146
V71 CRT items V147
V72 CRT items V147

V73 CRT items V149
V74 CRT inter-correlations V151
V75 CRT scores V153
V76 CRT scores V154
V77 CRT scores V155

List of Tables

V1 Selected messages for safe and riskier players V156

V1 Data preparation

This document was prepared in Overleaf, as an Rtex file implementing knitr. Any output is generated by R during compilation, and can thus be replicated by entering the same commands referencing the same dataset. Overleaf's R version and selection and versions of packages are not under the user's control. This section demonstrates the R version and the list of packages used for calculations and output generation.

V1.1 R Libraries

```
library(foreign)

library(formatR)
library(ggplot2)
library(dplyr)

##
## Attaching package:  'dplyr'
## The following objects are masked from 'package:stats':
##
##    filter, lag
## The following objects are masked from 'package:base':
##
##    intersect, setdiff, setequal, union

library(tidyr)
library("purrr")
library("tidyverse")

## - Attaching packages --------------------- tidyverse 1.3.0 -
## v tibble  3.0.3     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0
## - Conflicts ---------------------- tidyverse_conflicts() -
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()

library("psych", verbose=TRUE)
```

```
##
## Attaching package:  'psych'
## The following objects are masked from 'package:ggplot2':
##
##    %+%, alpha

library("rmarkdown",verbose=TRUE)


library("viridis")

## Loading required package:  viridisLite

library(viridisLite)


library(car)

## Loading required package:  carData
##
## Attaching package:  'car'
## The following object is masked from 'package:psych':
##
##    logit
## The following object is masked from 'package:purrr':
##
##    some
## The following object is masked from 'package:dplyr':
##
##    recode

library(data.table)

##
## Attaching package:  'data.table'
## The following object is masked from 'package:purrr':
##
##    transpose
## The following objects are masked from 'package:dplyr':
##
##    between, first, last

#library(sjmisc)


R.version
```

```
##                _
## platform       x86_64-pc-linux-gnu
## arch           x86_64
## os             linux-gnu
## system         x86_64, linux-gnu
## status
## major          3
## minor          6.3
## year           2020
## month          02
## day            29
## svn rev        77875
## language       R
## version.string R version 3.6.3 (2020-02-29)
## nickname       Holding the Windsock

sessionInfo()

## R version 3.6.3 (2020-02-29)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Ubuntu 20.04.1 LTS
##
## Matrix products: default
## BLAS:   /usr/lib/x86_64-linux-gnu/blas/libblas.so.3.9.0
## LAPACK: /usr/lib/x86_64-linux-gnu/lapack/liblapack.so.3.9.0
##
## locale:
##  [1] LC_CTYPE=C.UTF-8       LC_NUMERIC=C           LC_TIME=C.UTF-8
##  [4] LC_COLLATE=C.UTF-8     LC_MONETARY=C.UTF-8    LC_MESSAGES=C.UTF-8
##  [7] LC_PAPER=C.UTF-8       LC_NAME=C              LC_ADDRESS=C
## [10] LC_TELEPHONE=C         LC_MEASUREMENT=C.UTF-8 LC_IDENTIFICATION=C
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
##  [1] data.table_1.12.8 car_3.0-8         carData_3.0-4     viridis_0.5.1
##  [5] viridisLite_0.3.0 rmarkdown_2.3     psych_1.9.12.31   forcats_0.5.0
##  [9] stringr_1.4.0     readr_1.3.1       tibble_3.0.3      tidyverse_1.3.0
## [13] purrr_0.3.4       tidyr_1.1.0       dplyr_1.0.0       ggplot2_3.3.2
## [17] formatR_1.7       foreign_0.8-76    knitr_1.29
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_1.0.5       lubridate_1.7.9  lattice_0.20-41  assertthat_0.2.1
##  [5] digest_0.6.25    R6_2.4.1         cellranger_1.1.0 backports_1.1.8
```

```
##  [9] reprex_0.3.0     evaluate_0.14    httr_1.4.2       pillar_1.4.6
## [13] rlang_0.4.7      curl_4.3         readxl_1.3.1     rstudioapi_0.11
## [17] blob_1.2.1       munsell_0.5.0    broom_0.7.0      compiler_3.6.3
## [21] modelr_0.1.8     xfun_0.15        pkgconfig_2.0.3  mnormt_1.5-7
## [25] htmltools_0.5.0  tidyselect_1.1.0 gridExtra_2.3    rio_0.5.16
## [29] fansi_0.4.1      crayon_1.3.4     dbplyr_1.4.4     withr_2.2.0
## [33] grid_3.6.3       nlme_3.1-148     jsonlite_1.7.0   gtable_0.3.0
## [37] lifecycle_0.2.0  DBI_1.1.0        magrittr_1.5     scales_1.1.1
## [41] zip_2.0.4        cli_2.0.2        stringi_1.4.6    fs_1.4.2
## [45] xml2_1.3.2       ellipsis_0.3.1   generics_0.0.2   vctrs_0.3.2
## [49] openxlsx_4.1.5   tools_3.6.3      glue_1.4.1       hms_0.5.3
## [53] abind_1.4-5      parallel_3.6.3   colorspace_1.4-1 rvest_0.3.5
## [57] haven_2.3.1
```

V1.2 Loading dataset

```
data=read.spss("PartisanDifferencesDeidentifiedMay24.sav")
#saveData<-data
df=data.frame(data)
palette2=colorRampPalette(c("#ff7f50", "white", "#2171B5"))
```

V1.3 Variables and scales

This document contains analyses for all scales and variables included in the study, including exploratory measures that were not covered in the main manuscript. The rationale for this is to offer these variables and analyses for researchers with specific interest in these measures collected at the time of our study and their inter-relationships. We present some analyses in the SM-A document to demonstrate that a cursory analysis does not raise any warning flags for our main analyses.

V2 Exclusion of participants and sample selection

A total of 1,525 attempts were made to start the task (including double attempts by the same person). A total of 122 attempts were stopped due to a suspicious IP-address flagged by the VPN checks. In addition, 64 were stopped due to the location of the user not being within the United States. These attempts were made from Australia, Bangladesh, Canada , Czech Republic, Spain, Great Britain, Nigeria, New Zealand, Poland, Portugal, and Venezuela. Seven attempts were identified as overlapping in IP address or Prolific IDs with attempts made from one of those countries (these participants suppressed the browser location in a later attempt). Several attempts did not pass the attention checks: 91 attempts failed both attention checks, 100 the first attention check and 181 the second attention check. Six attempts were from participants who had already attempted the attention checks twice before.

Further, 6 attempts did not even reach the first page of the survey, 11 participants did not pass the consent form, 2 stopped before the game instructions, and 46 stopped during the game instructions. After the game, 12 more participants dropped out before reaching the end of the study. A total of 37 participants made too many errors (more than 25) when responding to the comprehension check questions during the instructions (this threshold was hard-coded into the survey-flow). Another 4 attempts were from participants who had failed the comprehension checks before. Another 2 attempts were discarded, because two participants from the same IP address completed the survey simultaneously (data independence could not be assumed here). Another 3 attempts were made from IP addresses who had already completed full surveys. A further 2 attempts involved participants who had seen instructions in an earlier, incomplete attempt. Eleven attempts did not pass a quality check concerning open-format answers: There was either non-coincidental overlap with other attempts, copy-paste responses from irrelevant webpages, simply strange, incoherent, or ungrammatical responses.

A total of 819 cases were used in all calculations. The planned sample size was $n = 800$ with an equal division into the two framing conditions, two intervention conditions, and two voter groups. The final sample was slightly larger, as some of the filtering analysis had to be conducted with completed surveys (described above). Thus, the number of participants in conditions was unevenly distributed, and simultaneous starting points led to more participants in some conditions than planned. In all of these cases, the excess participants were informed about the technical problem, and received the average outcome for participants in their condition (that were achieved in the respective simulated game). This was fully communicated after the study.

V3 Distribution of single-item measures

V3.1 Demographics

V3.1.1 Gender

```
ggplot(df, aes(x=demo01Gender))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)+
    coord_flip()
```

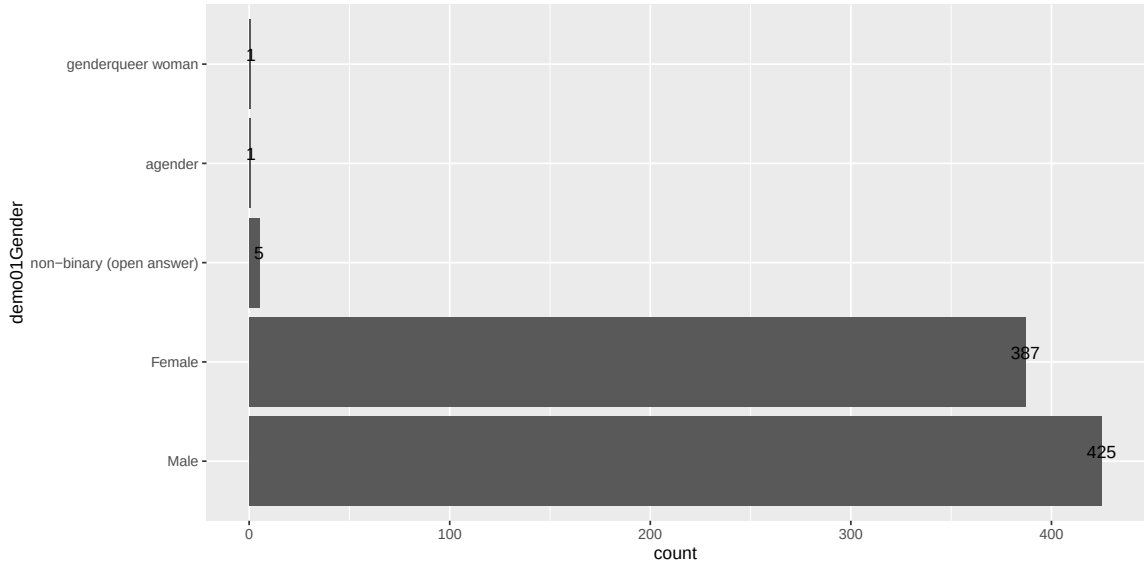

Figure V1
Gender distribution

V3.1.2 Age

```
summary(df$demo01Age)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   19.00   27.00   33.00   36.16   42.00   76.00
```

```
df %>%
  ggplot(aes(demo01Age)) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=40)
```

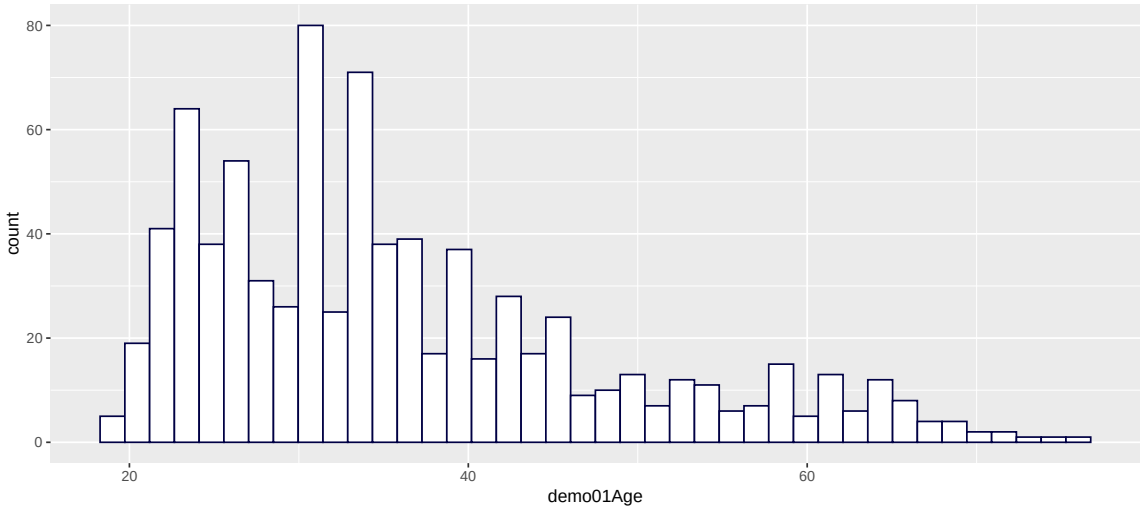

Figure V2
Age distribution

V3.1.3 Education

```
ggplot(df, aes(x=demo02Education))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

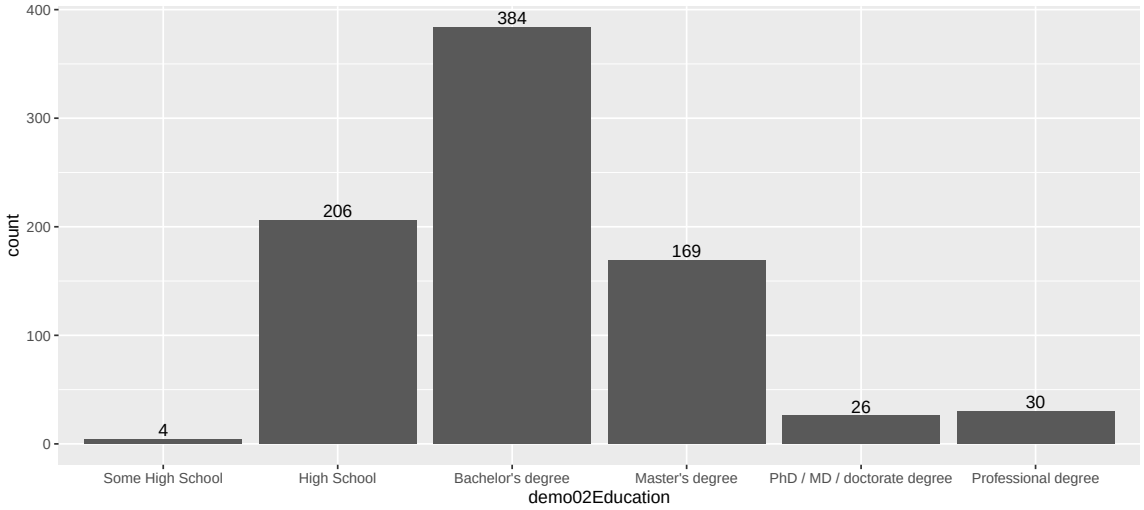

Figure V3
Highest degree or level of education you have completed

V3.2 Postquestionnaire

V3.2.1 General motivation

Eleven questions were answered on a scale from 1–5: Strongly disagree—Disagree—Neither agree nor disagree—Agree—Strongly agree.

- **Post01**: I wanted to make as much bonus money as possible.
- **Post02**: I wanted to make more bonus money than other players.
- **Post03**: I felt responsible for other players.
- **Post04**: I wanted to make other players switch color.
- **Post05**: I was afraid to switch color in this game.
- **Post06**: I tried to anticipate what others were doing in this game.
- **Post07**: I followed my gut in this game.
- **Post08**: I wanted to take some risk in this game.
- **Post09**: I wanted to protect others in this game.
- **Post10**: I did not care at all what happened in this game.
- **Post11**: I wanted that the entire group receives as much money as possible.

```
   VarsPost <- c("PostTG_01", "PostTG_02", "PostTG_03",
   "PostTG_04", "PostTG_05","PostTG_06","PostTG_07",
   "PostTG_08","PostTG_09","PostTG_10","PostTG_11")



   FramePost <- df[VarsPost]

 FramePost <- FramePost %>%
   rename(
   Post01=PostTG_01,Post02=PostTG_02,Post03=PostTG_03,Post04=PostTG_04,
   Post05=PostTG_05,Post06=PostTG_06,Post07=PostTG_07,Post08=PostTG_08,
   Post09=PostTG_09,Post10=PostTG_10,Post11=PostTG_11
   )

   FramePost[] <-data.matrix(FramePost)

summary(FramePost)
```

```
##      Post01          Post02          Post03          Post04          Post05
##  Min.   :1.000   Min.   :1.00   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:2.00   1st Qu.:2.000   1st Qu.:1.000   1st Qu.:4.000
##  Median :4.000   Median :2.00   Median :4.000   Median :1.000   Median :4.000
##  Mean   :3.379   Mean   :2.51   Mean   :3.316   Mean   :1.603   Mean   :3.923
##  3rd Qu.:4.000   3rd Qu.:3.00   3rd Qu.:4.000   3rd Qu.:2.000   3rd Qu.:5.000
##  Max.   :5.000   Max.   :5.00   Max.   :5.000   Max.   :5.000   Max.   :5.000
##      Post06          Post07          Post08          Post09
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:3.000   1st Qu.:1.000   1st Qu.:2.000
##  Median :3.000   Median :4.000   Median :2.000   Median :4.000
##  Mean   :2.834   Mean   :3.841   Mean   :2.736   Mean   :3.343
##  3rd Qu.:4.000   3rd Qu.:5.000   3rd Qu.:4.000   3rd Qu.:4.000
##  Max.   :5.000   Max.   :5.000   Max.   :5.000   Max.   :5.000
##      Post10          Post11
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:3.000
##  Median :2.000   Median :4.000
##  Mean   :1.753   Mean   :3.388
##  3rd Qu.:2.000   3rd Qu.:4.000
##  Max.   :5.000   Max.   :5.000
```

```
pairs.panels(FramePost, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,
factor=2,breaks=40,hist.col="blue",show.points=FALSE,
rug=FALSE,cex.cor=1,wt=NULL, stars=TRUE,
ci=TRUE,alpha=.05)
```

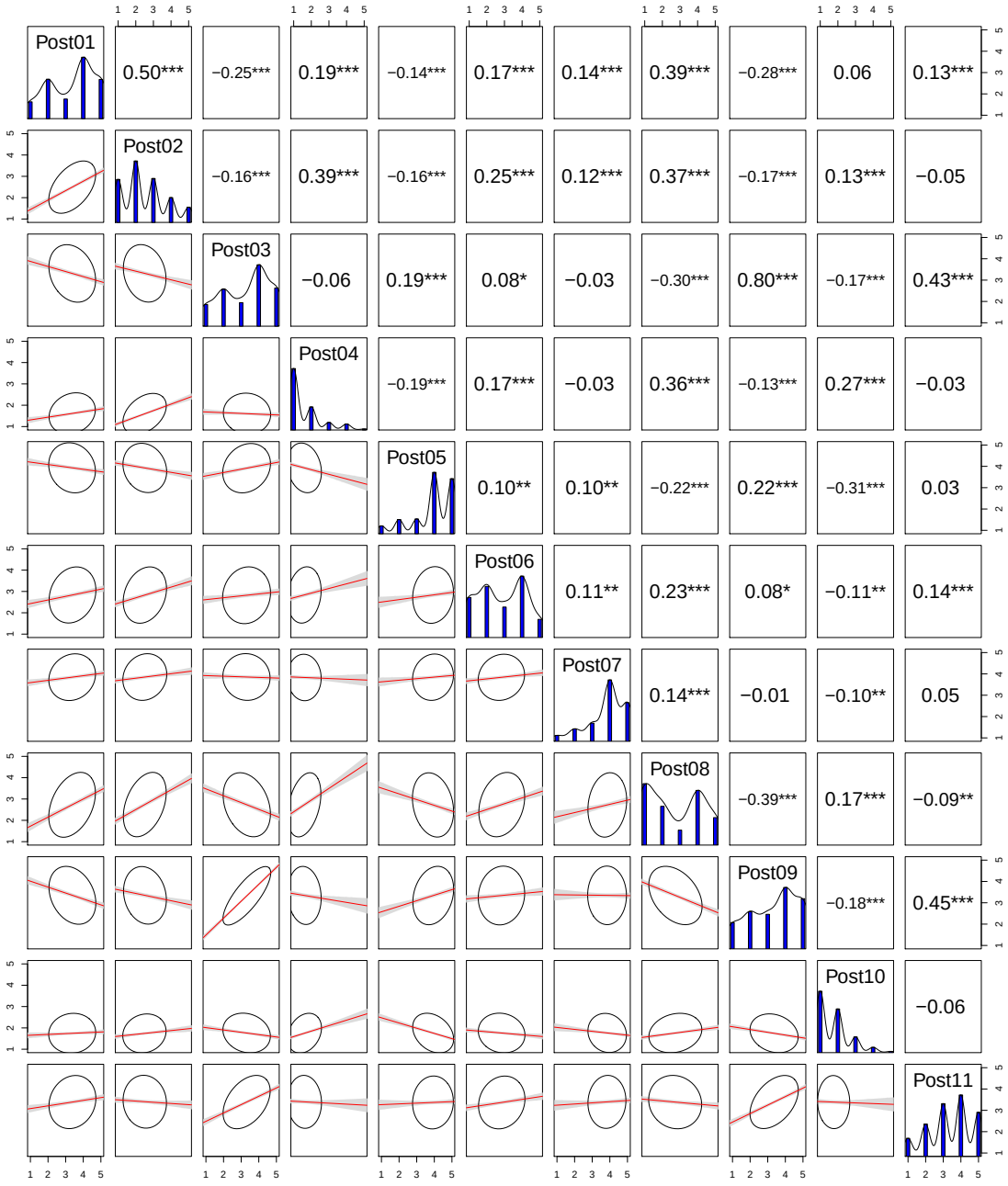

Figure V4
Post-questionnaire items

V3.2.2 Color estimates

```
summary(df$PostTGcolorMe)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   15.00   30.00   35.73   50.00  100.00

summary(df$PostTGcolorAll)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   25.00   50.00   45.81   65.00  100.00
```

```
df %>%
  ggplot(aes(PostTGcolorMe)) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=40)
```

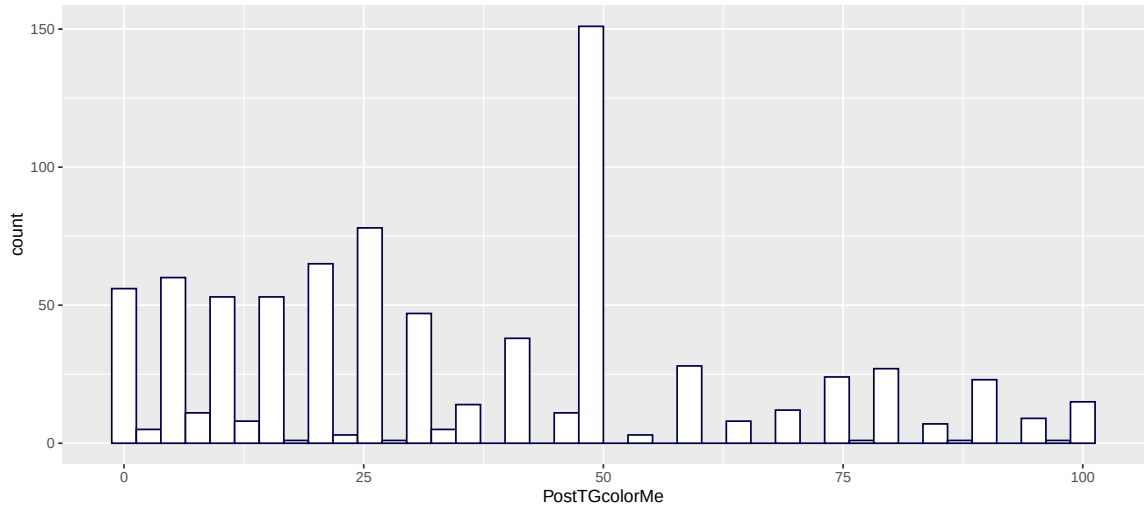

Figure V5
What do you think: How likely is it that your final color is purple?—What do you think: How likely is it that you became infected during the simulation?

```
 df %>%
ggplot(aes(PostTGcolorAll)) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=40)
```

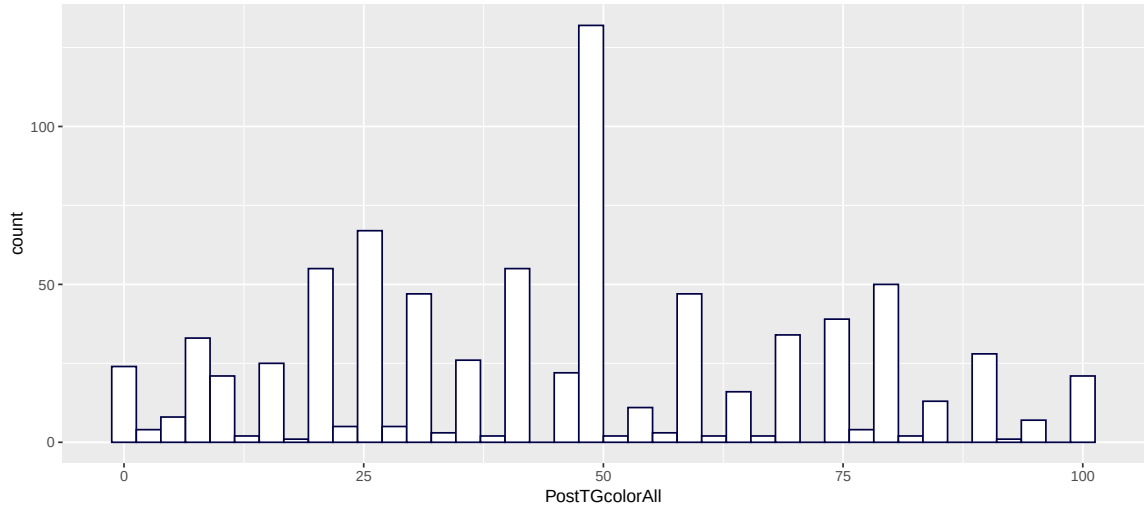

Figure V6

What do you think: How many players in your group are purple at the end of the game?—What do you think: How many players in your group are infected at the end of the simulation?

V3.2.3 Estimates of other players' choices

```
#Data preparation:

round<-c()
round[1:819]<-1
round[(819+1):(2*819)]<-5
round[(2*819+1):(3*819)]<-10
round[(3*819+1):(4*819)]<-15
round[(4*819+1):(5*819)]<-20
round[(5*819+1):(6*819)]<-25

participantID<-c()
participantID[1:819]<-1:819
participantID[(819+1):(2*819)]<-1:819
participantID[(2*819+1):(3*819)]<-1:819
participantID[(3*819+1):(4*819)]<-1:819
participantID[(4*819+1):(5*819)]<-1:819
participantID[(5*819+1):(6*819)]<-1:819



estimateH<-c()
estimateH[1:819] <-df$playersH_R01
```

```
estimateH[(819+1):(2*819)] <-df$playersH_R05
estimateH[(2*819+1):(3*819)] <-df$playersH_R10
estimateH[(3*819+1):(4*819)] <-df$playersH_R15
estimateH[(4*819+1):(5*819)] <-df$playersH_R20
estimateH[(5*819+1):(6*819)] <-df$playersH_R25



head (round)

## [1] 1 1 1 1 1 1

head (estimateH)

## [1] 17  9 24 10 84 50

head (participantID)

## [1] 1 2 3 4 5 6

lineFrameH<-data.frame(
  round,
  estimateH,
  participantID
)
```

Data preparation.

Estimates of number of H-choices. Participants were asked: "How many players in your group do you think chose action H (40 points) in each of the following rounds?" with estimates for rounds 1, 5, 10, 15, 20, and 25.

```
    lineFrameH %>%
    ggplot(aes(y = estimateH, x = round, group=round)) +
    geom_boxplot(color="red",width=1.5)  +
    theme(legend.position = "none")
```

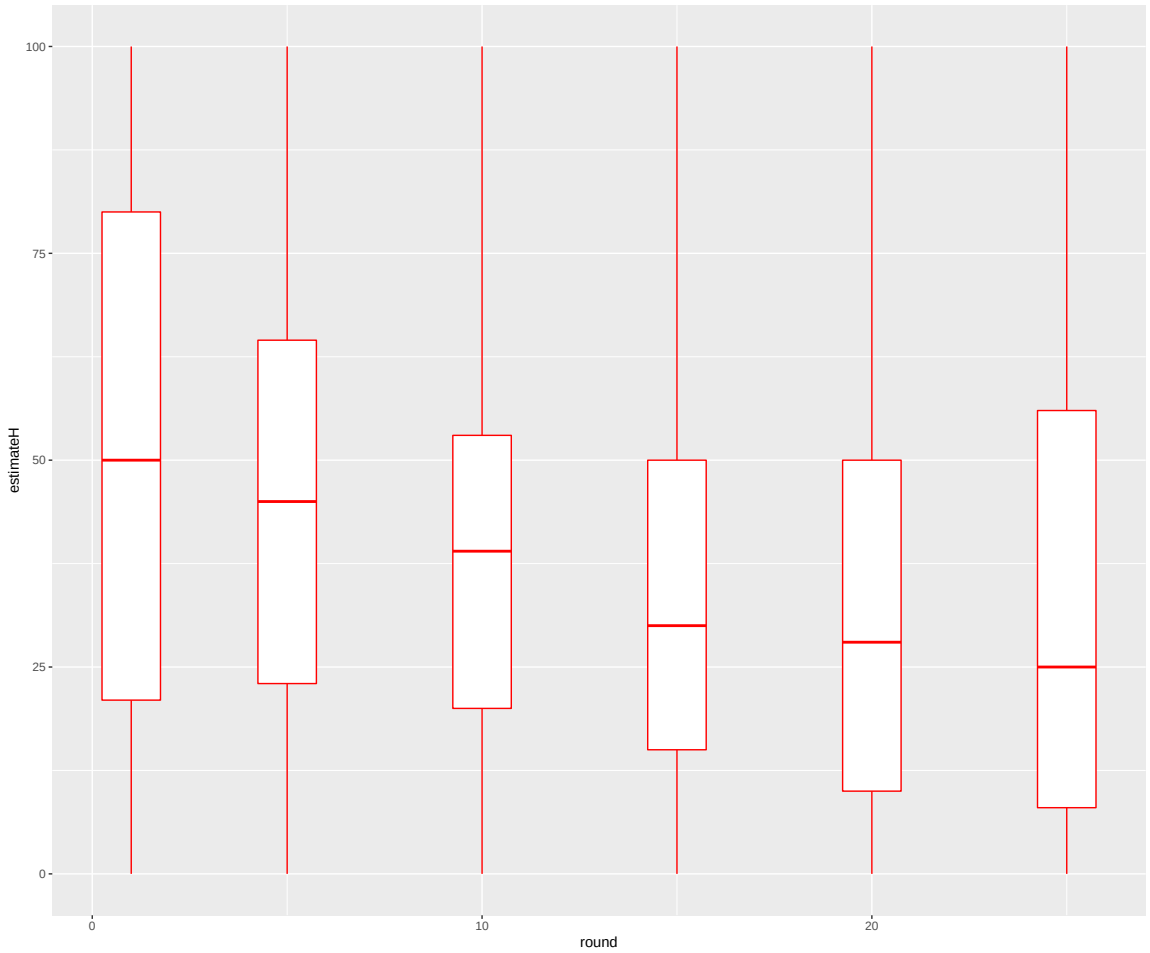

Figure V7
Estimates for the proportion of players choosing H: Boxplots

```
lineFrameH %>%
ggplot( aes(x=round, y=estimateH, group=participantID,
color=participantID)) +
scale_colour_viridis_c(option="magma")+
geom_line(position=position_jitter(w=0.1, h=0),alpha=0.4)+
theme(legend.position = "none")
```

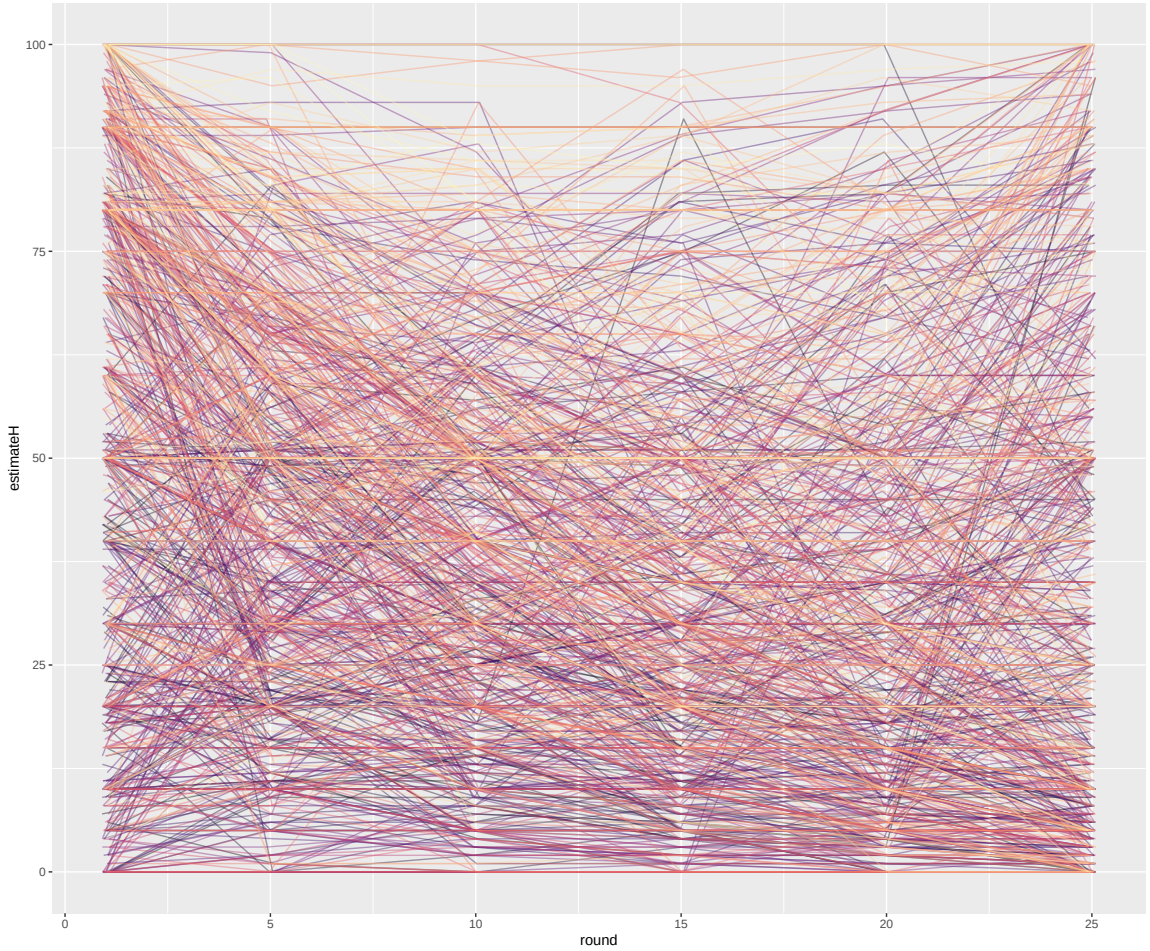

Figure V8
Estimates for the proportion of players choosing H: Individual lineplots

V3.2.4 Specific Postquestionnaire: Injunctive norms

Six questions were answered on a scale from 1–6: Strongly disagree—Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree.

- **PostIN1**: I liked the message.
- **PostIN2**: The message was easy to understand.
- **PostIN3**: The message influenced my decisions in the game.
- **PostIN4**: The message was a waste of my time.
- **PostIN5**: Without the message I would have tried to score more points (by choosing action H and 40 points more often).
- **PostIN6**: I would have chosen action H (40 points) less often, if I had not received this message.

```
    VarsPostIN <- c("AddPostInjunctive_1", "AddPostInjunctive_2",
    "AddPostInjunctive_3", "AddPostInjunctive_4",
    "AddPostInjunctive_5","AddPostInjunctive_6")

    FramePostIN <- df[VarsPostIN]

  FramePostIN <- FramePostIN %>%
    rename(
    PostIN1=AddPostInjunctive_1,PostIN2=AddPostInjunctive_2,
    PostIN3=AddPostInjunctive_3,PostIN4=AddPostInjunctive_4,
    PostIN5=AddPostInjunctive_5,PostIN6=AddPostInjunctive_6
    )

    FramePostIN[] <-data.matrix(FramePostIN)

 summary(FramePostIN)
```

```
##     PostIN1         PostIN2         PostIN3         PostIN4
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:4.000   1st Qu.:5.000   1st Qu.:4.000   1st Qu.:1.000
##  Median :5.000   Median :6.000   Median :5.000   Median :2.000
##  Mean   :4.805   Mean   :5.402   Mean   :4.443   Mean   :1.966
##  3rd Qu.:6.000   3rd Qu.:6.000   3rd Qu.:6.000   3rd Qu.:2.000
##  Max.   :6.000   Max.   :6.000   Max.   :6.000   Max.   :6.000
##  NA's   :408     NA's   :408     NA's   :408     NA's   :408
##     PostIN5         PostIN6
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :2.000
##  Mean   :2.893   Mean   :2.168
##  3rd Qu.:4.000   3rd Qu.:3.000
##  Max.   :6.000   Max.   :6.000
##  NA's   :408     NA's   :408
```

```
   pairs.panels(FramePostIN, smooth = TRUE, scale = FALSE,  digits = 2,
   method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,
   factor=2,breaks=40,hist.col="blue",show.points=FALSE,
   rug=FALSE,cex.cor=1,wt=NULL, stars=TRUE,
   ci=TRUE,alpha=.05)
```

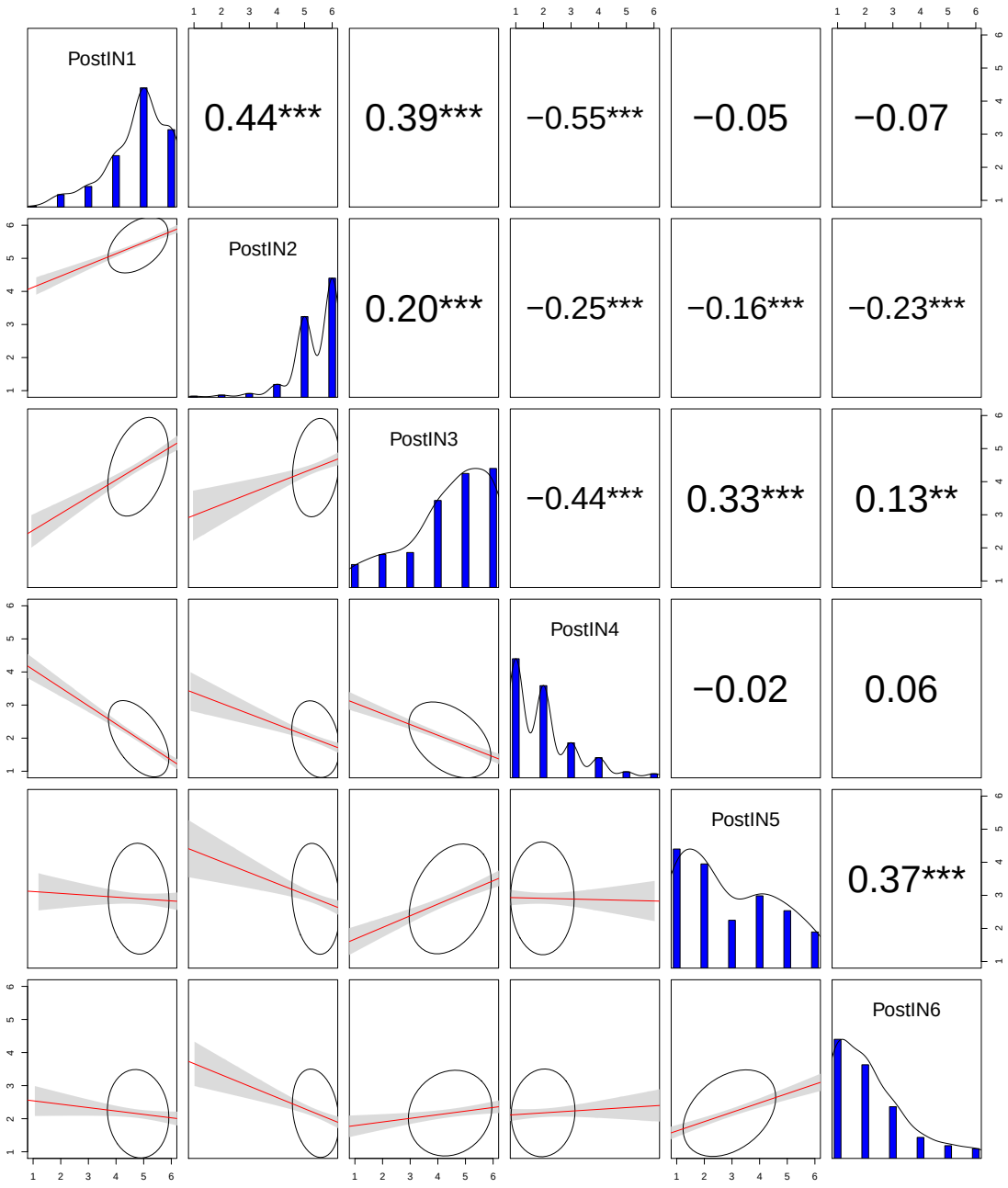

Figure V9
Post-questionnaire items Injunctive Norms

V3.2.5 Comparison of game and pandemic

During the simulation, did you make the connection between the structure of the simulation and the COVID-19/Corona virus situation?

```
ggplot(df, aes(x=connectionCovidDrawn))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)+
    coord_flip()
```

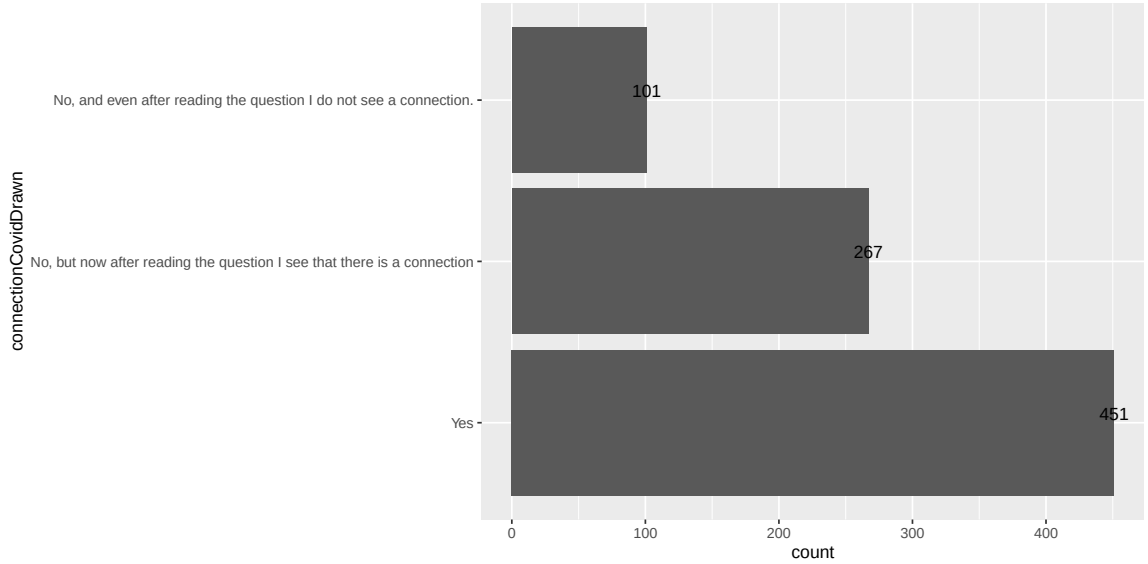

Figure V10
Connection with COVID-19 distribution

How comparable is the structure of the simulation to the structure of the COVID-19/Corona virus situation?

```
summary(df$comparableStructureCovid)

## Not at all comparable                     2                     3
##                    45                    55                    44
##                     4                     5                     6
##                   103                   214                   191
##      Fully comparable
##                   167
```

```
ggplot(df, aes(x=comparableStructureCovid))+
geom_bar(aes(y = ..count..), stat="count")+
```

```
    geom_text(aes( label = (..count..),
                   y= ..count.. ), stat= "count",  vjust = -0.25)+
     coord_flip()
```

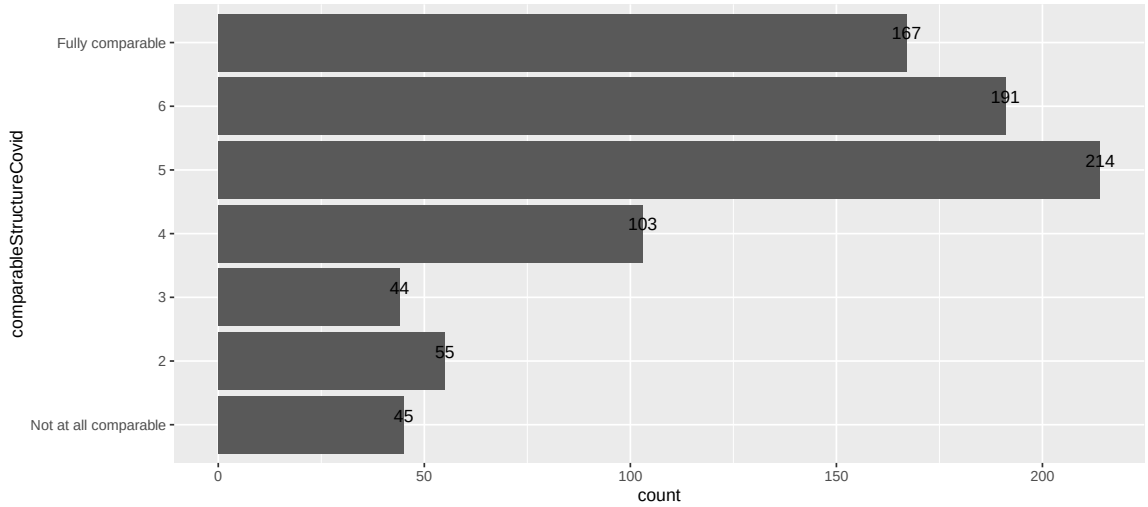

Figure V11
Comparability with COVID-19 distribution

V3.3 Politics and religion

V3.3.1 Voting

```
ggplot(df, aes(x=polVote))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

Responses.

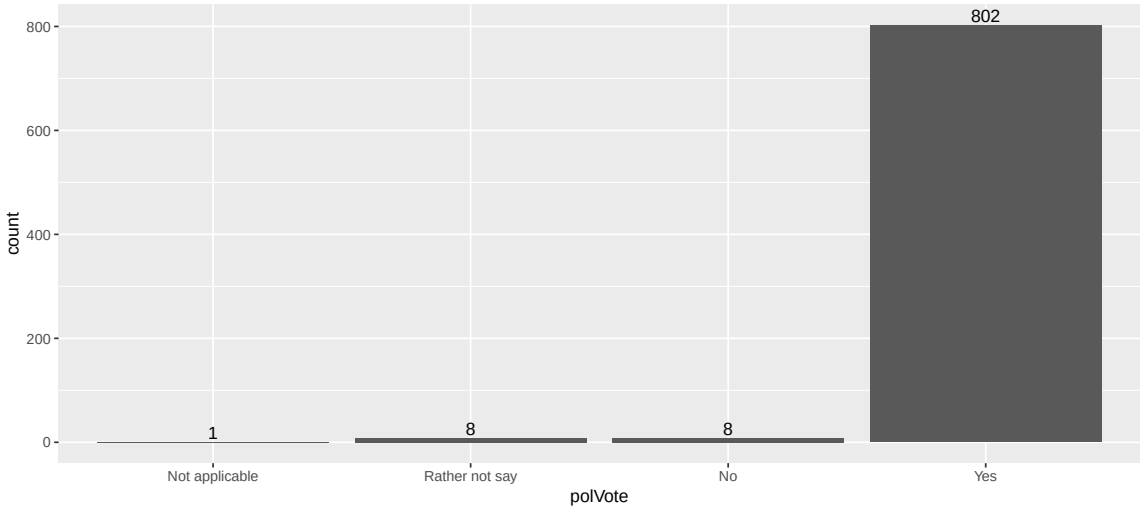

Figure V12
Are you currently registered to vote?

V3.3.2 Presidential candidates

```
polVars <- c("polCandScale_Trump", "polCandScale_Biden")
scoresCandidates <- df[polVars]

scoresCandidates <- scoresCandidates %>%
  rename(
     Trump=polCandScale_Trump,
     Biden=polCandScale_Biden
    )
summary(scoresCandidates)
```

```
##      Trump             Biden
##  Min.   :-100.00   Min.   :-100.000
##  1st Qu.:-100.00   1st Qu.: -60.000
##  Median : -75.00   Median :  13.000
##  Mean   : -27.42   Mean   :   6.607
##  3rd Qu.:  60.00   3rd Qu.:  77.000
##  Max.   : 100.00   Max.   : 100.000
```

```
  pairs.panels(scoresCandidates, smooth = TRUE, scale = FALSE,  digits = 2,
  method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,
  factor=2,breaks=15,hist.col="blue",show.points=TRUE,
```

```
  rug=FALSE,cex.cor=1,wt=NULL,stars=TRUE,
  ci=TRUE,alpha=.05)
```

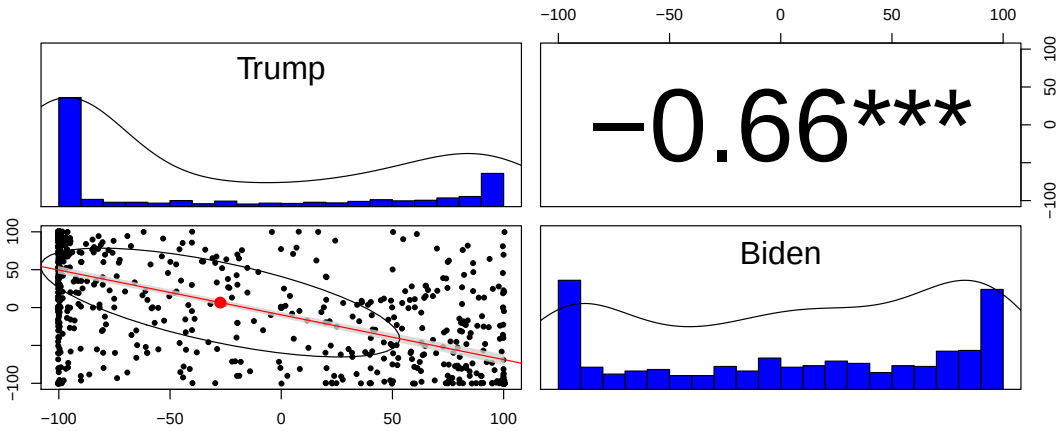

Figure V13
Please rate each candidate individually according to how you would feel if they were elected in 2020

Responses.

V3.3.3 Feeelings about people and political groups

```
pplVars <- c("Feel_QAnon", "Feel_Antifa","Feel_BBarr",
          "Feel_AOcasio_Cortez","Feel_BLM")
scoresPeople <- df[pplVars]

scoresPeople <- scoresPeople %>%
  rename(
     QAnon=Feel_QAnon,
     Antifa=Feel_Antifa,
     BillBarr=Feel_BBarr,
     AOC=Feel_AOcasio_Cortez,
     BLM=Feel_BLM
    )
summary(scoresPeople)

##      QAnon             Antifa            BillBarr           AOC
##  Min.   :-50.00   Min.   :-50.000   Min.   :-50.00   Min.   :-50.000
##  1st Qu.:-50.00   1st Qu.:-48.000   1st Qu.:-42.00   1st Qu.:-18.000
```

```
##  Median :-10.00   Median : -6.000   Median :  0.00   Median : 13.000
##  Mean   :-17.09   Mean   : -9.747   Mean   :-11.12   Mean   :  8.424
##  3rd Qu.:  0.00   3rd Qu.: 14.000   3rd Qu.:  3.00   3rd Qu.: 40.500
##  Max.   : 50.00   Max.   : 50.000   Max.   : 50.00   Max.   : 50.000
##       BLM
##  Min.   :-50.00
##  1st Qu.:-20.00
##  Median : 25.00
##  Mean   : 12.47
##  3rd Qu.: 45.00
##  Max.   : 50.00
```

```
pairs.panels(scoresPeople, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,
factor=2,breaks=15,hist.col="blue",show.points=FALSE,
rug=FALSE,cex.cor=1,wt=NULL,stars=TRUE,
ci=TRUE,alpha=.05)
```

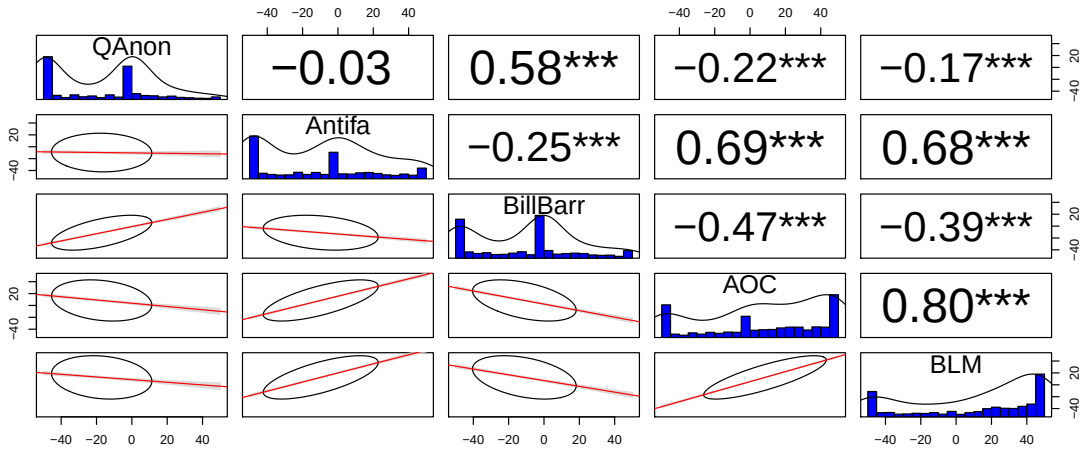

Figure V14
How positive or negative are your feelings regarding the following groups or persons?

Responses.

V3.3.4 Political position

```
ggplot(df, aes(x=polPosition))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
```

```
                    y= ..count.. ), stat= "count",  vjust = -0.25)
```

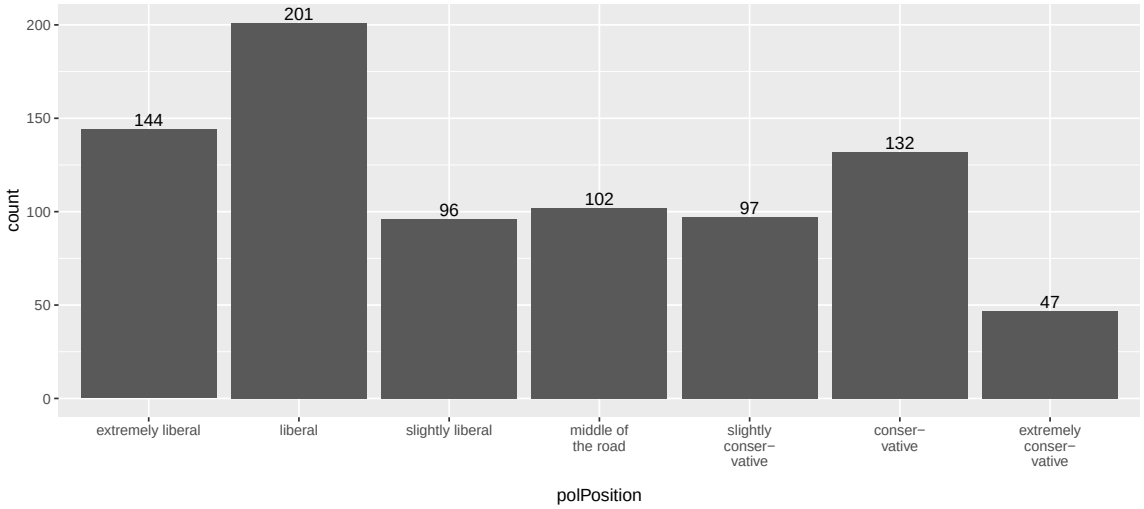

Figure V15
When it comes to politics, do you usually think of yourself as extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, extremely conservative?

V3.3.5 Political party

```
ggplot(df, aes(x=polParty1))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

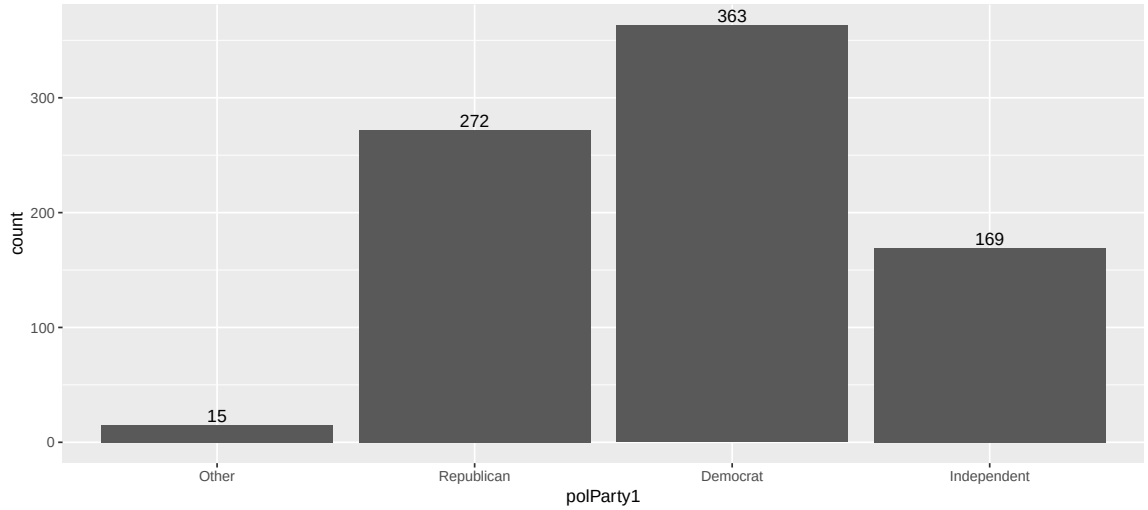

Figure V16
Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?

V3.3.6 Religion

```
ggplot(df, aes(x=religion1))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)+
    coord_flip()
```

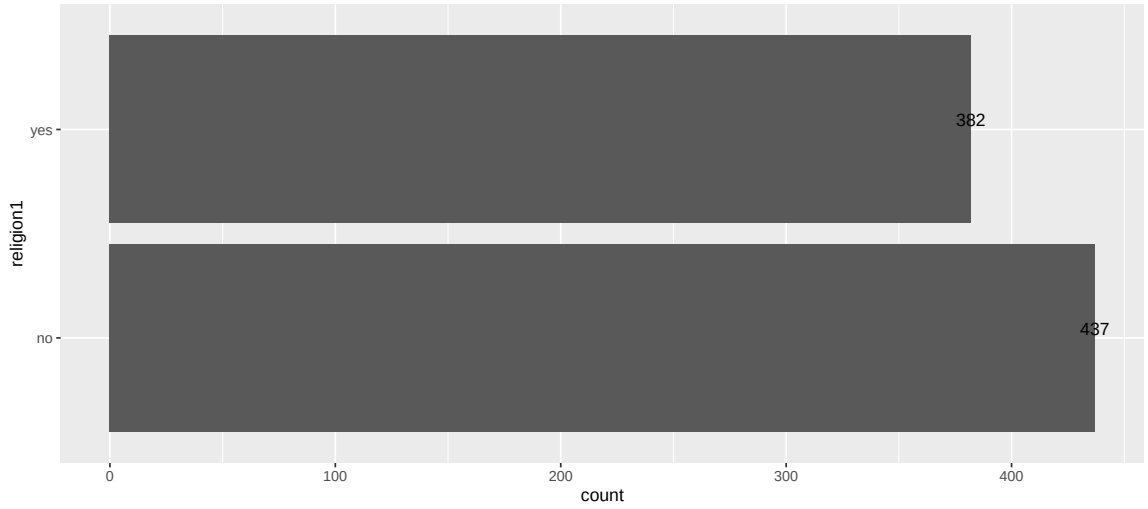

Figure V17
Do you consider religion to be an important part of your life?

V3.4 Other single-item measures

V3.4.1 General Risk Taking

Source. The general risk question has been used in the German Socio-Economic Panel (SOEP), and has been demonstrated to predict actual risky behavior (Dohmen et al., 2011).

```
ggplot(df, aes(x=RTGeneral))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

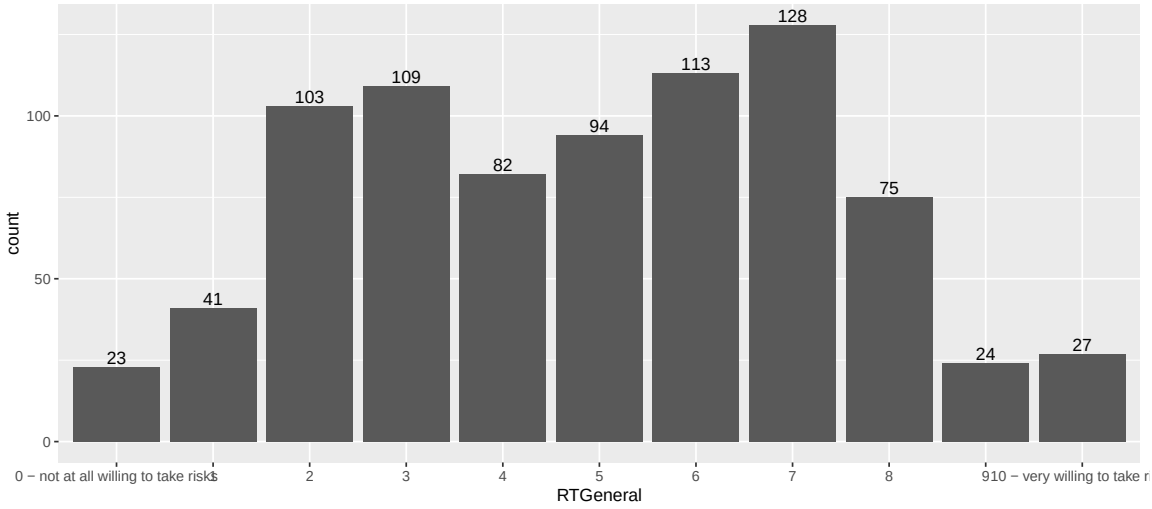

Figure V18
Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

```
summary(as.numeric(df$RTGeneral)-1)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   3.000   5.000   4.923   7.000  10.000
```

Responses.

V3.4.2 Vaccination attitude

```
ggplot(df, aes(x=Vaccination))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

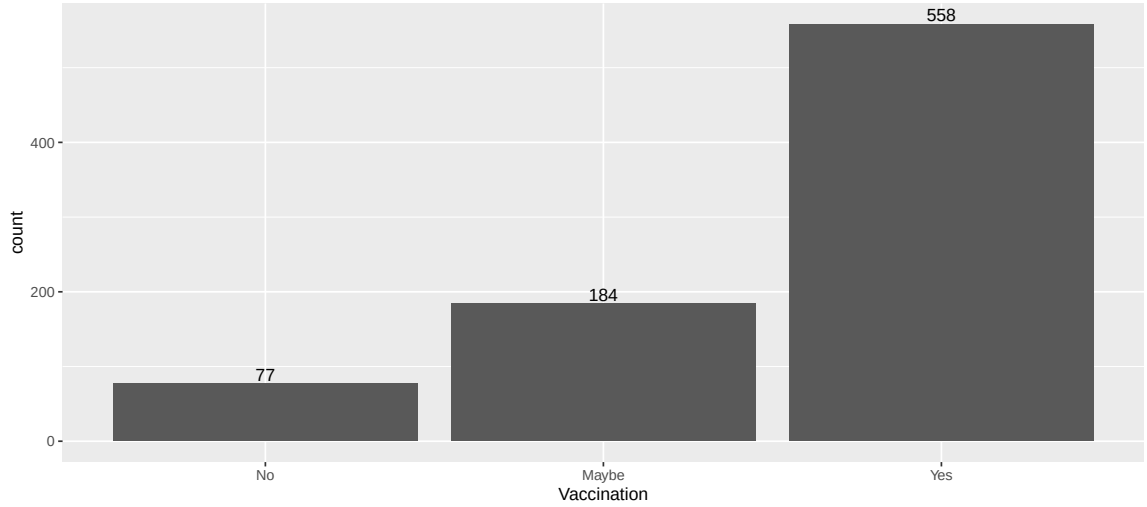

Figure V19
If a vaccine is developed for COVID-19 that is considered medically safe, would you be willing to be vaccinated?

Responses.

V4 Game scores and variables

V4.1 Comprehension checks

```
cctgVars <- c("CCtgi01", "CCtgi02", "CCtgi03",
                  "CCtgi04","CCtgi05","CCtgi06","CCtgi07",
                  "CCtgi08", "CCtgi09","CCtgi10","CCtgi11",
                  "CCtgi12","CCtgi13", "CCtgi14","CCtgi15",
                  "CCtgi16" )


comprehensionTGframe <- df[cctgVars]

 summary(comprehensionTGframe)
```

```
##     CCtgi01           CCtgi02           CCtgi03          CCtgi04
##  Min.   : 0.0000   Min.   :0.000000   Min.   : 0.000   Min.   :0.00000
##  1st Qu.: 0.0000   1st Qu.:0.000000   1st Qu.: 0.000   1st Qu.:0.00000
```

```
##  Median : 0.0000   Median :0.000000   Median : 0.000   Median :0.00000
##  Mean   : 0.2418   Mean   :0.006105   Mean   : 0.127   Mean   :0.04762
##  3rd Qu.: 0.0000   3rd Qu.:0.000000   3rd Qu.: 0.000   3rd Qu.:0.00000
##  Max.   :16.0000   Max.   :2.000000   Max.   :16.000   Max.   :3.00000
##     CCtgi05          CCtgi06          CCtgi07           CCtgi08
##  Min.   :0.0000   Min.   :0.0000   Min.   :0.00000   Min.   : 0.0000
##  1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.00000   1st Qu.: 0.0000
##  Median :0.0000   Median :0.0000   Median :0.00000   Median : 0.0000
##  Mean   :0.0696   Mean   :0.4689   Mean   :0.02564   Mean   : 0.1013
##  3rd Qu.:0.0000   3rd Qu.:1.0000   3rd Qu.:0.00000   3rd Qu.: 0.0000
##  Max.   :4.0000   Max.   :8.0000   Max.   :2.00000   Max.   :10.0000
##     CCtgi09          CCtgi10          CCtgi11          CCtgi12
##  Min.   :0.0000   Min.   :0.0000   Min.   :0.0000   Min.   :0.0000
##  1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000
##  Median :0.0000   Median :0.0000   Median :0.0000   Median :0.0000
##  Mean   :0.4029   Mean   :0.2234   Mean   :0.1758   Mean   :0.2063
##  3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000
##  Max.   :7.0000   Max.   :7.0000   Max.   :8.0000   Max.   :7.0000
##     CCtgi13          CCtgi14          CCtgi15          CCtgi16
##  Min.   :0.0000   Min.   :0.0000   Min.   :0.0000   Min.   :0.0000
##  1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000
##  Median :0.0000   Median :0.0000   Median :0.0000   Median :0.0000
##  Mean   :0.2271   Mean   :0.3223   Mean   :0.1795   Mean   :0.1783
##  3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000
##  Max.   :8.0000   Max.   :8.0000   Max.   :7.0000   Max.   :9.0000
```

```
 scaleComprehensionTG=scoreItems(keys=c(1,1,1,1,1,1,
                                1,1,1,1,1,1,1,1,1,1),
                     items=comprehensionTGframe,totals=TRUE)

print(scaleComprehensionTG)
```

```
## Call: scoreItems(keys = c(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
##     1, 1), items = comprehensionTGframe, totals = TRUE)
##
## (Unstandardized) Alpha:
##       Scale1
## alpha   0.59
##
## Standard errors of unstandardized Alpha:
##       Scale1
## ASE    0.024
##
## Average item correlation:
##           Scale1
```

```
## average.r  0.082
##
## Median item correlation:
## Scale1
##  0.066
##
##  Guttman 6* reliability:
##          Scale1
## Lambda.6   0.62
##
## Signal/Noise based upon av.r :
##              Scale1
## Signal/Noise    1.4
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##        Scale1
## Scale1   0.59
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scaleComprehensionTG$scores)
```

```
##      Scale1
##  Min.   : 0.000
##  1st Qu.: 0.000
##  Median : 1.000
##  Mean   : 3.004
##  3rd Qu.: 4.000
##  Max.   :24.000
```

```
df %>%
  ggplot(aes(scaleComprehensionTG$scores)) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=25)
```

V4.2 Game score and decisions by round

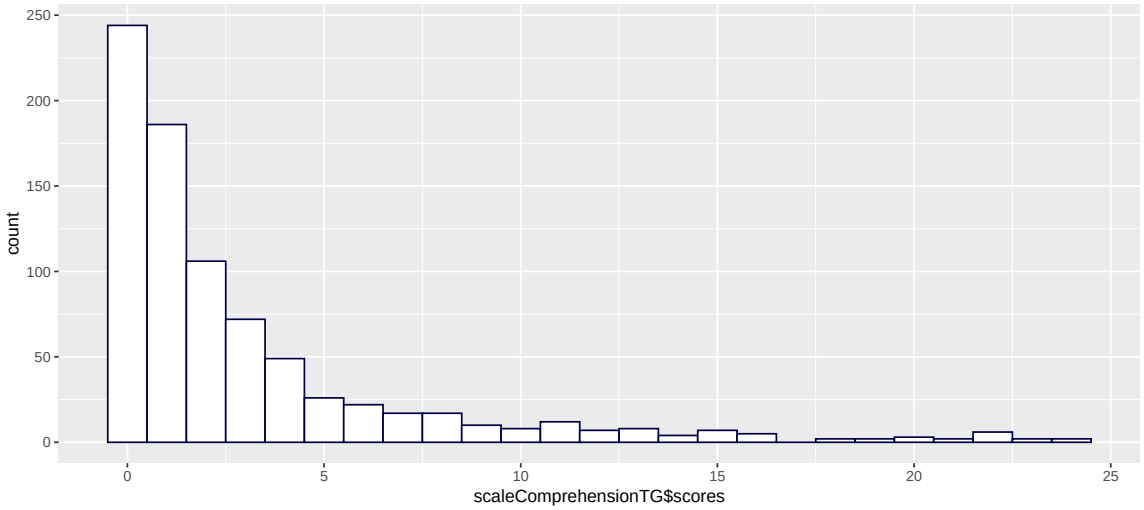

Figure V20
Comprehension check errors: distribution

```
scaleVarsTG <- c("TG_R01Choice", "TG_R02Choice", "TG_R03Choice",
                 "TG_R04Choice", "TG_R05Choice", "TG_R06Choice", "TG_R07Choice",
                 "TG_R08Choice", "TG_R09Choice", "TG_R10Choice", "TG_R11Choice",
                 "TG_R12Choice", "TG_R13Choice", "TG_R14Choice", "TG_R15Choice",
                 "TG_R16Choice", "TG_R17Choice", "TG_R18Choice", "TG_R19Choice",
                 "TG_R20Choice", "TG_R21Choice", "TG_R22Choice", "TG_R23Choice",
                 "TG_R24Choice", "TG_R25Choice"
)

scaleFrameTG <- df[scaleVarsTG]

  remove(scaleVarsTG)


scaleFrameTG <- scaleFrameTG %>%
  rename(
    R01=TG_R01Choice,R02=TG_R02Choice,R03=TG_R03Choice,
    R04=TG_R04Choice,R05=TG_R05Choice,R06=TG_R06Choice,
    R07=TG_R07Choice,R08=TG_R08Choice,R09=TG_R09Choice,
    R10=TG_R10Choice,R11=TG_R11Choice,R12=TG_R12Choice,
    R13=TG_R13Choice,R14=TG_R14Choice,R15=TG_R15Choice,
    R16=TG_R16Choice,R17=TG_R17Choice,R18=TG_R18Choice,
    R19=TG_R19Choice,R20=TG_R20Choice,R21=TG_R21Choice,
    R22=TG_R22Choice,R23=TG_R23Choice,R24=TG_R24Choice,
    R25=TG_R25Choice
  )
```

```
  scaleFrameTG[] <-data.matrix(scaleFrameTG)



  scaleTG=scoreItems(keys=c(1,1,1,1,1,1,1,1,1,1,
                            1,1,1,1,1,1,1,1,1,1,
                            1,1,1,1,1 ),
                     items =scaleFrameTG,totals=TRUE)


  #categories are scored 1 for 8 points and 2 for 40 points
  scoresTG<-data.frame(8*25+(scaleTG$scores-25)*32)



  summary(scoresTG)
```

```
##      Scale1
##  Min.   : 200
##  1st Qu.: 200
##  Median : 264
##  Mean   : 382
##  3rd Qu.: 488
##  Max.   :1000
```

```
  head(scoresTG)
```

```
##   Scale1
## 1    200
## 2    200
## 3    200
## 4    200
## 5    296
## 6    360
```

```
  scale_meanTG =summarise_all(scoresTG,mean)
  TGdf=data.frame(scale_mean=t(summarise_all(scoresTG,mean)),
                  key=names(scoresTG))



    roundwiseTG=pivot_longer(
```

```
      cols=starts_with("R"),
      data=scaleFrameTG,
      names_to="Round",
      names_prefix="R"
    )




  roundwiseTG <- roundwiseTG %>%
    mutate(partic=rep(seq(from=1,to=819),each=25),
           condition=rep(df$conditionShortName, each=25),
           label=rep(df$PID, each=25))


  roundwiseTG$Round <- as.numeric(roundwiseTG$Round)

  head(roundwiseTG)
```

```
## # A tibble: 6 x 3
##   Round value partic
##   <dbl> <int>  <int>
## 1     1     1      1
## 2     2     1      1
## 3     3     1      1
## 4     4     1      1
## 5     5     1      1
## 6     6     1      1
```

```
  plotdata= roundwiseTG %>%
    group_by(Round) %>%
    summarize(counted=(sum(value)-819)/8.19,
              CIlower=100*prop.test(sum(value)-819, 819)$conf.int[1],
              CIupper=100*prop.test(sum(value)-819, 819)$conf.int[2])
```

```
## `summarise()` ungrouping output (override with `.groups` argument)
```

```
  plotdata
```

```
## # A tibble: 25 x 4
##    Round counted CIlower CIupper
##    <dbl>   <dbl>   <dbl>   <dbl>
##  1     1    36.6    33.3    40.0
##  2     2    33.1    29.9    36.4
##  3     3    31.1    28.0    34.5
##  4     4    28.2    25.2    31.4
```

```
##  5     5    27.1    24.1    30.3
##  6     6    22.8    20.0    25.9
##  7     7    24.4    21.5    27.5
##  8     8    22.3    19.6    25.4
##  9     9    23.2    20.4    26.3
## 10    10    23.0    20.1    26.0
## # ... with 15 more rows
```

```
  scoresTG %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=2) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=26)
```

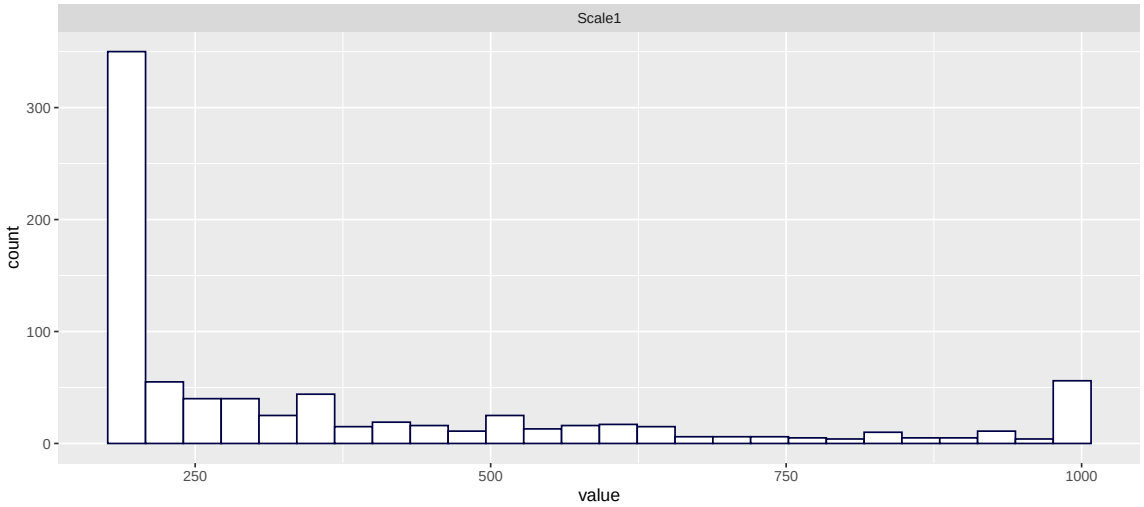

Figure V21
Final game score (distribution)

```
ggplot(plotdata, aes(x = Round, y = counted)) +
ylim(0,100) +
ylab("Percentage of H-choices")+
geom_line(color="grey75") +
geom_linerange(aes(ymax = CIupper, ymin = CIlower),color="grey45",size=1.5)+
geom_point(size = 1,color="blue")
```

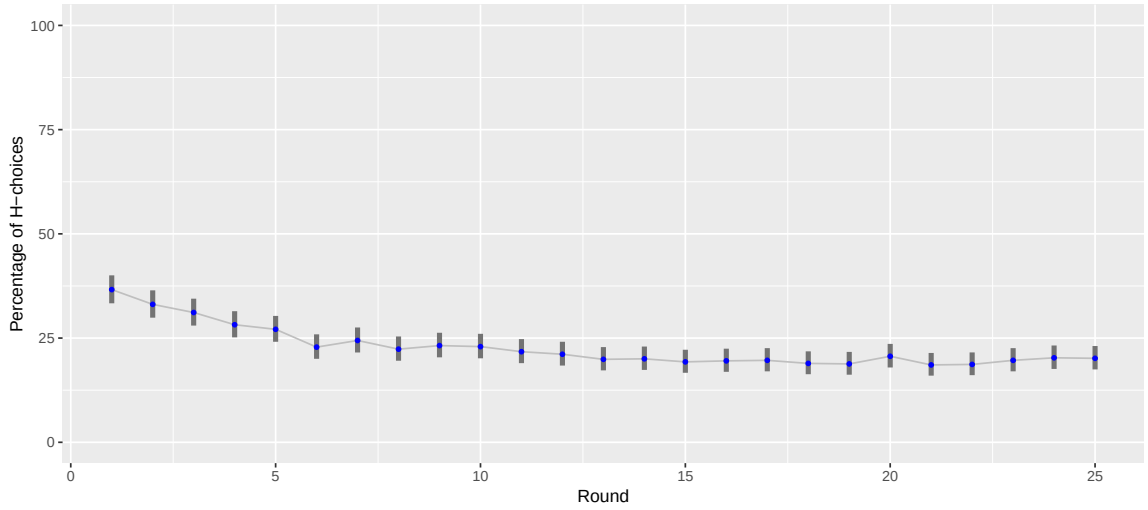

Figure V22
Percentage H-choices by round

V5 Scales without subscales

V5.1 Collective Narcissism

V5.1.1 Source

The five-item Collective narcissism scale was adapted from de Zavala et al. (2009). Responses were given on an 6-point scale: I strongly disagree 1—2—3—4—5—I strongly agree 6.

V5.1.2 Items

Please read each statement and decide how much you agree or disagree with that statement.

- **CN1+**: The United States deserves special treatment.
- **CN2+**: Not many people seem to fully understand the importance of the United States.
- **CN3+**: It really makes me angry when others criticize the United States.
- **CN4+**: If the United States had a major say in the world, the world would be a much better place.
- **CN5+**: I will never be satisfied until the United States gets the recognition it deserves.

V5.1.3 Item preparation

```
  collNarcVars <- c("CollNarc01", "CollNarc02", "CollNarc03",
                    "CollNarc04", "CollNarc05")


  collNarcFrame <- df[collNarcVars]
  remove(collNarcVars)

  collNarcFrame[] <-data.matrix(collNarcFrame)


  head(collNarcFrame)
```

```
##   CollNarc01 CollNarc02 CollNarc03 CollNarc04 CollNarc05
## 1          2          2          2          2          2
## 2          2          5          4          2          2
## 3          2          3          1          2          2
## 4          1          1          1          1          1
## 5          2          5          5          4          2
## 6          4          4          4          4          4
```

```
  summary(collNarcFrame)
```

```
##    CollNarc01      CollNarc02     CollNarc03      CollNarc04      CollNarc05
##  Min.   :1.000   Min.   :1.00   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.00   1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :2.00   Median :2.000   Median :2.000   Median :2.000
##  Mean   :2.399   Mean   :2.74   Mean   :2.713   Mean   :2.703   Mean   :2.338
##  3rd Qu.:4.000   3rd Qu.:4.00   3rd Qu.:4.000   3rd Qu.:4.000   3rd Qu.:3.000
##  Max.   :6.000   Max.   :6.00   Max.   :6.000   Max.   :6.000   Max.   :6.000
```

V5.1.4 Item histograms

```
collNDF=data.frame(scale_mean=t(summarise_all(collNarcFrame,mean)),
         key=names(collNarcFrame))

 collNarcFrame %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=3) +
        geom_histogram(aes(y =..count..), color="#000044",
               fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),collNDF,col='red',
        linetype = "dashed",size=1)
```

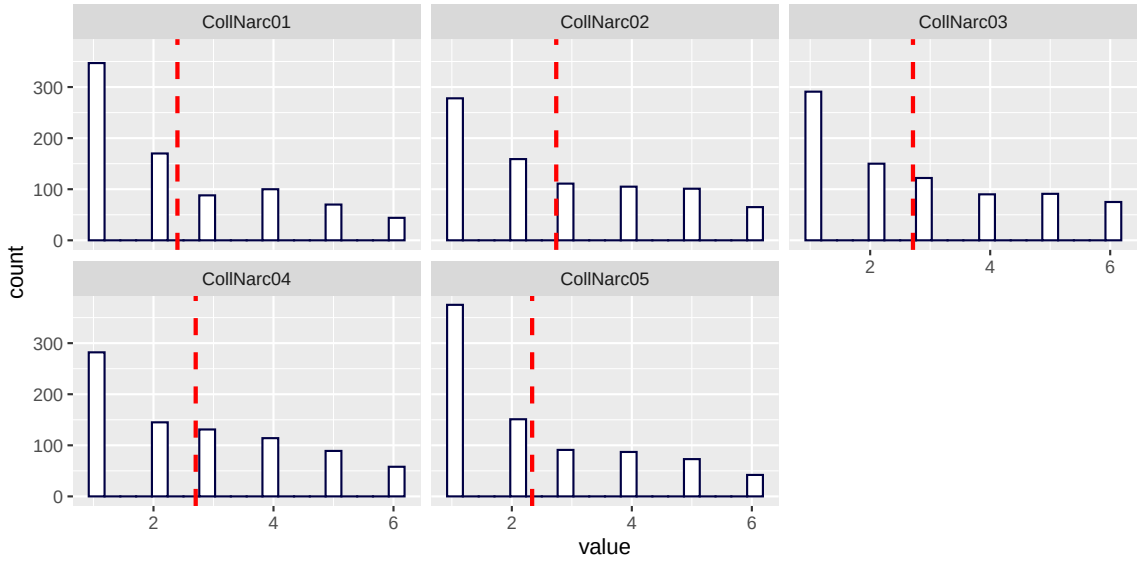

Figure V23
Collective narcissism: Item histograms with marked means

V5.1.5 Inter-correlations

```
corPlot(collNarcFrame,numbers=TRUE,diag=FALSE,
main="Collective narcissism",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

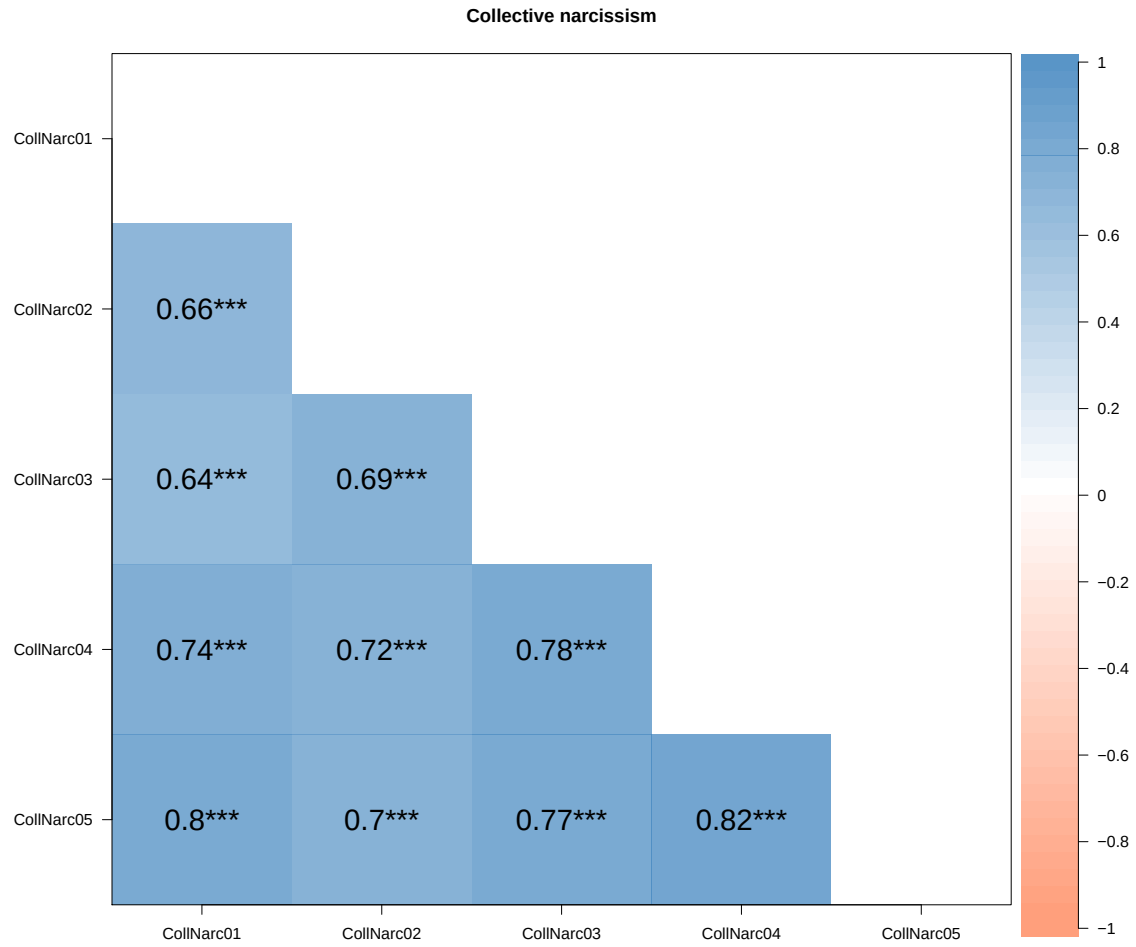

Figure V24
Collective narcissism items: Inter-correlations

V5.1.6 Scale statistics

```
weightsCollNarc <-list(collNarc=c("CollNarc01", "CollNarc02", "CollNarc03",
                        "CollNarc04", "CollNarc05"))

 scoresCollNarc=scoreItems(items=collNarcFrame,
                    keys=weightsCollNarc)

 print(scoresCollNarc)

## Call: scoreItems(keys = weightsCollNarc, items = collNarcFrame)
##
```

```
## (Unstandardized) Alpha:
##       collNarc
## alpha     0.93
##
## Standard errors of unstandardized Alpha:
##       collNarc
## ASE      0.015
##
## Average item correlation:
##           collNarc
## average.r     0.73
##
## Median item correlation:
## collNarc
##     0.73
##
##  Guttman 6* reliability:
##          collNarc
## Lambda.6     0.92
##
## Signal/Noise based upon av.r :
##              collNarc
## Signal/Noise       14
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##          collNarc
## collNarc     0.93
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scoresCollNarc$scores)
```

```
##     collNarc
##  Min.   :1.000
##  1st Qu.:1.200
##  Median :2.200
##  Mean   :2.579
##  3rd Qu.:3.600
##  Max.   :6.000
```

```
head(scoresCollNarc$scores)
```

```
##      collNarc
```

```
## [1,]      2.0
## [2,]      3.0
## [3,]      2.0
## [4,]      1.0
## [5,]      3.6
## [6,]      4.0
```

V5.1.7 Scale value histogram

```
scoresCNFrame=data.frame(
    collectiveNarcissism=scoresCollNarc$scores
  )


sumCN=data.frame(scale_mean=t(summarise_all(scoresCNFrame,mean)),
                   key=names(scoresCNFrame))

scoresCNFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               sumCN,col='red', linetype = "dashed",size=1)
```

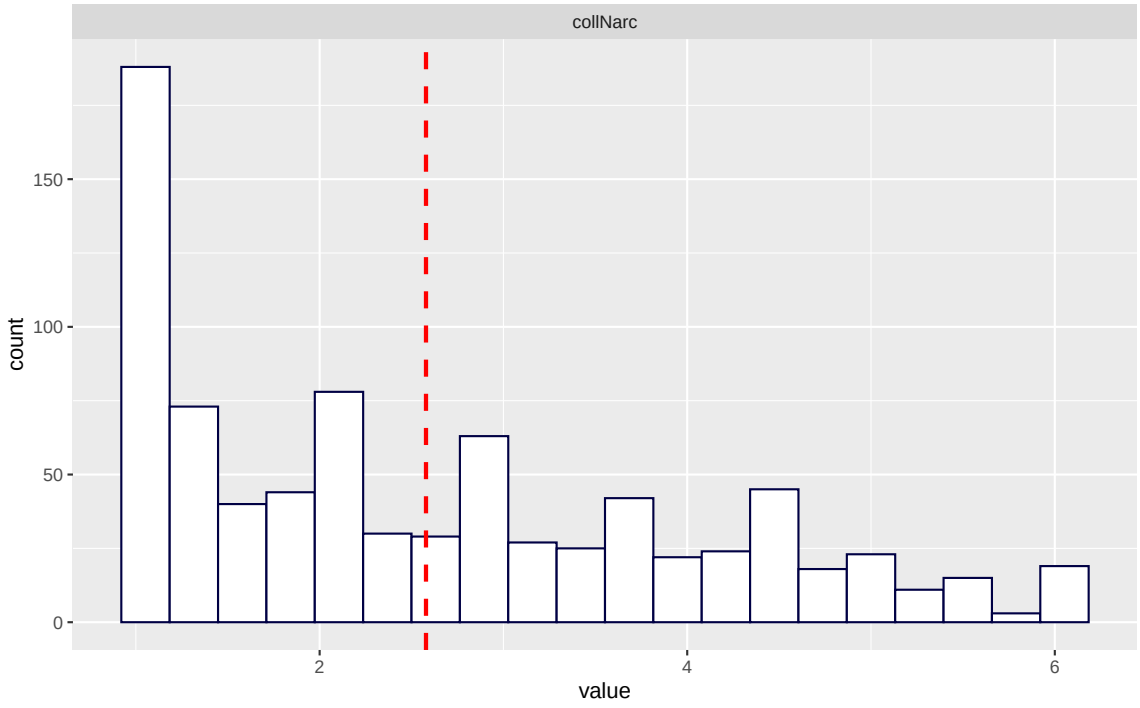

Figure V25
Collective narcissism: histogram of scores

V5.2 Social Value Orientation

V5.2.1 Source

Participants completed the six-item version of the ring measure of social value orientation (Murphy et al., 2011).

V5.2.2 Item preparation

```
 scaleVarsSVO <- c("SVO1_1", "SVO2_1", "SVO3_1",
"SVO4_1", "SVO5_1","SVO6_1" )

scaleFrameSVO <- df[scaleVarsSVO]

scaleFrameSVO$SVO1_1 <-  as.numeric(scaleFrameSVO$SVO1_1)
scaleFrameSVO$SVO2_1 <-  as.numeric(scaleFrameSVO$SVO2_1)
scaleFrameSVO$SVO3_1 <-  as.numeric(scaleFrameSVO$SVO3_1)
scaleFrameSVO$SVO4_1 <-  as.numeric(scaleFrameSVO$SVO4_1)
scaleFrameSVO$SVO5_1 <-  as.numeric(scaleFrameSVO$SVO5_1)
scaleFrameSVO$SVO6_1 <-  as.numeric(scaleFrameSVO$SVO6_1)

scaleFrameSVO$SVO1self <- dplyr::recode(scaleFrameSVO$SVO1_1,
```

```
      .default=85)
 scaleFrameSVO$SVO1other <- dplyr::recode(scaleFrameSVO$SVO1_1,
      "1"=85,"2"=76,"3"=68,"4"=59,"5"=50, "6"=41,"7"=33,
      "8"=24,"9"=15)

 scaleFrameSVO$SVO2self <- dplyr::recode(scaleFrameSVO$SVO2_1,
    "1"=85,"2"=87,"3"=89,"4"=91,"5"=93,"6"=94,"7"=96,
    "8"=98,"9"=100)
 scaleFrameSVO$SVO2other <- dplyr::recode(scaleFrameSVO$SVO2_1,
      "1"=15,"2"=19,"3"=24,"4"=28,"5"=33, "6"=37,"7"=41,
      "8"=46,"9"=50)

scaleFrameSVO$SVO3self <- dplyr::recode(scaleFrameSVO$SVO3_1,
    "1"=50,"2"=54,"3"=59,"4"=63,"5"=68,"6"=72,"7"=76,
    "8"=81,"9"=85)
 scaleFrameSVO$SVO3other <- dplyr::recode(scaleFrameSVO$SVO3_1,
      "1"=100,"2"=98,"3"=96,"4"=94,"5"=93, "6"=91,"7"=89,
      "8"=87,"9"=85)

scaleFrameSVO$SVO4self <- dplyr::recode(scaleFrameSVO$SVO4_1,
    "1"=50,"2"=54,"3"=59,"4"=63,"5"=68,"6"=72,"7"=76,
    "8"=81,"9"=85)
 scaleFrameSVO$SVO4other <- dplyr::recode(scaleFrameSVO$SVO4_1,
      "1"=100,"2"=89,"3"=79,"4"=68,"5"=58, "6"=47,"7"=36,
      "8"=26,"9"=15)

 scaleFrameSVO$SVO5self <- dplyr::recode(scaleFrameSVO$SVO5_1,
    "1"=100,"2"=94,"3"=88,"4"=81,"5"=75,"6"=69,"7"=63,
    "8"=56,"9"=50)
 scaleFrameSVO$SVO5other <- dplyr::recode(scaleFrameSVO$SVO5_1,
      "1"=50,"2"=56,"3"=63,"4"=69,"5"=75, "6"=81,"7"=88,
      "8"=94,"9"=100)

 scaleFrameSVO$SVO6self <- dplyr::recode(scaleFrameSVO$SVO6_1,
    "1"=100,"2"=98,"3"=96,"4"=94,"5"=93,"6"=91,"7"=89,
    "8"=87,"9"=85)
 scaleFrameSVO$SVO6other <- dplyr::recode(scaleFrameSVO$SVO6_1,
      "1"=50,"2"=54,"3"=59,"4"=63,"5"=68, "6"=72,"7"=76,
      "8"=81,"9"=85)

 scaleFrameSVO = subset(scaleFrameSVO,
      select=-c(SVO1_1,SVO2_1,SVO3_1,SVO4_1,SVO5_1,SVO6_1)
      )
```

```
   scaleFrameSVO[] <-data.matrix(scaleFrameSVO)

weightsSVO <-list(sclSVOself=c("SVO1self","SVO2self","SVO3self",
        "SVO4self","SVO5self","SVO6self"),
    sclSVOother=c("SVO1other","SVO2other","SVO3other","SVO4other",
        "SVO5other","SVO6other")
)

summary(scaleFrameSVO)
```

```
##     SVO1self    SVO1other        SVO2self        SVO2other        SVO3self
##  Min.   :85   Min.   :15.00   Min.   : 85.00   Min.   :15.00   Min.   :50
##  1st Qu.:85   1st Qu.:85.00   1st Qu.:100.00   1st Qu.:50.00   1st Qu.:85
##  Median :85   Median :85.00   Median :100.00   Median :50.00   Median :85
##  Mean   :85   Mean   :77.48   Mean   : 99.06   Mean   :47.82   Mean   :82
##  3rd Qu.:85   3rd Qu.:85.00   3rd Qu.:100.00   3rd Qu.:50.00   3rd Qu.:85
##  Max.   :85   Max.   :85.00   Max.   :100.00   Max.   :50.00   Max.   :85
##    SVO3other        SVO4self      SVO4other        SVO5self
##  Min.   : 85.00   Min.   :50.0   Min.   : 15.00   Min.   : 50.00
##  1st Qu.: 85.00   1st Qu.:63.0   1st Qu.: 36.00   1st Qu.: 75.00
##  Median : 85.00   Median :68.0   Median : 58.00   Median : 75.00
##  Mean   : 86.32   Mean   :68.8   Mean   : 54.77   Mean   : 82.21
##  3rd Qu.: 85.00   3rd Qu.:76.0   3rd Qu.: 68.00   3rd Qu.:100.00
##  Max.   :100.00   Max.   :85.0   Max.   :100.00   Max.   :100.00
##    SVO5other        SVO6self       SVO6other
##  Min.   : 50.00   Min.   : 85.00   Min.   :50.00
##  1st Qu.: 50.00   1st Qu.: 85.00   1st Qu.:63.00
##  Median : 75.00   Median : 85.00   Median :85.00
##  Mean   : 67.86   Mean   : 89.47   Mean   :74.65
##  3rd Qu.: 75.00   3rd Qu.: 94.00   3rd Qu.:85.00
##  Max.   :100.00   Max.   :100.00   Max.   :85.00
```

V5.2.3 Item histograms

```
 SVOdf=data.frame(scale_mean=t(summarise_all(scaleFrameSVO,mean)),
         key=names(scaleFrameSVO))

 scaleFrameSVO %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=4) +
        geom_histogram(aes(y =..count..), color="#000044",
               fill="white",bins=20)+
```

```
        geom_vline(aes(xintercept =scale_mean),SVOdf,col='red',
        linetype = "dashed",size=1)
```

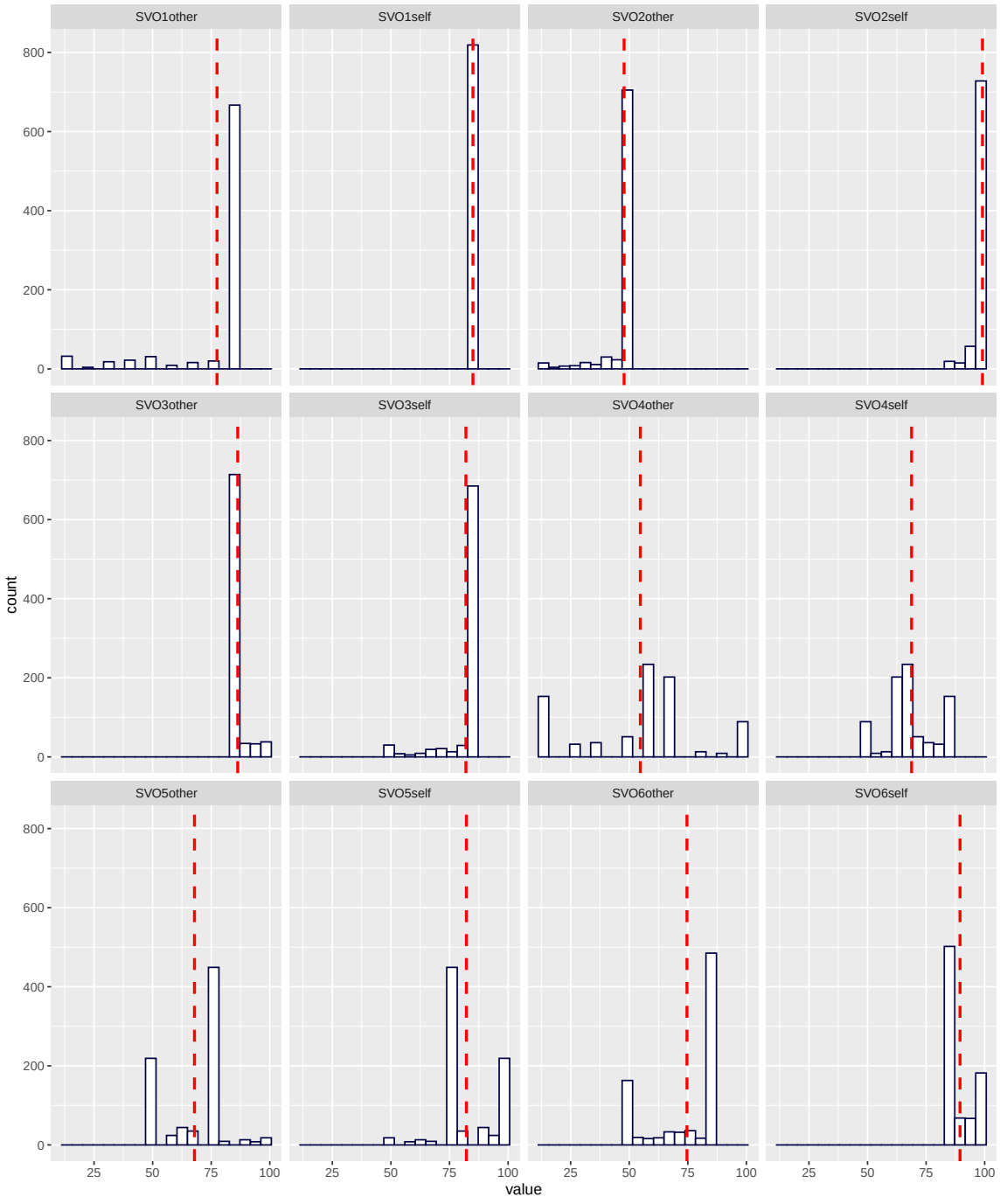

Figure V26

Subjective value orietnation (SVO): Item histograms with marked means

V5.2.4 Scale statistics

```
 meanSVOinc=scoreItems(keys=weightsSVO, items =scaleFrameSVO,totals=FALSE)

## Warning in scoreItems(keys = weightsSVO, items = scaleFrameSVO, totals
= FALSE): Item= SVO1self had no variance and was deleted from the data and
the keys.

 sumSVOscores=meanSVOinc$scores
 # 85 is deleted due to lack of variance
 meanSVOself=5/6*sumSVOscores[,1]+1/6*85
 meanSVOother=sumSVOscores[,2]
 angleSVO=atan(   (meanSVOother -50) / (meanSVOself-50) )* 90/ 1.57079632679


scoresSVO<-data.frame(angleSVO)
summary(angleSVO)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  -16.26   17.87   34.88   27.76   37.48   61.39

head(angleSVO)

##         1         2         3         4         5         6
## 24.775141 34.875328 34.875328 34.875328 45.000000  7.815294
```

```
scalesSVO=data.frame(scale_mean=t(summarise_all(scoresSVO,mean)),
                     key=names(scoresSVO))

scoresSVO %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~ key, ncol=1) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=100) +
  geom_vline(aes(xintercept = scale_mean),
             scalesSVO,col='red', linetype = "dashed",size=1)+
  xlim(-30, 70)+
  annotate("segment", x = 57.15, xend = 57.15, y = 0, yend = 138,
  colour = "blue")          +
  annotate("segment", x = 22.45, xend = 22.45, y = 0, yend = 138,
  colour = "blue")          +
  annotate("segment", x = -12.04, xend = -12.04, y = 0, yend = 138,
  colour = "blue")    +
```

```
  annotate(geom = "text", x = -22.5, y = 138, label = "Competitive",
  color = "black") +
  annotate(geom = "text", x = 5, y = 138, label = "Individualistic",
  color = "black")  +
  annotate(geom = "text", x = 37.5, y = 138, label = "Prosocial",
  color = "black") +
  annotate(geom = "text", x = 67.5, y = 138, label = "Altruistic",
  color = "black")

## Warning:  Removed 2 rows containing missing values (geom_bar).
```

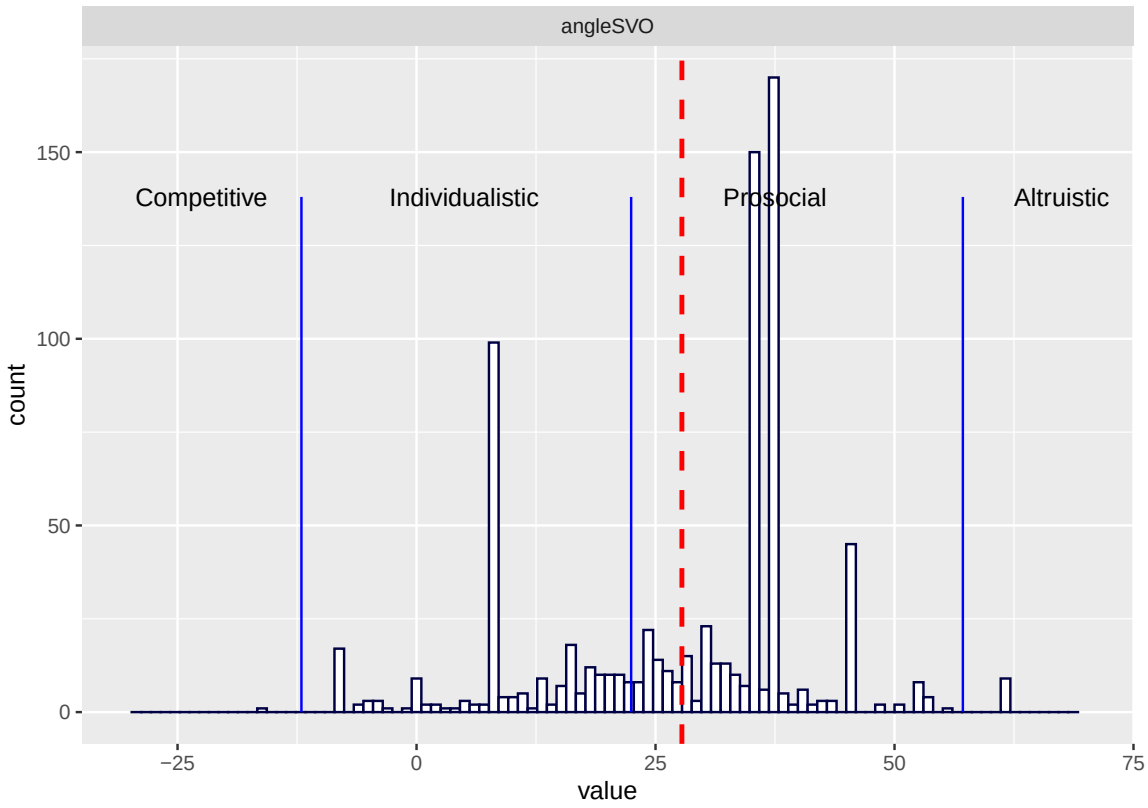

Figure V27
SVO: histogram of scores

V5.3 Psychological reactance scale

V5.3.1 Source

We used a refined, 11-item version of the Hong psychological reactance scale Hong and Faedda, 1996. Items were answered on a five-point scale from 1–5: strongly disagree (1) —(2) — neither agree nor disagree (3) —(4)—strongly agree (5)

V5.3.2 Items

- **PR01**: Regulations trigger a sense of resistance in me.
- **PR02**: I find contradicting others stimulating.
- **PR03**: When something is prohibited, I usually think "that's exactly what I am going to do.
- **PR04**: I consider advice from others to be an intrusion.
- **PR05**: I become frustrated when I am unable to make free and independent decisions.
- **PR06**: It irritates me when someone points out things which are obvious to me.
- **PR07**: I become angry when my freedom of choice is restricted.
- **PR08**: Advice and recommendations induce me to do just the opposite.
- **PR09**: I resist the attempts of others to influence me.
- **PR10**: It makes me angry when another person is held up as a model for me to follow.
- **PR11**: When someone forces me to do something, I feel like doing the opposite.

V5.3.3 Item histograms

```
scaleReactanceVars <- c("PsyReact_01", "PsyReact_02", "PsyReact_03",
"PsyReact_04","PsyReact_05","PsyReact_06","PsyReact_07",
"PsyReact_08", "PsyReact_09", "PsyReact_10", "PsyReact_11")

scaleReactanceFrame <- df[scaleReactanceVars]

 scaleReactanceFrame <- scaleReactanceFrame %>%
  rename(
  PR01=PsyReact_01,
  PR02=PsyReact_02,
  PR03=PsyReact_03,
  PR04=PsyReact_04,
  PR05=PsyReact_05,
  PR06=PsyReact_06,
  PR07=PsyReact_07,
  PR08=PsyReact_08,
  PR09=PsyReact_09,
  PR10=PsyReact_10,
  PR11=PsyReact_11
)
```

```
  scaleReactanceFrame[] <-data.matrix(scaleReactanceFrame)

  head(scaleReactanceFrame)
```

```
##   PR01 PR02 PR03 PR04 PR05 PR06 PR07 PR08 PR09 PR10 PR11
## 1    3    2    2    4    3    4    3    2    3    4    2
## 2    2    1    2    1    4    4    4    2    3    2    2
## 3    1    1    1    1    1    1    2    1    1    1    1
## 4    2    4    2    1    2    3    3    2    3    2    2
## 5    4    1    1    2    5    3    4    1    2    2    3
## 6    4    4    4    4    2    2    2    2    2    2    2
```

```
    summary(scaleReactanceFrame)
```

```
##       PR01            PR02            PR03           PR04            PR05
##  Min.   :1.000   Min.   :1.000   Min.   :1.00   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.00   1st Qu.:1.000   1st Qu.:2.000
##  Median :2.000   Median :2.000   Median :1.00   Median :2.000   Median :3.000
##  Mean   :2.275   Mean   :2.065   Mean   :1.73   Mean   :1.972   Mean   :3.032
##  3rd Qu.:3.000   3rd Qu.:3.000   3rd Qu.:2.00   3rd Qu.:3.000   3rd Qu.:4.000
##  Max.   :5.000   Max.   :5.000   Max.   :5.00   Max.   :5.000   Max.   :5.000
##       PR06            PR07            PR08           PR09
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.:1.000   1st Qu.:2.000
##  Median :3.000   Median :3.000   Median :2.000   Median :3.000
##  Mean   :3.032   Mean   :3.067   Mean   :1.756   Mean   :2.664
##  3rd Qu.:4.000   3rd Qu.:4.000   3rd Qu.:2.000   3rd Qu.:4.000
##  Max.   :5.000   Max.   :5.000   Max.   :5.000   Max.   :5.000
##       PR10            PR11
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:1.000
##  Median :2.000   Median :2.000
##  Mean   :2.438   Mean   :2.402
##  3rd Qu.:3.000   3rd Qu.:3.000
##  Max.   :5.000   Max.   :5.000
```

```
  scaleReactance_means =summarise_all(scaleReactanceFrame,mean)
  scaleReactanceDF=data.frame(
    scale_mean=t(summarise_all(scaleReactanceFrame,mean)
    ),
    key=names(scaleReactanceFrame))

  scaleReactanceFrame %>%
    keep(is.numeric) %>%
```

```
      gather() %>%
        ggplot(aes(value)) +
         facet_wrap(~ key, ncol=3) +
         geom_histogram(aes(y =..count..), color="#000044",
                fill="white",bins=5) +
        geom_vline(aes(xintercept =scale_mean),
              scaleReactanceDF,col='red', linetype = "dashed",size=1)
```

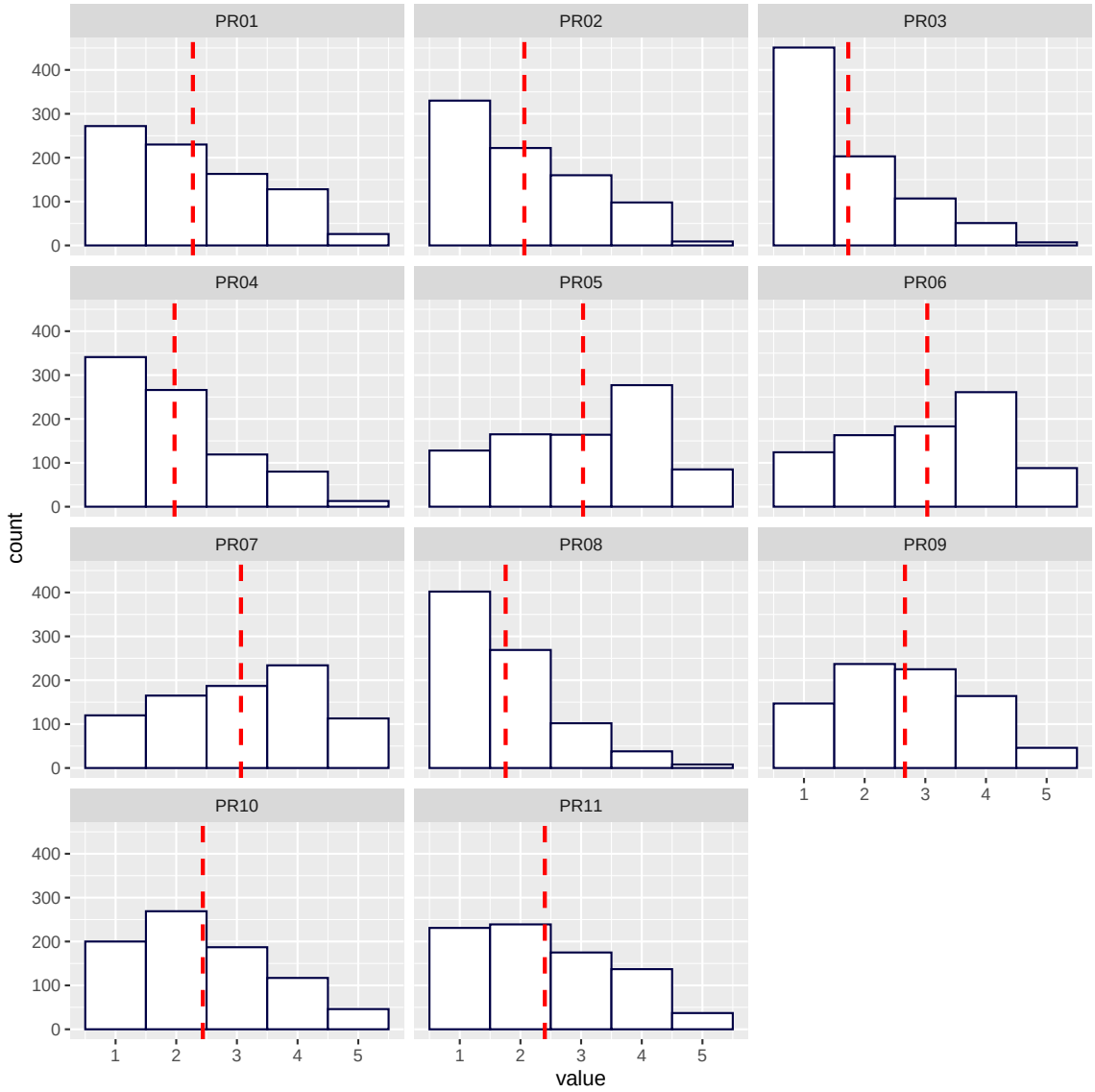

Figure V28
Psychological reactance scale: Item histograms with marked means

V5.3.4 Inter-correlations

```
corPlot(scaleReactanceFrame,numbers=TRUE,diag=FALSE,
main="Brief H-scale",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,cex=1.25,
zlim=c(-0.7,0.7))
```

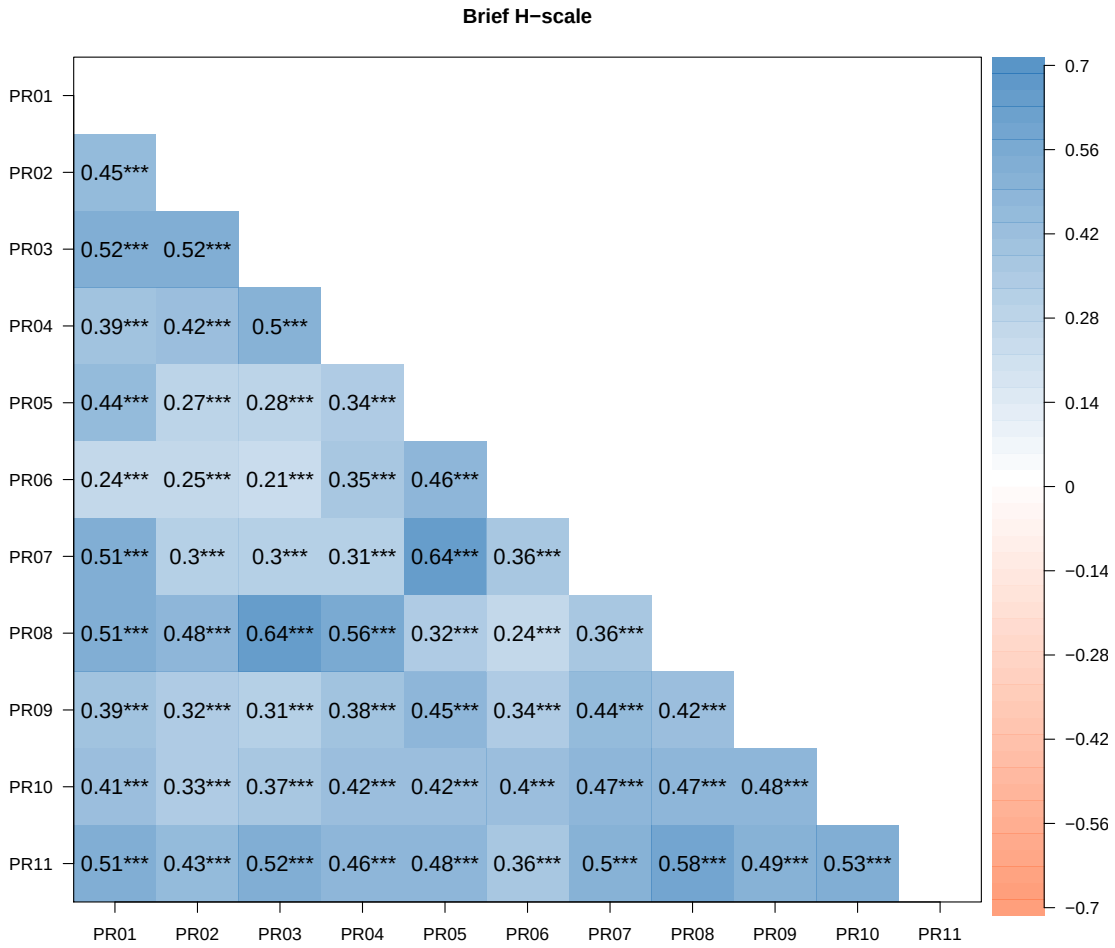

Figure V29
Psychological reactance scale: item inter-correlations

V5.3.5 Scale statistics

```
scaleReactanceFrame[] <-data.matrix(scaleReactanceFrame)


   weightsReactance <-list(psychReactance=c("PR01", "PR02", "PR03",
                        "PR04", "PR05",
                        "PR06", "PR07", "PR08",
                        "PR09", "PR10","PR11"))

scoresPR=scoreItems(items=scaleReactanceFrame,
                    keys=weightsReactance)

print(scoresPR)

## Call: scoreItems(keys = weightsReactance, items = scaleReactanceFrame)
##
## (Unstandardized) Alpha:
##       psychReactance
## alpha           0.88
##
## Standard errors of unstandardized Alpha:
##       psychReactance
## ASE            0.011
##
## Average item correlation:
##           psychReactance
## average.r           0.41
##
## Median item correlation:
## psychReactance
##           0.42
##
##  Guttman 6* reliability:
##          psychReactance
## Lambda.6           0.89
##
## Signal/Noise based upon av.r :
##              psychReactance
## Signal/Noise            7.6
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                psychReactance
## psychReactance           0.88
##
```

```
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

summary(scoresPR$scores)

##  psychReactance
##  Min.   :1.000
##  1st Qu.:1.818
##  Median :2.364
##  Mean   :2.403
##  3rd Qu.:3.000
##  Max.   :4.818

head(scoresPR$scores)

##      psychReactance
## [1,]       2.909091
## [2,]       2.454545
## [3,]       1.090909
## [4,]       2.363636
## [5,]       2.545455
## [6,]       2.727273
```

V5.3.6 Scale histogram

```
scalesPR=data.frame(scale_mean=mean(scoresPR$scores),
                    key="psychReactance")

scoresPRdf=data.frame(
  psychReactance=scoresPR$scores
)

scoresPRdf %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~ key, ncol=1) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=20) +
  geom_vline(aes(xintercept = scale_mean),
             scalesPR,col='red', linetype = "dashed",size=1)
```

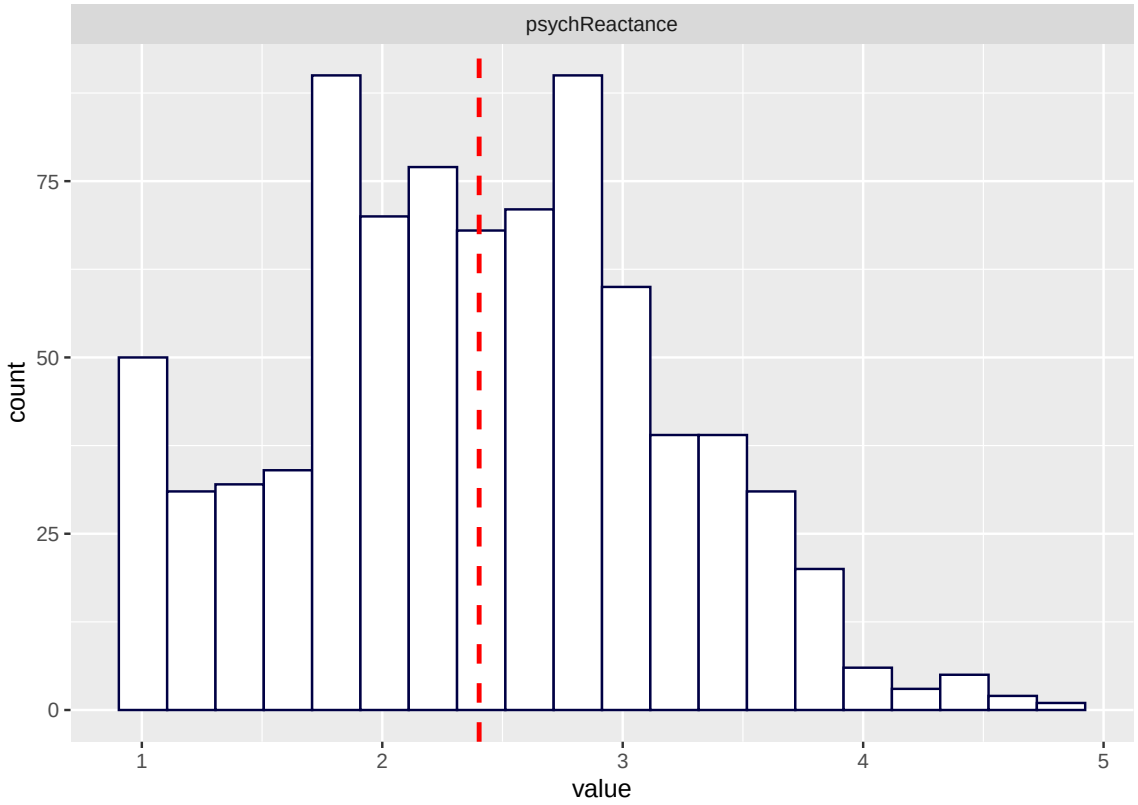

Figure V30
Psychological reactance scale: histogram of scores

V5.4 Social distancing support

V5.4.1 Source

The four-item Social distancing support scale is the scale titled "Support for Public Health Initiatives to Reduce Spread of COVID-19" taken from Lardone et al. (2020). Responses were given on a seven-point scale: Strongly disagree—Disagree—Somewhat disagree—Neither agree nor disagree—Somewhat agree—agree–Strongly agree.

V5.4.2 Items

Please read each statement and decide how much you agree or disagree with that statement.

- **SDS1-**: The social distancing restrictions being put into place to stop the spread of Covid-19 are doing more harm than good.
- **SDS2-**:We need to prioritize going back to our normal routines as soon as possible, regardless of COVID-19's spread.
- **SDS3+**: Right now the most important thing we can do is take all measures possible to stop the spread of COVID-19.

- **SDS4+**: It is essential that we strictly practice social distancing as a nation, until health care experts say otherwise.

V5.4.3 Item preparation

```
   socDistVars <-c("CV_SRPHB_1R", "CV_SRPHB_2R","CV_SRPHB_3", "CV_SRPHB_4")

socDistFrame <- df[socDistVars]
remove(socDistVars)

  socDistFrame[] <-data.matrix(socDistFrame)


  head(socDistFrame)

##   CV_SRPHB_1R CV_SRPHB_2R CV_SRPHB_3 CV_SRPHB_4
## 1           3           3          5          5
## 2           2           2          5          6
## 3           3           3          5          6
## 4           1           1          7          7
## 5           7           7          1          2
## 6           5           5          5          5

  summary(socDistFrame)

##   CV_SRPHB_1R     CV_SRPHB_2R     CV_SRPHB_3      CV_SRPHB_4
##  Min.   :1.000   Min.   :1.00   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.00   1st Qu.:5.000   1st Qu.:5.000
##  Median :2.000   Median :2.00   Median :6.000   Median :7.000
##  Mean   :2.487   Mean   :2.73   Mean   :5.762   Mean   :5.902
##  3rd Qu.:4.000   3rd Qu.:4.00   3rd Qu.:7.000   3rd Qu.:7.000
##  Max.   :7.000   Max.   :7.00   Max.   :7.000   Max.   :7.000
```

V5.4.4 Item histograms

```
 socDistDF=data.frame(scale_mean=t(summarise_all(socDistFrame,mean)),
          key=names(socDistFrame))

  socDistFrame %>%
    keep(is.numeric) %>%
      gather() %>%
        ggplot(aes(value)) +
         facet_wrap(~ key, ncol=2) +
         geom_histogram(aes(y =..count..), color="#000044",
```

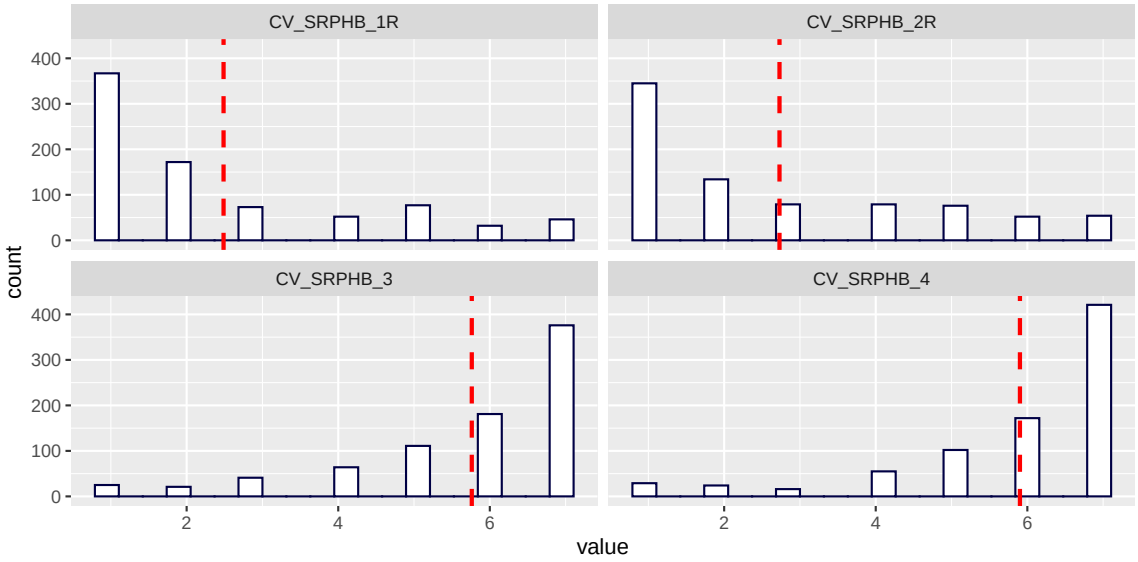

Figure V31
Social distancing support: Item histograms with marked means

```
            fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),socDistDF,col='red',
        linetype = "dashed",size=1)
```

V5.4.5 Inter-correlations

```
corPlot(socDistFrame,numbers=TRUE,diag=FALSE,
main="Collective narcissism",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

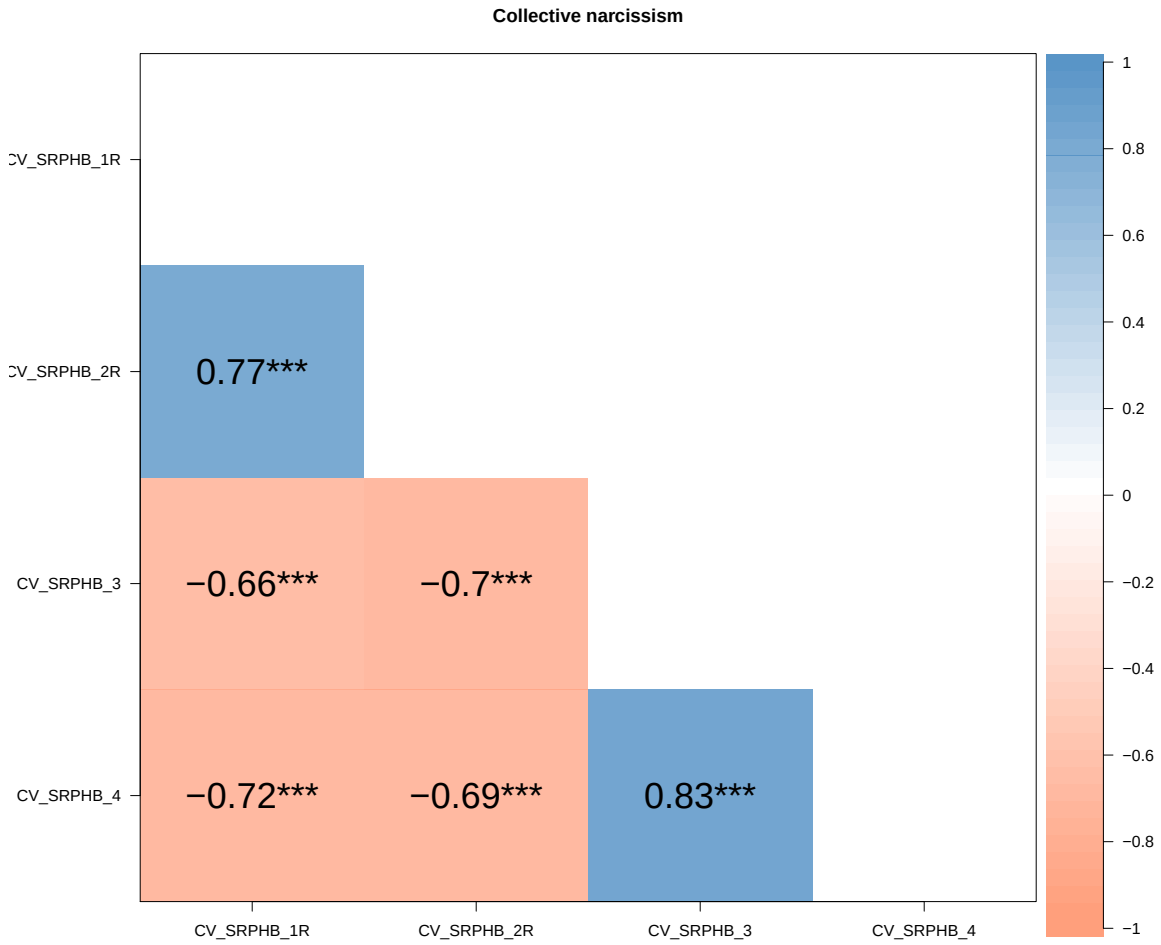

Figure V32
Social distancing support items: Inter-correlations

V5.4.6 Scale statistics

```
weightsSocDist <-list(socialDistancing=c("-CV_SRPHB_1R","-CV_SRPHB_2R","CV_SRPHB_3", "CV_SR

 scoresSocDist=scoreItems(items=socDistFrame,
                          keys=weightsSocDist)

 print(scoresSocDist)

## Call: scoreItems(keys = weightsSocDist, items = socDistFrame)
##
```

```
## (Unstandardized) Alpha:
##       socialDistancing
## alpha             0.91
##
## Standard errors of unstandardized Alpha:
##       socialDistancing
## ASE              0.019
##
## Average item correlation:
##           socialDistancing
## average.r             0.72
##
## Median item correlation:
## socialDistancing
##             0.71
##
##  Guttman 6* reliability:
##          socialDistancing
## Lambda.6              0.9
##
## Signal/Noise based upon av.r :
##              socialDistancing
## Signal/Noise               10
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                  socialDistancing
## socialDistancing             0.91
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scoresSocDist$scores)
```

```
##  socialDistancing
##  Min.   :1.000
##  1st Qu.:4.500
##  Median :6.250
##  Mean   :5.612
##  3rd Qu.:7.000
##  Max.   :7.000
```

```
head(scoresSocDist$scores)
```

```
##      socialDistancing
```

```
## [1,]             5.00
## [2,]             5.75
## [3,]             5.25
## [4,]             7.00
## [5,]             1.25
## [6,]             4.00
```

V5.4.7 Scale value histogram

```
scoresSDSFrame=data.frame(
    socialDistancingSupport=scoresSocDist$scores
  )


sumSDS=data.frame(scale_mean=t(summarise_all(scoresSDSFrame,mean)),
                  key=names(scoresSDSFrame))

scoresSDSFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               sumSDS,col='red', linetype = "dashed",size=1)
```

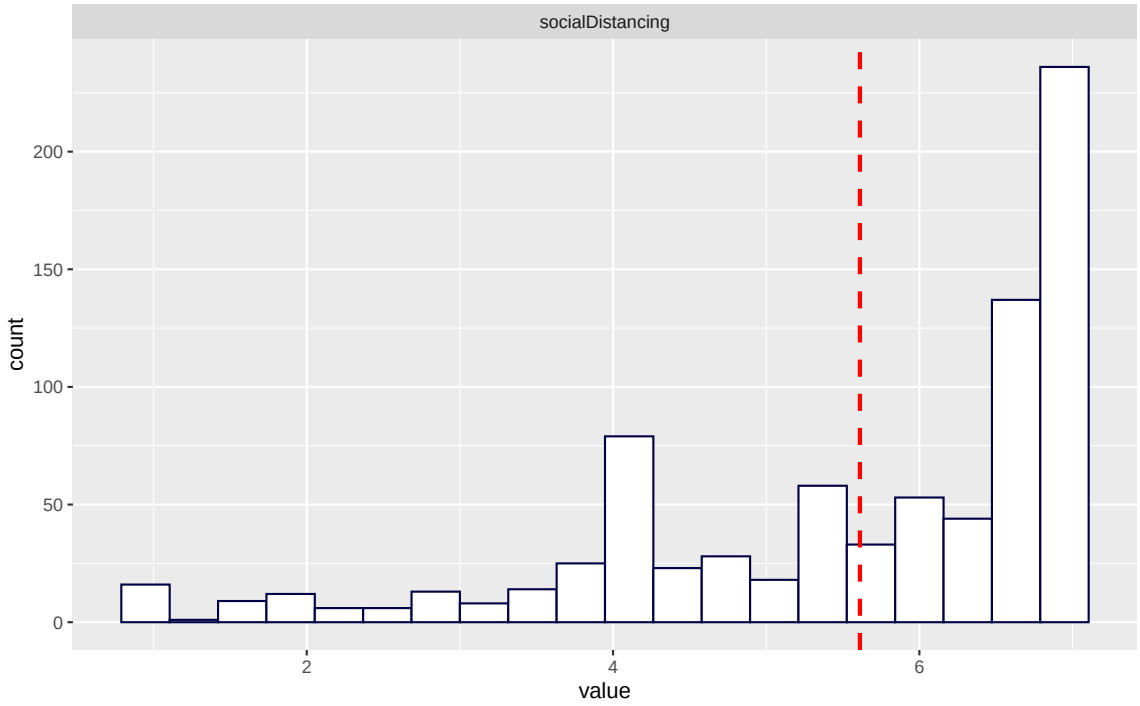

Figure V33
Social distancing support: histogram of scores

V5.5 COVID-19-Misinformation

V5.5.1 Source

Items "CVMI01+" and "CVMI03+" were copied from an earlier version of Pennycook et al. (2021). Item "CVMI04+" was taken from Geldsetzer (2020), item "CVMI07-" was inspired by and adapted from this source.

V5.5.2 Items

Items were presented answered on a six-point scale (1–6): Extremely unlikely—Moderately unlikely—Slightly unlikely—Slightly likely—Moderately likely—Extremely likely.

- **CVMI01+**: The seasonal flu is just as dangerous as COVID-19.
- **CVMI02+**: Warm weather effectively stops COVID-19 from spreading.
- **CVMI03+**: A cure for COVID-19 has already been discovered but is being suppressed by people who want the pandemic to continue.
- **CVMI04+**: The current coronavirus is a bioweapon developed by a government or a terrorist organization.
- **CVMI05+**: Most people are immune to COVID-19.

- **CVMI06+**: The United States has tested a larger percentage of its population than any other country has.
- **CVMI07-**: People above the age of 60 are at a higher risk from COVID-19.
- **CVMI08-**: There is no vaccine against COVID-19.
- **CVMI09+**: The US has a lower absolute number of COVID-19-related deaths than many European countries.
- **CVMI10+**: God has sent COVID-19 to punish sinners.

V5.5.3 Item preparation

```
    scaleVarsCVMI <- c("Misinfo_01", "Misinfo_02", "Misinfo_03",
   "Misinfo_04", "Misinfo_05","Misinfo_06",
   "Misinfo_07R","Misinfo_08R","Misinfo_09","Misinfo_10")

   scaleFrameCVMI <- df[scaleVarsCVMI]

 scaleFrameCVMI  <- scaleFrameCVMI  %>%
   rename(
   CVMI01p = Misinfo_01, CVMI02p = Misinfo_02, CVMI03p = Misinfo_03,
   CVMI04p = Misinfo_04, CVMI05p = Misinfo_05, CVMI06p = Misinfo_06,
   CVMI07n = Misinfo_07R, CVMI08n = Misinfo_08R, CVMI09p = Misinfo_09,
   CVMI10p = Misinfo_10 )

   scaleFrameCVMI[] <-data.matrix(scaleFrameCVMI)

weightsCVMI <-list(sclMisinform=c("CVMI01p",
"CVMI02p","CVMI03p","CVMI04p",
"CVMI05p", "CVMI06p","-CVMI07n",
"-CVMI08n", "CVMI09p", "CVMI10p" )
)

summary(scaleFrameCVMI)
```

```
##     CVMI01p         CVMI02p         CVMI03p         CVMI04p
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :1.000   Median :1.000   Median :1.000
##  Mean   :2.665   Mean   :1.961   Mean   :1.796   Mean   :2.147
##  3rd Qu.:4.000   3rd Qu.:3.000   3rd Qu.:2.000   3rd Qu.:3.000
##  Max.   :6.000   Max.   :6.000   Max.   :6.000   Max.   :6.000
##     CVMI05p         CVMI06p         CVMI07n         CVMI08n
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
```

```
##  1st Qu.:1.000   1st Qu.:1.000   1st Qu.:5.000   1st Qu.:4.000
##  Median :1.000   Median :3.000   Median :6.000   Median :5.000
##  Mean   :1.885   Mean   :3.009   Mean   :5.405   Mean   :4.716
##  3rd Qu.:2.000   3rd Qu.:5.000   3rd Qu.:6.000   3rd Qu.:6.000
##  Max.   :6.000   Max.   :6.000   Max.   :6.000   Max.   :6.000
##     CVMI09p         CVMI10p
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :1.000
##  Mean   :2.263   Mean   :1.361
##  3rd Qu.:3.000   3rd Qu.:1.000
##  Max.   :6.000   Max.   :6.000
```

V5.5.4 Item histograms

```
CVMIdf=data.frame(scale_mean=t(summarise_all(scaleFrameCVMI,mean)),
        key=names(scaleFrameCVMI))

scaleFrameCVMI %>%
  keep(is.numeric) %>%
    gather() %>%
      ggplot(aes(value)) +
       facet_wrap(~ key, ncol=4) +
       geom_histogram(aes(y =..count..), color="#000044",
              fill="white",bins=11)+
       geom_vline(aes(xintercept =scale_mean),CVMIdf,col='red',
                  linetype = "dashed",size=1)
```

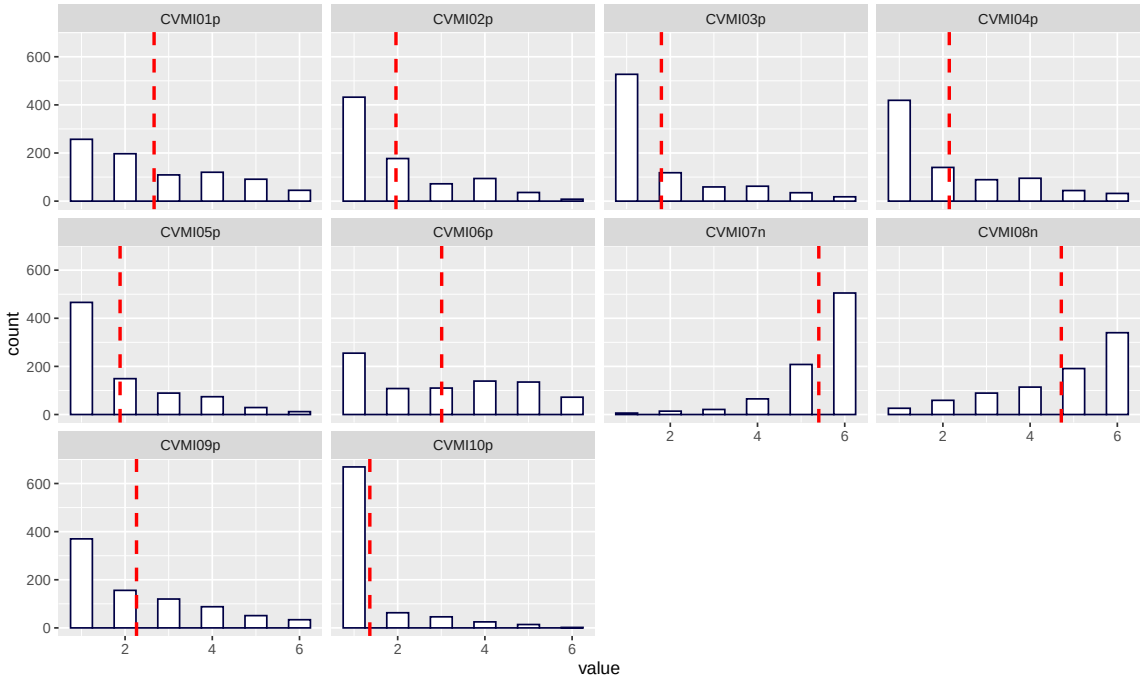

Figure V34
CVMI: Item histograms with marked means

V5.5.5 Inter-correlations

```
corPlot(scaleFrameCVMI,numbers=TRUE,diag=FALSE,
main="CVMI",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

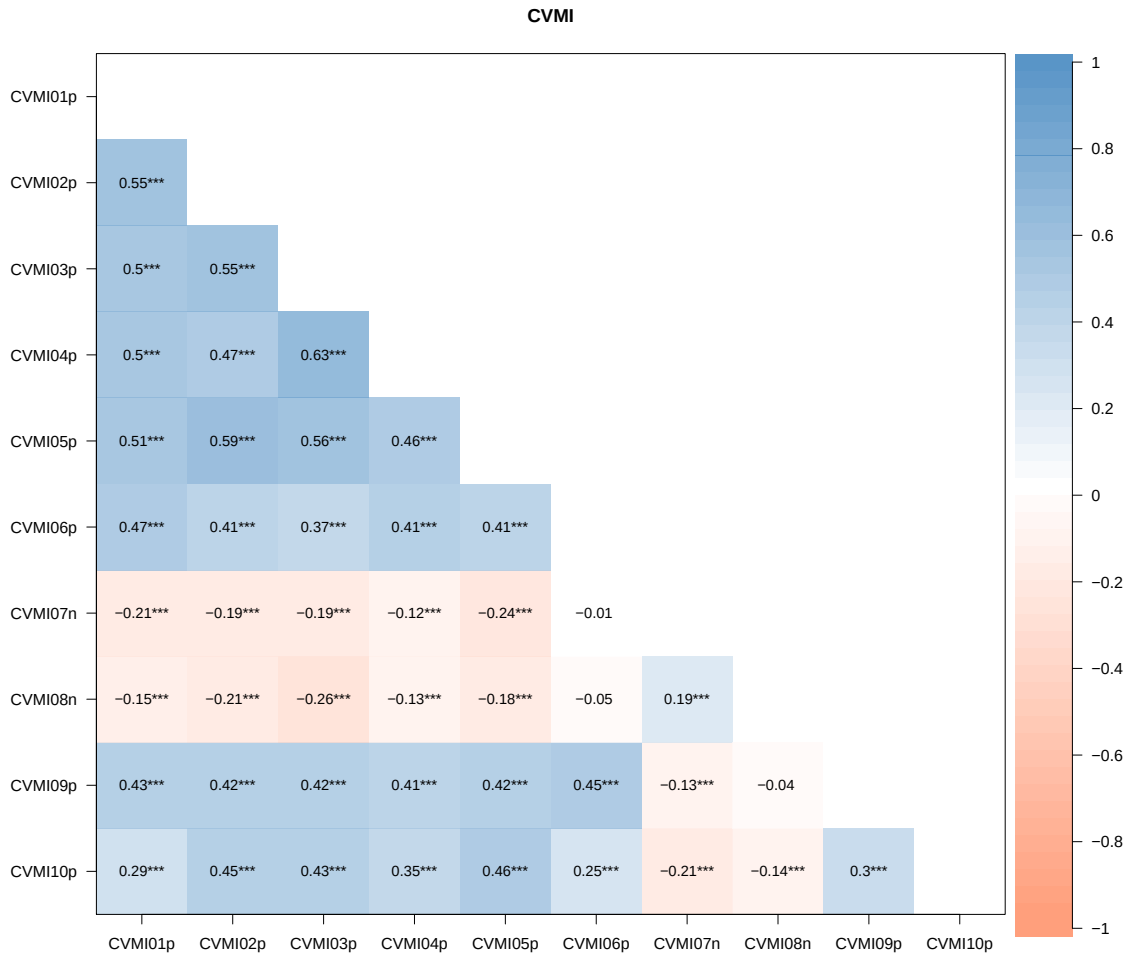

Figure V35
CVMI items: Inter-correlations

V5.5.6 Scale statistics

```
scaleCVMI=scoreItems(keys=weightsCVMI, items =scaleFrameCVMI,totals=FALSE)

print(scaleCVMI)

## Call: scoreItems(keys = weightsCVMI, items = scaleFrameCVMI, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclMisinform
## alpha         0.83
##
```

```
## Standard errors of unstandardized Alpha:
##       sclMisinform
## ASE          0.014
##
## Average item correlation:
##           sclMisinform
## average.r         0.33
##
## Median item correlation:
## sclMisinform
##         0.41
##
##  Guttman 6* reliability:
##          sclMisinform
## Lambda.6         0.84
##
## Signal/Noise based upon av.r :
##              sclMisinform
## Signal/Noise            5
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##              sclMisinform
## sclMisinform         0.83
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

scoresCVMI<-data.frame(scaleCVMI$scores)
summary(scoresCVMI)

##   sclMisinform
##  Min.   :1.000
##  1st Qu.:1.400
##  Median :1.800
##  Mean   :2.097
##  3rd Qu.:2.700
##  Max.   :5.000

head(scoresCVMI)

##   sclMisinform
## 1          2.7
## 2          2.6
```

```
## 3          2.0
## 4          1.0
## 5          4.0
## 6          3.7
```

```
scalesCVMI=data.frame(scale_mean=t(summarise_all(scoresCVMI,mean)),
                      key=names(scoresCVMI))

scoresCVMI %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~ key, ncol=1) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=20) +
  geom_vline(aes(xintercept = scale_mean),
             scalesCVMI,col='red', linetype = "dashed",size=1)
```

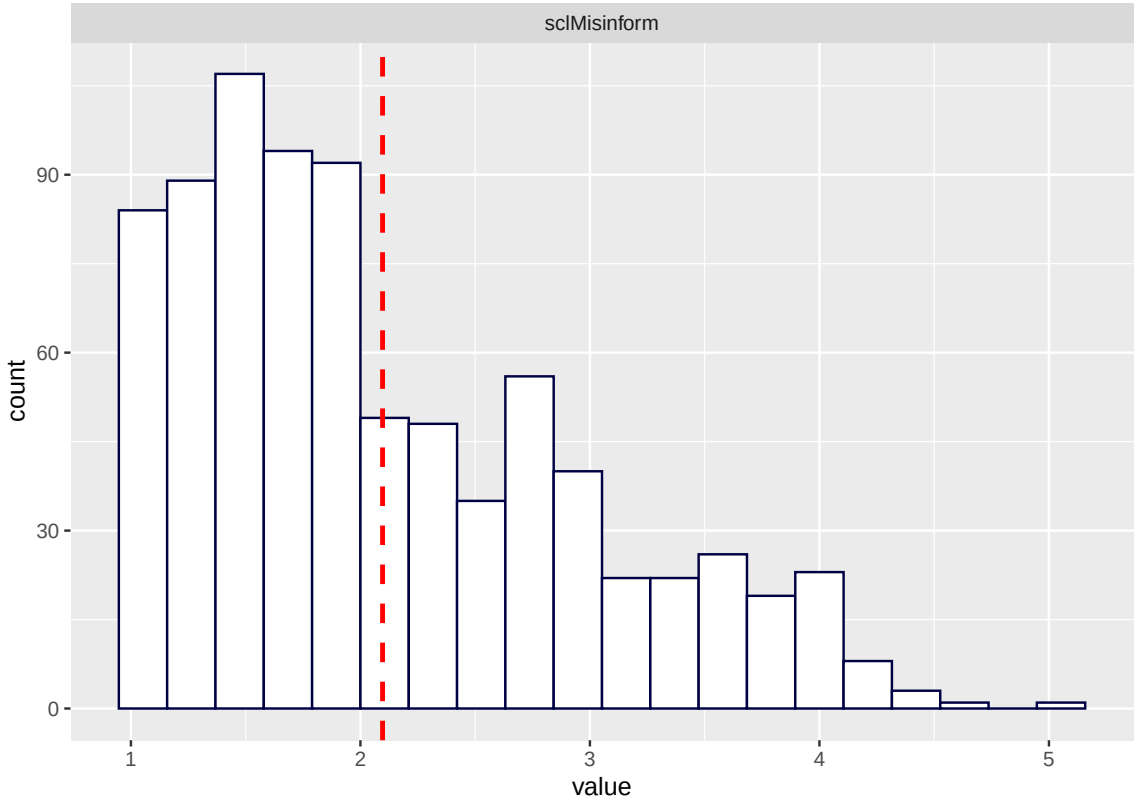

Figure V36
CVMI: histogram of scores

V5.6 Distrust of officialdom

V5.6.1 Source

The three items of the scale measuring the "lack of trustworthiness of traditional sources of information" were taken from van der Linden et al. (2021). We substituted the nine-point scale used by the authors with a five-point scale: Strongly disagree—Disagree—Neutral—Agree—Strongly agree.

V5.6.2 Items

Please indicate for each of the statements to which degree you agree or disagree with them.

- **DO1+**: I'd rather put my trust in the wisdom of ordinary people than the opinions of experts and intellectuals.
- **DO2+**: When it comes to really important questions, scientific facts don't help very much.
- **DO3+**: We believe too often in science, and not enough in faith and feelings.

V5.6.3 Item preparation

```
  distrustVars <- c("DistOff1", "DistOff2", "DistOff3")
  DistrustOfficialFrame <- df[distrustVars]
  remove(distrustVars)
  DistrustOfficialFrame[] <-data.matrix(DistrustOfficialFrame)

  head(DistrustOfficialFrame)

##   DistOff1 DistOff2 DistOff3
## 1        2        2        2
## 2        1        1        1
## 3        2        1        1
## 4        1        1        1
## 5        3        5        5
## 6        4        2        4

  summary(DistrustOfficialFrame)

##     DistOff1        DistOff2        DistOff3
##  Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :1.000   Median :1.000
##  Mean   :1.883   Mean   :1.706   Mean   :1.886
##  3rd Qu.:3.000   3rd Qu.:2.000   3rd Qu.:3.000
##  Max.   :5.000   Max.   :5.000   Max.   :5.000
```

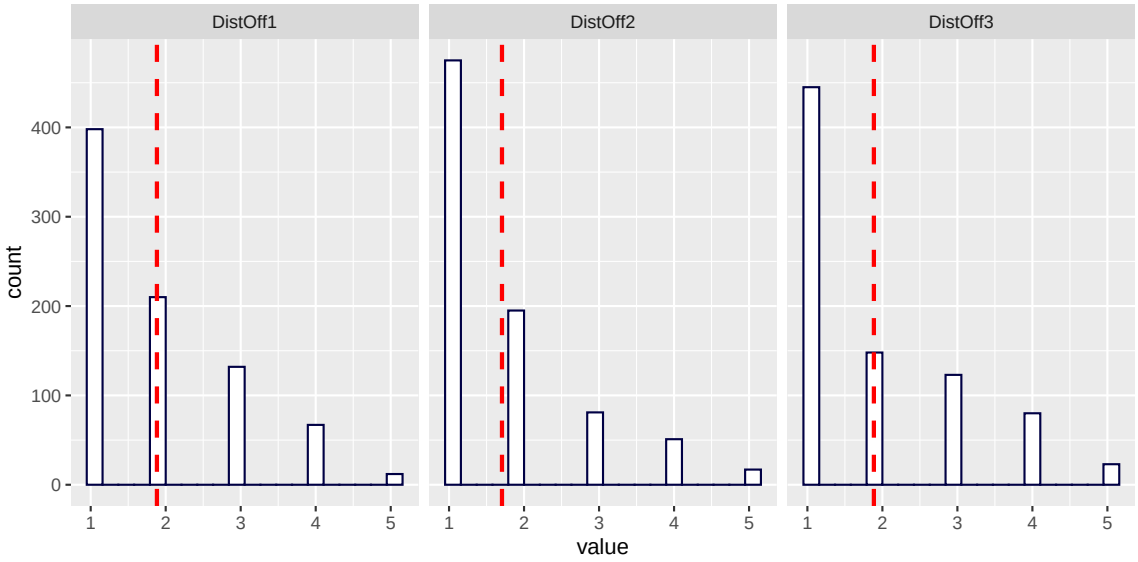

Figure V37
Distrust of officialdom: Item histograms with marked means

V5.6.4 Item histograms

```
doffDf=data.frame(scale_mean=t(summarise_all(DistrustOfficialFrame,mean)),
         key=names(DistrustOfficialFrame))

 DistrustOfficialFrame %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=4) +
        geom_histogram(aes(y =..count..), color="#000044",
               fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),doffDf,col='red',
        linetype = "dashed",size=1)
```

V5.6.5 Inter-correlations

```
 corPlot(DistrustOfficialFrame,numbers=TRUE,diag=FALSE,
 main="Distrust of Officialdom",stars=TRUE,upper=FALSE,
 cuts=c(.001,.01,.05),gr=palette2,
 zlim=c(-1,1))
```

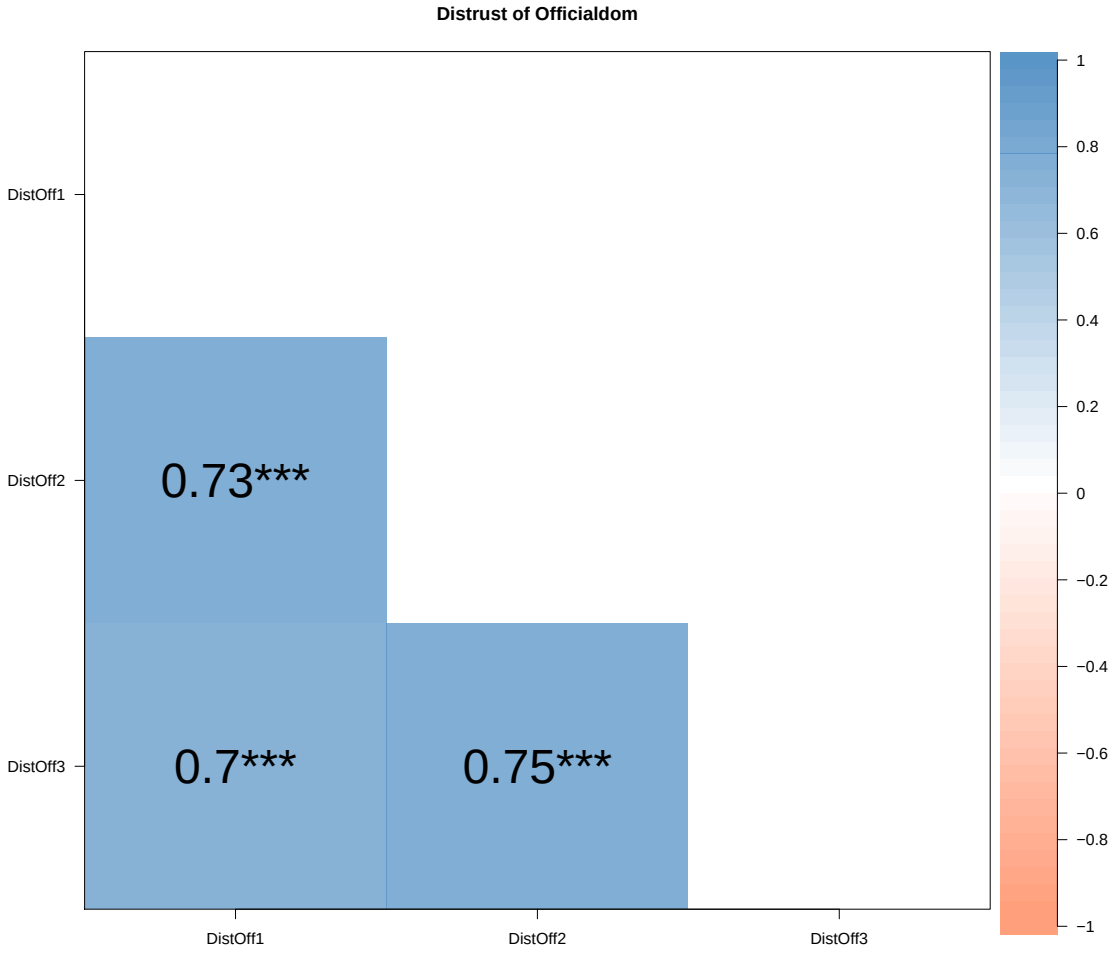

Figure V38
Distrust of officialdom items: Inter-correlations

V5.6.6 Scale statistics

```
 weightsDistOff <-list(distrOfficialdom=c("DistOff1", "DistOff2", "DistOff3"))
scoresDistrOff=scoreItems(items=DistrustOfficialFrame,
                    keys=weightsDistOff)

print(scoresDistrOff)

## Call: scoreItems(keys = weightsDistOff, items = DistrustOfficialFrame)
##
## (Unstandardized) Alpha:
##       distrOfficialdom
```

```
## alpha             0.89
##
## Standard errors of unstandardized Alpha:
##       distrOfficialdom
## ASE              0.027
##
## Average item correlation:
##           distrOfficialdom
## average.r             0.72
##
## Median item correlation:
## distrOfficialdom
##             0.73
##
##  Guttman 6* reliability:
##          distrOfficialdom
## Lambda.6             0.84
##
## Signal/Noise based upon av.r :
##              distrOfficialdom
## Signal/Noise             7.8
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                  distrOfficialdom
## distrOfficialdom            0.89
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

summary(scoresDistrOff$scores)

##  distrOfficialdom
##  Min.   :1.000
##  1st Qu.:1.000
##  Median :1.333
##  Mean   :1.825
##  3rd Qu.:2.333
##  Max.   :5.000

head(scoresDistrOff$scores)

##      distrOfficialdom
## [1,]         2.000000
```

```
## [2,]         1.000000
## [3,]         1.333333
## [4,]         1.000000
## [5,]         4.333333
## [6,]         3.333333
```

V5.6.7 Scale value histogram

```
scoresDOFrame=data.frame(
    distrustScale=scoresDistrOff$scores
  )


summDO=data.frame(scale_mean=t(summarise_all(scoresDOFrame,mean)),
                  key=names(scoresDOFrame))

scoresDOFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               summDO,col='red', linetype = "dashed",size=1)
```

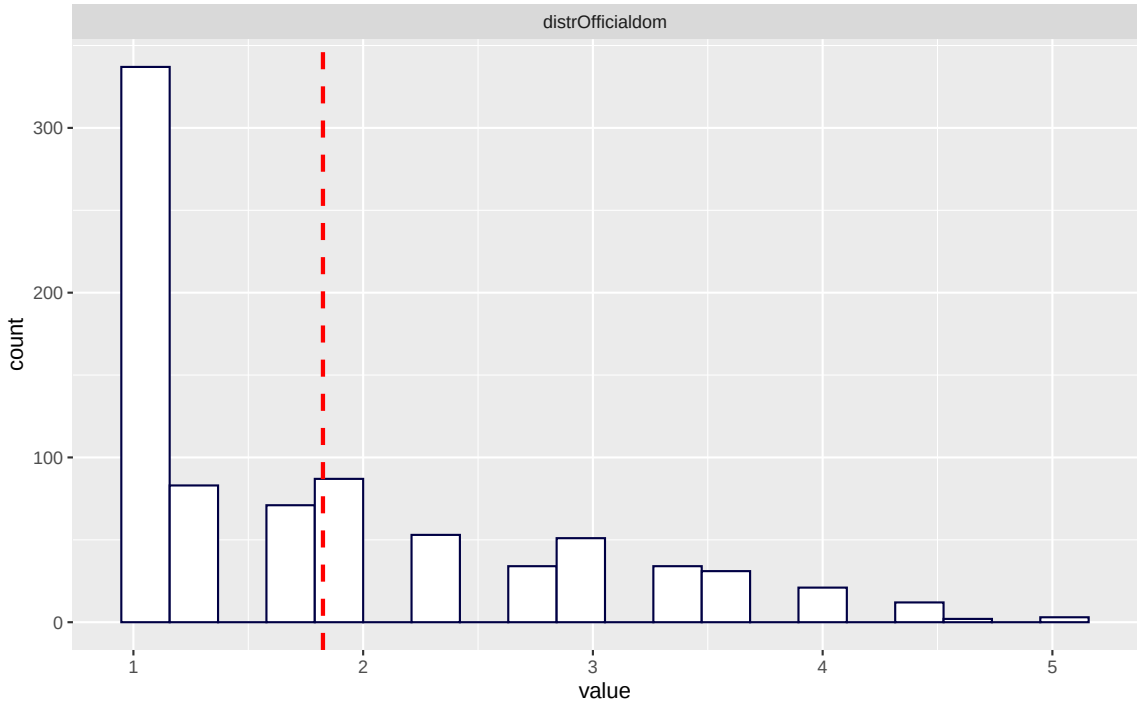

Figure V39
Distrust of officialdom: histogram of scores

V5.7 Conspiracy Mentality

V5.7.1 Source

The five-item Conspiracy Mentality Questionnaire (CMQ) was taken from Bruder et al. (2013). Responses were given on an 11-point scale: 0% certainly not—10% extremely unlikely—20% very unlikely—30% unlikely—40% somewhat unlikely—50% undecided—60% somewhat likely—70% likely—80% very likely—90% extremely likely—100% certain.

V5.7.2 Items

I think that...

- **CM1+**: ... many very important things happen in the world, which the public is never informed about.
- **CM2+**: ... politicians usually do not tell us the true motives for their decisions.
- **CM3+**: ... government agencies closely monitor all citizens.
- **CM4+**:... events which superficially seem to lack a connection are often the result of secret activities.
- **CM5+**:... there are secret organizations that greatly influence political decisions.

V5.7.3 Item preparation

```
    cmqVars <- c("CMQ01", "CMQ02", "CMQ03",
                 "CMQ04","CMQ05")

  conspiracyFrame <- df[cmqVars]
  remove(cmqVars)

  conspiracyFrame[] <-data.matrix(conspiracyFrame)


  head(conspiracyFrame)
```

```
##   CMQ01 CMQ02 CMQ03 CMQ04 CMQ05
## 1     8     9     7     7    10
## 2    10    10     8     7    10
## 3     3     7     4     3     2
## 4     7     9     2     2     2
## 5    10    10     9    10    10
## 6     7     7     7     7     7
```

```
  summary(conspiracyFrame)
```

```
##      CMQ01            CMQ02            CMQ03            CMQ04
##  Min.   : 1.000   Min.   : 1.000   Min.   : 1.000   Min.   : 1.000
##  1st Qu.: 7.000   1st Qu.: 7.000   1st Qu.: 5.000   1st Qu.: 3.000
##  Median : 8.000   Median : 9.000   Median : 7.000   Median : 6.000
##  Mean   : 7.879   Mean   : 8.458   Mean   : 6.612   Mean   : 5.609
##  3rd Qu.:10.000   3rd Qu.:10.000   3rd Qu.: 9.000   3rd Qu.: 8.000
##  Max.   :11.000   Max.   :11.000   Max.   :11.000   Max.   :11.000
##      CMQ05
##  Min.   : 1.000
##  1st Qu.: 4.000
##  Median : 7.000
##  Mean   : 6.403
##  3rd Qu.: 9.000
##  Max.   :11.000
```

V5.7.4 Item histograms

```
 conspDF=data.frame(scale_mean=t(summarise_all(conspiracyFrame,mean)),
          key=names(conspiracyFrame))

  conspiracyFrame %>%
```

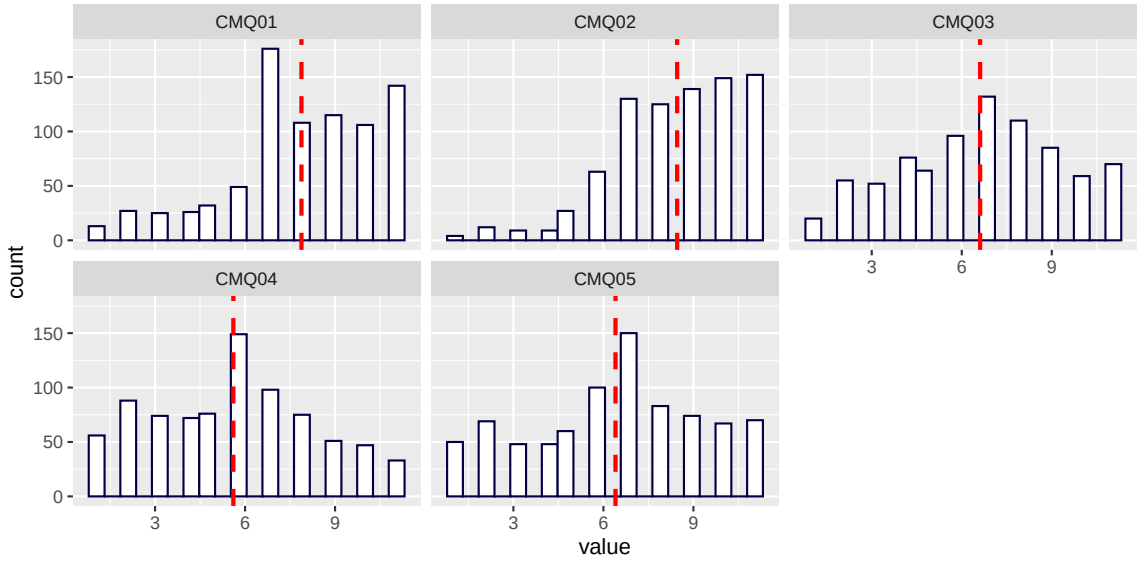

Figure V40
Conspiracy mentality: Item histograms with marked means

```
    keep(is.numeric) %>%
      gather() %>%
        ggplot(aes(value)) +
         facet_wrap(~ key, ncol=3) +
         geom_histogram(aes(y =..count..), color="#000044",
                fill="white",bins=20)+
         geom_vline(aes(xintercept=scale_mean),conspDF,col='red',
         linetype = "dashed",size=1)
```

V5.7.5 Inter-correlations

```
corPlot(conspiracyFrame,numbers=TRUE,diag=FALSE,
main="Conspiracy mentality",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

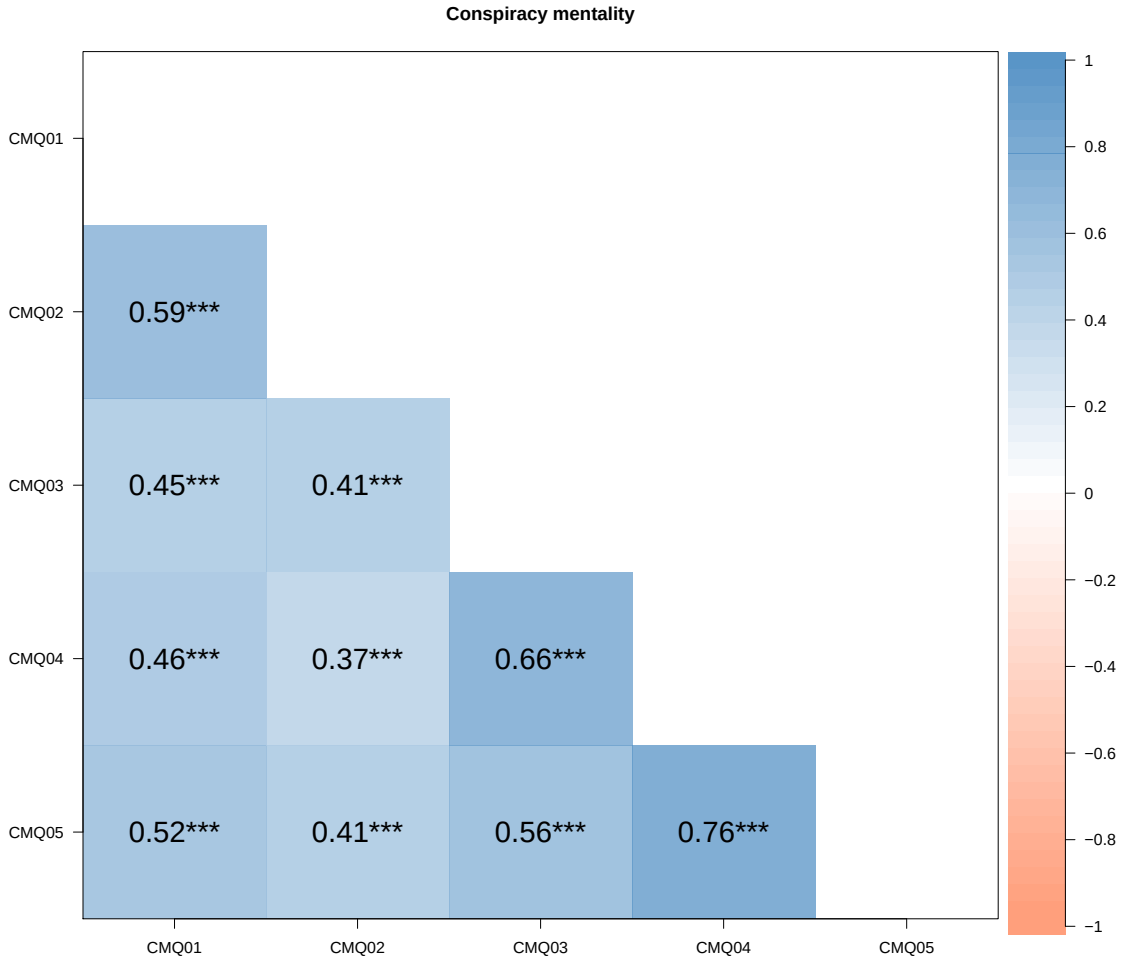

Figure V41
Conspiracy mentality items: Inter-correlations

V5.7.6 Scale statistics

```
weightsConspiracy <-list(conspiracyMentality=c("CMQ01", "CMQ02", "CMQ03",
                         "CMQ04", "CMQ05"))

 scoresCM=scoreItems(items=conspiracyFrame,
                     keys=weightsConspiracy)

 print(scoresCM)

## Call: scoreItems(keys = weightsConspiracy, items = conspiracyFrame)
##
```

```
## (Unstandardized) Alpha:
##       conspiracyMentality
## alpha                0.85
##
## Standard errors of unstandardized Alpha:
##       conspiracyMentality
## ASE                 0.019
##
## Average item correlation:
##           conspiracyMentality
## average.r                0.52
##
## Median item correlation:
## conspiracyMentality
##                0.49
##
##  Guttman 6* reliability:
##          conspiracyMentality
## Lambda.6                0.85
##
## Signal/Noise based upon av.r :
##              conspiracyMentality
## Signal/Noise                 5.5
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                     conspiracyMentality
## conspiracyMentality                0.85
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scoresCM$scores)
```

```
##  conspiracyMentality
##  Min.   : 1.000
##  1st Qu.: 5.600
##  Median : 7.200
##  Mean   : 6.992
##  3rd Qu.: 8.400
##  Max.   :11.000
```

```
head(scoresCM$scores)
```

```
##      conspiracyMentality
```

```
## [1,]                 8.2
## [2,]                 9.0
## [3,]                 3.8
## [4,]                 4.4
## [5,]                 9.8
## [6,]                 7.0
```

V5.7.7 Scale value histogram

```
scoresCMFrame=data.frame(
    conspiracyMentality=scoresCM$scores
  )


sumCM=data.frame(scale_mean=t(summarise_all(scoresCMFrame,mean)),
                   key=names(scoresCMFrame))

scoresCMFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               sumCM,col='red', linetype = "dashed",size=1)
```

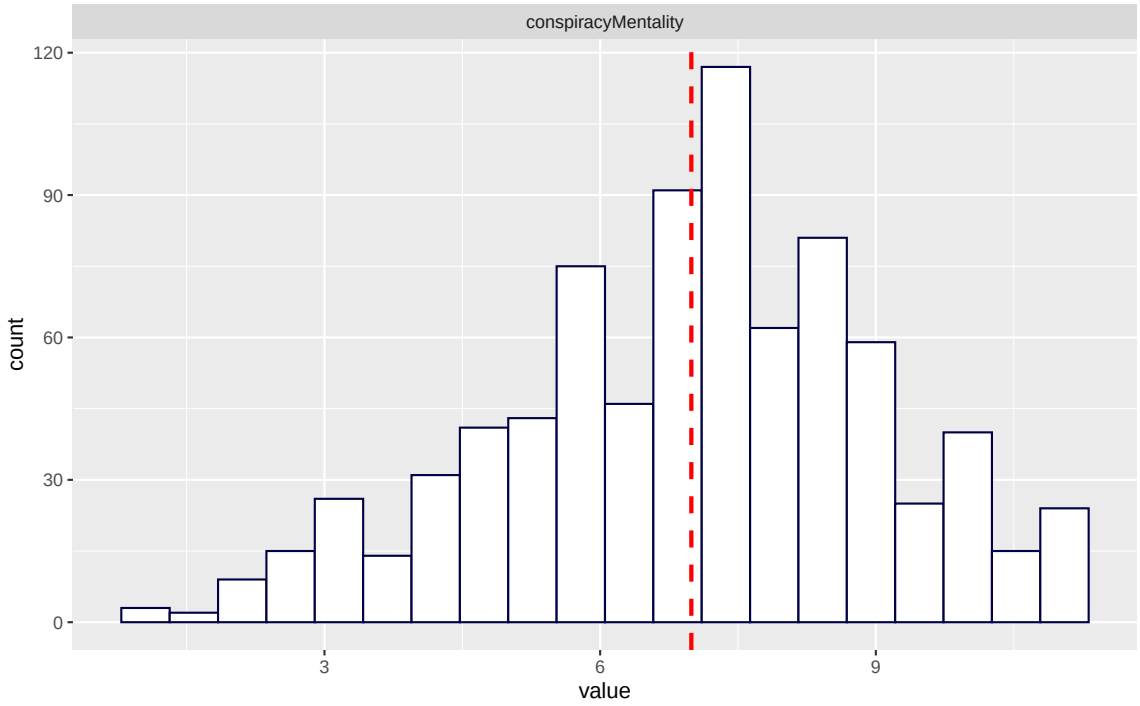

Figure V42
Conspiracy mentality: histogram of scores

V5.8 Climate change skepticism

V5.8.1 Source

Climate change skepticism was measured with six items taken from Lewandowsky, Gignac, et al. (2013) and Lewandowsky, Oberauer, et al. (2013).

V5.8.2 Items

Items were presented in a matrix and answered on a five-point scale (1–5): Strongly disagree—Disagree—Neutral—Agree—Strongly agree.

- **CC1+**: I believe that the climate is always changing and what we are currently observing is just natural fluctuation.
- **CC2-**: I believe that most of the warming over the last 50 years is due to the increase in greenhouse gas concentrations.
- **CC3-**: I believe that the burning of fossil fuels over the last 50 years has caused serious damage to the planet's climate.
- **CC4-**: Human CO2 emissions cause climate change.
- **CC5+**: Humans are too insignificant to have an appreciable impact on global temperature.

- **CC6+**: The claim that the climate is changing due to emissions from fossil fuels is a hoax perpetrated by corrupt scientists who want to spend more taxpayer money on climate research.

V5.8.3 Item preparation

```
    scaleVarsCC <- c("ClimCh1", "ClimCh2R", "ClimCh3R", "ClimCh4R", "ClimCh5",
     "ClimCh6")

    scaleFrameCC <- df[scaleVarsCC]

  scaleFrameCC <- scaleFrameCC %>%
    rename(
    CC1p=ClimCh1,CC2n=ClimCh2R,CC3n=ClimCh3R,CC4n=ClimCh4R,
    CC5p=ClimCh5,CC6p=ClimCh6  )

    scaleFrameCC[] <-data.matrix(scaleFrameCC)

 weightsCC <-list(sclClimSkept=c("CC1p","-CC2n","-CC3n","-CC4n","CC5p","CC6p")
 )

 summary(scaleFrameCC)
```

```
##       CC1p            CC2n            CC3n            CC4n
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:3.000   1st Qu.:4.000   1st Qu.:3.000
##  Median :2.000   Median :4.000   Median :4.000   Median :4.000
##  Mean   :2.459   Mean   :3.885   Mean   :4.076   Mean   :3.895
##  3rd Qu.:4.000   3rd Qu.:5.000   3rd Qu.:5.000   3rd Qu.:5.000
##  Max.   :5.000   Max.   :5.000   Max.   :5.000   Max.   :5.000
##       CC5p            CC6p
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :1.000
##  Mean   :2.071   Mean   :1.877
##  3rd Qu.:3.000   3rd Qu.:3.000
##  Max.   :5.000   Max.   :5.000
```

V5.8.4 Item histograms

```
  CCdf=data.frame(scale_mean=t(summarise_all(scaleFrameCC,mean)),
          key=names(scaleFrameCC))

  scaleFrameCC %>%
```

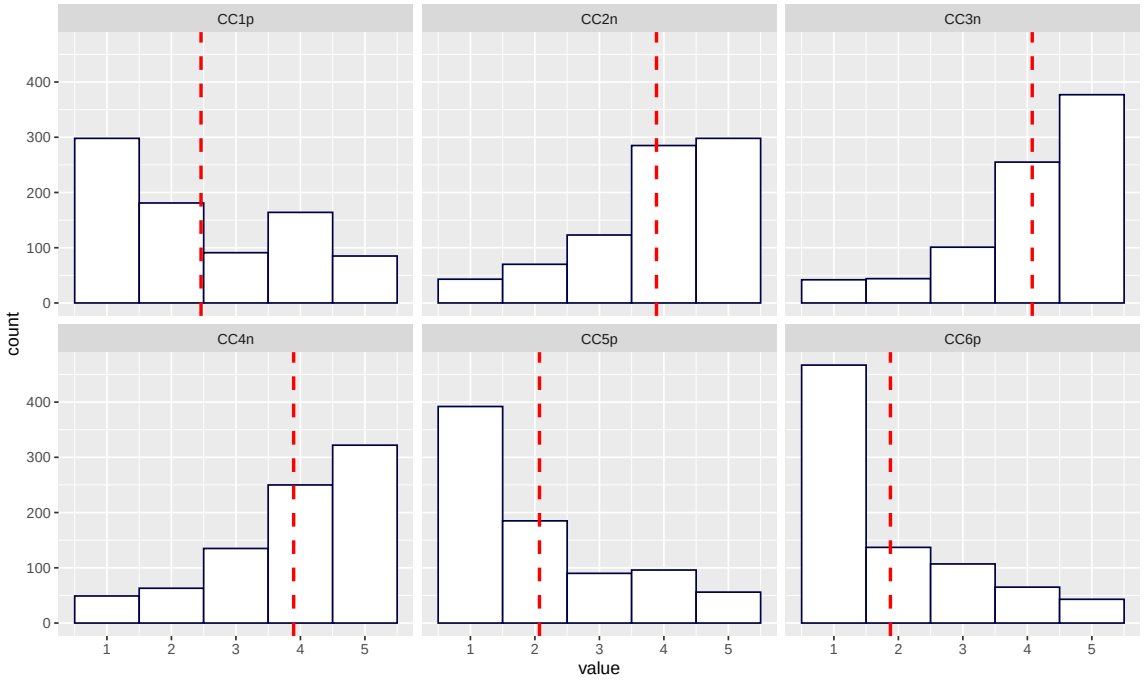

Figure V43
Climate change skepticism: Item histograms with marked means

```
    keep(is.numeric) %>%
      gather() %>%
        ggplot(aes(value)) +
         facet_wrap(~ key, ncol=3) +
         geom_histogram(aes(y =..count..), color="#000044",
                fill="white",bins=5)+
         geom_vline(aes(xintercept =scale_mean),CCdf,col='red',
                    linetype = "dashed",size=1)
```

V5.8.5 Inter-correlations

```
corPlot(scaleFrameCC,numbers=TRUE,diag=FALSE,
main="CC",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

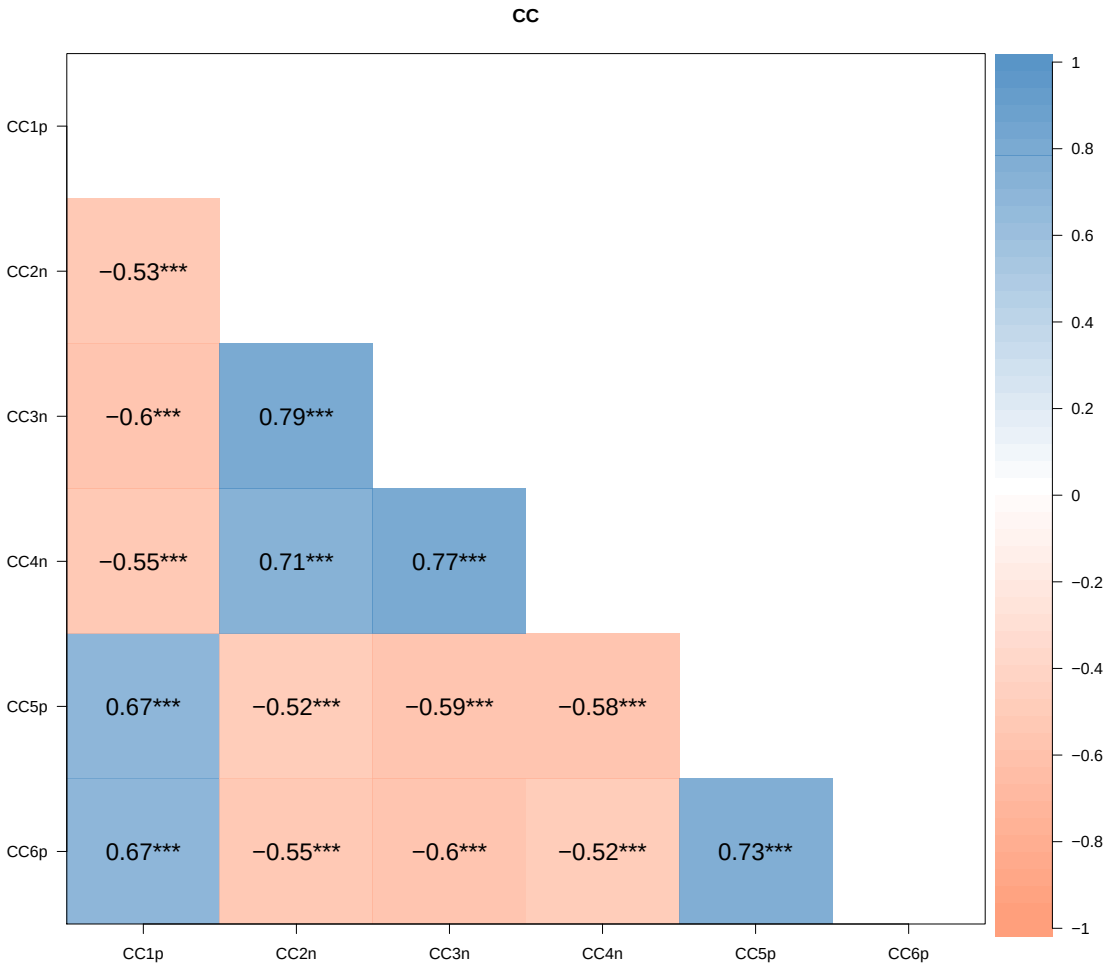

Figure V44
Climate change skepticism items: Inter-correlations

V5.8.6 Scale statistics

```
scaleCC=scoreItems(keys=weightsCC, items =scaleFrameCC,totals=FALSE)

print(scaleCC)

## Call: scoreItems(keys = weightsCC, items = scaleFrameCC, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclClimSkept
## alpha         0.91
##
```

```
## Standard errors of unstandardized Alpha:
##       sclClimSkept
## ASE          0.014
##
## Average item correlation:
##           sclClimSkept
## average.r         0.62
##
## Median item correlation:
## sclClimSkept
##          0.6
##
##  Guttman 6* reliability:
##          sclClimSkept
## Lambda.6         0.91
##
## Signal/Noise based upon av.r :
##              sclClimSkept
## Signal/Noise          9.8
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##              sclClimSkept
## sclClimSkept         0.91
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

scoresCC<-data.frame(scaleCC$scores)
summary(scoresCC)

##   sclClimSkept
##  Min.   :1.000
##  1st Qu.:1.167
##  Median :1.833
##  Mean   :2.092
##  3rd Qu.:2.833
##  Max.   :5.000

head(scoresCC)

##   sclClimSkept
## 1     3.333333
## 2     2.000000
```

```
## 3     3.333333
## 4     2.166667
## 5     4.333333
## 6     3.000000
```

```
scalesCC=data.frame(scale_mean=t(summarise_all(scoresCC,mean)),
                    key=names(scoresCC))

scoresCC %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~ key, ncol=1) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=20) +
  geom_vline(aes(xintercept = scale_mean),
             scalesCC,col='red', linetype = "dashed",size=1)
```

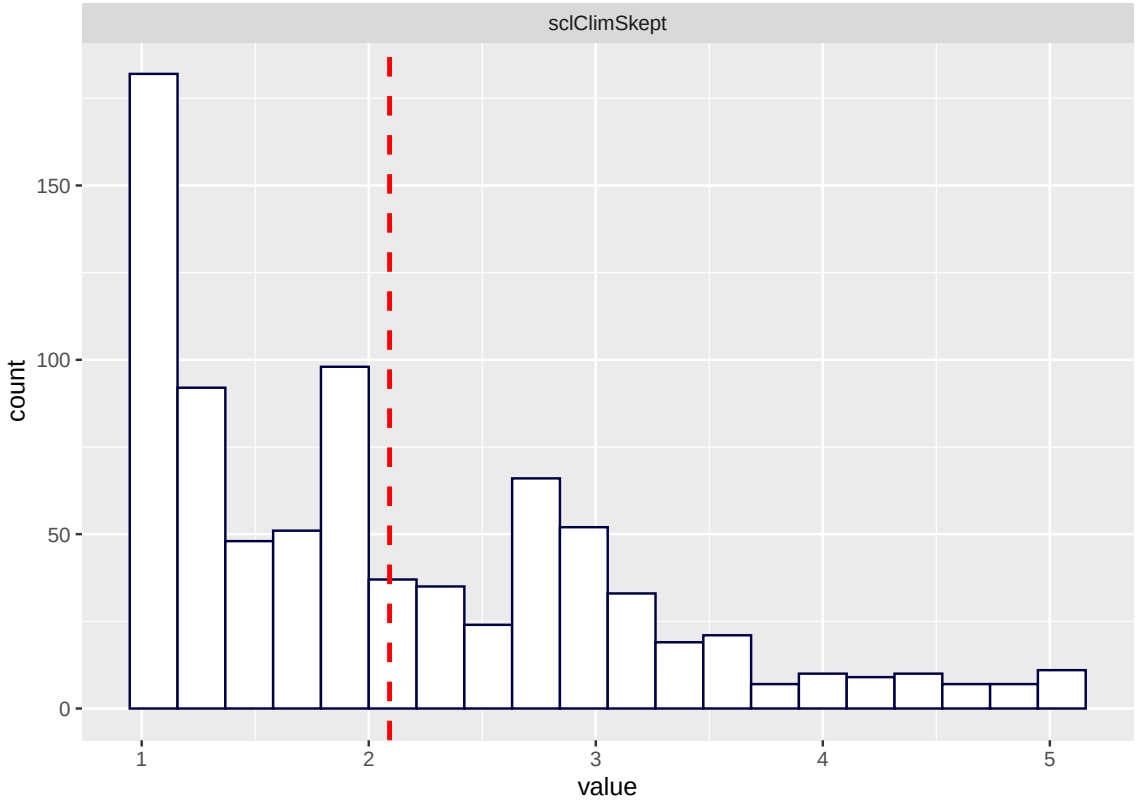

Figure V45
Climate change skepticism: histogram of scores

V6 Scales with subscales

V6.1 Social and Economic Conservatism Scale

V6.1.1 Source

The Social and Economic Conservatism Scale (Everett, 2013) consists of 12 items in 2 subscales.

V6.1.2 Items

Responses were given on slider scales from very negative (-100) to very positive (+100).[1]

- **SC01-**: Right to abortion
- **EC01-**: Welfare benefits
- **EC02+**: Limited government
- **SC02+**: Military and national security
- **SC03+**: Religion
- **EC03+**: Gun ownership
- **SC04+**: Traditional marriage
- **SC05+**: Traditional values
- **EC04+**: Fiscal responsibility
- **EC05+**: Business
- **SC06+**: The family unit
- **SC07+**: Patriotism

V6.1.3 Item preparation

```
    scaleVarsSECS <- c("SECScale_1", "SECScale_2", "SECScale_5",
    "SECScale_6", "SECScale_7", "SECScale_8", "SECScale_9",
    "SECScale_10", "SECScale_11", "SECScale_12","SECScale_13",
    "SECScale_14")

    scaleFrameSECS <- df[scaleVarsSECS]

  scaleFrameSECS <- scaleFrameSECS %>%
```

[1] There is a gap in the numbering of the original items, which is due to two items deleted in Qualtrics before the survey started: Those were items used in the original SECS-version that were later deleted from the scale, as described in Everett (2013).

```
    rename(
    SC01n=SECScale_1,EC01n=SECScale_2,EC02p=SECScale_5,SC02p=SECScale_6,
    SC03p=SECScale_7,EC03p=SECScale_8,SC04p=SECScale_9,SC05p=SECScale_10,
    EC04p=SECScale_11,EC05p=SECScale_12,SC06p=SECScale_13,SC07p=SECScale_14
  )

    scaleFrameSECS[] <-data.matrix(scaleFrameSECS)

 weightsSECS <-list(sclConsALL=c("-SC01n","-SC02p","EC02p","SC02p",
 "SC03p","EC03p","SC04p","SC05p","EC04p","EC05p","SC06p","SC07p") ,
  sclConsSoc=c("-SC01n","SC02p","SC03p","SC04p","SC05p","SC06p","SC07p"),
 sclConsEcon=c("-EC01n","EC02p","EC03p","EC04p","EC05p")
 )

 summary(scaleFrameSECS)
```

```
##      SC01n              EC01n              EC02p              SC02p
##  Min.   :-100.00   Min.   :-100.0   Min.   :-100.00   Min.   :-100.00
##  1st Qu.: -21.50   1st Qu.:   5.5   1st Qu.: -25.00   1st Qu.: -23.00
##  Median :  52.00   Median :  40.0   Median :  12.00   Median :  30.00
##  Mean   :  30.79   Mean   :  33.7   Mean   :  12.17   Mean   :  21.63
##  3rd Qu.: 100.00   3rd Qu.:  76.0   3rd Qu.:  53.50   3rd Qu.:  73.00
##  Max.   : 100.00   Max.   : 100.0   Max.   : 100.00   Max.   : 100.00
##      SC03p              EC03p              SC04p              SC05p
##  Min.   :-100.000   Min.   :-100.000   Min.   :-100.00   Min.   :-100.00
##  1st Qu.: -50.000   1st Qu.: -62.000   1st Qu.: -30.00   1st Qu.: -40.00
##  Median :  12.000   Median :   0.000   Median :  19.00   Median :  20.00
##  Mean   :   8.846   Mean   :  -2.574   Mean   :  15.87   Mean   :  13.25
##  3rd Qu.:  71.000   3rd Qu.:  57.500   3rd Qu.:  75.00   3rd Qu.:  73.50
##  Max.   : 100.000   Max.   : 100.000   Max.   : 100.00   Max.   : 100.00
##      EC04p              EC05p              SC06p              SC07p
##  Min.   :-100.00   Min.   :-100.00   Min.   :-100.00   Min.   :-100.00
##  1st Qu.:  15.00   1st Qu.:   0.00   1st Qu.:  15.00   1st Qu.: -24.50
##  Median :  47.00   Median :  35.00   Median :  60.00   Median :  26.00
##  Mean   :  42.82   Mean   :  29.42   Mean   :  48.74   Mean   :  20.99
##  3rd Qu.:  80.00   3rd Qu.:  72.00   3rd Qu.:  95.00   3rd Qu.:  79.00
##  Max.   : 100.00   Max.   : 100.00   Max.   : 100.00   Max.   : 100.00
```

V6.1.4 Item histograms

```
 SECSdf=data.frame(scale_mean=t(summarise_all(scaleFrameSECS,mean)),
         key=names(scaleFrameSECS))

 scaleFrameSECS %>%
```

```
    keep(is.numeric) %>%
      gather() %>%
        ggplot(aes(value)) +
         facet_wrap(~ key, ncol=4) +
         geom_histogram(aes(y =..count..), color="#000044",
                fill="white",bins=20)+
         geom_vline(aes(xintercept=scale_mean),SECSdf,col='red',
         linetype = "dashed",size=1)
```

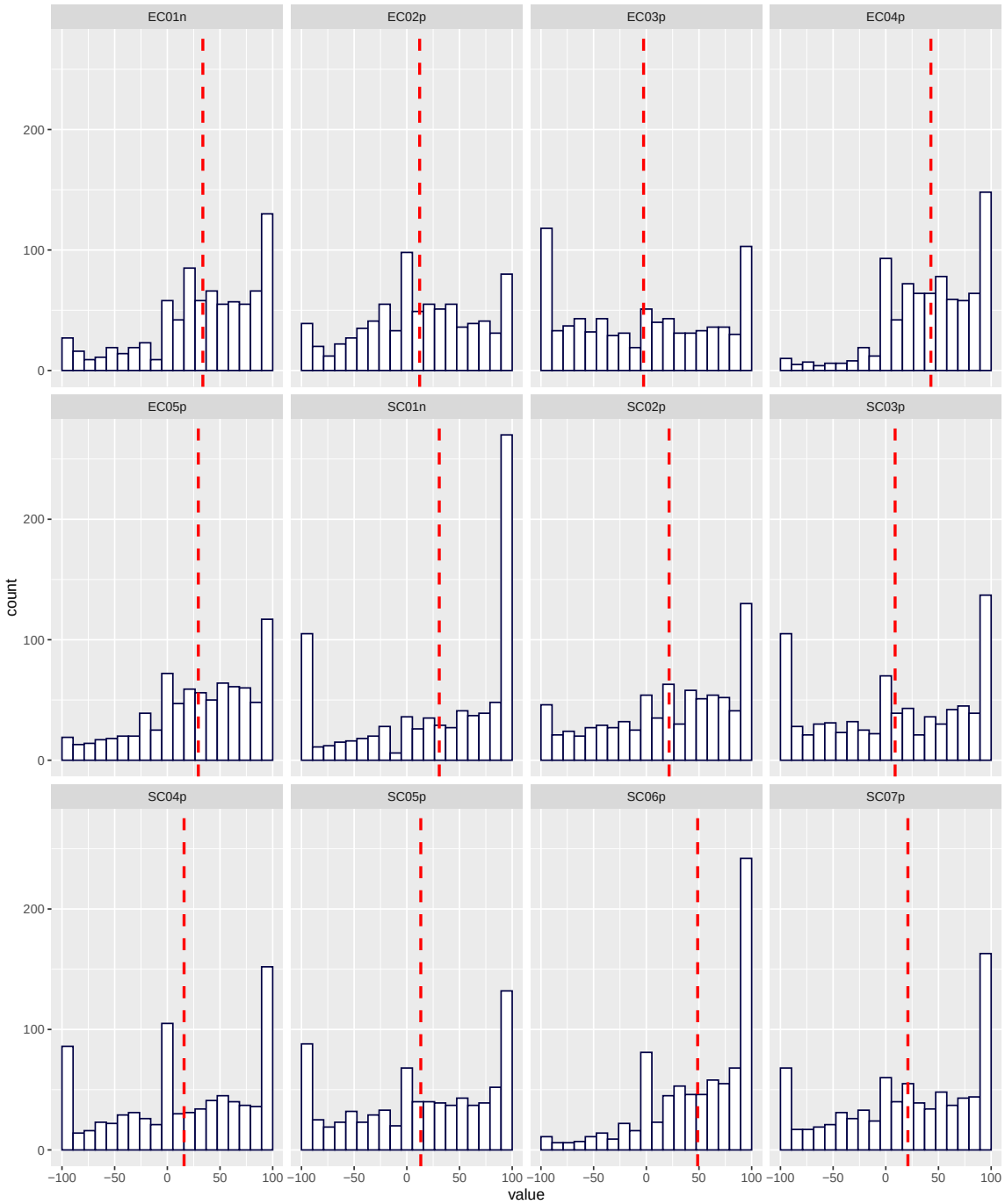

Figure V46

Social and economic conservatism scale (SECS): Item histograms with marked means

V6.1.5 Inter-correlations

```
corPlot(scaleFrameSECS,numbers=TRUE,diag=FALSE,
main="SECS",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

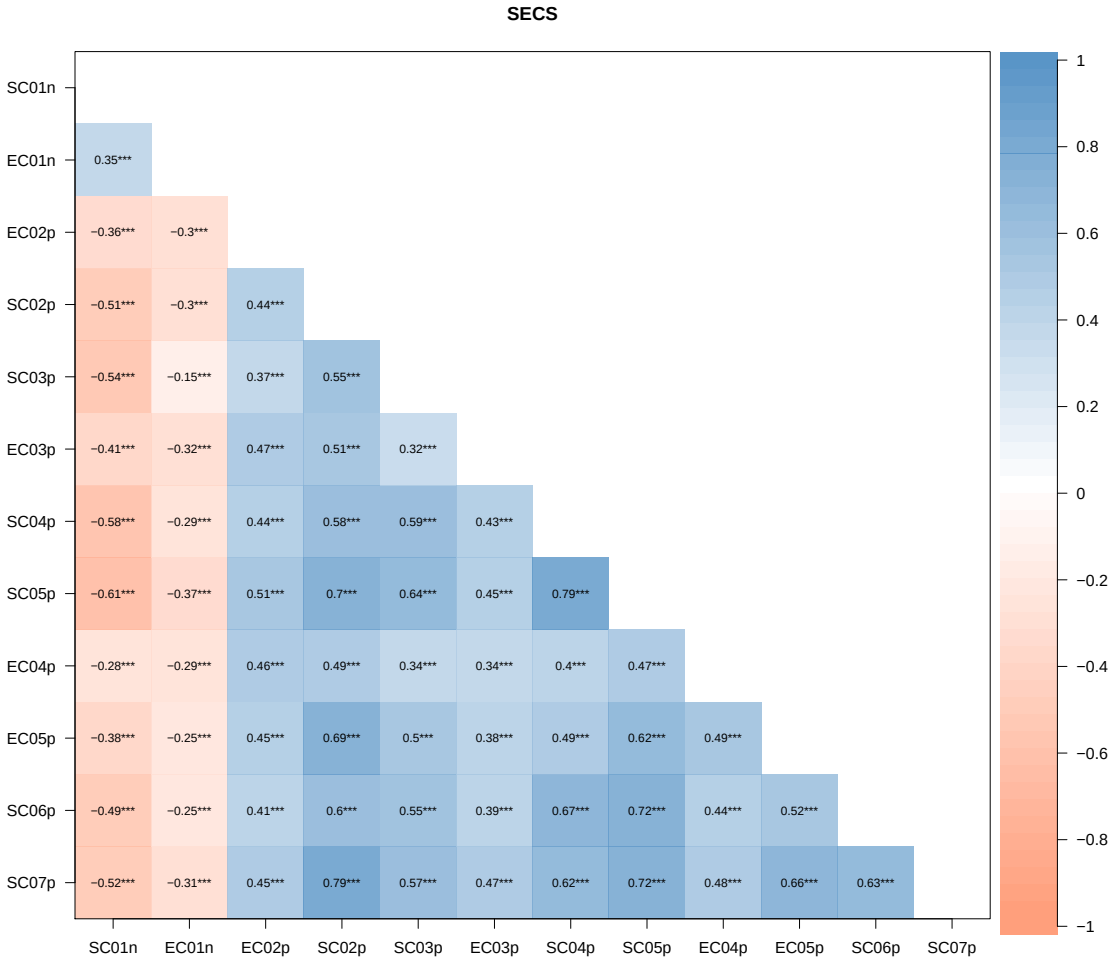

Figure V47
SECS items: Inter-correlations

V6.1.6 Scale statistics (for subscales)

```
scaleSECS=scoreItems(keys=weightsSECS, items =scaleFrameSECS,totals=FALSE)

print(scaleSECS)

## Call: scoreItems(keys = weightsSECS, items = scaleFrameSECS, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclConsALL sclConsSoc sclConsEcon
## alpha       0.92       0.92        0.74
##
```

```
## Standard errors of unstandardized Alpha:
##       sclConsALL sclConsSoc sclConsEcon
## ASE       0.0089      0.012       0.024
##
## Average item correlation:
##           sclConsALL sclConsSoc sclConsEcon
## average.r       0.51       0.61        0.36
##
## Median item correlation:
##  sclConsALL  sclConsSoc sclConsEcon
##        0.49        0.60        0.36
##
##  Guttman 6* reliability:
##          sclConsALL sclConsSoc sclConsEcon
## Lambda.6       0.93       0.92        0.75
##
## Signal/Noise based upon av.r :
##              sclConsALL sclConsSoc sclConsEcon
## Signal/Noise         11         11         2.9
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##             sclConsALL sclConsSoc sclConsEcon
## sclConsALL        0.92       1.06        1.03
## sclConsSoc        0.97       0.92        0.88
## sclConsEcon       0.85       0.72        0.74
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

scoresSECS<-data.frame(scaleSECS$scores)
summary(scoresSECS)

##    sclConsALL       sclConsSoc       sclConsEcon
##  Min.   :-94.00   Min.   :-100.00   Min.   :-100.000
##  1st Qu.:-17.86   1st Qu.: -27.64   1st Qu.: -15.100
##  Median : 19.55   Median :  18.71   Median :   7.000
##  Mean   : 16.40   Mean   :  14.08   Mean   :   9.626
##  3rd Qu.: 51.32   3rd Qu.:  56.57   3rd Qu.:  34.200
##  Max.   :100.00   Max.   : 100.00   Max.   : 100.000

head(scoresSECS)

##   sclConsALL sclConsSoc sclConsEcon
```

```
## 1   56.18182   48.85714        53.0
## 2   69.18182   51.57143        88.8
## 3   17.00000   16.42857        19.4
## 4   46.36364   35.85714        46.2
## 5   73.09091   91.85714        49.2
## 6   18.27273   40.85714       -24.8
```

```
pairs.panels(scoresSECS, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,factor=1,
hist.col="cyan",show.points=FALSE,rug=FALSE,cex.cor=1,wt=NULL,
  stars=TRUE,ci=FALSE,alpha=.05)
```

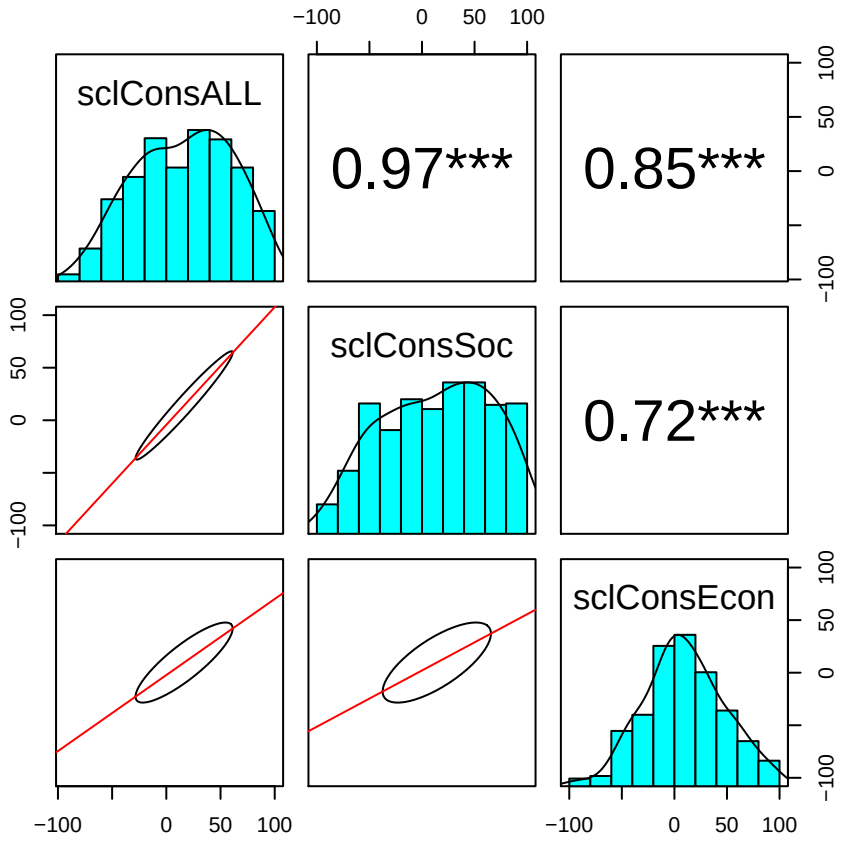

Figure V48
SECS scores: Distribution and inter-correlation of subscale values

V6.1.7 Scale value histogram

```
scalesSECS=data.frame(scale_mean=t(summarise_all(scoresSECS,mean)),
                      key=names(scoresSECS))

scoresSECS %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~ key, ncol=1) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=20) +
  geom_vline(aes(xintercept = scale_mean),
             scalesSECS,col='red', linetype = "dashed",size=1)
```

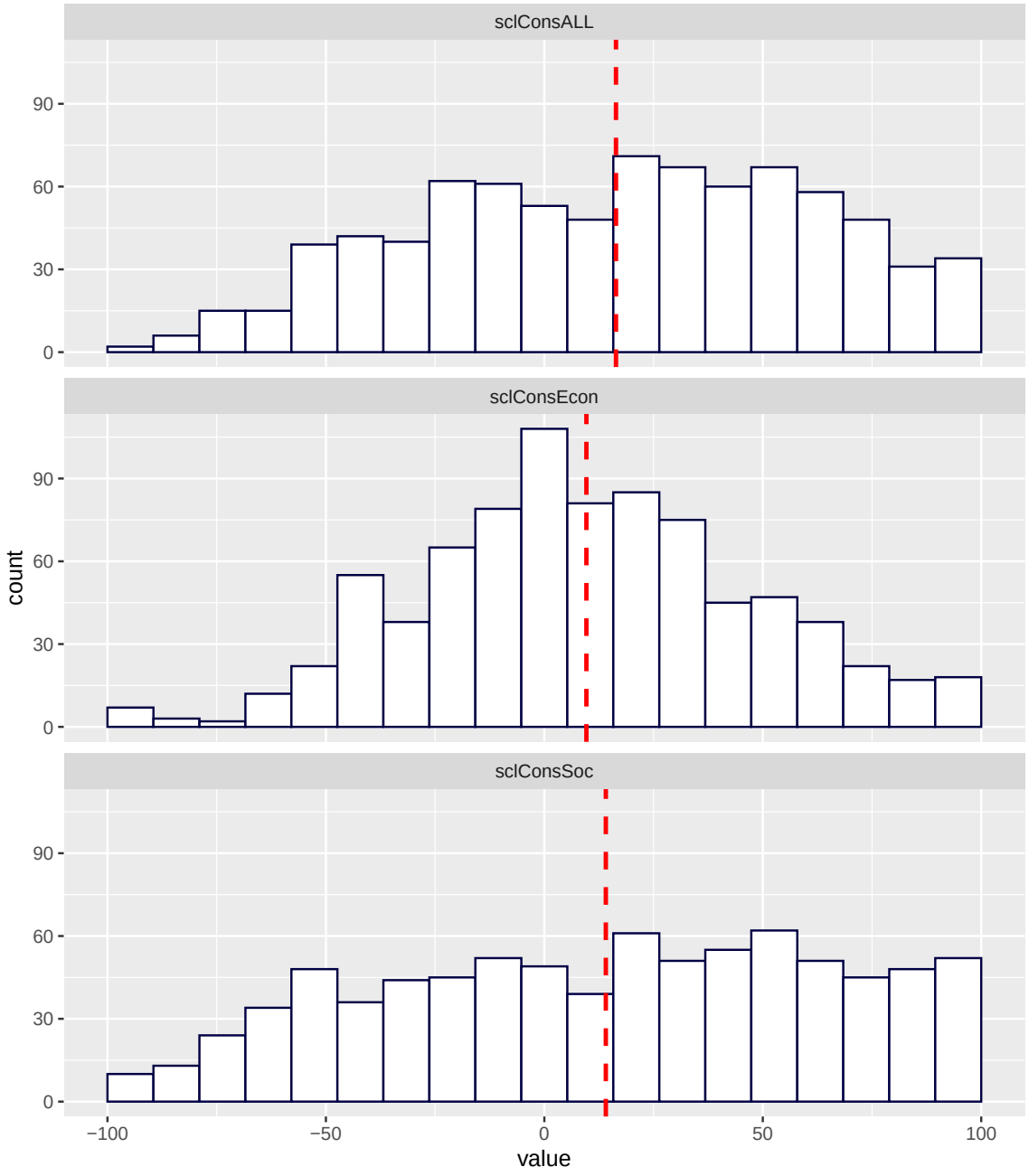

Figure V49
SECS: histogram of scores

V6.2 COVID-19 risk perception

V6.2.1 Items

These seven items are presented in Rothgerber et al. (2020) in three groups. Items in each group are presented in their own decision matrix with a six-point scale. The first two groups use scales with end points labeled "Strongly unlikely" and "Strongly likely", respectively. The perceived societal risk is measured on a scale with end points labeled "Strongly disagree" and "Strongly agree." The cited article uses all items as a single scale, but in the context of the study we split the scale into two subscales, namely personal risk perception (including the first four items) and societal risk perception (the final three items).

Perceived personal risk.

- **PPR1+**: How likely are you to become infected with COVID-19... - ...the next few weeks?
- **PPR2+**: How likely are you to become infected with COVID-19... - ...the next few months?

Perceived other risk.

- **POR1+**: How likely are you to know someone who will become infected with COVID-19... - ...in the next few weeks?
- **POR2+**: How likely are you to know someone who will become infected with COVID-19... - ...in the next few months?

Perceived societal COVID-19 health risk.

- **PSR1+**: I believe COVID-19 poses a large health risk... - to my community.
- **PSR2+**: I believe COVID-19 poses a large health risk... - to my state.
- **PSR3+**: I believe COVID-19 poses a large health risk... - to the U.S.

V6.2.2 Item preparation

```
    scaleVarsCPR <- c("CV_Risk1_weeks", "CV_Risk1_months", "CV_Risk2_weeks",
  "CV_Risk2_months", "CV_Risk3_community", "CV_Risk3_state","CV_Risk3_US" )

  scaleFrameCPR <- df[scaleVarsCPR]

scaleFrameCPR <- scaleFrameCPR %>%
  rename(
  PPR1=CV_Risk1_weeks,PPR2=CV_Risk1_months,POR1=CV_Risk2_weeks,
  POR2=CV_Risk2_months,PSR1=CV_Risk3_community,
  PSR2=CV_Risk3_state, PSR3=CV_Risk3_US )

  scaleFrameCPR[] <-data.matrix(scaleFrameCPR)
```

```
weightsCPR <-list(perceivedRiskAll=c("PPR1","PPR2","POR1","POR2",
            "PSR1","PSR2","PSR3"),
perceivedRiskPeople=c("PPR1","PPR2","POR1","POR2"),
perceivedRiskSociety=c("PSR1","PSR2","PSR3")

)

summary(scaleFrameCPR)
```

```
##       PPR1            PPR2            POR1            POR2
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:2.000   1st Qu.:2.000   1st Qu.:3.000
##  Median :2.000   Median :3.000   Median :3.000   Median :4.000
##  Mean   :2.226   Mean   :2.805   Mean   :3.306   Mean   :3.835
##  3rd Qu.:3.000   3rd Qu.:4.000   3rd Qu.:4.000   3rd Qu.:5.000
##  Max.   :6.000   Max.   :6.000   Max.   :6.000   Max.   :6.000
##       PSR1            PSR2            PSR3
##  Min.   :1.000   Min.   :1.000   Min.   :1.00
##  1st Qu.:4.000   1st Qu.:4.000   1st Qu.:5.00
##  Median :5.000   Median :5.000   Median :6.00
##  Mean   :4.596   Mean   :4.847   Mean   :5.07
##  3rd Qu.:6.000   3rd Qu.:6.000   3rd Qu.:6.00
##  Max.   :6.000   Max.   :6.000   Max.   :6.00
```

V6.2.3 Item histograms

```
CPRdf=data.frame(scale_mean=t(summarise_all(scaleFrameCPR,mean)),
        key=names(scaleFrameCPR))

scaleFrameCPR %>%
  keep(is.numeric) %>%
    gather() %>%
      ggplot(aes(value)) +
       facet_wrap(~ key, ncol=3) +
       geom_histogram(aes(y =..count..), color="#000044",
              fill="white",bins=6)+
       geom_vline(aes(xintercept =scale_mean),CPRdf,col='red',
       linetype = "dashed",size=1)
```

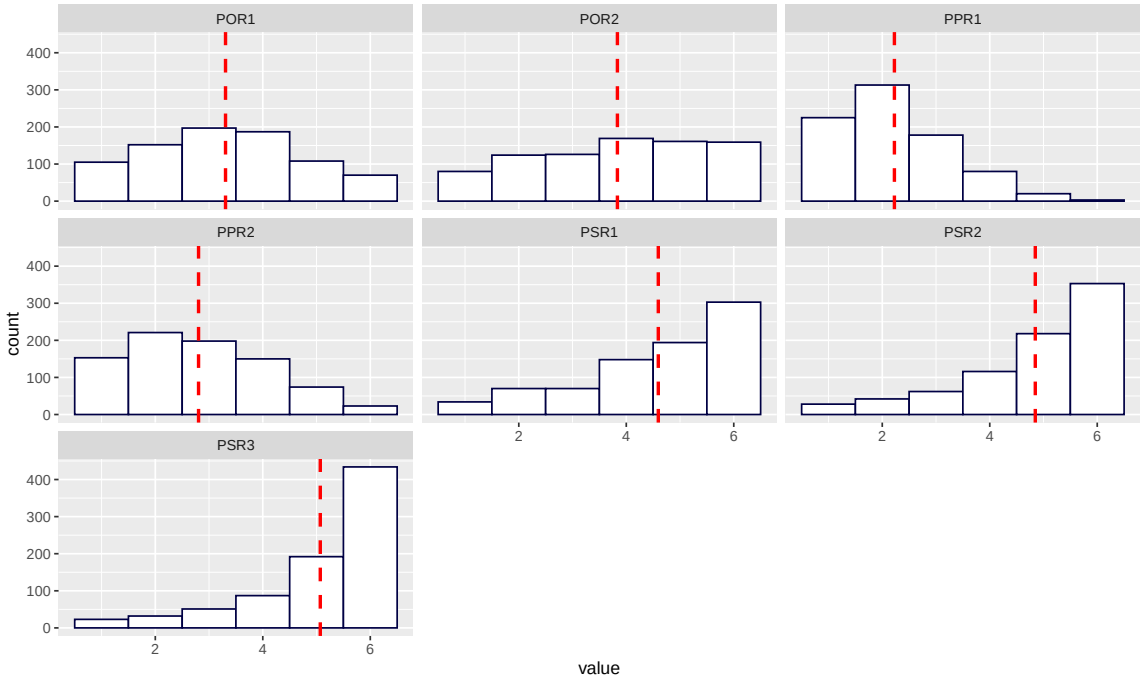

Figure V50
COVID-19 perceived risk: Item histograms with marked means

V6.2.4 Inter-correlations

```
corPlot(scaleFrameCPR,numbers=TRUE,diag=FALSE,
main="CPR",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

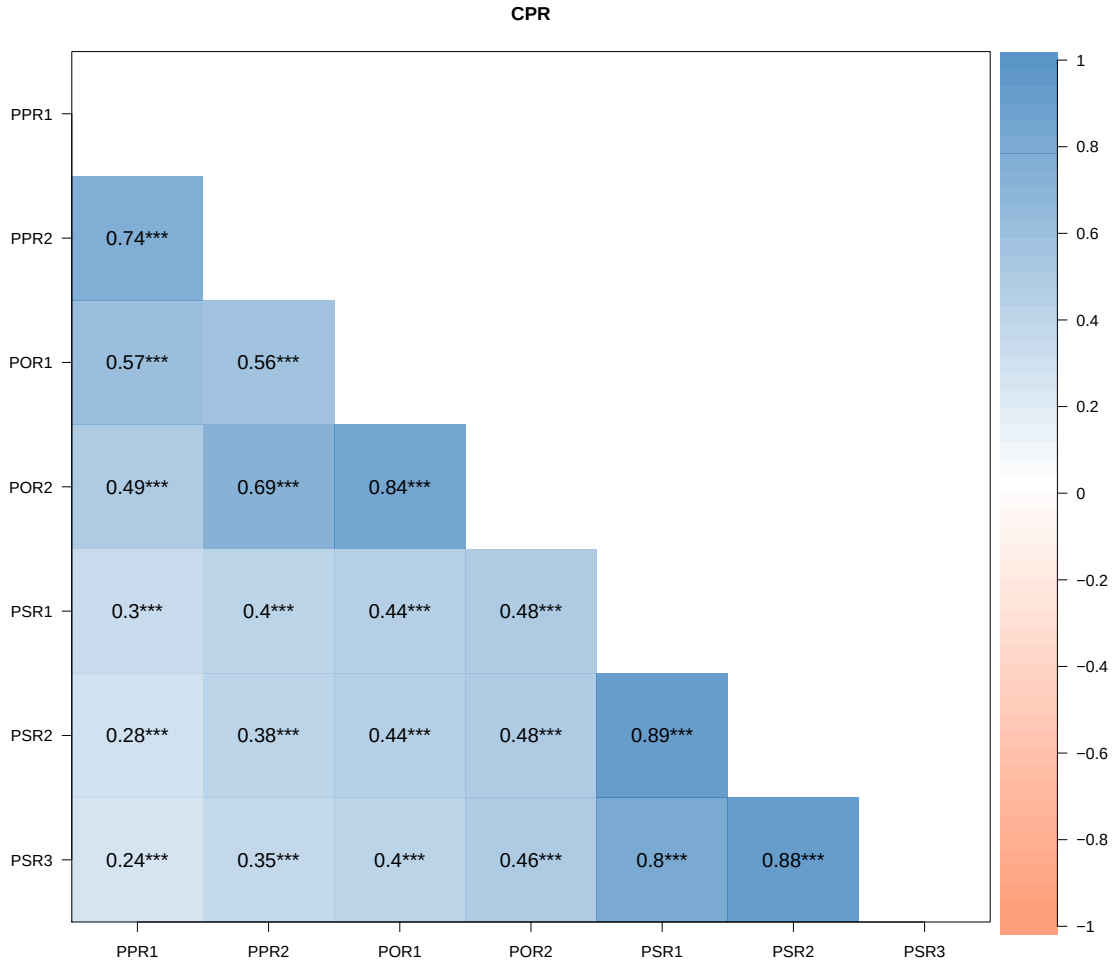

Figure V51
COVID-19 perceived risk items: Inter-correlations

V6.2.5 Scale statistics (for subscales)

```
   scaleCPR=scoreItems(keys=weightsCPR, items =scaleFrameCPR,totals=FALSE)

 print(scaleCPR)

## Call: scoreItems(keys = weightsCPR, items = scaleFrameCPR, totals = FALSE)
##
## (Unstandardized) Alpha:
##       perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## alpha             0.89                0.88                 0.95
##
```

```
## Standard errors of unstandardized Alpha:
##       perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## ASE              0.013               0.021                0.023
##
## Average item correlation:
##           perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## average.r             0.53                0.64                 0.86
##
## Median item correlation:
##     perceivedRiskAll  perceivedRiskPeople perceivedRiskSociety
##                 0.48                 0.63                 0.88
##
##  Guttman 6* reliability:
##          perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## Lambda.6             0.95                0.92                 0.93
##
## Signal/Noise based upon av.r :
##              perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## Signal/Noise              7.9                 7.1                   18
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                      perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## perceivedRiskAll                 0.89                1.01                 0.91
## perceivedRiskPeople              0.89                0.88                 0.53
## perceivedRiskSociety             0.83                0.49                 0.95
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

summary(scaleCPR)

## Call: scoreItems(keys = weightsCPR, items = scaleFrameCPR, totals = FALSE)
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, (unstandardized) alpha on the diagonal
##  corrected correlations above the diagonal:
##                      perceivedRiskAll perceivedRiskPeople perceivedRiskSociety
## perceivedRiskAll                 0.89                1.01                 0.91
## perceivedRiskPeople              0.89                0.88                 0.53
## perceivedRiskSociety             0.83                0.49                 0.95

scoresCPR<-data.frame(scaleCPR$scores)
```

```
scalesCPR=data.frame(scale_mean=t(summarise_all(scoresCPR,mean)),
                     key=names(scoresCPR))

scoresCPR %>%
  keep(is.numeric) %>%
  gather() %>%
  ggplot(aes(value)) +
  facet_wrap(~ key, ncol=1) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=20) +
  geom_vline(aes(xintercept = scale_mean),
             scalesCPR,col='red', linetype = "dashed",size=1)
```

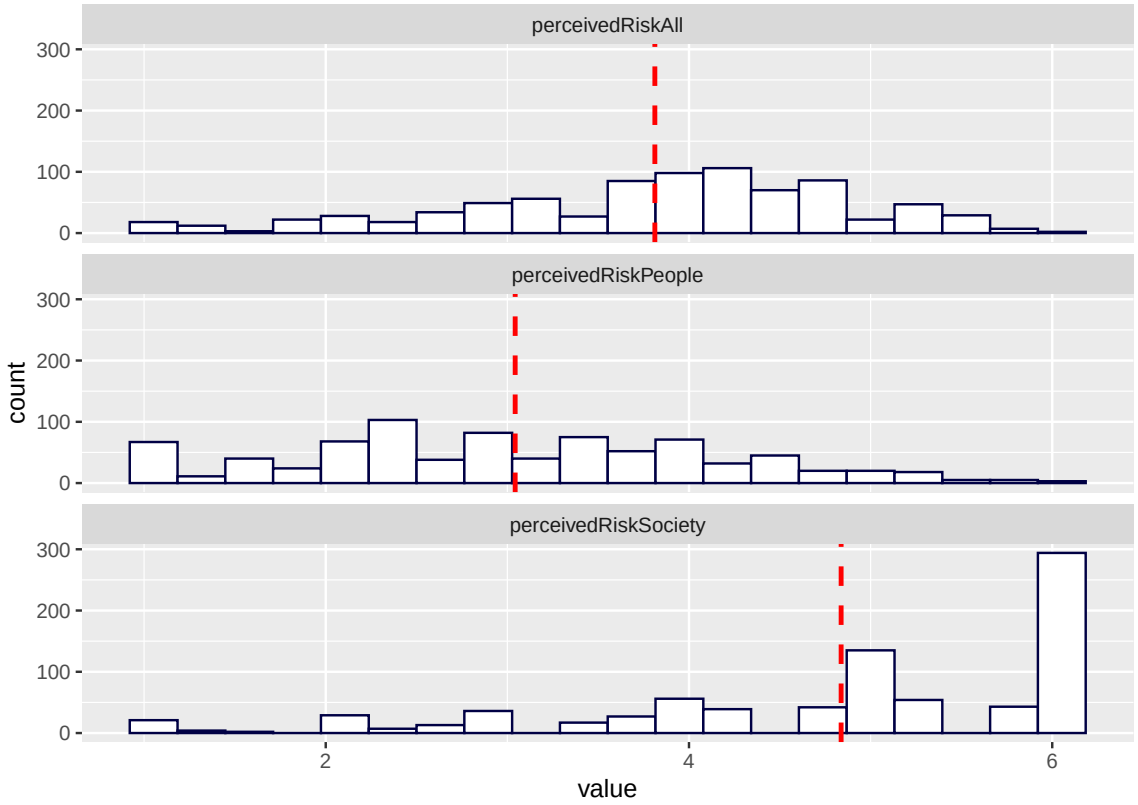

Figure V52
Perceived COVID-19 risk: histogram of scores

V6.3 Threat of COVID-19

V6.3.1 Sources

The ten items of the COVID-19 threat scales are divided into two subscales: a symbolic threat (CT-S) and a realistic threat (CS-R) scale. The items were adapted from

Kachanoff et al. (2021), with the items of the realistic subscale being themselves adapted from the Pew Research Poll, Wave 63.5, March 10, 2020.

Items were presented in two matrices with a four-point response scale: Not a Threat 1—2—3—Major Threat 4.

V6.3.2 Items

How much of a threat, if any, is the coronavirus outbreak for...

- **CT-S1+**: The rights and freedoms of the U.S. population as a whole
- **CT-S2+**: What it means to be American
- **CT-S3+**: American values and traditions
- **CT-S4+**: American democracy
- **CT-S5+**: The maintenance of law and order in America
- **CT-R1+**: Your personal health
- **CT-R2+**: The health of the U.S. population as a whole
- **CT-R3+**: Your personal financial safety
- **CT-R4+**: The U.S. economy
- **CT-R5+**: Day-to-day life in your local community

V6.3.3 Item preparation

```
  threatVars <- c("ThreatReal01", "ThreatReal02", "ThreatReal03",
                    "ThreatReal04", "ThreatReal05","ThreatSymb01",
                    "ThreatSymb02", "ThreatSymb03",
                    "ThreatSymb04", "ThreatSymb05")


  threatFrame <- df[threatVars]
  remove(threatVars)
  threatFrame[] <-data.matrix(threatFrame)

  head(threatFrame)
```

```
##   ThreatReal01 ThreatReal02 ThreatReal03 ThreatReal04 ThreatReal05 ThreatSymb01
## 1            3            3            3            3            3            2
## 2            3            3            1            3            3            2
## 3            3            2            2            3            3            2
## 4            3            4            3            4            4            2
## 5            2            2            2            4            3            4
```

```
## 6            3            3            3            3            3            3
##   ThreatSymb02 ThreatSymb03 ThreatSymb04 ThreatSymb05
## 1            2            2            2            3
## 2            1            1            1            1
## 3            2            1            1            2
## 4            3            1            1            1
## 5            4            4            4            4
## 6            3            3            3            3
```

```
  summary(threatFrame)
```

```
##   ThreatReal01    ThreatReal02    ThreatReal03    ThreatReal04
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:3.000   1st Qu.:2.000   1st Qu.:3.000
##  Median :3.000   Median :4.000   Median :3.000   Median :4.000
##  Mean   :3.021   Mean   :3.376   Mean   :2.926   Mean   :3.487
##  3rd Qu.:4.000   3rd Qu.:4.000   3rd Qu.:4.000   3rd Qu.:4.000
##  Max.   :4.000   Max.   :4.000   Max.   :4.000   Max.   :4.000
##   ThreatReal05    ThreatSymb01    ThreatSymb02    ThreatSymb03
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:3.000   1st Qu.:2.000   1st Qu.:1.000   1st Qu.:1.000
##  Median :3.000   Median :3.000   Median :2.000   Median :2.000
##  Mean   :3.083   Mean   :2.491   Mean   :2.007   Mean   :2.061
##  3rd Qu.:4.000   3rd Qu.:3.000   3rd Qu.:3.000   3rd Qu.:3.000
##  Max.   :4.000   Max.   :4.000   Max.   :4.000   Max.   :4.000
##   ThreatSymb04    ThreatSymb05
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:2.000
##  Median :2.000   Median :2.000
##  Mean   :2.328   Mean   :2.453
##  3rd Qu.:3.000   3rd Qu.:3.000
##  Max.   :4.000   Max.   :4.000
```

V6.3.4 Item histograms

```
ctDF=data.frame(scale_mean=t(summarise_all(threatFrame,mean)),
          key=names(threatFrame))

 threatFrame %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=4) +
        geom_histogram(aes(y =..count..), color="#000044",
```

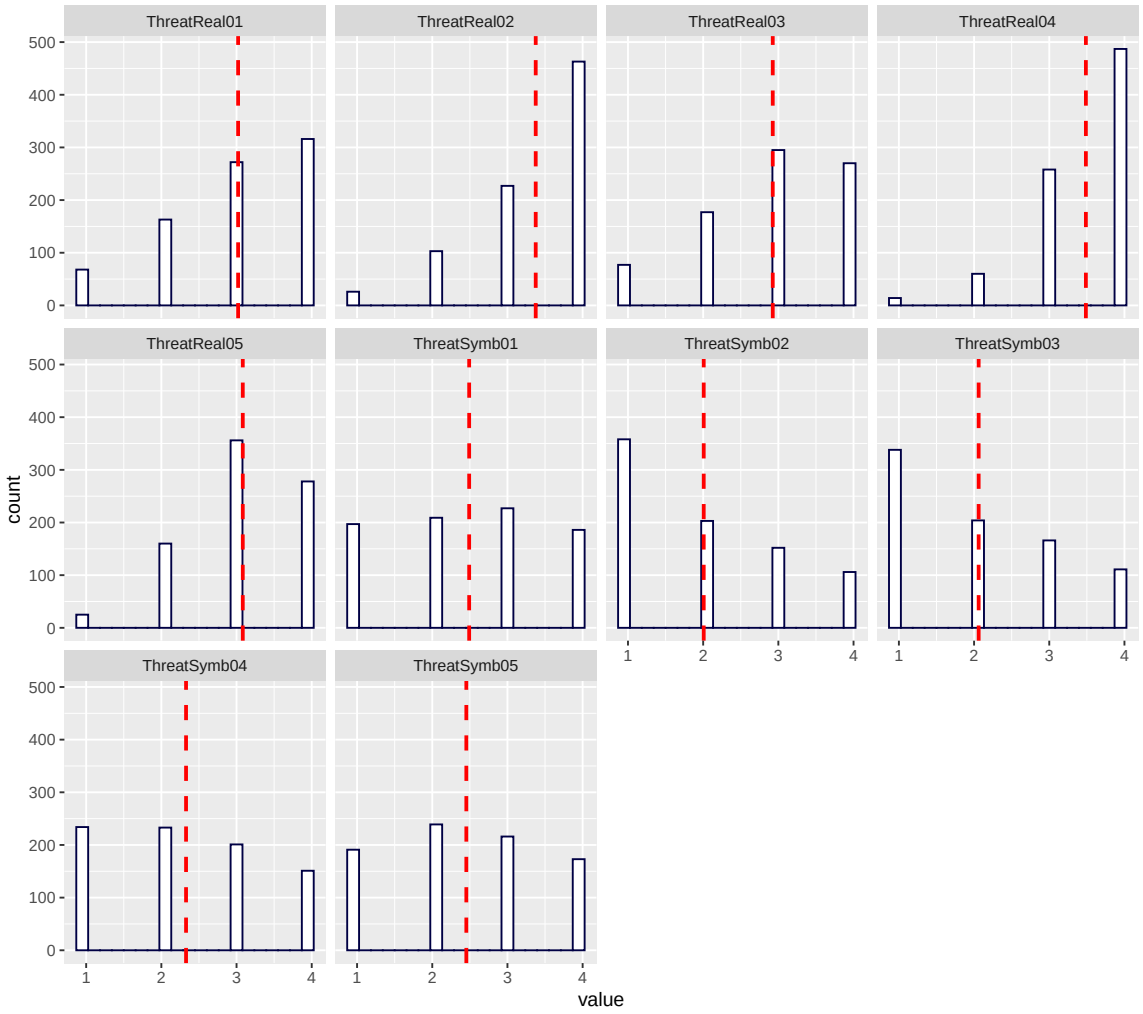

Figure V53
Threat of COVID-19: Item histograms with marked means

```
            fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),ctDF,col='red',
        linetype = "dashed",size=1)
```

V6.3.5 Inter-correlations

```
corPlot(threatFrame,numbers=TRUE,diag=FALSE,
main="Threat of COVID-19",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

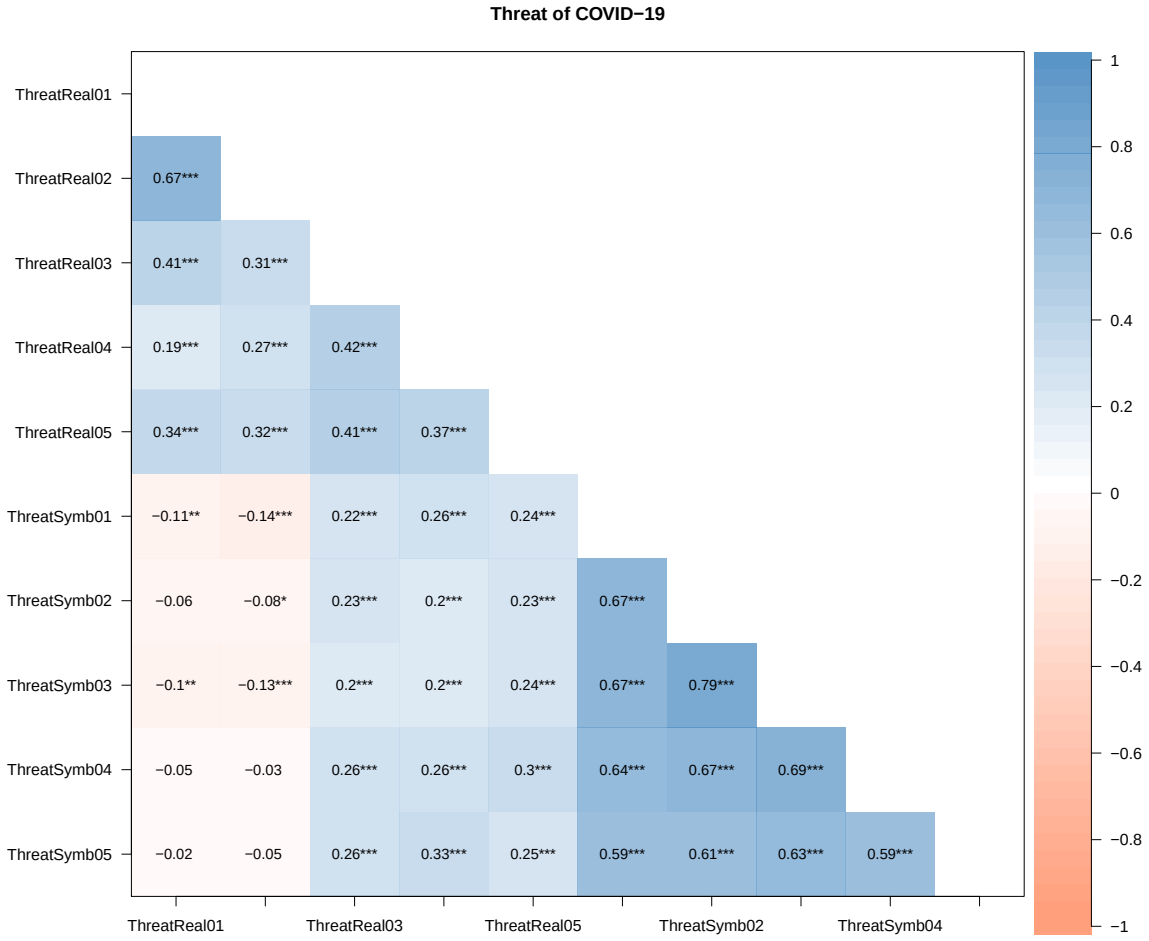

Figure V54
Threat of COVID-19: item inter-correlations

V6.3.6 Scale statistics

```
threatFrame[] <-data.matrix(threatFrame)

  weightsThreat <-list(threatSymbolic=c("ThreatSymb01", "ThreatSymb02",
  "ThreatSymb03", "ThreatSymb04", "ThreatSymb05"),
  threatReal=c("ThreatReal01", "ThreatReal02", "ThreatReal03",
      "ThreatReal04", "ThreatReal05"),
      threatFull=c("ThreatSymb01", "ThreatSymb02", "ThreatSymb03",
              "ThreatSymb04","ThreatSymb05","ThreatReal01",
              "ThreatReal02","ThreatReal03","ThreatReal04", "ThreatReal05")
                    )
```

```
scoresThreat=scoreItems(items=threatFrame,
                  keys=weightsThreat)

print(scoresThreat)
```

```
## Call: scoreItems(keys = weightsThreat, items = threatFrame)
##
## (Unstandardized) Alpha:
##       threatSymbolic threatReal threatFull
## alpha            0.9       0.75       0.81
##
## Standard errors of unstandardized Alpha:
##       threatSymbolic threatReal threatFull
## ASE           0.016      0.024      0.014
##
## Average item correlation:
##           threatSymbolic threatReal threatFull
## average.r           0.65       0.37        0.3
##
## Median item correlation:
## threatSymbolic     threatReal     threatFull
##           0.65           0.36           0.26
##
##  Guttman 6* reliability:
##          threatSymbolic threatReal threatFull
## Lambda.6           0.89       0.76       0.87
##
## Signal/Noise based upon av.r :
##              threatSymbolic threatReal threatFull
## Signal/Noise            9.4          3        4.3
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                threatSymbolic threatReal threatFull
## threatSymbolic           0.90       0.22       1.01
## threatReal               0.18       0.75       0.83
## threatFull               0.87       0.65       0.81
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scoresThreat$scores)
```

```
##  threatSymbolic    threatReal      threatFull
```

```
##  Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.400   1st Qu.:2.800   1st Qu.:2.300
##  Median :2.200   Median :3.200   Median :2.700
##  Mean   :2.268   Mean   :3.179   Mean   :2.723
##  3rd Qu.:3.000   3rd Qu.:3.600   3rd Qu.:3.100
##  Max.   :4.000   Max.   :4.000   Max.   :4.000

head(scoresThreat$scores)

##      threatSymbolic threatReal threatFull
## [1,]            2.2        3.0        2.6
## [2,]            1.2        2.6        1.9
## [3,]            1.6        2.6        2.1
## [4,]            1.6        3.6        2.6
## [5,]            4.0        2.6        3.3
## [6,]            3.0        3.0        3.0
```

V6.3.7 Scale values histogram

```
scoresThreatFrame=data.frame(
   scoresThreat$scores
  )

sumCT=data.frame(scale_mean=t(summarise_all(scoresThreatFrame,mean)),
                    key=names(scoresThreatFrame))

scoresThreatFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               sumCT,col='red', linetype = "dashed",size=1)
```

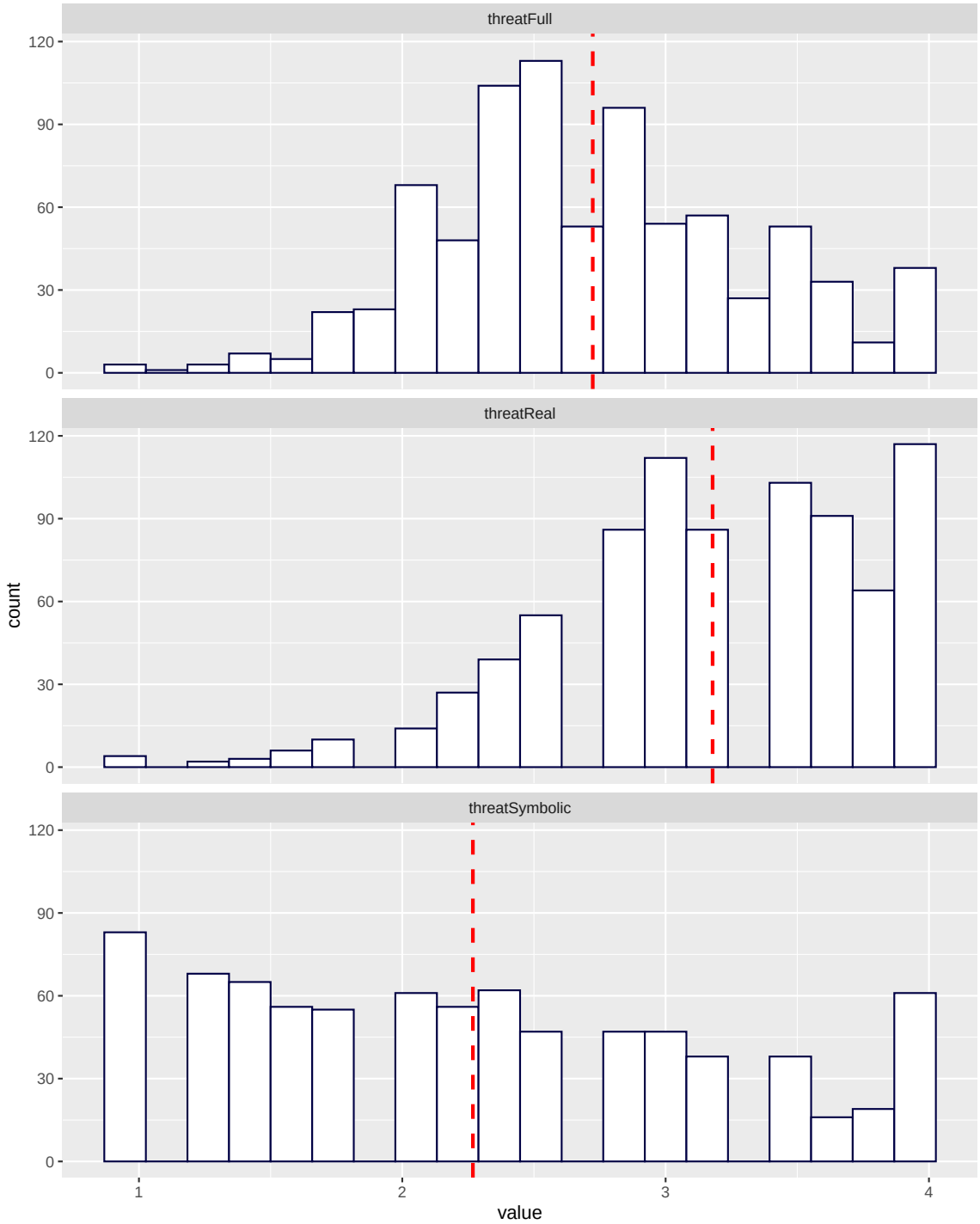

Figure V55
Threat of COVID-19: histograms of subscale scores

V6.3.8 Subscale inter-correlations

```
pairs.panels(scoresThreatFrame, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,factor=1,
hist.col="cyan",show.points=FALSE,rug=FALSE,cex.cor=1,wt=NULL,
  stars=TRUE,ci=FALSE,alpha=.05)
```

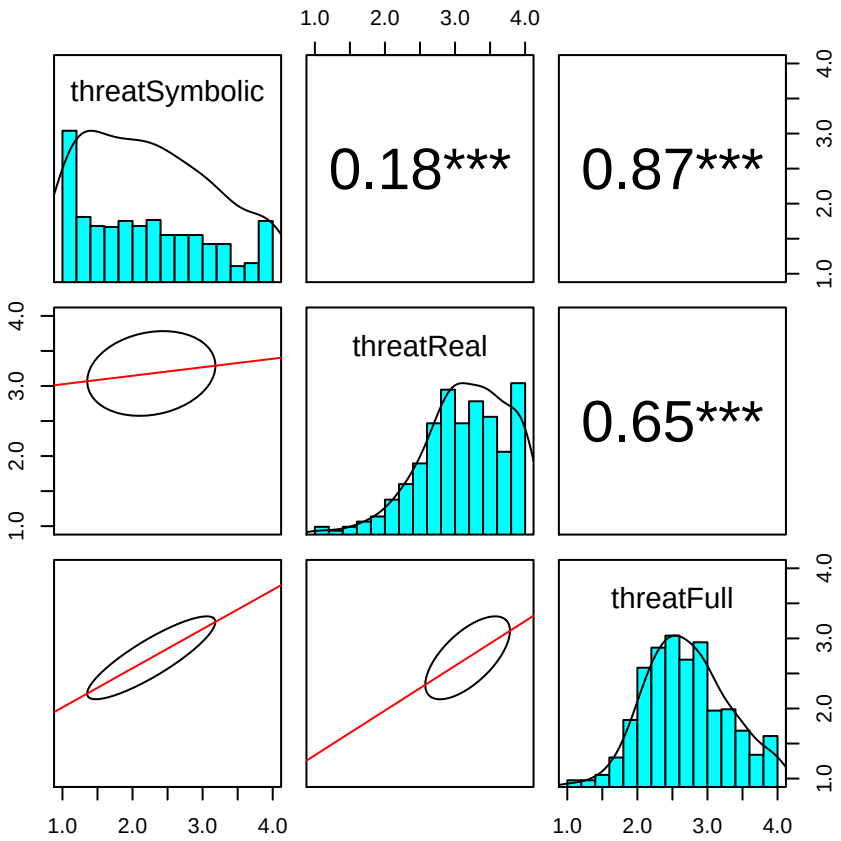

Figure V56
Threat of COVID-19: Inter-correlation of subscale values

V6.4 Government response to COVID-19

V6.4.1 Sources

The 12 items of the government response to COVID-19 scale were adapted from Conway et al. (2020). We collapsed the three government levels used in the original study into a single level, substituting "government" for each more specific term, while indicating

that the term referred to the Federal (National) Government. The 12 items form six subscales: Restriction (GR-Rst), punishment (GR-Pun), reactance (GR-Rct), research (GR-Rsh), stimulus (GR-Sti), and informational contamination (GR-Ico). We added a thirteenth item based on our previous study, asking for the attitude towards tradeoffs (GR-Tra).

Items were presented in a matrix with a seven-point response scale, with the two end points labeled "Not true of me at all" and "Very true of me", respectively.

In contrast to all other scales and without intention, there was no response requirement for these items (due to an omitted check mark). Thus, there are missing values for these variables.

V6.4.2 Items

For the following questions, consider “Government” to be the Federal (National) Government.

- **GR-Rst1+**: I support government measures to restrict the movement of American citizens to curb the spread of Coronavirus (COVID-19).
- **GR-Rst2+**: We need strong government officials right now to take action to stop the spread of disease.
- **GR-Pun1+**: I want my government to severely punish those who violate orders to stay home.
- **GR-Pun2+**: It is vital right now that the government strongly punishes people who do not engage in social distancing measures.
- **GR-Rct1+**: I am upset at the thought that my government would force people to stay home against their will.
- **GR-Rct2+**: It makes me angry that the government would tell me where I can go and what I can do, even when there is a crisis such as Coronavirus (COVID-19).
- **GR-Rsh1+**: I think we should spend most of our government resources right now towards finding a vaccine (or other medical cure) for Coronavirus (COVID-19).
- **GR-Rsh2+**: I want to see more governmental research on Coronavirus (COVID-19) because I think that’s the best way to stop it.
- **GR-Sti1+**: I think it is a good idea for the government to give individual citizens money back during these difficult times to increase spending and keep business going.
- **GR-Sti2+**: I think a government stimulus package during the virus spread is a good idea.
- **GR-Ico1+**: I distrust the information I receive about the Coronavirus (COVID-19) from my government.
- **GR-Ico2+**:I think the government has an agenda that’s causing them not to give the whole story to the populace.

- **GR-Tra1+**: I think that the health of the economy is more important than the health of a small minority of vulnerable people.

V6.4.3 Missing values

V6.4.4 Item preparation

```
GRCVars <-c("CV_GRC_1", "CV_GRC_2","CV_GRC_3", "CV_GRC_4","CV_GRC_5",
             "CV_GRC_6","CV_GRC_7", "CV_GRC_8",
              "CV_GRC_9", "CV_GRC_10","CV_GRC_11",
              "CV_GRC_12","CV_GRC_15")

grcframe <- df[GRCVars]
remove(GRCVars)


  grcframe[] <-data.matrix(grcframe)

  head(grcframe)
```

```
##   CV_GRC_1 CV_GRC_2 CV_GRC_3 CV_GRC_4 CV_GRC_5 CV_GRC_6 CV_GRC_7 CV_GRC_8
## 1        4        4        2        2        5        5        5        5
## 2        7        7        3        3        1        1        2        5
## 3        3        4        2        3        4        5        7        6
## 4        6        7        3        2        2        2        7        3
## 5        1        1        1        1        7        7        1        1
## 6        5        5        5        5        5        5        5        5
##   CV_GRC_9 CV_GRC_10 CV_GRC_11 CV_GRC_12 CV_GRC_15
## 1        5         6         4         4         4
## 2        7         7         5         6         7
## 3        4         5         2         2         4
## 4        7         7         4         3         2
## 5        1         1         7         7         4
## 6        5         5         2         5         5
```

```
  summary(grcframe)
```

```
##     CV_GRC_1        CV_GRC_2        CV_GRC_3        CV_GRC_4        CV_GRC_5
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.00
##  1st Qu.:5.000   1st Qu.:5.000   1st Qu.:2.000   1st Qu.:3.000   1st Qu.:1.00
##  Median :6.000   Median :6.000   Median :4.000   Median :4.000   Median :2.00
##  Mean   :5.462   Mean   :5.589   Mean   :4.115   Mean   :4.191   Mean   :2.77
##  3rd Qu.:7.000   3rd Qu.:7.000   3rd Qu.:6.000   3rd Qu.:6.000   3rd Qu.:4.00
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.00
##                  NA's   :1       NA's   :2       NA's   :4       NA's   :3
##     CV_GRC_6        CV_GRC_7        CV_GRC_8        CV_GRC_9
```

```
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:4.000   1st Qu.:4.000   1st Qu.:5.000
##  Median :2.000   Median :5.000   Median :6.000   Median :6.000
##  Mean   :2.573   Mean   :4.939   Mean   :5.257   Mean   :5.705
##  3rd Qu.:4.000   3rd Qu.:6.000   3rd Qu.:7.000   3rd Qu.:7.000
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.000
##  NA's   :2       NA's   :3       NA's   :2       NA's   :2
##    CV_GRC_10       CV_GRC_11       CV_GRC_12       CV_GRC_15
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.00
##  1st Qu.:5.000   1st Qu.:3.000   1st Qu.:2.000   1st Qu.:1.00
##  Median :6.000   Median :4.000   Median :4.000   Median :2.00
##  Mean   :5.904   Mean   :4.054   Mean   :3.797   Mean   :2.73
##  3rd Qu.:7.000   3rd Qu.:5.000   3rd Qu.:5.000   3rd Qu.:4.00
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.00
##  NA's   :3                       NA's   :2
```

V6.4.5 Item histograms

```
grcDF=data.frame(scale_mean=t(summarise_all(grcframe,mean, na.rm = TRUE)),
         key=names(grcframe))

 grcframe %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=4) +
        geom_histogram(aes(y =..count..), color="#000044",
               fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),grcDF,col='red',
        linetype = "dashed",size=1)
```

```
## Warning:  Removed 24 rows containing non-finite values (stat_bin).
```

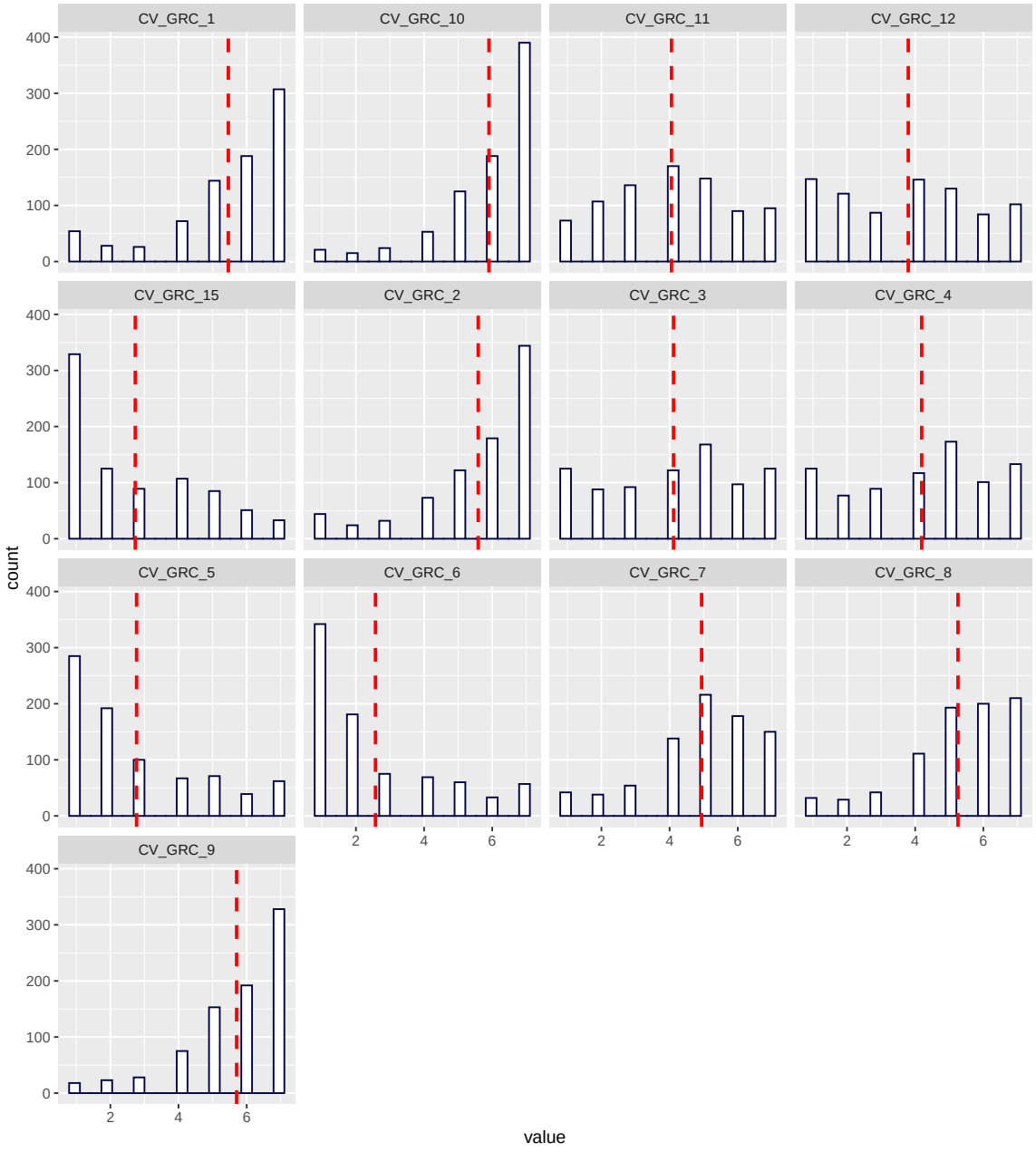

Figure V57

Government response to COVID-19: Item histograms with marked means

V6.4.6 Inter-correlations

```
corPlot(grcframe,numbers=TRUE,diag=FALSE,
main="Government response to COVID-19",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

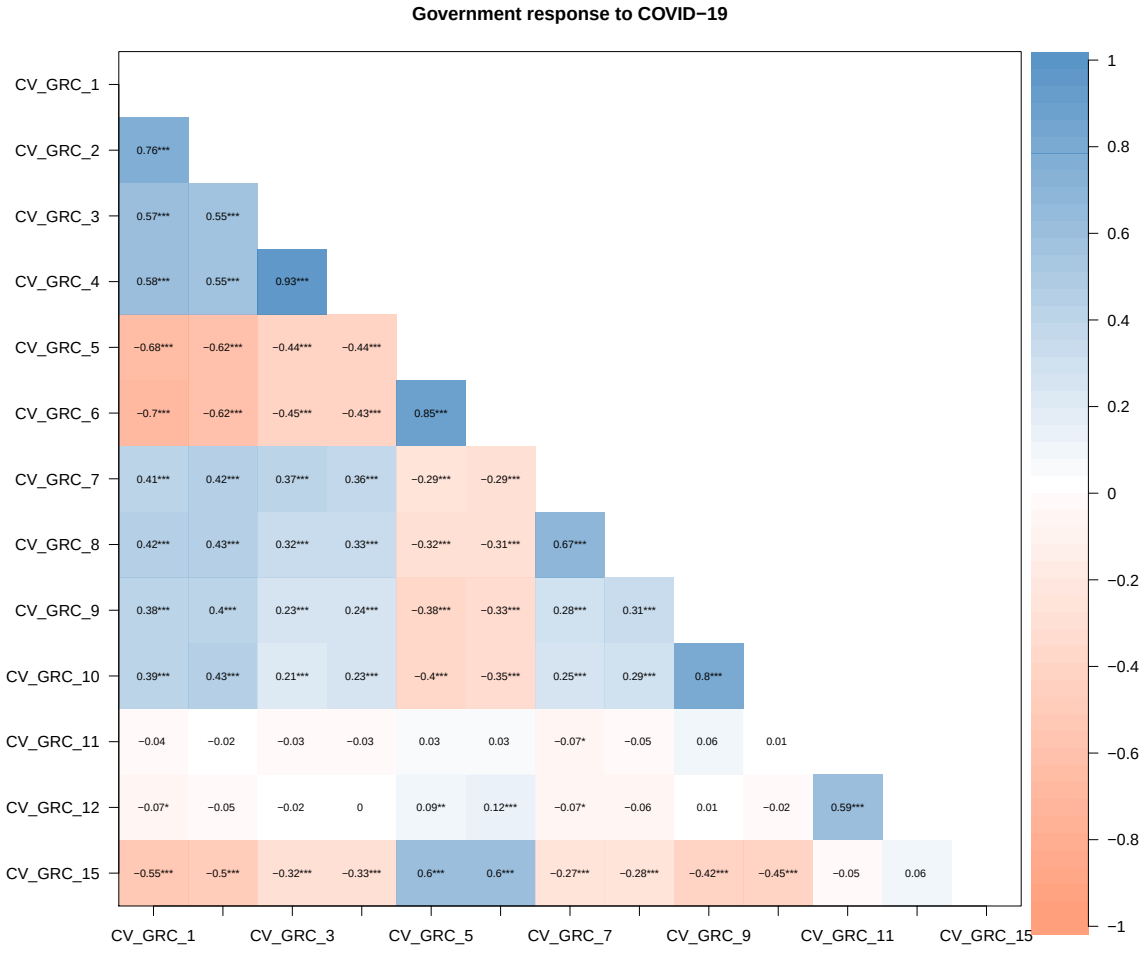

Figure V58
Government response to COVID-19: item inter-correlations

V6.4.7 Scale statistics

```
    grcframe[] <-data.matrix(grcframe)

weightsGRC <-list(grcRestrictions=c("CV_GRC_1","CV_GRC_2"),
  grcPunishment=c("CV_GRC_3","CV_GRC_4"),
  grcReactance=c("CV_GRC_5","CV_GRC_6"),
  grcResearch=c("CV_GRC_7","CV_GRC_8"),
  grcStimulus=c("CV_GRC_9","CV_GRC_10"),
  grcContamination=c("CV_GRC_11","CV_GRC_12"),
  grcTradeoff=c("CV_GRC_15")
                )
```

```
scoresGRC=scoreItems(items=grcframe,
                     keys=weightsGRC)

print(scoresGRC)
```

```
## Call: scoreItems(keys = weightsGRC, items = grcframe)
##
## (Unstandardized) Alpha:
##       grcRestrictions grcPunishment grcReactance grcResearch grcStimulus
## alpha            0.87          0.96         0.92         0.8        0.89
##       grcContamination grcTradeoff
## alpha             0.74           1
##
## Standard errors of unstandardized Alpha:
##       grcRestrictions grcPunishment grcReactance grcResearch grcStimulus
## ASE             0.043         0.038         0.04       0.047       0.042
##       grcContamination grcTradeoff
## ASE               0.05         NaN
##
## Average item correlation:
##           grcRestrictions grcPunishment grcReactance grcResearch grcStimulus
## average.r            0.76          0.92         0.85        0.67        0.79
##           grcContamination grcTradeoff
## average.r             0.58         NaN
##
## Median item correlation:
##  grcRestrictions    grcPunishment     grcReactance      grcResearch
##             0.76             0.92             0.85             0.67
##      grcStimulus grcContamination      grcTradeoff
##             0.79             0.59               NA
##
##  Guttman 6* reliability:
##          grcRestrictions grcPunishment grcReactance grcResearch grcStimulus
## Lambda.6            0.82          0.93         0.87        0.69        0.81
##          grcContamination grcTradeoff
## Lambda.6              0.6        0.46
##
## Signal/Noise based upon av.r :
##              grcRestrictions grcPunishment grcReactance grcResearch grcStimulus
## Signal/Noise             6.5            24           11           4         7.7
##              grcContamination grcTradeoff
## Signal/Noise              2.8         NaN
##
## Scale intercorrelations corrected for attenuation
```

```
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                  grcRestrictions grcPunishment grcReactance grcResearch
## grcRestrictions           0.866         0.670       -0.814       0.585
## grcPunishment             0.611         0.961       -0.497       0.440
## grcReactance             -0.725        -0.466        0.917      -0.404
## grcResearch               0.488         0.386       -0.347       0.801
## grcStimulus               0.448         0.246       -0.404       0.325
## grcContamination         -0.052        -0.021        0.085      -0.079
## grcTradeoff              -0.557        -0.332        0.624      -0.304
##                  grcStimulus grcContamination grcTradeoff
## grcRestrictions        0.512           -0.066      -0.598
## grcPunishment          0.267           -0.025      -0.338
## grcReactance          -0.448            0.103       0.652
## grcResearch            0.386           -0.102      -0.339
## grcStimulus            0.886            0.022      -0.487
## grcContamination       0.017            0.735       0.012
## grcTradeoff           -0.458            0.010       1.000
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

summary(scoresGRC$scores)

##  grcRestrictions grcPunishment    grcReactance    grcResearch
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:5.000   1st Qu.:2.500   1st Qu.:1.000   1st Qu.:4.000
##  Median :6.000   Median :4.500   Median :2.000   Median :5.000
##  Mean   :5.526   Mean   :4.153   Mean   :2.669   Mean   :5.099
##  3rd Qu.:7.000   3rd Qu.:5.750   3rd Qu.:4.000   3rd Qu.:6.000
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.000
##   grcStimulus    grcContamination  grcTradeoff
##  Min.   :1.000   Min.   :1.000    Min.   :1.00
##  1st Qu.:5.000   1st Qu.:2.500    1st Qu.:1.00
##  Median :6.000   Median :4.000    Median :2.00
##  Mean   :5.805   Mean   :3.926    Mean   :2.73
##  3rd Qu.:7.000   3rd Qu.:5.000    3rd Qu.:4.00
##  Max.   :7.000   Max.   :7.000    Max.   :7.00

head(scoresGRC$scores)

##      grcRestrictions grcPunishment grcReactance grcResearch grcStimulus
## [1,]             4.0           2.0          5.0         5.0         5.5
## [2,]             7.0           3.0          1.0         3.5         7.0
## [3,]             3.5           2.5          4.5         6.5         4.5
```

```
## [4,]            6.5          2.5          2.0          5.0          7.0
## [5,]            1.0          1.0          7.0          1.0          1.0
## [6,]            5.0          5.0          5.0          5.0          5.0
##      grcContamination grcTradeoff
## [1,]              4.0           4
## [2,]              5.5           7
## [3,]              2.0           4
## [4,]              3.5           2
## [5,]              7.0           4
## [6,]              3.5           5
```

V6.4.8 Scale values histogram

```
grcScoreFrame=data.frame(
   scoresGRC$scores
  )

sumGRC=data.frame(scale_mean=t(summarise_all(grcScoreFrame,mean)),
                  key=names(grcScoreFrame))

grcScoreFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               sumGRC,col='red', linetype = "dashed",size=1)
```

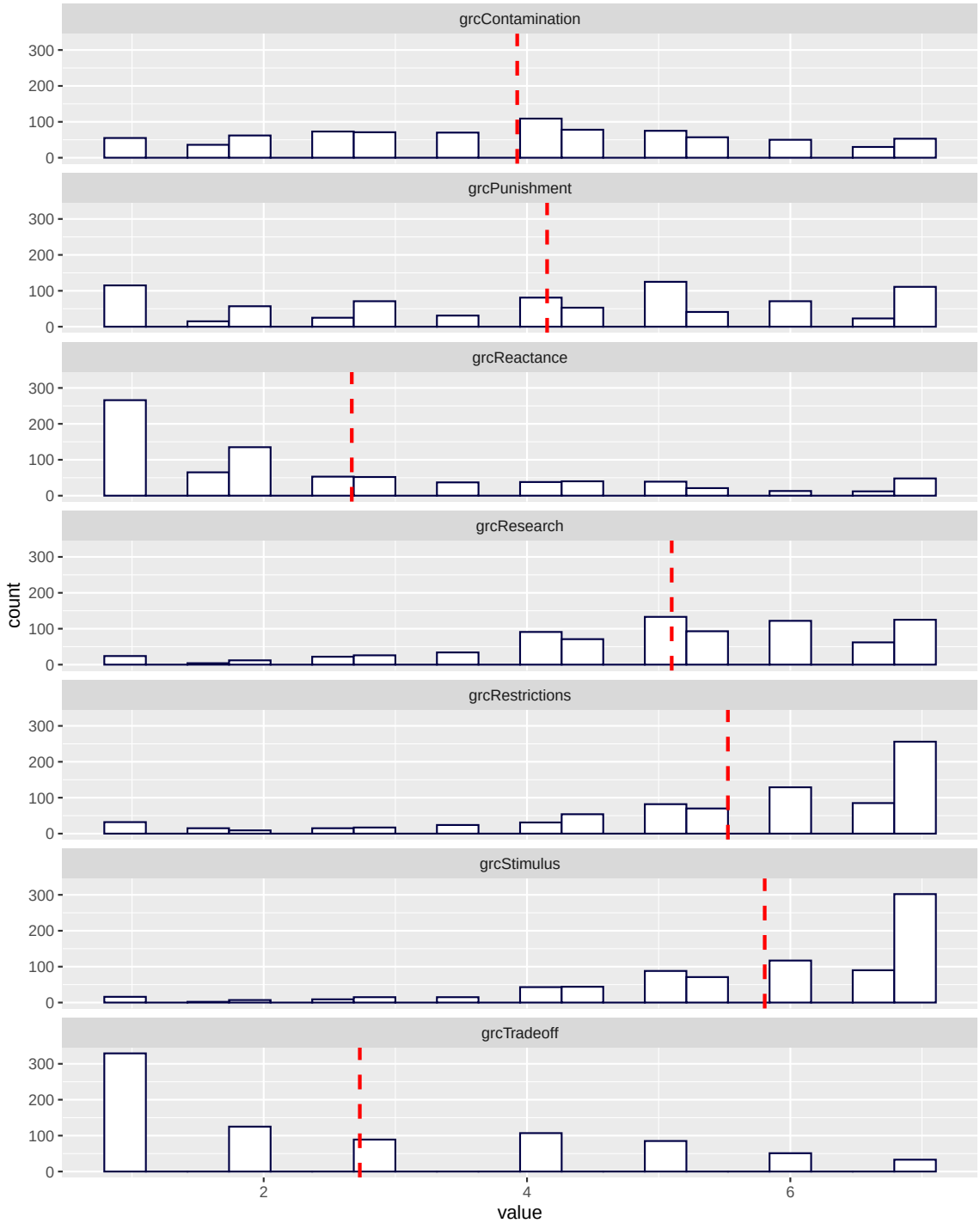

Figure V59

Government response to COVID-19: histograms of subscale scores

V6.4.9 Subscale inter-correlations

```
pairs.panels(grcScoreFrame, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,factor=1,
hist.col="cyan",show.points=FALSE,rug=FALSE,cex.cor=1,wt=NULL,
  stars=TRUE,ci=FALSE,alpha=.05)
```

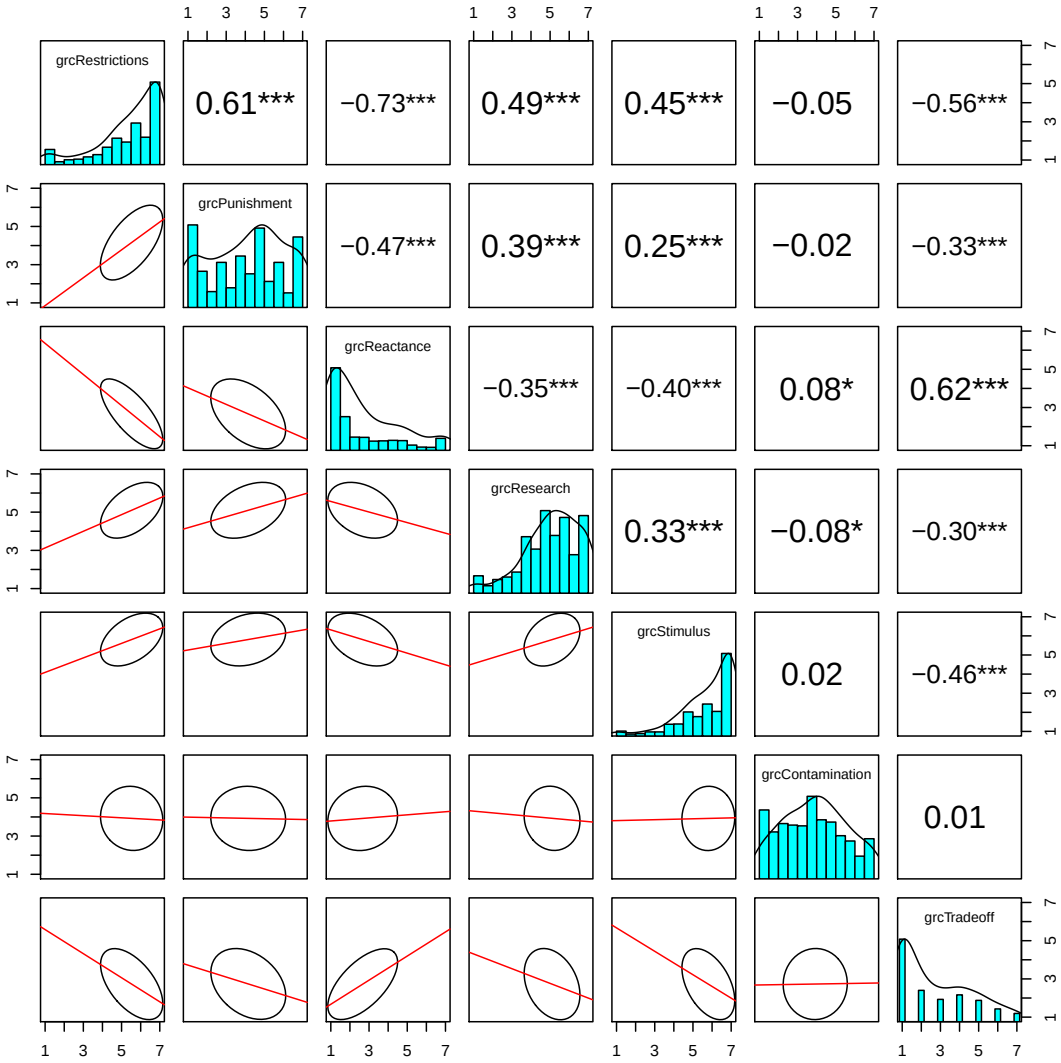

Figure V60
Government response to COVID-19: Inter-correlation of subscale values

V6.5 American response to COVID-19

V6.5.1 Sources

The 14 items of the American response to Covid-19 scales were taken from Pennycook et al. (2021). The items form two subscales: An evaluation of the presidential COVID-19 response (ARC-P), and an evaluation of the national COVID-19 response (ARC-N).

Items were presented in two matrices with a seven-point response scale: Strongly disagree—Disagree—Somewhat disagree—Neither agree nor disagree—Somewhat agree—Agree—Strongly agree.

V6.5.2 Items

Please read each statement and decide how much you agree or disagree with that statement.

- **ARC-P01+**: President Trump accurately understands the level of danger posed by the coronavirus.
- **ARC-P02+**: President Trump is a good source of information regarding the coronavirus.
- **ARC-P03+**: President Trump knows what needs to be done to mitigate further spread of the virus.
- **ARC-P04+**: President Trump is doing his best given the information that he has.
- **ARC-P05+**: President Trump is doing all he can do to prevent further spread of the coronavirus.
- **ARC-P06-**: President Trump is handling the coronavirus poorly.
- **ARC-P07-**: President Trump should have done more, sooner, in response to the coronavirus.
- **ARC-P08-**: President Trump was too slow in his response to the coronavirus.
- **ARC-P09-**: President Trump has underestimated the risk of the coronavirus.
- **ARC-P10-**: President Trump is failing in his job to keep the nation updated with accurate information.
- **ARC-N01+**: America is the most prepared nation with respect to the coronavirus outbreak.
- **ARC-N02+**: America is the most equipped country to deal with the coronavirus.
- **ARC-N03+**: America is being more proactive than other countries with respect to the coronavirus outbreak.
- **ARC-N04+**: America did more to prevent the spread of the coronavirus than other countries.

V6.5.3 Item preparation

```
  respARCFrame=data.frame(
ARCPres01=as.numeric(df$ARCTrump01),
ARCPres02=as.numeric(df$ARCTrump02),
ARCPres03=as.numeric(df$ARCTrump03),
ARCPres04=as.numeric(df$ARCTrump04),
ARCPres05=as.numeric(df$ARCTrump05),
ARCPres06R=as.numeric(df$ARCTrump06),
ARCPres07R=as.numeric(df$ARCTrump07),
ARCPres08R=as.numeric(df$ARCTrump08),
ARCPres09R=as.numeric(df$ARCTrump09),
ARCPres10R=as.numeric(df$ARCTrump10),
ARCNational01=as.numeric(df$ACRNational01),
ARCNational02=as.numeric(df$ACRNational02),
ARCNational03=as.numeric(df$ACRNational03),
ARCNational04=as.numeric(df$ACRNational04)
  )

  head(respARCFrame)

##   ARCPres01 ARCPres02 ARCPres03 ARCPres04 ARCPres05 ARCPres06R ARCPres07R
## 1         5         4         4         5         5          3          3
## 2         2         2         2         5         5          6          5
## 3         2         1         2         2         2          7          7
## 4         1         1         2         1         1          7          7
## 5         7         7         7         7         7          1          1
## 6         5         5         5         5         5          5          5
##   ARCPres08R ARCPres09R ARCPres10R ARCNational01 ARCNational02 ARCNational03
## 1          3          4          3             3             3             3
## 2          6          6          5             2             2             1
## 3          7          6          5             3             3             1
## 4          7          7          7             1             3             1
## 5          1          1          1             5             5             5
## 6          5          5          5             4             4             4
##   ARCNational04
## 1             3
## 2             1
## 3             2
## 4             1
## 5             5
## 6             4

  summary(respARCFrame)
```

```
##    ARCPres01       ARCPres02       ARCPres03       ARCPres04
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :1.000   Median :3.000   Median :2.000
##  Mean   :2.979   Mean   :2.509   Mean   :3.252   Mean   :3.046
##  3rd Qu.:5.000   3rd Qu.:4.000   3rd Qu.:5.000   3rd Qu.:5.000
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.000
##    ARCPres05       ARCPres06R      ARCPres07R      ARCPres08R
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:3.000   1st Qu.:4.000   1st Qu.:4.000
##  Median :2.000   Median :6.000   Median :7.000   Median :6.000
##  Mean   :2.858   Mean   :5.132   Mean   :5.464   Mean   :5.249
##  3rd Qu.:5.000   3rd Qu.:7.000   3rd Qu.:7.000   3rd Qu.:7.000
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.000
##    ARCPres09R      ARCPres10R    ARCNational01   ARCNational02
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:4.000   1st Qu.:3.000   1st Qu.:1.000   1st Qu.:1.000
##  Median :6.000   Median :6.000   Median :2.000   Median :3.000
##  Mean   :5.372   Mean   :5.055   Mean   :2.584   Mean   :3.212
##  3rd Qu.:7.000   3rd Qu.:7.000   3rd Qu.:4.000   3rd Qu.:5.000
##  Max.   :7.000   Max.   :7.000   Max.   :7.000   Max.   :7.000
##  ARCNational03   ARCNational04
##  Min.   :1.000   Min.   :1.000
##  1st Qu.:1.000   1st Qu.:1.000
##  Median :2.000   Median :1.000
##  Mean   :2.739   Mean   :2.515
##  3rd Qu.:4.000   3rd Qu.:4.000
##  Max.   :7.000   Max.   :7.000
```

V6.5.4 Item histograms

```
arcDF=data.frame(scale_mean=t(summarise_all(respARCFrame,mean)),
         key=names(respARCFrame))

 respARCFrame %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=4) +
        geom_histogram(aes(y =..count..), color="#000044",
               fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),arcDF,col='red',
        linetype = "dashed",size=1)
```

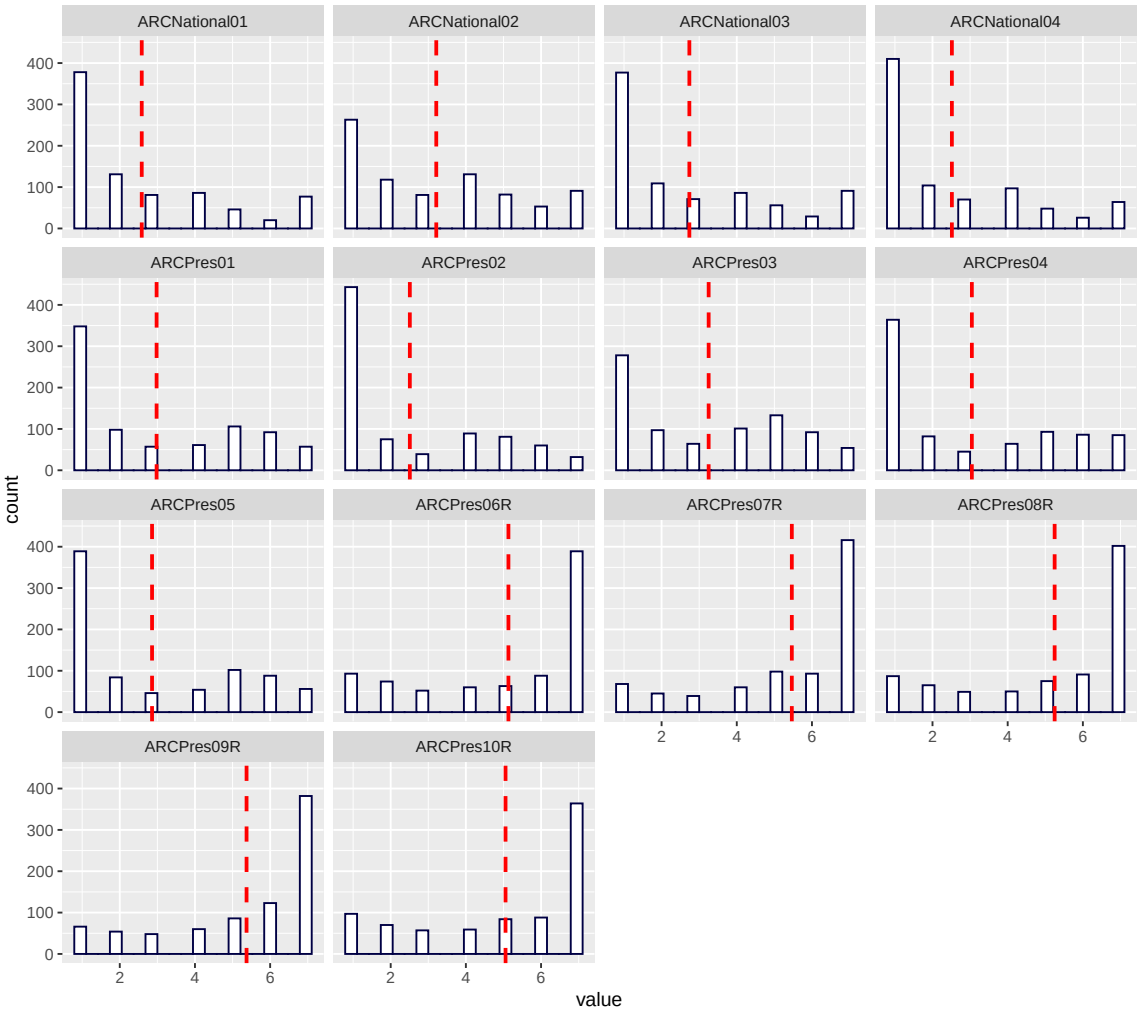

Figure V61
American response to COVID-19: Item histograms with marked means

V6.5.5 Inter-correlations

```
corPlot(respARCFrame,numbers=TRUE,diag=FALSE,
main="American COVID-response",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

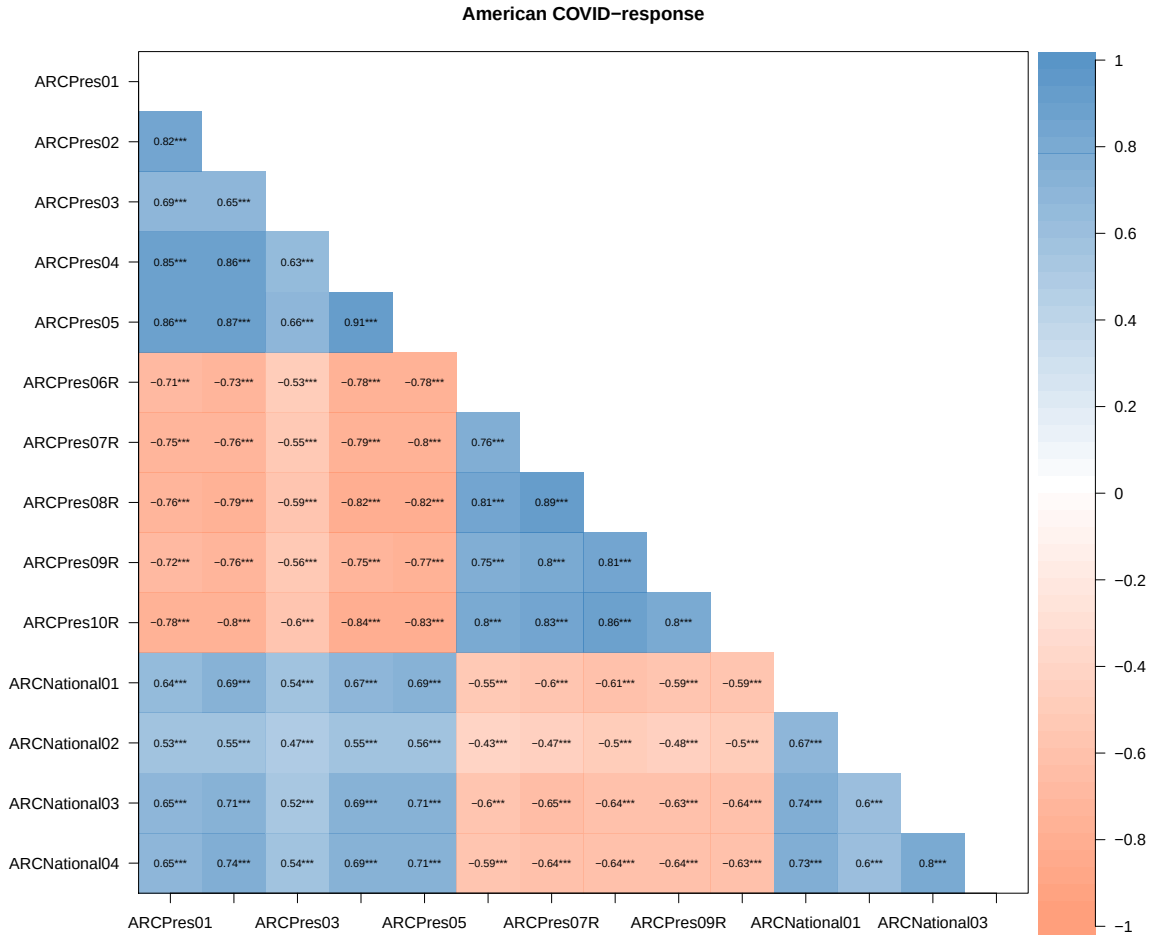

Figure V62
American response to COVID-19: item inter-correlations

V6.5.6 Scale statistics

```
respARCFrame[] <-data.matrix(respARCFrame)

  weightsARC <-list(arcPresidential=c("ARCPres01", "ARCPres02", "ARCPres03",
                    "ARCPres04", "ARCPres05","-ARCPres06R","-ARCPres07R",
                    "-ARCPres08R","-ARCPres09R","-ARCPres10R"),
                    arcNational=c("ARCNational01", "ARCNational02",
                    "ARCNational03", "ARCNational04"),
                    arcFull=c("ARCPres01", "ARCPres02", "ARCPres03",
                    "ARCPres04", "ARCPres05","-ARCPres06R","-ARCPres07R",
                    "-ARCPres08R","-ARCPres09R","-ARCPres10R",
```

```
                      "ARCNational01", "ARCNational02", "ARCNational03",
                      "ARCNational04")
                      )

scoresARC=scoreItems(items=respARCFrame,
                     keys=weightsARC)

print(scoresARC)

## Call: scoreItems(keys = weightsARC, items = respARCFrame)
##
## (Unstandardized) Alpha:
##       arcPresidential arcNational arcFull
## alpha            0.97         0.9    0.97
##
## Standard errors of unstandardized Alpha:
##       arcPresidential arcNational arcFull
## ASE            0.0068        0.02  0.0053
##
## Average item correlation:
##           arcPresidential arcNational arcFull
## average.r            0.76        0.69    0.69
##
## Median item correlation:
## arcPresidential     arcNational         arcFull
##            0.78            0.70            0.69
##
##  Guttman 6* reliability:
##          arcPresidential arcNational arcFull
## Lambda.6            0.97        0.89    0.97
##
## Signal/Noise based upon av.r :
##              arcPresidential arcNational arcFull
## Signal/Noise              32         8.8      31
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                 arcPresidential arcNational arcFull
## arcPresidential            0.97        0.83    1.01
## arcNational                0.78        0.90    0.94
## arcFull                    0.98        0.88    0.97
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scoresARC$scores)

##  arcPresidential  arcNational       arcFull
##  Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:1.100   1st Qu.:1.000   1st Qu.:1.286
##  Median :2.000   Median :2.250   Median :2.000
##  Mean   :2.837   Mean   :2.763   Mean   :2.816
##  3rd Qu.:4.300   3rd Qu.:4.250   3rd Qu.:4.429
##  Max.   :7.000   Max.   :7.000   Max.   :7.000

head(scoresARC$scores)

##      arcPresidential arcNational  arcFull
## [1,]             4.7        3.00 4.214286
## [2,]             2.8        1.50 2.428571
## [3,]             1.7        2.25 1.857143
## [4,]             1.1        1.50 1.214286
## [5,]             7.0        5.00 6.428571
## [6,]             4.0        4.00 4.000000
```

V6.5.7 Scale values histogram

```
  scoresARCFrame=data.frame(
     scoresARC$scores
    )

  sumARC=data.frame(scale_mean=t(summarise_all(scoresARCFrame,mean)),
                    key=names(scoresARCFrame))

  scoresARCFrame %>%
      keep(is.numeric) %>%
      gather() %>%
      ggplot(aes(value)) +
      facet_wrap(~ key, ncol=1) +
      geom_histogram(aes(y =..count..), color="#000044",
                     fill="white",bins=20) +
      geom_vline(aes(xintercept = scale_mean),
                 sumARC,col='red', linetype = "dashed",size=1)
```

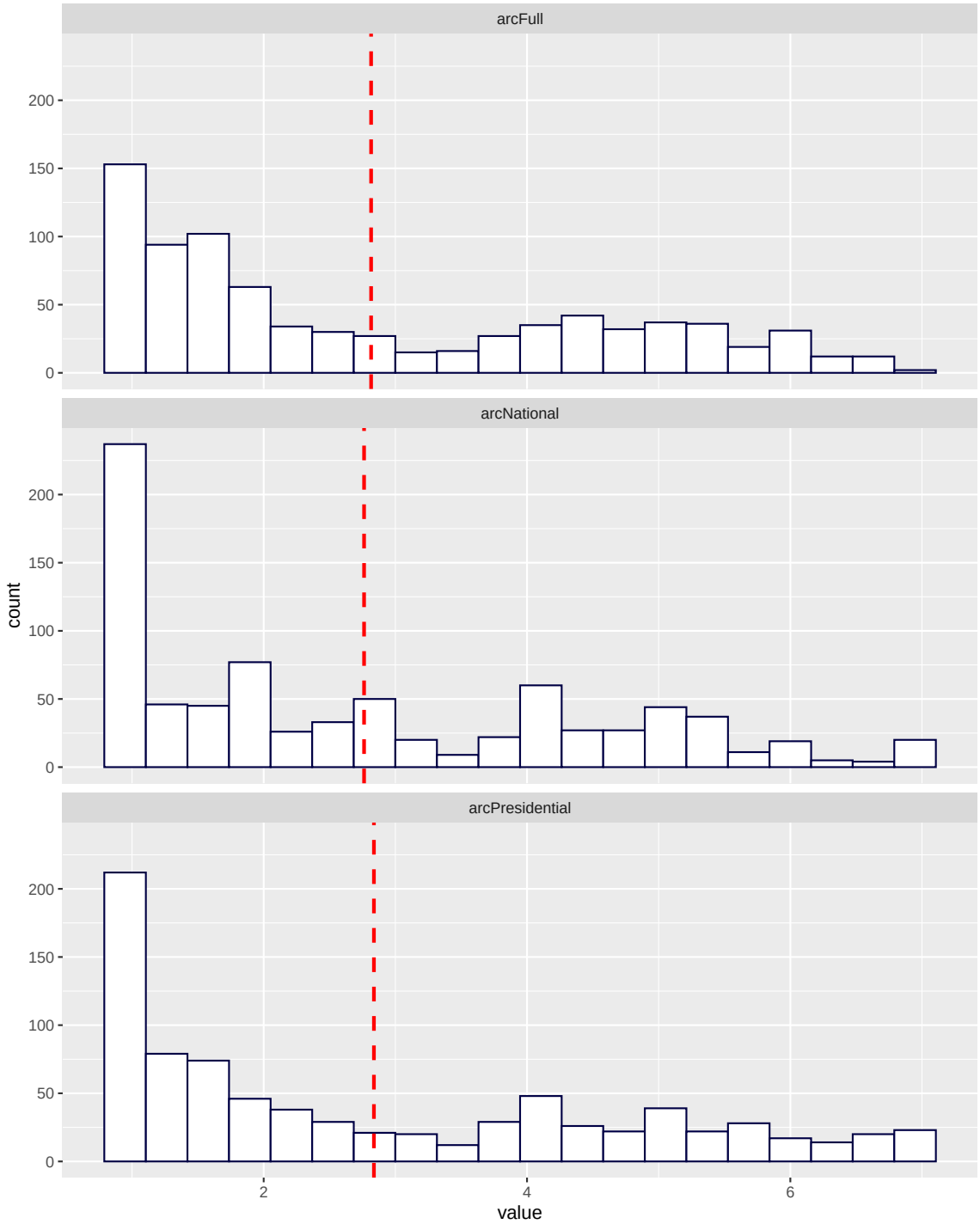

Figure V63
American response to COVID-19: histograms of subscale scores

V6.5.8 Subscale inter-correlations

```
pairs.panels(scoresARCFrame, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,factor=1,
hist.col="cyan",show.points=FALSE,rug=FALSE,cex.cor=1,wt=NULL,
  stars=TRUE,ci=FALSE,alpha=.05)
```

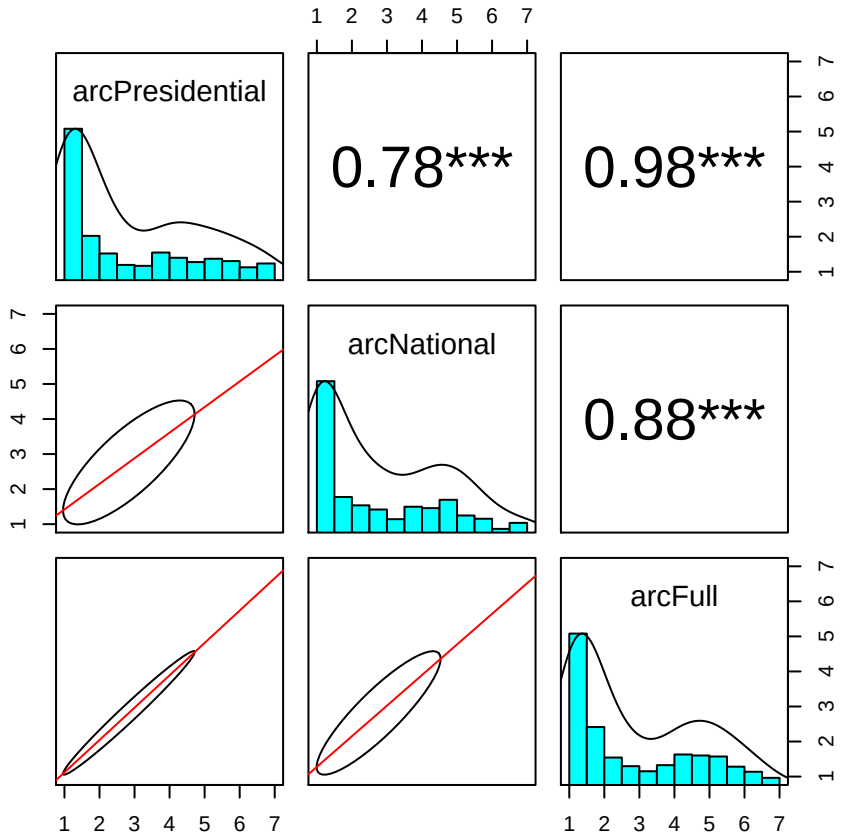

Figure V64
American response to COVID-19: Inter-correlation of subscale values

V6.6 Behavioral intentions

V6.6.1 Sources

The twelve items measuring behavioral intentions are organized in four subscales and adapted from multiple sources: The face covering subscale (BI-FC) was adapted from Capraro and Barcelo (2021). The three item texts are copied verbatim, the first part of the

sentence is different. Items BI-HH2+, BI-HH3+, and BI-MR3+ were adapted from Jordan et al. (2021). The remaining items were adapted from various government guidelines and public health webpages (see, e.g., Lockerd Maragakis, 2020)

Responses were given on a slider scale with values from -50 to 50 (with numeric and line markers for every 10-point interval). The two extreme points were labeled "Strongly disagree" and "Strongly agree", respectively, the midpoint was labeled "Neither agree nor disagree".

V6.6.2 Items

In light of the coronavirus outbreak, I intend to...

- **BI-MR1+**: ...leave my home only for essentials.
- **BI-PD1+**: ...avoid face-to-face interactions with friends.
- **BI-PD2+**: ...engage in physical contact with no one other than those I live with.
- **BI-MR2+**: ...self-quarantine if feeling sick for a minimum of 14 days.
- **BI-HH1+**: ...wash my hands regularly for 20 seconds.
- **BI-HH2+**: ...stop shaking other people's hands.
- **BI-HH3+**: ...try my hardest to avoid touching my face.
- **BI-MR3+**: ...try to stay home whenever possible, even if I am not sick.
- **BI-PD3+**: ...remain at least 6 feet away from other people.
- **BI-FC1+**: ...wear a face covering any time I leave home.
- **BI-FC2+**: ...wear a face covering any time I am engaged in essential activities and/or work, and there is no substitute for physical distancing and staying at home.
- **BI-FC3+**: ...wear a face covering any time I'm around people outside my household.

V6.6.3 Item preparation

```
behIntVars <- c("CVBehInt_01", "CVBehInt_02", "CVBehInt_03",
                "CVBehInt_04", "CVBehInt_05", "CVBehInt_06",
              "CVBehInt_07", "CVBehInt_08", "CVBehInt_09",
              "CVBehInt_10", "CVBehInt_11", "CVBehInt_12")


  behIntentionsFrame <- df[behIntVars]
  remove(behIntVars)
```

```
  behIntentionsFrame <- behIntentionsFrame %>%
rename(
  behIntent01=CVBehInt_01,
  behIntent02=CVBehInt_02,
  behIntent03=CVBehInt_03,
  behIntent04=CVBehInt_04,
  behIntent05=CVBehInt_05,
  behIntent06=CVBehInt_06,
  behIntent07=CVBehInt_07,
  behIntent08=CVBehInt_08,
  behIntent09=CVBehInt_09,
  behIntent10=CVBehInt_10,
  behIntent11=CVBehInt_11,
  behIntent12=CVBehInt_12
)

  behIntentionsFrame[] <-data.matrix(behIntentionsFrame)


  head(behIntentionsFrame)
```

```
##   behIntent01 behIntent02 behIntent03 behIntent04 behIntent05 behIntent06
## 1          18          27          30          26          33          50
## 2          48          29          50          50          50          50
## 3          41          46          41          50          42          49
## 4          32          34          45          50          50          50
## 5         -22         -50         -30         -21          50         -33
## 6          25          27          25          23          29          27
##   behIntent07 behIntent08 behIntent09 behIntent10 behIntent11 behIntent12
## 1          18           9          43          17          29          29
## 2          35          50          50          50          50          50
## 3          44          42          42          43          41          41
## 4          44          50          33           9          50          24
## 5         -32         -48         -21         -50         -50         -50
## 6          31          30          30          30          30          30
```

```
  summary(behIntentionsFrame)
```

```
##   behIntent01      behIntent02      behIntent03      behIntent04
##  Min.   :-50.00   Min.   :-50.00   Min.   :-50.00   Min.   :-50.00
##  1st Qu.: 20.00   1st Qu.: 13.00   1st Qu.: 15.50   1st Qu.: 30.00
##  Median : 35.00   Median : 33.00   Median : 36.00   Median : 50.00
##  Mean   : 28.63   Mean   : 25.16   Mean   : 26.94   Mean   : 36.83
##  3rd Qu.: 50.00   3rd Qu.: 49.00   3rd Qu.: 50.00   3rd Qu.: 50.00
##  Max.   : 50.00   Max.   : 50.00   Max.   : 50.00   Max.   : 50.00
```

```
##   behIntent05      behIntent06      behIntent07     behIntent08
##  Min.   :-50.00   Min.   :-50.00   Min.   :-50.0   Min.   :-50.0
##  1st Qu.: 32.00   1st Qu.: 40.00   1st Qu.: 19.0   1st Qu.: 23.0
##  Median : 50.00   Median : 50.00   Median : 37.0   Median : 40.0
##  Mean   : 38.51   Mean   : 41.02   Mean   : 29.5   Mean   : 31.8
##  3rd Qu.: 50.00   3rd Qu.: 50.00   3rd Qu.: 50.0   3rd Qu.: 50.0
##  Max.   : 50.00   Max.   : 50.00   Max.   : 50.0   Max.   : 50.0
##   behIntent09      behIntent10      behIntent11      behIntent12
##  Min.   :-50.00   Min.   :-50.00   Min.   :-50.00   Min.   :-50.0
##  1st Qu.: 31.00   1st Qu.: 35.00   1st Qu.: 35.00   1st Qu.: 30.0
##  Median : 46.00   Median : 50.00   Median : 50.00   Median : 49.0
##  Mean   : 37.35   Mean   : 38.04   Mean   : 39.81   Mean   : 35.9
##  3rd Qu.: 50.00   3rd Qu.: 50.00   3rd Qu.: 50.00   3rd Qu.: 50.0
##  Max.   : 50.00   Max.   : 50.00   Max.   : 50.00   Max.   : 50.0
```

V6.6.4 Item histograms

```
behIntDF=data.frame(scale_mean=t(summarise_all(behIntentionsFrame,mean)),
         key=names(behIntentionsFrame))

 behIntentionsFrame %>%
   keep(is.numeric) %>%
     gather() %>%
       ggplot(aes(value)) +
        facet_wrap(~ key, ncol=3) +
        geom_histogram(aes(y =..count..), color="#000044",
               fill="white",bins=20)+
        geom_vline(aes(xintercept=scale_mean),behIntDF,col='red',
        linetype = "dashed",size=1)
```

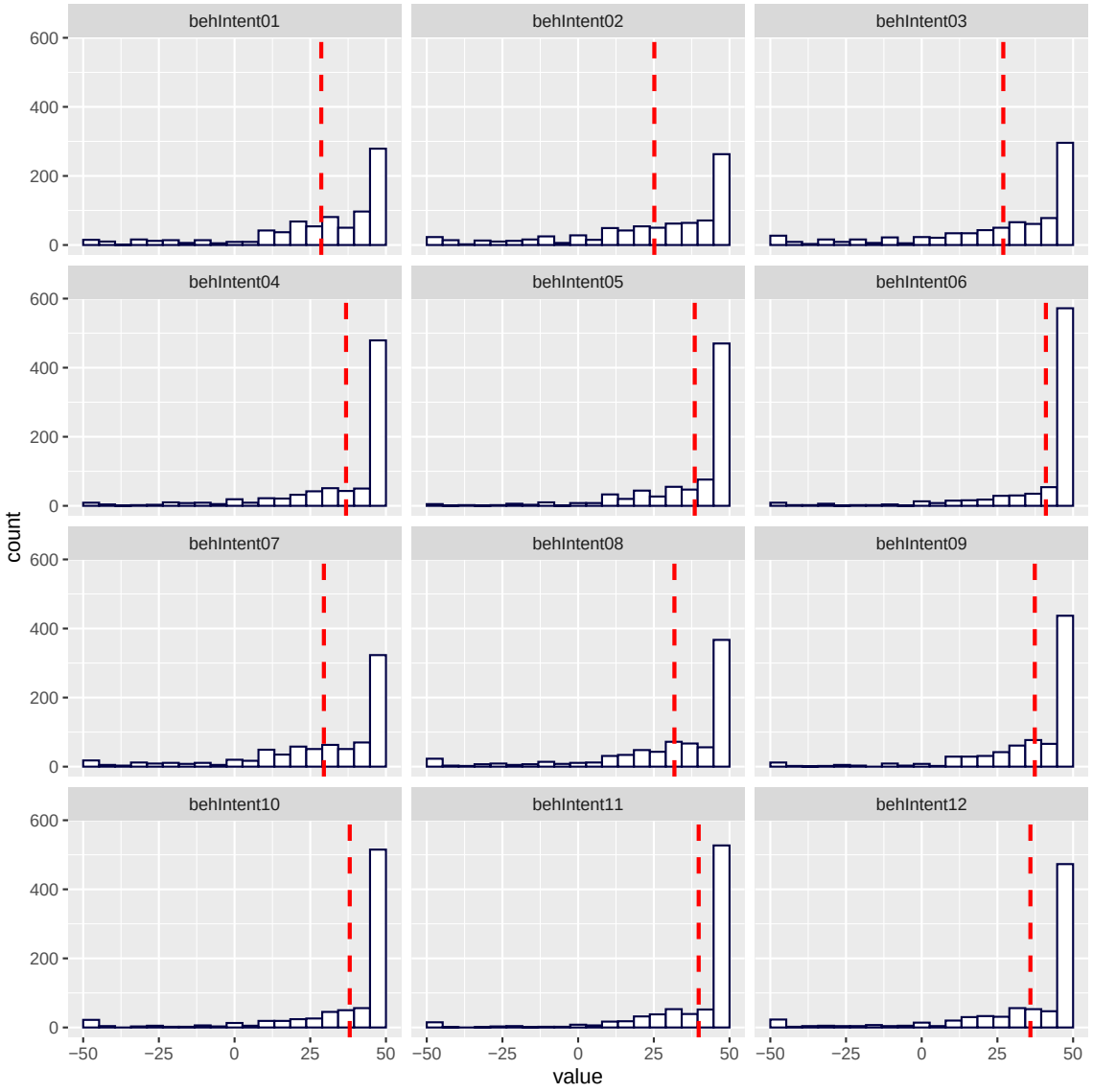

Figure V65

Behavioral intentions: Item histograms with marked means

V6.6.5 Inter-correlations

```
corPlot(behIntentionsFrame,numbers=TRUE,diag=FALSE,
main="Collective narcissism",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-1,1))
```

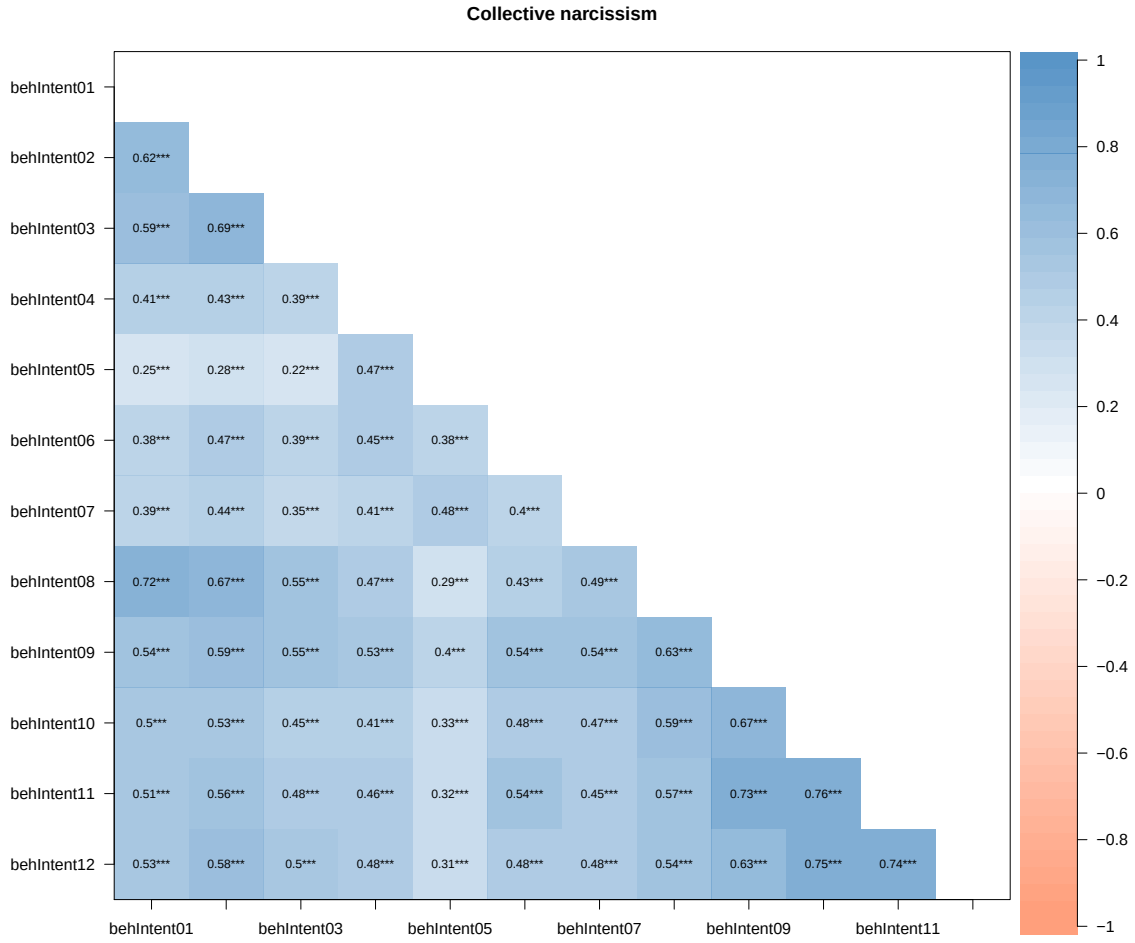

Figure V66
Behavioral intentions: item inter-correlations

V6.6.6 Scale statistics

```
weightsBehInt <-list(behIntentions=c("behIntent01", "behIntent02", "behIntent03",
                     "behIntent04", "behIntent05", "behIntent06",
               "behIntent07", "behIntent08", "behIntent09",
               "behIntent10", "behIntent11", "behIntent12"),
               physicalDistancing=c("behIntent02","behIntent03","behIntent09"),
               movementRestriction=c("behIntent01","behIntent04","behIntent08"),
               handHygiene=c("behIntent05","behIntent06","behIntent07"),
               faceCovering=c("behIntent10", "behIntent11", "behIntent12")
               )
```

```
scoresBehIntentions=scoreItems(items=behIntentionsFrame,
                    keys=weightsBehInt)

 print(scoresBehIntentions)

## Call: scoreItems(keys = weightsBehInt, items = behIntentionsFrame)
##
## (Unstandardized) Alpha:
##       behIntentions physicalDistancing movementRestriction handHygiene
## alpha          0.92               0.82                0.78        0.67
##       faceCovering
## alpha          0.9
##
## Standard errors of unstandardized Alpha:
##       behIntentions physicalDistancing movementRestriction handHygiene
## ASE          0.0084               0.03               0.032       0.037
##       faceCovering
## ASE          0.026
##
## Average item correlation:
##           behIntentions physicalDistancing movementRestriction handHygiene
## average.r          0.49                0.6                0.54        0.41
##           faceCovering
## average.r         0.74
##
## Median item correlation:
##       behIntentions  physicalDistancing movementRestriction         handHygiene
##                0.48                0.59                0.47                0.40
##        faceCovering
##                0.75
##
##  Guttman 6* reliability:
##          behIntentions physicalDistancing movementRestriction handHygiene
## Lambda.6          0.93               0.82                0.79        0.67
##          faceCovering
## Lambda.6         0.87
##
## Signal/Noise based upon av.r :
##              behIntentions physicalDistancing movementRestriction handHygiene
## Signal/Noise            11                4.5                 3.5         2.1
##              faceCovering
## Signal/Noise          8.7
##
## Scale intercorrelations corrected for attenuation
```

```
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##                     behIntentions physicalDistancing movementRestriction
## behIntentions                0.92               1.04                1.05
## physicalDistancing           0.90               0.82                0.96
## movementRestriction          0.89               0.77                0.78
## handHygiene                  0.79               0.59                0.61
## faceCovering                 0.87               0.71                0.67
##                     handHygiene faceCovering
## behIntentions              1.00         0.96
## physicalDistancing         0.79         0.82
## movementRestriction        0.84         0.81
## handHygiene                0.67         0.78
## faceCovering               0.60         0.90
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
summary(scoresBehIntentions$scores)
```

```
##  behIntentions    physicalDistancing movementRestriction  handHygiene
##  Min.   :-41.67   Min.   :-50.00     Min.   :-50.00      Min.   :-50.00
##  1st Qu.: 27.08   1st Qu.: 19.50     1st Qu.: 24.00      1st Qu.: 28.67
##  Median : 39.17   Median : 35.33     Median : 38.33      Median : 41.67
##  Mean   : 34.12   Mean   : 29.82     Mean   : 32.42      Mean   : 36.34
##  3rd Qu.: 46.50   3rd Qu.: 46.67     3rd Qu.: 48.00      3rd Qu.: 50.00
##  Max.   : 50.00   Max.   : 50.00     Max.   : 50.00      Max.   : 50.00
##   faceCovering
##  Min.   :-50.00
##  1st Qu.: 33.33
##  Median : 46.67
##  Mean   : 37.92
##  3rd Qu.: 50.00
##  Max.   : 50.00
```

```
head(scoresBehIntentions$scores)
```

```
##      behIntentions physicalDistancing movementRestriction handHygiene
## [1,]      27.41667           33.33333            17.66667    33.66667
## [2,]      46.83333           43.00000            49.33333    45.00000
## [3,]      43.50000           43.00000            44.33333    45.00000
## [4,]      39.25000           37.33333            44.00000    48.00000
## [5,]     -29.75000          -33.66667           -30.33333    -5.00000
## [6,]      28.08333           27.33333            26.00000    29.00000
##      faceCovering
```

```
## [1,]     25.00000
## [2,]     50.00000
## [3,]     41.66667
## [4,]     27.66667
## [5,]    -50.00000
## [6,]     30.00000
```

V6.6.7 Scale values histogram

```
scoresBIFrame=data.frame(
   scoresBehIntentions$scores
  )


sumBI=data.frame(scale_mean=t(summarise_all(scoresBIFrame,mean)),
                   key=names(scoresBIFrame))

scoresBIFrame %>%
    keep(is.numeric) %>%
    gather() %>%
    ggplot(aes(value)) +
    facet_wrap(~ key, ncol=1) +
    geom_histogram(aes(y =..count..), color="#000044",
                   fill="white",bins=20) +
    geom_vline(aes(xintercept = scale_mean),
               sumBI,col='red', linetype = "dashed",size=1)
```

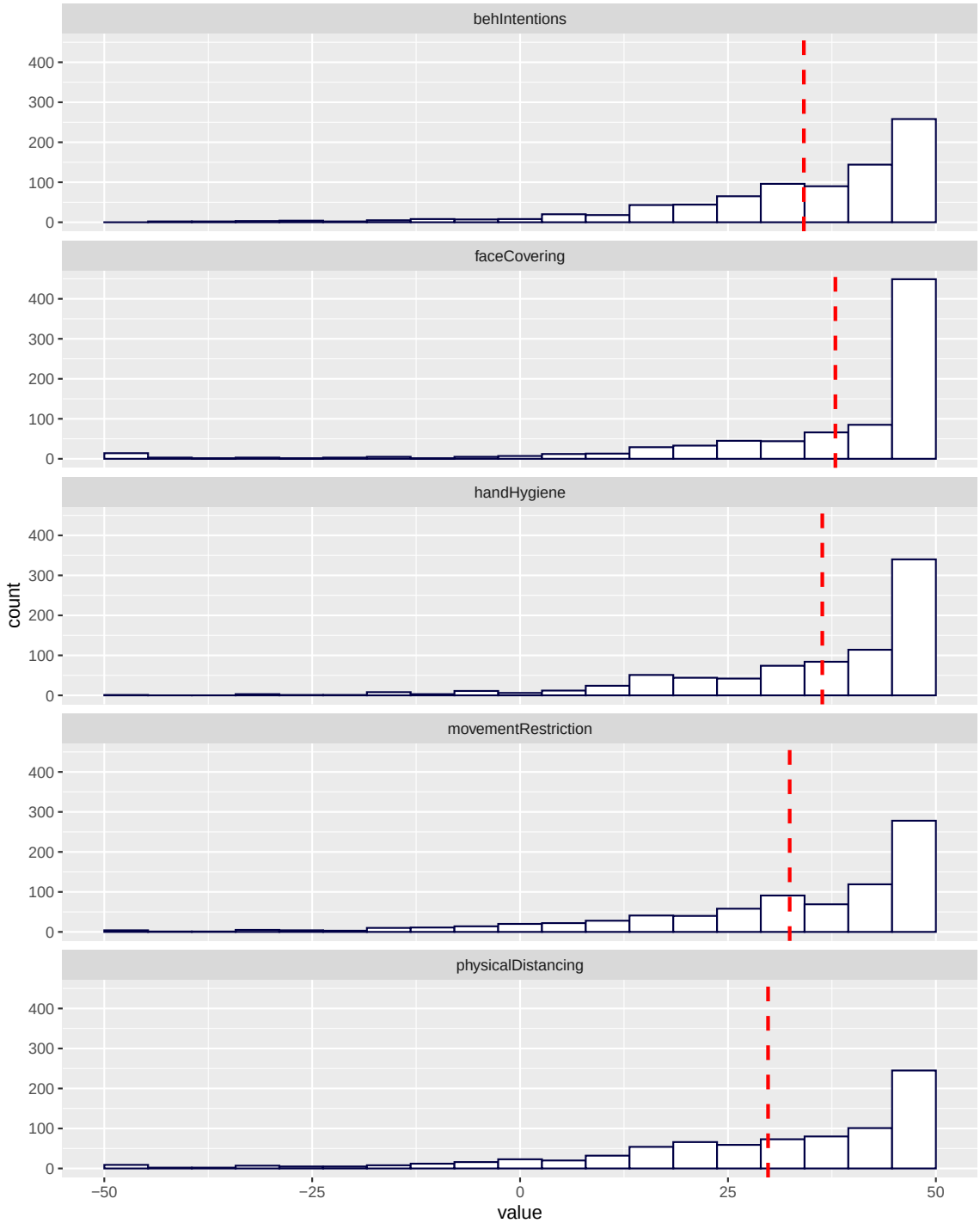

Figure V67
Behavioral intentions: histograms of subscale scores

V6.6.8 Subscale inter-correlations

```
pairs.panels(scoresBIFrame, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,factor=1,
hist.col="cyan",show.points=FALSE,rug=FALSE,cex.cor=1,wt=NULL,
  stars=TRUE,ci=FALSE,alpha=.05)
```

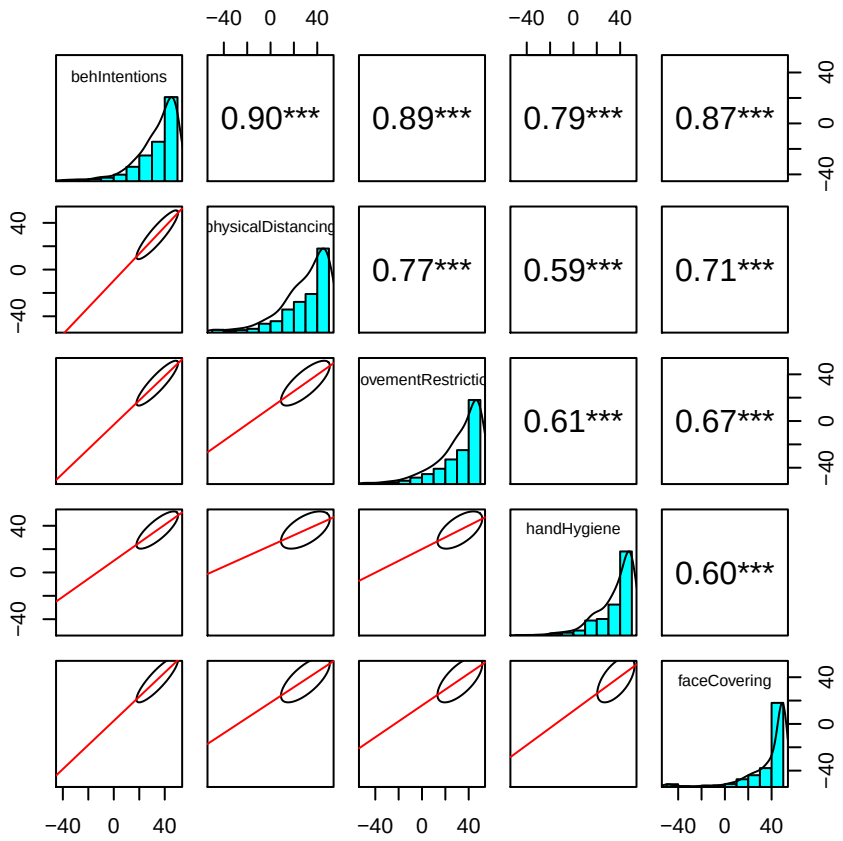

Figure V68
Behavioral intentions: Inter-correlation of subscale values

V6.7 Cognitive Reflection Test (CRT)

V6.7.1 Source

Participants responded to four items measuring cognitive reflection (Frederick, 2005). Three items were taken from the CRTt (Woike, 2019), the final item from the CRT 2 (Thomson & Oppenheimer, 2016).

V6.7.2 Items

- **CRT01**: A golden bat and a golden ball cost $5,000 in total. The bat costs $4,000 more than the ball. How much does the golden ball cost?
- **CRT02**: If it takes 10 machines 10 minutes to make 10 widgets, how long would it take 1,000 machines to make 1,000 widgets?
- **CRT03**: In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 40 days for the patch to cover the entire lake, how long would it take for the patch to cover a quarter of the lake?
- **CRT04**: If you're running a race and you pass the person in second place, what place are you in?

V6.7.3 Item preparation

```
 scaleVarsCRT <- c("CRT01", "CRT02", "CRT03",
                   "CRT04")
scaleFrameCRT <- df[scaleVarsCRT]

  remove(scaleVarsCRT)

scaleFrameCRT$CRT01num <-  as.numeric(scaleFrameCRT$CRT01)
scaleFrameCRT$CRT02num <-  as.numeric(scaleFrameCRT$CRT02)
scaleFrameCRT$CRT03num <-  as.numeric(scaleFrameCRT$CRT03)
scaleFrameCRT$CRT04num <-  as.numeric(scaleFrameCRT$CRT04)

scaleFrameCRT = subset(scaleFrameCRT,
                       select=-c(CRT01,CRT02,CRT03,CRT04))

scaleFrameCRT$CRT01cat <- dplyr::recode(scaleFrameCRT$CRT01num,
"7"="intuitive","8"="correct", .default="other")

scaleFrameCRT$CRT02cat <- dplyr::recode(scaleFrameCRT$CRT02num,
                                  "5"="intuitive","6"="correct", .default="other")
scaleFrameCRT$CRT03cat <- dplyr::recode(scaleFrameCRT$CRT03num,
                                  "4"="intuitive","7"="correct", .default="other")
scaleFrameCRT$CRT04cat <- dplyr::recode(scaleFrameCRT$CRT04num,
                                  "4"="intuitive","5"="correct", .default="other")

scaleFrameCRT = subset(scaleFrameCRT,
                       select=-c(CRT01num,CRT02num,CRT03num,CRT04num))

scaleFrameCRT$CRT01int <- dplyr::recode(scaleFrameCRT$CRT01cat,
                                  "intuitive"=1, .default=0)
```

```
scaleFrameCRT$CRT02int <- dplyr::recode(scaleFrameCRT$CRT02cat,
                                  "intuitive"=1, .default=0)
scaleFrameCRT$CRT03int <- dplyr::recode(scaleFrameCRT$CRT03cat,
                                  "intuitive"=1, .default=0)
scaleFrameCRT$CRT04int <- dplyr::recode(scaleFrameCRT$CRT04cat,
                                  "intuitive"=1, .default=0)

scaleFrameCRT$CRT01correct <- dplyr::recode(scaleFrameCRT$CRT01cat,
                                      "correct"=1, .default=0)
scaleFrameCRT$CRT02correct <- dplyr::recode(scaleFrameCRT$CRT02cat,
                                      "correct"=1, .default=0)
scaleFrameCRT$CRT03correct <- dplyr::recode(scaleFrameCRT$CRT03cat,
                                      "correct"=1, .default=0)
scaleFrameCRT$CRT04correct <- dplyr::recode(scaleFrameCRT$CRT04cat,
                                      "correct"=1, .default=0)

scaleFrameCRT = subset(scaleFrameCRT,
                       select=-c(CRT01cat,CRT02cat,CRT03cat,CRT04cat))

weightsCRT <-list(CRTscore=c("CRT01correct",
                             "CRT02correct","CRT03correct","CRT04correct"),
                  CRTintuitive=c("CRT01int",
                                 "CRT02int","CRT03int","CRT04int"))

scaleCRT=scoreItems(keys=weightsCRT, items =scaleFrameCRT,totals=TRUE)
scoresCRT<-data.frame(scaleCRT$scores)
```

V6.7.4 Item histograms

```
ggplot(df, aes(CRT01)) + geom_bar()
```

```
ggplot(df, aes(CRT02)) + geom_bar()
```

```
ggplot(df, aes(CRT03)) + geom_bar()
```

```
ggplot(df, aes(CRT04)) + geom_bar()
```

V6.7.5 Item pie charts

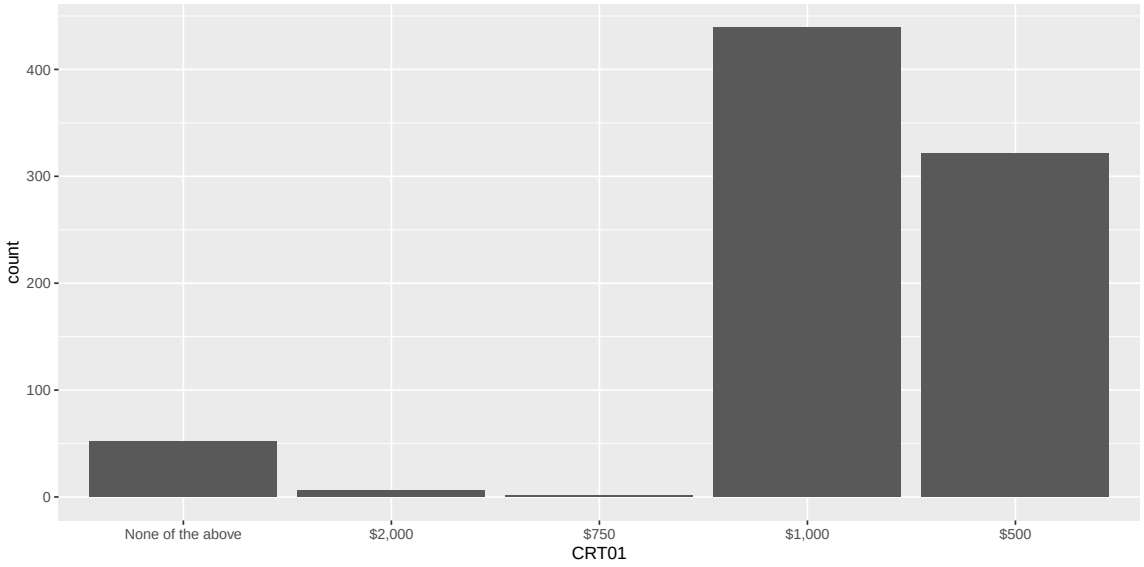

Figure V69
CRT1 item histogram

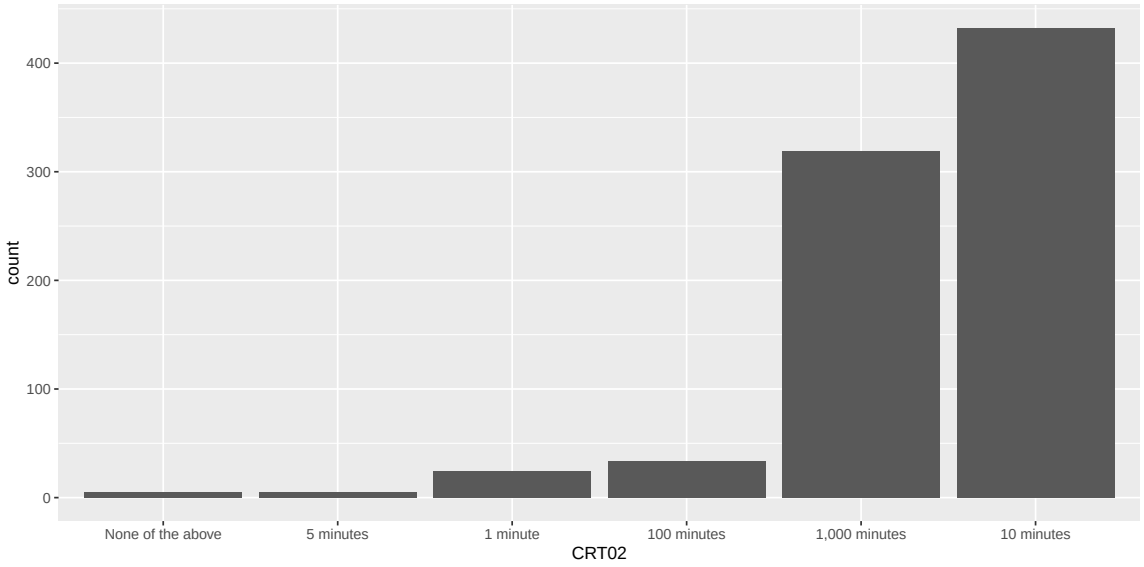

Figure V70
CRT2 item histogram

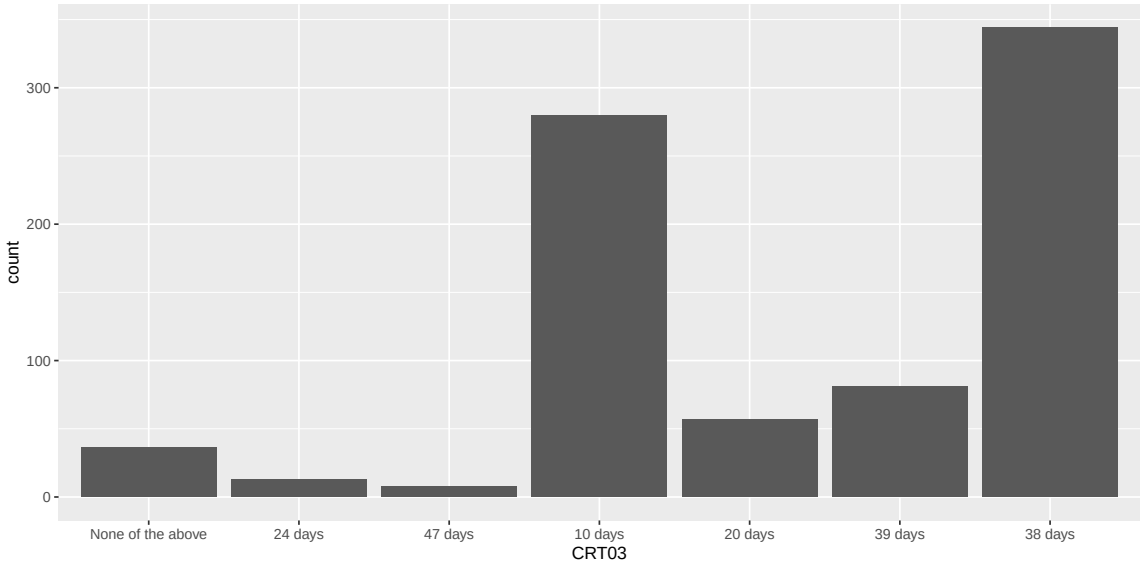

Figure V71
CRT3 item histogram

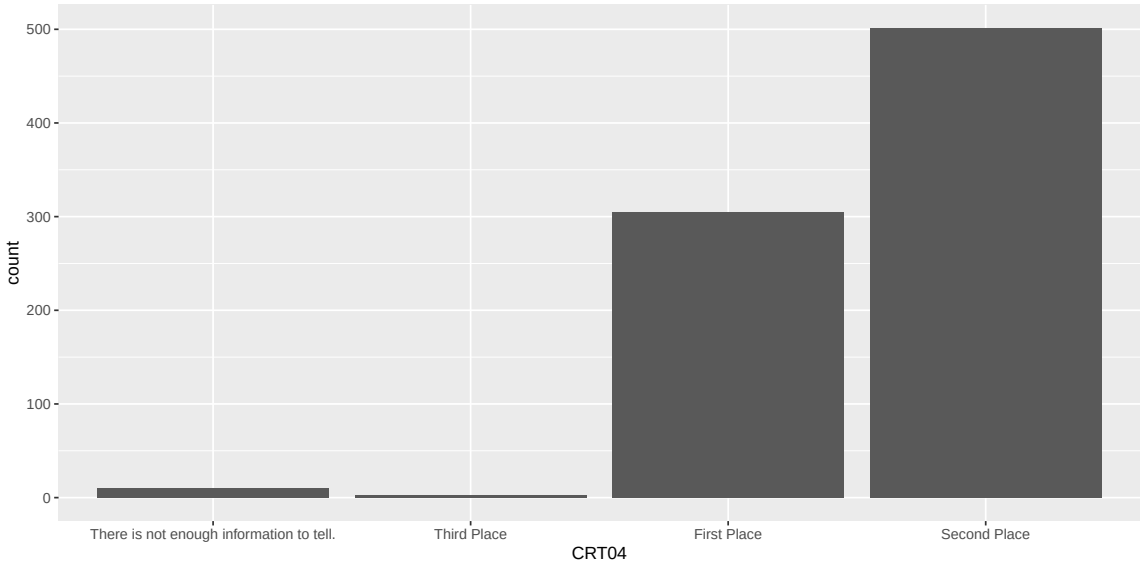

Figure V72
CRT4 item histogram

```
scaleFrameCRT %>%
 keep(is.numeric) %>%
 gather() %>%
 ggplot(aes(x=0,y=value)) +
 facet_wrap(~ key, ncol=2) +
 geom_bar(stat="identity",width=2,color='blue') +
 coord_polar(theta='y')+
 theme(axis.ticks=element_blank(), axis.title=element_blank(),
 axis.text.y = element_blank(),
 panel.grid  = element_blank(),
 axis.text.x = element_text(size=10,hjust=0))+
 scale_y_continuous(limits=c(0,819))
```

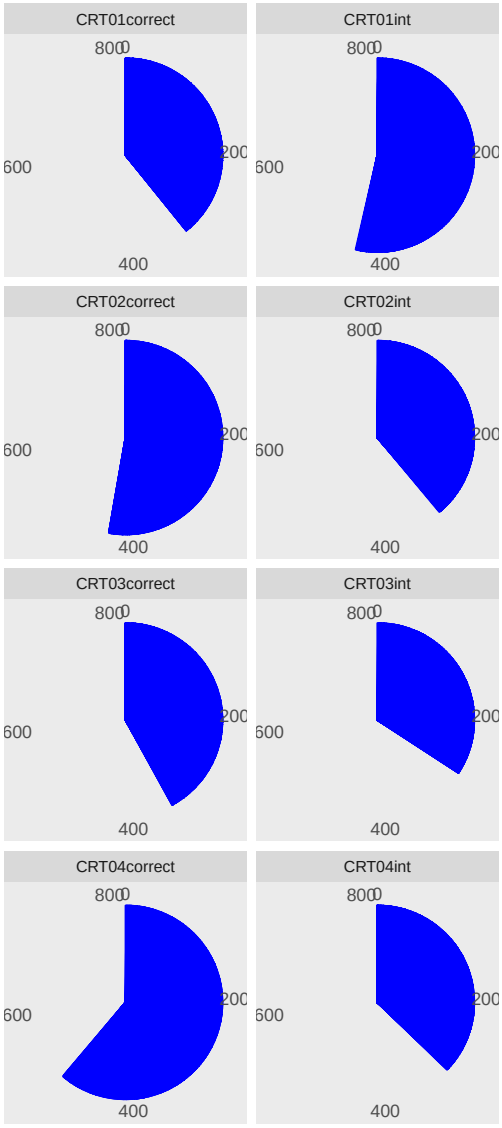

Figure V73
CRT: pie charts of numbers of correct and intuitive answers

V6.7.6 Inter-correlations

```
corPlot(scaleFrameCRT,numbers=TRUE,diag=FALSE,
main="CRT (correct and intuitive)",stars=TRUE,upper=FALSE,
cuts=c(.001,.01,.05),gr=palette2,
zlim=c(-0.95,0.95))
```

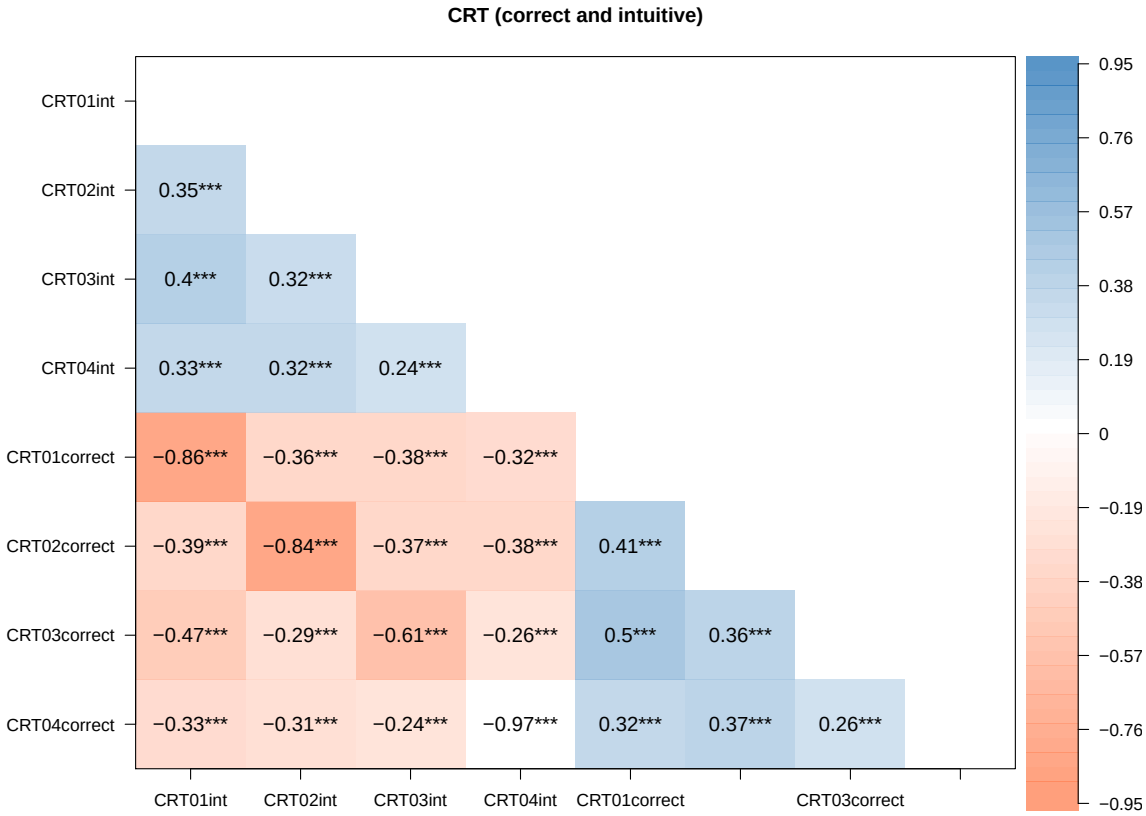

Figure V74
CRT items (scored as correct, intuitive or neither): Inter-correlations

V6.7.7 Scale statistcs (for subscales)

```
scaleCRT=scoreItems(keys=weightsCRT, items =scaleFrameCRT,totals=TRUE)

print(scaleCRT)

## Call: scoreItems(keys = weightsCRT, items = scaleFrameCRT, totals = TRUE)
##
## (Unstandardized) Alpha:
##       CRTscore CRTintuitive
## alpha      0.7         0.66
##
## Standard errors of unstandardized Alpha:
##       CRTscore CRTintuitive
## ASE       0.03        0.032
```

```
##
## Average item correlation:
##           CRTscore CRTintuitive
## average.r     0.37         0.33
##
## Median item correlation:
##     CRTscore CRTintuitive
##         0.36         0.32
##
##  Guttman 6* reliability:
##          CRTscore CRTintuitive
## Lambda.6     0.87         0.85
##
## Signal/Noise based upon av.r :
##              CRTscore CRTintuitive
## Signal/Noise      2.4          1.9
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##              CRTscore CRTintuitive
## CRTscore         0.70        -1.33
## CRTintuitive    -0.91         0.66
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

scoresCRT<-data.frame(scaleCRT$scores)
summary(scoresCRT)

##     CRTscore      CRTintuitive
##  Min.   :0.000   Min.   :0.00
##  1st Qu.:1.000   1st Qu.:0.00
##  Median :2.000   Median :2.00
##  Mean   :1.951   Mean   :1.64
##  3rd Qu.:3.000   3rd Qu.:3.00
##  Max.   :4.000   Max.   :4.00

cor(scoresCRT)

##                CRTscore CRTintuitive
## CRTscore      1.0000000   -0.9061727
## CRTintuitive -0.9061727    1.0000000

head(scoresCRT)
```

```
##   CRTscore CRTintuitive
## 1        1            3
## 2        1            2
## 3        3            1
## 4        2            0
## 5        2            2
## 6        2            1
```

```
pairs.panels(scoresCRT, smooth = TRUE, scale = FALSE,  digits = 2,
method="pearson",pch = 20, lm=TRUE,cor=TRUE,jiggle=TRUE,
factor=1,hist.col="cyan",show.points=FALSE,rug=FALSE,cex.cor=1,
wt=NULL,stars=TRUE,ci=FALSE,alpha=.05)
```

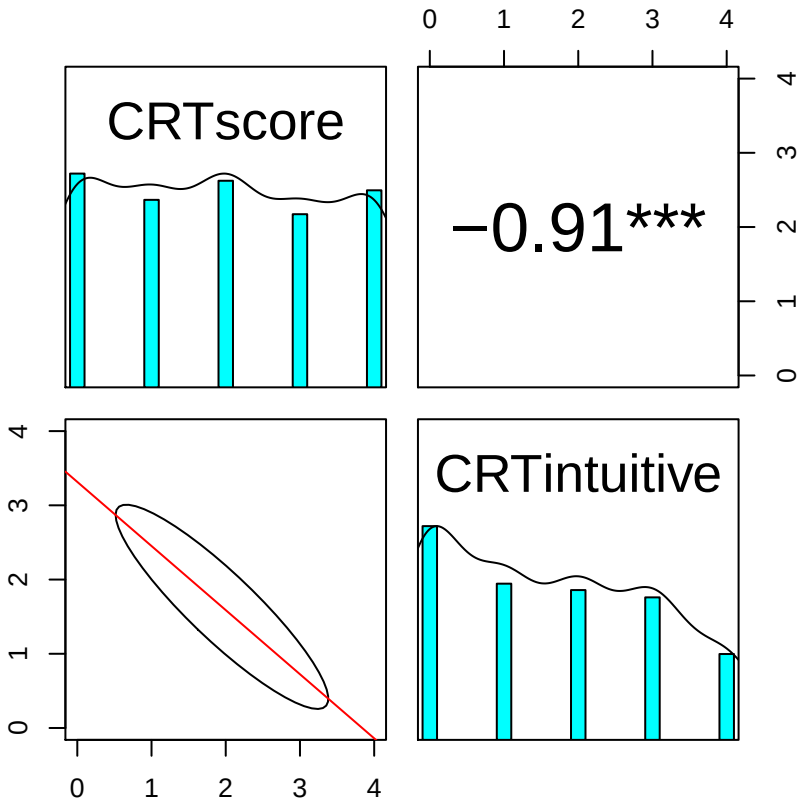

Figure V75
CRT scores: Distribution and inter-correlation of subscale values

V6.7.8 Scale value distribution

```
ggplot(scoresCRT, aes(CRTscore)) + geom_bar()
```

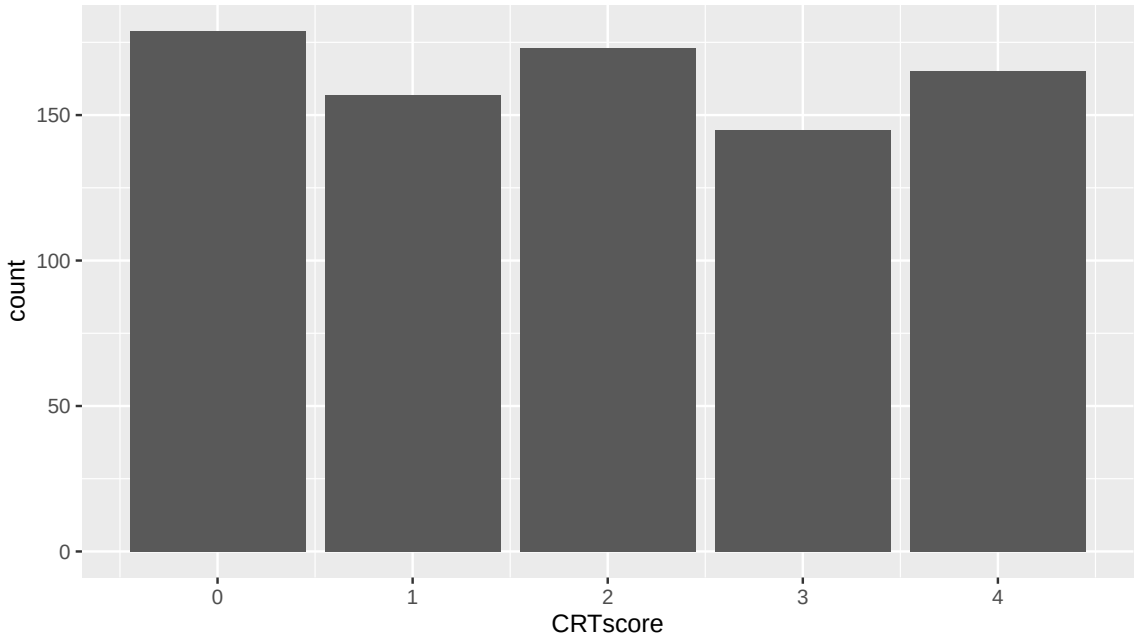

Figure V76
CRT scores: Distribution of scores

```
ggplot(scoresCRT, aes(CRTintuitive)) + geom_bar()
```

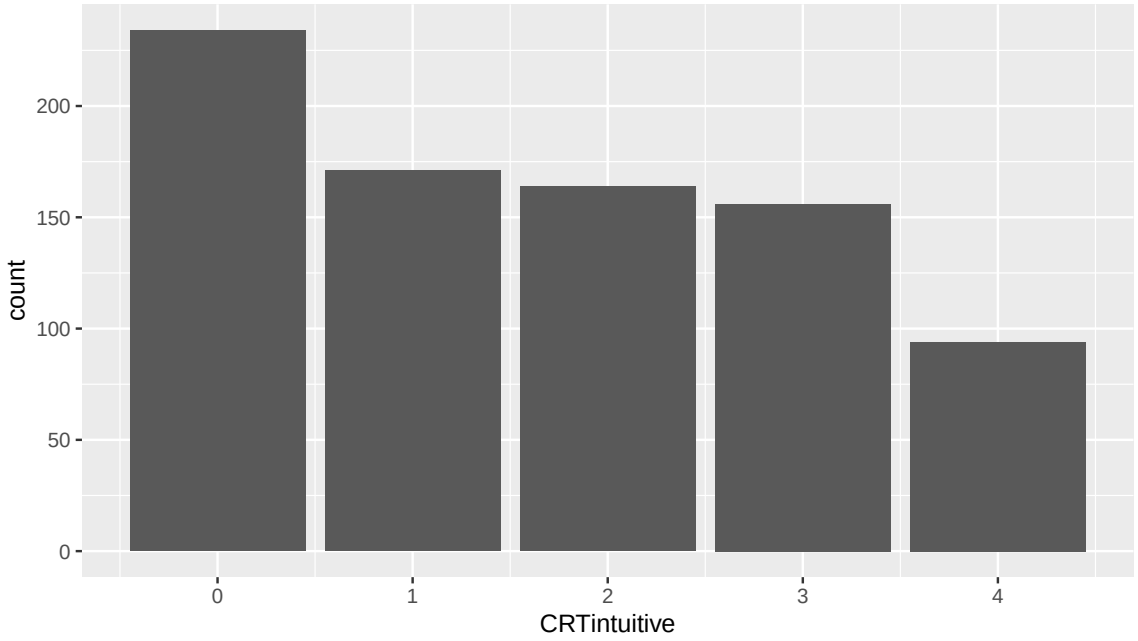

Figure V77
CRT scores: Distribution of intuitive scores

V7 Qualitative Data

Here, we list a selected sample of open-format answers to the questions asked throughout the survey.

V7.1 Messages to players choosing risky and safe options

Nr.	Message to safer players	Message to riskier players
1	Nice teamwork	You must be bold
2	Welldone	You put everyone at risk of losing
3	y'all are being conservative	My fellow risk takers, I say hello
4	Good move	Bigger move
5	Thank you for doing your part to keep us safe.	After more time had passed you should've been more careful
6	You did well	Why would you do that?
7	Thank you for trying to protect the group	I understand why you might want to gamble for the larger bonus
8	They cared about everyone's well being	They cared more about themselves
9	Foolish and timid	Brave and intelligent
10	take risk	try not to take too much risk
11	You made the unselfish choice. Good job!	I understand where you're coming from, but you endangered the prize money of everyone else, and also made it likelier that you'd receive no prize money at the end.
12	That an overly cautious approach is not the best strategy. That a lot of players are going to count on others being overly cautious.	It is probably a sound strategy because one can expect people to be very cautious in playing this game. Do pick G from time to time but expect others to try to minimize loss more than maximize gain.
13	I'd say that you were taking a hit and making what I would consider the right decision to make a consistent bonus. It may not be the most, but you're giving everyone a chance to walk away with more than what the study was giving.	I'd say that this was very risky and that you were taking everyone down with you by giving more of a chance to lose out on the bonus.
14	Pointless to choose G early in the game	Smart to choose option H until end of the game.
15	Thank you for thinking of others.	To each their own.
16	Are you afraid to take risks?	Its good to be brave
17	That's not a very good plan.	That's not a good plan. It must he switched up every once in awhile.
18	You made the safe decision.	You're brave for choosing option H.
19	need to take a risk sometimes	too much risk is not good
20	Why go for less points?	Glad to see you gambled
21	You my sir, are an MVP.	Well, I dont blame you.
22	samsies!	Probably just tease them playfully. What the heck man? Why so greedy?
23	Thanks for playing the game correctly	I bet you also lick doorknobs during this pandemic, don't you?
24	Good job boosting our odds	You are a greedy simpleton
25	we will all die anyway	and now what?
26	I feel like this was the safe bet to keep yourself blue.	I don't blame you! We've all got bills to pay!

Table V1

Selected messages for safe and riskier players (messages in each row were sent by the same participant.

V7.2 Comments regarding the injunctive-norms message

- The message was a guide
- Message well delivered
- It helped me to think of the consequences of my choices.
- I think it's an oversimplification, but gets the general idea across.
- The message made a lot of sense
- A message that can save someone
- Thank you
- The message influenced me
- It was a nice reminder of the risks
- The message really helped me make the decision
- I would have chosen G most of the time anyway, but hope that it influenced other people
- The message was reminding me of the risk of choosing H
- I can't say for sure that I would have but I probably would have chosen H for the points. It added a bit of guilt to the whole game, which influenced my decision.
- I already had a plan before the message that I stuck with.
- The message didnt affect me in any way
- it definitely influenced my decision
- The message had a big influence.
- It really had a huge impact on how I played the game.
- It didn't really mean anything to me
- I agreed with it. I didn't want to take the risk!
- The message made me more risk averse in the game.
- I felt pressured into choosing action G.
- the message is loving
- Helpful.
- It was a nice reminder to make some people think about the big picture

- go blue
- It's pushy, but encouraging. It might shame people into helping others.
- It made me rethink how I was going to play the game.
- It's a good message, although some users may be skeptical and think shenanigans are going on.
- I liked that it was blue
- I found the message to be a helpful reminder, it didn't really affect how many times I picked G vs H
- a little persuasive
- It is like wearing masks - you do it to protect others and the risk and inconvenience for yourself is minimal.
- It seemed like both a threat and a warning
- Overall it was fine, I don't think it changed my approach though. I prefer to make my own decision rather than be told what to do.
- I anticipate a lot of people will choose option H only because they want to defy the message.
- I liked the reinforcement
- I mostly ignored the message
- I think the summary was simple and really forces people to think about the other players.
- It served as a reminder to try and not click H everytime.
- I couldn't tell if the message was just a mind game or not
- It was slightly aggressive
- It seemed like stating the obvious
- I appreciated the prosocial spirit of the message.
- I was surprised you made it so obvious and spelled it out but that was probably part of the point
- It spoke to my personal values of wanting equality for all.
- It was good to protect peoples extra money and i like that a lot
- I followed the message
- I saw the message but ignored it
- I'm wondering if it had a strong influence on people's behavior.

V7.3 What the game reminded participants of and general game comments

- One of the best game have played online
- This game is fun and interesting
- No comments. All good
- It reminds me of the coronavirus and choice to stay home. Choosing to isolate is less rewarding but helps protect yourself and anyone you interact with.
- It was similar to a prisoner's dilemma, but with no third state to compare against. Additionally, there was no way to guarantee safety, thus making the game impossible to win on a long enough time scale. I almost feel like having an option J which gave you no bonus, but guaranteed you didn't change colors would improve the game from a game theory perspective, although probably not for the purpose of your research.
- It reminds me of The wearing of face masks in public places
- Not really – it's kind of like tag or other games were you get "infected"
- A nice and mind engaging game
- This reminds me a little bit of the way that COVID spreads.
- it remind of the reality of life.one for all, all for one
- Gambling
- dont trust anyone
- No, the game was unique. Not knowing whether I was blue or purple was bothersome. However, I adapted a Pollyanna mindset and assumed that I was blue throughout most of the game.
- It was quite fun! Tapped into some psychology.
- It reminded me of a coin flip game. It was interesting and fun to participate in.
- I am not much of a risk taker when I do not know what type of people I am playing with. So I just chose the safer option so that whoever ends up as a blue will earn bonus points.
- Some NBC (US) game-show. The Wall? I think? At the end a sequestered player makes a decision and another player has to match him/her.
- The game doesn't remind me of anything. I do wonder if I underestimated how many people would gamble by choosing "H". I'd assume that the majority chose "G" on most turns, though I may be totally incorrect.
- I am a cryptocurrency trader and am interested in stocks and day trading, this reminds me a lot of the financial markets when it comes to risking some to get some in return. It was a familiar feeling to taking risks on the financial markets.

- This game really didn't remind me of anything. No comments other than the study was interesting.
- It reminded me of an old game show where the opponent had headphones on behind stage and could not hear your answers.
- I don't there is anything that it really reminds me of with regards to surveys, but it does remind me of board games like I think Go for example, if I'm thinking correctly about that, where the pieces will flip and change color when they are positioned next to another color and players change their piece number throughout the game.
- Honestly, this game made me think of how coronavirus spreads, how if people take a bigger risk with their health, they will regret it and end up losing in the end.
- Not particularly. It reminds me of a game of strategy. Your strategy is competing against many others strategies.
- I liked the game very much. It is very interesting
- I enjoyed this game and am curious about the results. What a fun experiment!
- The whole game reminds me of climate change and electric power. Your nation can use electricity more and benefit, but it hurts other nations because it is bad for the environment.
- No, this is very unfamiliar, like playing blind. I can imagine scenarios, but not actually identify a particular experience that would compare to this. I have done other surveys in the past involving decision making games with either other real or algorithmic, or made-up players, in which the outcome would not be known until afterwards, for a potential bonus. So in that way, there is an obvious comparison, but none of those scenarios were just the same as this one. The degree of responsibility for other players, actual or implied, was more explicit than in this one, as I remember. It makes me think a little bit of betting on horse races based on speculating upon information from a newspaper rather than at the race, but I have never done that, either.
- This game reminds me of the current Coronavirus situation and whether people would wear masks. Wearing masks all the time is equivalent to chooses G every single time.
- This game reminds me of the political ideology socialism.
- I have not experienced anything like this game before. I'm interested to find out if I stayed blue or not! This was such a cool study to be a part of.
- Reminds me of gambling and/or buying risky investments.
- I can't put my finger on the name of the game this survey reminds me of. Thank you for giving me the opportunity to complete this. It was very interesting.
- It is similar to the risks we take in life. Usually they don't work out, but when they do, the reward is large.

- It reminds me that people will choose what is best for them before prioritizing someone else. It reminds me of moral questions with no fair answer.
- covid 19 wearing a mask to help save others
- its was one after like that, my coworkers and i were working on a project which determine who get more bonus or less by becoming the best.
- It makes me think how people make decisions for themselves, which I did not do during this game. I went with the message every round.
- Everything was clear and fantastic.
- So many rules for such a dumb game. Sorry :/
- This reminds me of those Friend or Foe gameshow. If both select friend, you share the money. If one does Foe, they steal. If both do Foe, neither get money. To me, I would always take Friend so that money is guaranteed to one person. My strategy was to do 5 H in the beginning, because there was a smaller chance of people being purple. By round 6, there was surely many more purples so I stuck with G in the hopes that I could survive to the end as blue.
- The likelihood that anyone remained blue at the game's conclusion is near zero. Thank you for offering a game to which no real "bonus payment" is conceivable.
- The spread of anything (at the moment COVID-19). People tend to chose higher reward over caution and helping others.
- The only thing this game reminds me of is that I would like to review and relearn statistics and probability theory. It wouldn't have made in difference in what I chose in the game, but I am curious about the odds of turning purple.
- Well I did play a game theory thing with some friends like this once. I was the only one who didn't press the button, so I died. I wouldn't be surprised if everyone is purple by now
- It reminds me that we should care about others.
- really silly/dumb/annoying. all the rules. we know we weren't paired with anyone. researchers never pay large bonuses so it relaly doesn't matter. maybe if you do it again, less rules and have a "bigger payout" even though you won't pay out.
- As with all cooperative games, you just hope that a few assholes don't screw it up for everybody.
- It reminds me of the current situation in this country with some people working to be fair to everyone and others out trying to get all they can get for themselves.
- Mask wearing and social distancing to prevent and minimize the spread of Covid 19.

- Coronavirus. Seems like the people who have it and don't care spread it to others who might unknowingly spread it to even more people.
- Overall this reminds me of game theory, just a more dynamic version. Each individual is better off individually choosing H (more points), but in doing so would be penalized at a higher rate. The cooperative solution gives each person less, but is much less risky. Very cool study! Interested to learn how I did and the breakdown of when things changed if at all!
- This game was very difficult since you are absolutely blind and have no idea if you are actually going to get money or not.
- Kind of reminded me of deal or no deal. People making decisions that could harm themselves out of a desire for more cash
- I'm not normally a risk-taker, but I took a calculated risk this time. I figured everyone is needing money at the moment and they would throw it all in as well. When I play slots at the casino, I'm a very low risk taker. I go in with a set amount of money, and if I lose it all, I walk out. If I win the amount back, I will pocket that money and possibly play any winning monies.
- It kind of reminded me of the card game Mafia, just in that the surviving group always dwindles at some point.
- It's a teamwork game.
- Sometimes when I play the slots I start off trying to be conservative in spending, but when I realize that I've started winning, I tend to bet more. I used a similar approach in this game by choosing safely first (testing the waters), and then I began to take a risk of the higher amount. I thought I might have regrets if I didn't try and win.
- I believe this may be meant to test how risky people are willing to behave while covid19 is going on.
- I'm assuming you are making a comparison between the game and the participants' attitudes towards conservatism and risk taking. There is an analogy here between the test and behavior during the pandemic.
- I have not done anything like this but it was very interesting and I'd like to know more about the information the creator gets from this.
- I sort of suspect it's like a coronavirus simulation - are you willing to inconvenience yourself/lose money in order to try to prevent "infecting" other players in the game?
- It reminds of Halloween as a child where a house put out a bowl of candy with a sign saying "please take one" and watching the kids who would just take one so others could have some until inevitably one kid would come along and dump the whole thing into his or her bag. In this scenario, I figured there would be those that would only care about their own outcome.

- Somehow, this reminds me of wearing a mask during the current COVID-19 pandemic and assessing my own risk tolerance in relation to those who may not be as keen about upholding social norms or standards.
- it kind of reminds of the spread of a virus. You want to go outside, go shopping, be around people, etc. but want to avoid spreading your sickness/getting sick. If you choose to be risky then you will probably get sick but if you wear a mask, keep away from people with symptoms, etc. you probably won't (but it's still possible).
- I wanted to keep my risk as low as possible and then take a couple shots at the end. I hope it didn't hurt me!
- It doesn't remind me of anything else I've done before.
- It feels like a study on capitalistic ideas.
- Not really its a pretty unique game
- This reminds me of a little bit of the prisoner's dilemma, just a little bit. I remember watching a British game show that riffed off from this theory, and that it would benefit everyone if they chose the lower option to get the reward that benefited the greater good. Most of the time, I might choose to do that, but what made me risk it all was the length of the game. Even if I chose option G the entire time, the likelihood that I wouldn't be purple by the end of the game was low regardless. So I decided instead to risk it all for the very small chance of the highest possible bonus. Probably the biggest factor in my decision though was the initial reward of 3 pounds for playing the game regardless. In the original experiment, I believe there is a chance that you will receive nothing, and I think having compensation for an experiment like this made me feel like the stakes were lower and I would get money anyways.
- Most games that are similar to this result in players playing in their own interest (e.g. selecting H most of the time). It would be interesting to see what the results are and what color I end up.
- I don't think I've ever played anything similar to this before.
- I've never participate in something like this before so It's very interesting. I would love to know what other people have chosen.
- This game is an interesting social experiment to compare selfishness vs the benefit of the group
- Yes, this game reminds me of man's quest to accumulate more profit at the detriment of others.

V7.4 Perceived differences between game and pandemic

- COVID-19 involves the whole world while the simulation involves 100 people
- I can't find any similarity

- There was no part that was different.
- People who isolate and then hang out 1 on 1 vs people who don't.
- covid-19 is ravaging the world but this is just a survey
- There was a great similarity between the simulation and COVID-19
- In simulation I can,t become blue, but in COVID-19 i can become negative.
- I can't really say, probably his money is involved. Though I get that, you need to see how or if people put others before themselves
- Those who don't wear masks and don't socially distance don't stand to gain anything significant by not doing so, so that does not reflect the game.
- I would say that the risk to turn purple is probably a lot lower in this game than the actual rate of transmission in real life. Aside from that, I feel it was pretty similar.
- Some people don't get a choice in the real world if they have higher risk of exposure if they want to pay their bills.
- None. It is the true picture of Corona virus situation
- Earning money instead of safety, risk of losing money vs losing life, no chance of social distancing to purposefully not interact.
- Well, it's a novel virus with more and more testing coming in every single day. So, I'm not sure we can assume the chances of contracting it. Also, how does money play into risk? I can't think of a scenario where taking on the risk of contracting covid is going to pay you. I guess the freedom of being out and living your life is some sort of payment? I'm not sure. I suppose I see the connection between a couple (who lives together) both taking the risk to getting the virus and not being able to "go back" after the fact?
- With COVID there is a chance of knowing whether you have it or not, in this game you don't know whether you're purple or not.
- I wasn't in any actual danger. In real life, you experience the fun of living life, but may contract the disease and could die or have lasting effects. During this game, you received only a positive, but did not risk losing something only not gaining something,.
- The odds of someone getting severe consequences from COVID are much more slim than the stakes of this game. E.G., a higher percentage of players will turn purple than get the virus.
- The is risk of contracting COVID-19 if we want to enjoy certain benefits
- Money and a virus are very different subjects. I have no problem with trying to protect other peoples money because it's a hard asset that is tangible and provable, a virus can be easily misunderstood.

- If blue is uninfected and purple is infected then this would represent social encounters and the chance of the transmission of COVID-19
- You can insulate yourself from others choices (wearing PPE) in the COVID situation...not in this game.
- Nobody dies
- Government rulings
- There is a lot more movement in real life. A person won't always be just in a pair.
- The game does not take into account other factors that the virus does. i.e. Whether a person is outside or inside, if the sun is out etc.
- the more interactions a decisions made the higher the probability that the color changed - just like the more interactions with other in the covid world the higher the probability that you could get the virus too
- After the connection was made I find a strong connection. Although some of the percentages in this experiment might be higher than that of Covid sharing I see the connection.
- The fact that in COVID-19, certain individuals are more affected than others (due to race, age, pre-existing conditions, etc.). So not everyone starts out blue.
- I feel the variables in COVID-19 are more complex, for example, one might be exposed to droplets of contagion without actual contact with an infected person, through discreet modes of transmission from random surfaces or even from persistent aerosols, such as through ventilation systems, even with reasonable precautions observed.
- The way I am thinking about it, everything matches up perfectly. The benefits are like businesses that open up and don't do social distancing. They make more money but increase the risk.
- There's no quarantine option and you can "go back to blue"
- I don't really know but it's all making sense now.
- Coronavirus is not randomized and anonymous, which changes the dynamic entirely.
- COVID is a real life, dangerous situation. The simulation is just a harmless game.
- The fact that it's colors and not people, and that I had no choice in controlling "my color", even though I definitely have a choice in controlling "my life". I could choose to stay inside the entire time, and then my chances of full bonus payment would be close to 100
- The virus has real-life consequences far greater than this simulation. I have lived the past few months in G-land.

- one is a game and one is a disease killing hundreds of thousands
- Some people who get sick do not have symptoms and are not bed ridden so technically they still get the reward while also messing up other people
- It doesn't account for age, distance between people, masks, etc. And the contagious rate would seem too high at 5%-25%
- Covid is real and kills people. This game doesn't.
- The 8/100 infection ratio of the game does not reflect the 12/100 infection ratio of Covid-19 in my community.
- Well, in reality, it is true that we don't know whether we have the virus or not, but that doesn't mean that we are all eventually going to swarm restaurants, beaches, etc and become purple heads lol Some of us actually have self control and healthy working memory unlike a large amount of Americans that would act exactly like this survey (source: https://www.newsbreak.com/news/1599904390680/people-who-refuse-to-follow-social-distancing-or-wear-masks-may-have-problems-with-working-memory-study). But in all honesty, it's exactly what a huge population of Americans are doing :/
- If I am right in comparing this simulation to wearing a mask to stop the spread, I think the biggest difference is people might be more apt to select G here (which I am correlating to wearing a mask) for the high chance to win extra money. Positive reinforcement. Whereas I feel like most people don't see wearing a mask as a positive thing, even though it could save a life, but more as a punishment for some reason.
- I don't believe the spread of the disease comes down to individual reactions, but to the actions of the state. That's easily seen in how countries have responded. Individuals have a very minor effect imo
- The factors behind transmission of the coronavirus are far more complex, but the game does a fine job or mirroring the basics of it.
- Some people would know their "color."
- After thinking about it, this simulation was actually the same as the COVID situation when it comes to people not social distancing or wearing masks etc.
- I'm having a hard time wrapping my head around why it even makes a connection at all.
- The social aspect was different. Playing the game did not make me feel the emotions that I would feel giving the virus to elderly parents/grandparents.
- I didn't feel like I was actually hurting someone by the choices I made.
- Obviously COVID-19 doesn't involve winning, certainly not money, it is quite the opposite and deals in lives.

- The simulation deals with colors/bonuses, while the COVID-19 situation deals with life/death. If folks 'don't behave' by being hygienic/socially distancing, the outcomes are much worse in real life.
- If both people wear a mask, there is little/no chance of contracting covid. 1 does and 1 doesn't, medium risk. Both don't, high risk
- Being completely in the dark about who was "infected" is not exactly like reality where we have some statistical numbers indicating danger (but maybe that is still similar)
- there's so many other factors affecting people's decisions related to coronavirus. it's not this simple
- its a game...there is no correlation whatsoever
- It reminds me of wearing masks. If you are safe and wear the mask for yourself and others, then you have less of a chance of one of you catching COVID, but if you are selfish and decide to not wear one, then you risk getting one of you sick
- protecting your family , securing they have enough . Worrying about everything , the stress.
- I believe that this is trying to show how diseases are passed. Purple being the infected people. However Herd immunity has to come into play. This virus will NOT go away just because we are wearing masks and staying away from each other.
- There is nothing to gain from not wearing a mask. Risk does not equal reward.
- I think this situation shows it spreading faster than what it actually does.
- The numbers I have seen for covid transmission are not even close to 5,15,25. I think it's as high as 70 with no masks on both parties.
- Well, we basically are in a bubble with family right now so there's not a chance to interact with potentially 100 people.
- There is no prize to not getting Covid, but there's a cost. A covid comparison would be like if we turned purple, we lost money on our payment.
- Obviously, there was no real risk to players in the game. The bonus money was never their money so they weren't "losing" anything by taking a risk, whereas COVID directly affects everyone in a physical and very real way. I don't think that someone who takes risks in the game is automatically selfish, but people who don't wear masks or protect themselves and others from COVID absolutely IS selfish.
- Well, hopefully no one died in the simulation.
- Life and death is a tad bit different than making an extra few cents.

- The incentives are different. The incentive in the game is to earn money but the players who are "purple" or "infected" do not necessary lose anything. In the corona virus situation, the purple or infected are losing out on things - their health, their jobs, and even their life. There is more incentive in the corona situation to consider others versus in the game.
- there is not much difference since choosing option G means you are taking less risk to protect your team players. This can also be linked to practicing social distancing, washing our hands frequently etc inorder to protect others

V7.5 Comments at the end of the survey

- The study is exceptional
- All is well organized and interesting and looking forward to do more next Time
- This is a very long study
- I am glad to be part of this survey. It found it educative and interesting.
- Good Questions and somewhat difficult tasks
- It was amusing!
- Really loved how you passed a message with this study on the covid 19 situation with wearing of masks.
- Behavior of the media, congress, democrats, left, liberals against Donald Trump is down right disgusting. NO President should ever be treated this way. There are so many that should literally be jailed and behind bars right now and THEY KNOW IT. The lying, the cheating, the deception, the stealing... this is NOT the American way. They have lost their moral compasses, sold their souls to the devil.... so much evil - Bill & Hillary Clinton, Barak Obama, James Comey, Peter Strzok, Lisa Paige, Bruce Nellie Orr, James Clapper, John Brennen, Andrew McCabe... the list goes on and on... they all should be in jail. Corruption has always fueled the Democratic party and it's time for it to stop. It's amazing Hillary doesn't spontaneously combust from her own bull sh*t!
- The questions about the vaccine are ambiguous, since the various vaccines being tested in clinical trials do exist (despite not being FDA approved or widely available)- hence we do have vaccines (existence is inarguable) it's just level of efficacy, safety, production, and distribution that we might opine on. Likewise, my opinion on whether people understand the importance of the United States could be ambiguous. I feel nationalist people misunderstand the importance of the United States by vastly overestimating it, and in this current climate we have very much nationalism.
- Noting position may be helpful. I work in healthcare so I have to follow healthcare rules for social distancing and self-quarantine(not just staying home for 14 days after any illness). It is impossible that I stay six feet from others but I can reduce my amounts of contact with others otherwise.

- There was a question earlier in the study that asked if I felt President Trump underestimated the threat of Covid-19, and I selected "Strongly Disagree" which might seem contradictory to my other answers, but the reason I chose that is because I believe you can't underestimate something if you never properly estimated it in the first place. And I truly believe he has never really grasped the full scale of it all. Thus my selection.
- I got a little confused on the currency exchange in the qualifying section at the beginning, but this has been a very good, eye-opening survey. Thank you!
- This felt disingenuous. I never felt as if I was actually playing the dot game with anyone. Also, it felt like there was a potential of a forced outcome with the questions. Thoughts about the US was a bit to vague. I feel that the citizens of the US should recognize that we like in a truly unique place with a lot of individual potential. However some of the wording seemed to focus more on ALL people knowing how special the US is. I honestly don't really care what certain countries feel about the US...that's their business. There was no way to really reflect that in some of the questions. Also, in regards to religion. There were questions about it and how much it means to me or how important it is. I personally am religious on a very private and individual level (after being Atheist for most of my life) but I don't find it that important to ME. However, I find it HUGELY important that the US continue to be a place where people can practice their religion freely (so long as it doesn't encroach on other people's freedoms). There didn't seem to be a way to reflect that either.
- Too many questions about President Trump and not enough about the real villains in our Nation, the Congressional Democrats and the "News" Media. Maybe next time ask about how we feel about those things. Thanks.
- I feel like when other countries speak of the United States and their citizens, and think them all universally foolish, selfish, etc. it's a bit irritating. I just hope that when they say these things, I hope they mean a lot of the white americans, because most marginalized americans, such as Black Americans, Indigenous people, and other POC are often not in a position to benefit from the selfish and shameless actions that happen in this country.
- Very interesting survey and interesting comparison between the game and current day events. Your results should be interesting! The attention checks were a bit challenging. Being a math person I enjoyed them, although it did take a lot of brain effort to think about. The one about the golden bat and ball did not seem solveable, so I put none of the above. If the bat costs $4,000 more than the ball, both cannot equal $5,000. If ball was $1,000, (because 4,000+1,000=5,000) and the bat was 4,000 more, than the bat should have cost $5,000, which would mean both would equal $6,000. Not sure if the question was meant to be a trick question, but I would like to bring that to your attention in case it was a type. :) (And I don't want to be flagged for failure to pass an attention check. I'll message you about this as well, just in case. Thank you!)
- Those lateral thinking questions that popped up between the tasks seemed unnecessary. Almost all the people who do Prolific studies have encountered these same

questions before, so they're not really an accurate measure of reasoning skills.

- Another analogy to the blue ball game and the purple game are vaccinations. Since you can stand to benefit when everyone vaccinates themselves (option G) except you (option H), but if everyone has that same line of thinking then it reduces the effectives of vaccinations.
- Wow, was quite cognitive
- This was.... meandering.
- Thank you! It was long but I had fun answering considering how deep and serious were most of the questions.
- I am a doctor and touch 50+ sick people a day, so I take many risks and will likely get coronavirus despite being very risk averse in general. This will affect my responses.
- Everything was nice and clear. The presentation was very nice.
- The font/ text needs to be darker. I get a headache from this light font
- It feels almost as if this study is trying to determine the relationship between personal intelligence and political affiliation. Perhaps to better understand the thought process of each individual and how to relates to political and societal issues.
- You made me whip out a pen and paper on some of the word problems because my intuition is always wrong on those. Overall enjoyable survey, thank you.
- This was very clever but perhaps a little long
- I'm a socialist and I don't know math. Please don't be too hard on me for not getting most of the math questions.
- I don't really have much to comment on. Thank you for the chance to take the survey. I appreciate the chance to do so especially in a financially difficult time.
- Interesting questions. Survey slightly longer than expected.
- I believe that I had Covid-19 in June when other members of my household tested positive. Yet, scientists are not sure whether or not we can be infected more than once. I am still concerned about this virus.
- I think the games in the survey, the first one relating to the infected and healthy person was interesting and really did make me think about the COVID 19 situation occurring right now.
- Too little pay for how long this took....
- This was enjoyable to take part in!
- I feel like I will think about other people a little more financially for now on.

- Great survey, this is my favorite survey I have ever took. I hope I'm not infected.
- Very well put together and does a great job at making you really think about some of the questions.
- I wish the pay was a little higher it was pretty long
- Just found this survey to be very interesting and relatable!
- This was a very unique, thought provoking and somewhat challenging survey. It challenges one's thinking, decision making, and thought processes.
- Thanks for the super interesting survey! I'd love to do more!!! Very creative I must say!
- Lots of false dichotomies in worldview sections
- This was a lot of fun. I hope you collect really good info from people that helps you to do good in the world. Please take care of you :-)
- so fucking long. so confusing. so dumb. shame on you for such a low payout for so many damn questions; and triva/quiz questions at that. come on guys!
- I love my Country..... That doesn't mean I blindly believe everything the Government tells me.
- It was fun. I especially enjoyed the puzzles
- Very interesting survey. It had me think about my views on subjects I ever thought about before.
- I am very curious to find out the results. Survey was a bit long but well done and thorough.
- I support the general idea of the government imposing coronavirus-related restrictions to keep people from dying, but I don't really trust the Trump administration to actually do that and not just use it as an excuse to brutalize protesters or something.
- I go walking very early each morning, and I don't wear a mask as I can easily socially distance the few people I'm likely to meet. Wording of the questions is a bit problematic. I would never go to a store (or even a drivethru) w/o wearing my mask, but strictly speaking (it would seem) I'm didn't meet your suggestions of "always" wearing a mask.

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