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Transmission Game: Variables and Measures in Study 2 (VM2)

Jan K. Woike
Max Planck Institute for Human Development, Berlin, Germany; University of Plymouth, United Kingdom

Sebastian Hafenbrädl
IESE Business School, Barcelona, Spain

Patricia Kanngiesser
Freie Universität Berlin, Germany; University of Plymouth, United Kingdom

Ralph Hertwig
Max Planck Institute for Human Development, Berlin, Germany

Abstract

Transmission Game: Variables and Measures in Study 2 (VM2)

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Jan K. Woike https://orcid.org/0000-0002-6816-121X, Sebastian Hafenbrädl https://orcid.org/0000-0002-5148-766X, Patricia Kanngiesser https://orcid.org/0000-0003-1068-3725, Ralph Hertwig https://orcid.org/0000-0002-9908-9556
Correspondence e-mail: woike@mpib-berlin.mpg.de

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VM2-1 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. https://cran.r-project.org/web/packages/psych/psych.pdf

```
# Loading required libraries
library(foreign)
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")

## Warning in system("timedatectl", intern = TRUE): running command
'timedatectl' had status 1
```

```
## - Attaching packages --------------------- tidyverse 1.3.1 -
## v tibble  3.1.3     v stringr 1.4.0
## v readr   2.0.0     v forcats 0.5.1
## - 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)

# R version
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

# Loading data
fn='TRANSMISSION_GAME_STUDY2_DEIDENTIFIED.sav'
dataS=read.spss(file=fn)
```

```
## Warning in read.spss(file = fn):  TRANSMISSION_GAME_STUDY2_DEIDENTIFIED.sav:
Very long string record(s) found (record type 7, subtype 14), each will be
imported in consecutive separate variables

df=data.frame(dataS)

palette2=colorRampPalette(c("#ff7f50", "white", "#2171B5"))

sessionInfo()

## R version 3.6.3 (2020-02-29)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Ubuntu 20.04.3 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] viridis_0.6.1     viridisLite_0.4.0 rmarkdown_2.9     psych_2.1.6
##  [5] forcats_0.5.1     stringr_1.4.0     readr_2.0.0       tibble_3.1.3
##  [9] tidyverse_1.3.1   purrr_0.3.4       tidyr_1.1.3       dplyr_1.0.7
## [13] ggplot2_3.3.5     foreign_0.8-76    knitr_1.33
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_1.0.7         lubridate_1.7.10  lattice_0.20-44   assertthat_0.2.1
##  [5] digest_0.6.27      utf8_1.2.2        R6_2.5.0          cellranger_1.1.0
##  [9] backports_1.2.1    reprex_2.0.0      evaluate_0.14     httr_1.4.2
## [13] pillar_1.6.2       rlang_0.4.11      readxl_1.3.1      rstudioapi_0.13
## [17] munsell_0.5.0      broom_0.7.9       compiler_3.6.3    modelr_0.1.8
## [21] xfun_0.24          pkgconfig_2.0.3   mnormt_2.0.2      tmvnsim_1.0-2
## [25] htmltools_0.5.1.1 tidyselect_1.1.1  gridExtra_2.3     fansi_0.5.0
## [29] crayon_1.4.1       tzdb_0.1.2        dbplyr_2.1.1      withr_2.4.2
## [33] grid_3.6.3         nlme_3.1-152      jsonlite_1.7.2    gtable_0.3.0
## [37] lifecycle_1.0.0    DBI_1.1.1         magrittr_2.0.1    scales_1.1.1
## [41] cli_3.0.1          stringi_1.7.3     fs_1.5.0          xml2_1.3.2
```

```
## [45] ellipsis_0.3.2    generics_0.1.0    vctrs_0.3.8       tools_3.6.3
## [49] glue_1.4.2        hms_1.1.0         parallel_3.6.3    colorspace_2.0-2
## [53] rvest_1.0.1       haven_2.4.1
```

VM2-2 Distribution of single-item measures in Study 1

VM2-2.1 Demographics 1

VM2-2.1.1 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()
```

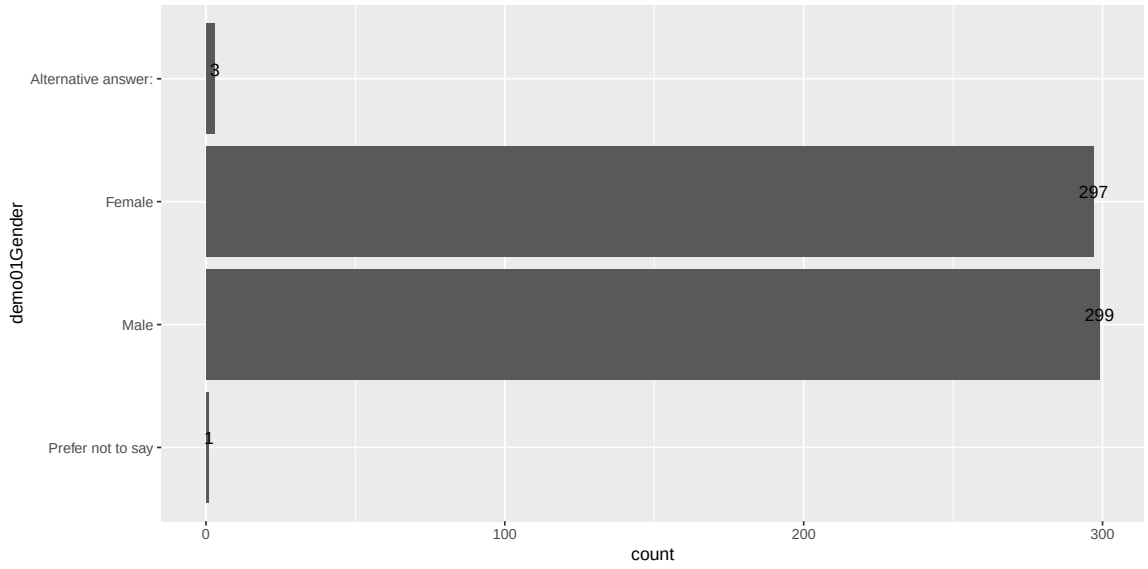

Figure VM2-1
Gender distribution

VM2-2.1.2 Age

```
summary(df$demo01Age)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   18.00   23.00   29.00   32.65   39.00   75.00
```

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

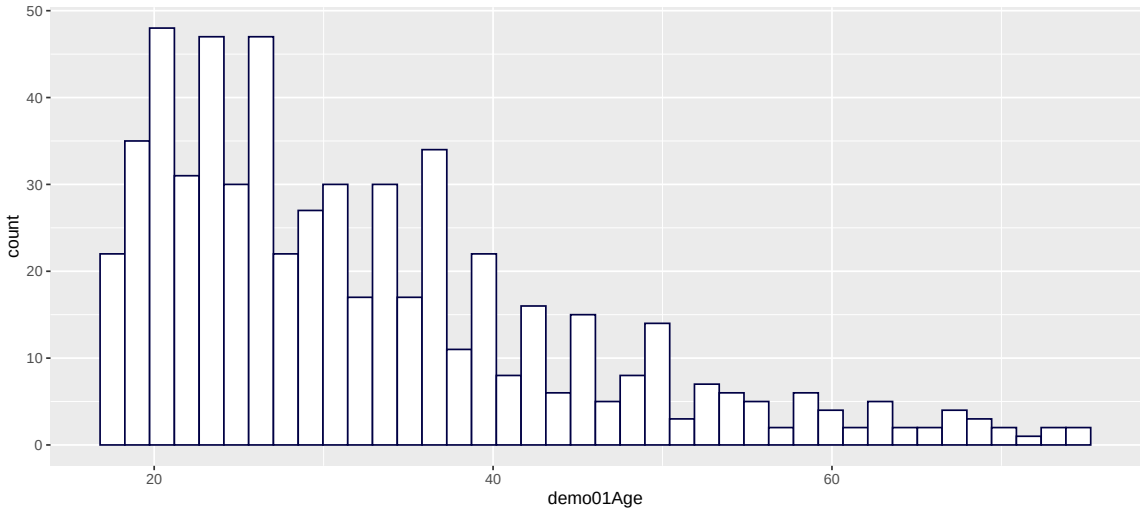

Figure VM2-2
Age distribution

VM2-2.1.3 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)
```

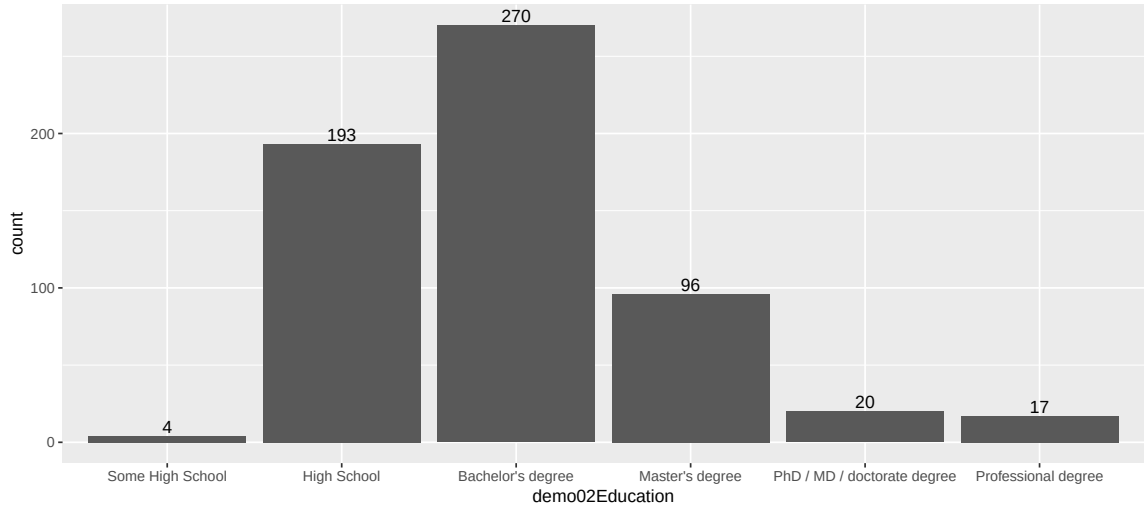

Figure VM2-3
Highest degree or level of education you have completed

VM2-2.1.4 Household income (2019)

```
ggplot(df, aes(x=demo03Income))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

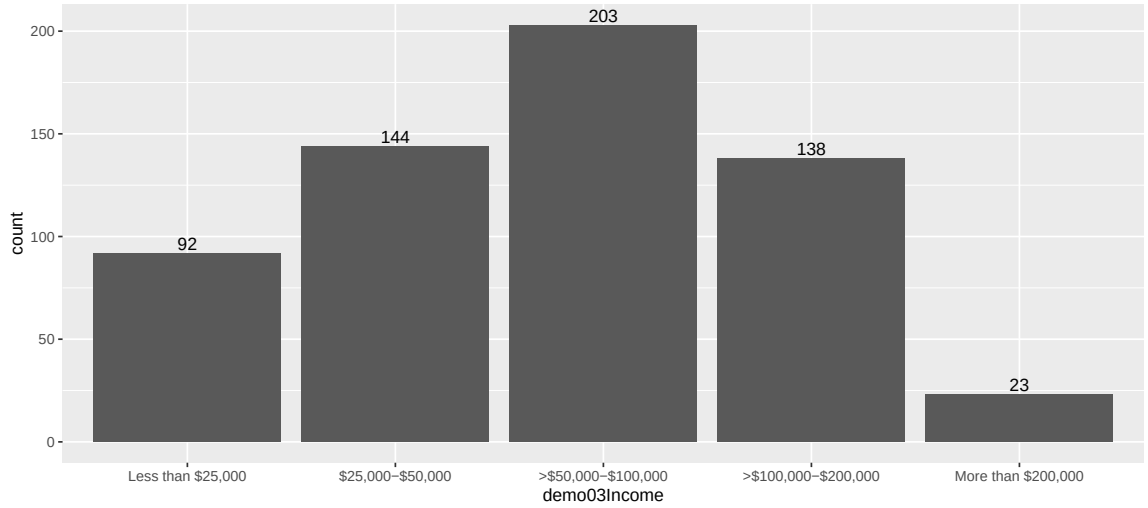

Figure VM2-4
What was your annual household income in 2019?

VM2-2.1.5 Employment status

```
ggplot(df, aes(x=demo04Emplyoment))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)
```

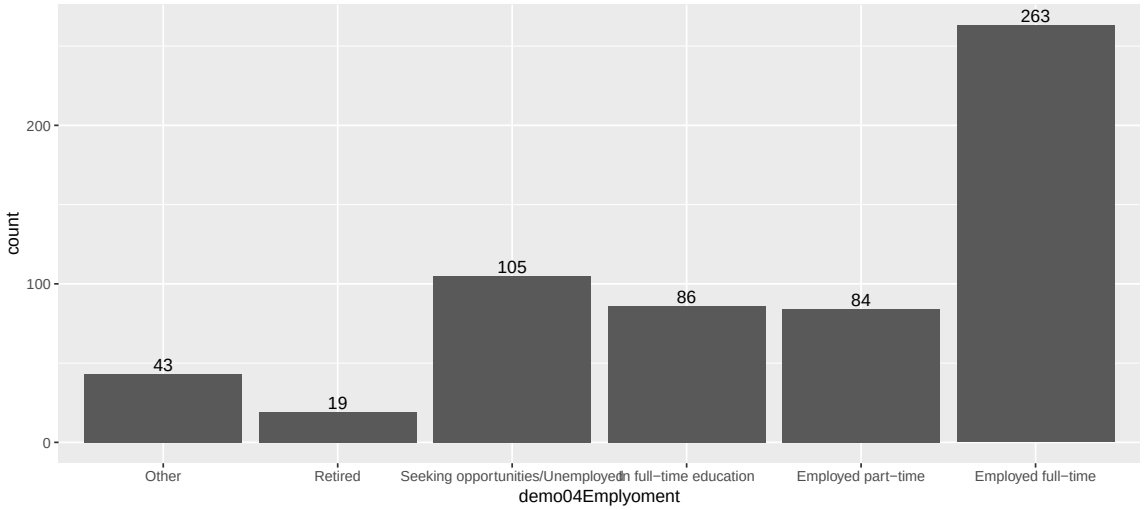

Figure VM2-5
What is your current employment status?

VM2-2.2 MTurk

VM2-2.2.1 MTurk participant

```
ggplot(df, aes(x=First01MTurk))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25)+
   coord_flip()
```

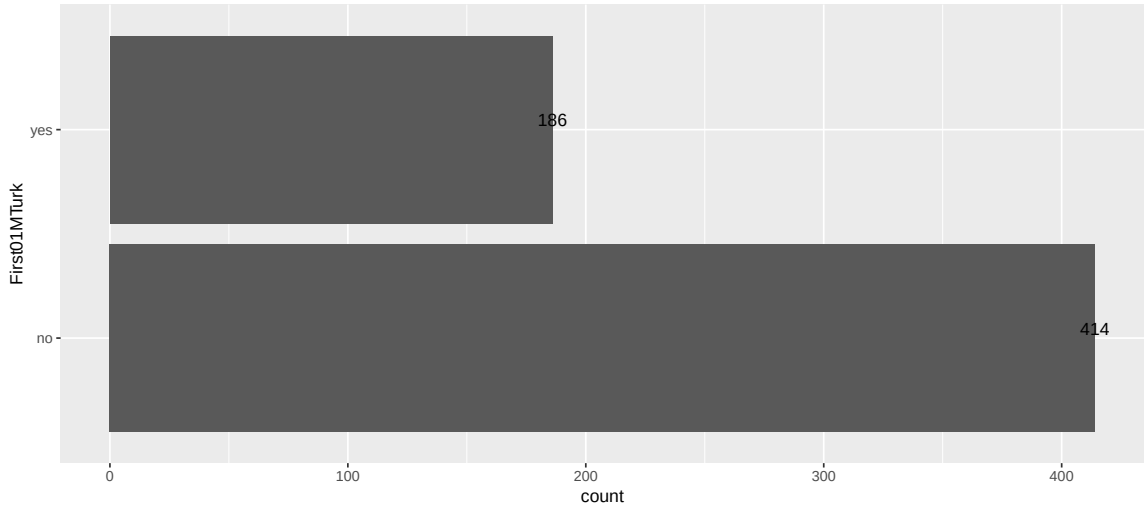

Figure VM2-6
Are you also registered on Amazon Mechanical Turk?

VM2-2.2.2 Number of HITs (for participants)

```
summary(df$First02numHits)
```

```
##     Min.  1st Qu.   Median     Mean  3rd Qu.     Max.     NA's
##      0.0     69.5   1000.0   9306.3   8775.0 165480.0      414
```

```
df %>%
  ggplot(aes(First02numHits)) +
  geom_histogram(aes(y =..count..), color="#000044",
                 fill="white",bins=40)
```

```
## Warning:  Removed 414 rows containing non-finite values (stat_bin).
```

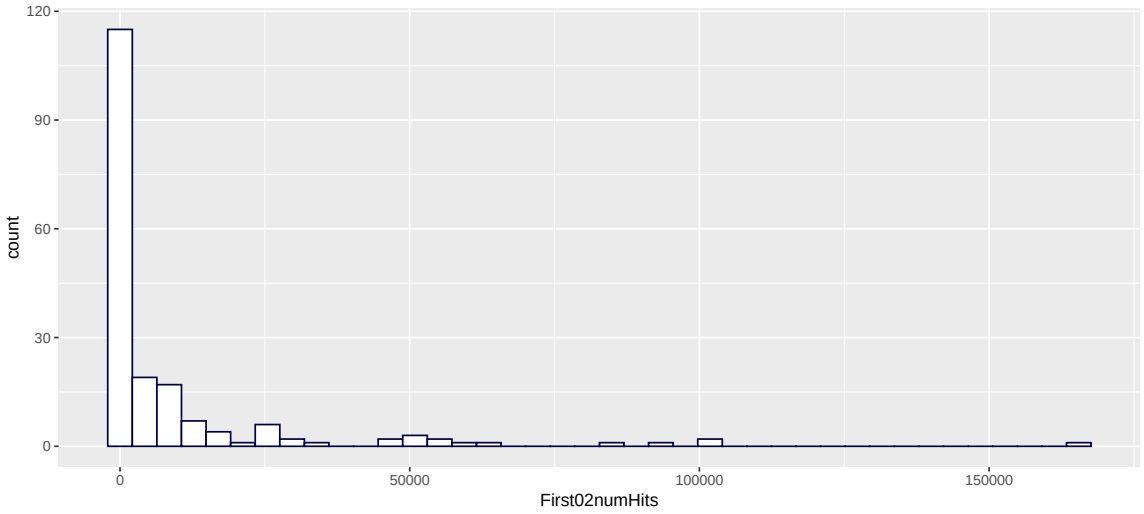

Figure VM2-7
How many HITs (in total) have you completed on Amazon Mechanical Turk in your lifetime?

VM2-2.3 Postquestionnaires

VM2-2.3.1 General motivation

Eleven questions were answered on a scale from 1–5: Strongly disagree—Disagree—Neither agree nor disagree—Agree—Strongly agree. Five of these questions were also presented in Study 1.

- **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.[1]
- **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.

[1]The item is named "PostTG1_09" in the dataset, which should have been "PostTG_09".

```
    VarsPost <- c("PostTG_01", "PostTG_02", "PostTG_03",
    "PostTG_04", "PostTG_05","PostTG_06","PostTG_07",
    "PostTG_08","PostTG1_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=PostTG1_09,Post10=PostTG_10,Post11=PostTG_11
    )

    FramePost[] <-data.matrix(FramePost)

 summary(FramePost)
```

```
##      Post01          Post02          Post03          Post04          Post05
##  Min.   :1.000   Min.   :1.000   Min.   :1.00   Min.   :1.000   Min.   :1.000
##  1st Qu.:3.000   1st Qu.:2.000   1st Qu.:2.00   1st Qu.:1.000   1st Qu.:3.000
##  Median :4.000   Median :2.000   Median :3.00   Median :2.000   Median :4.000
##  Mean   :3.655   Mean   :2.607   Mean   :2.77   Mean   :1.808   Mean   :3.767
##  3rd Qu.:5.000   3rd Qu.:3.000   3rd Qu.:4.00   3rd Qu.:2.000   3rd Qu.:5.000
##  Max.   :5.000   Max.   :5.000   Max.   :5.00   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.:2.000   1st Qu.:2.000
##  Median :3.000   Median :4.000   Median :4.000   Median :2.000
##  Mean   :2.912   Mean   :3.738   Mean   :3.158   Mean   :2.628
##  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.:2.000
##  Median :2.000   Median :4.000
##  Mean   :2.002   Mean   :3.373
##  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)
```

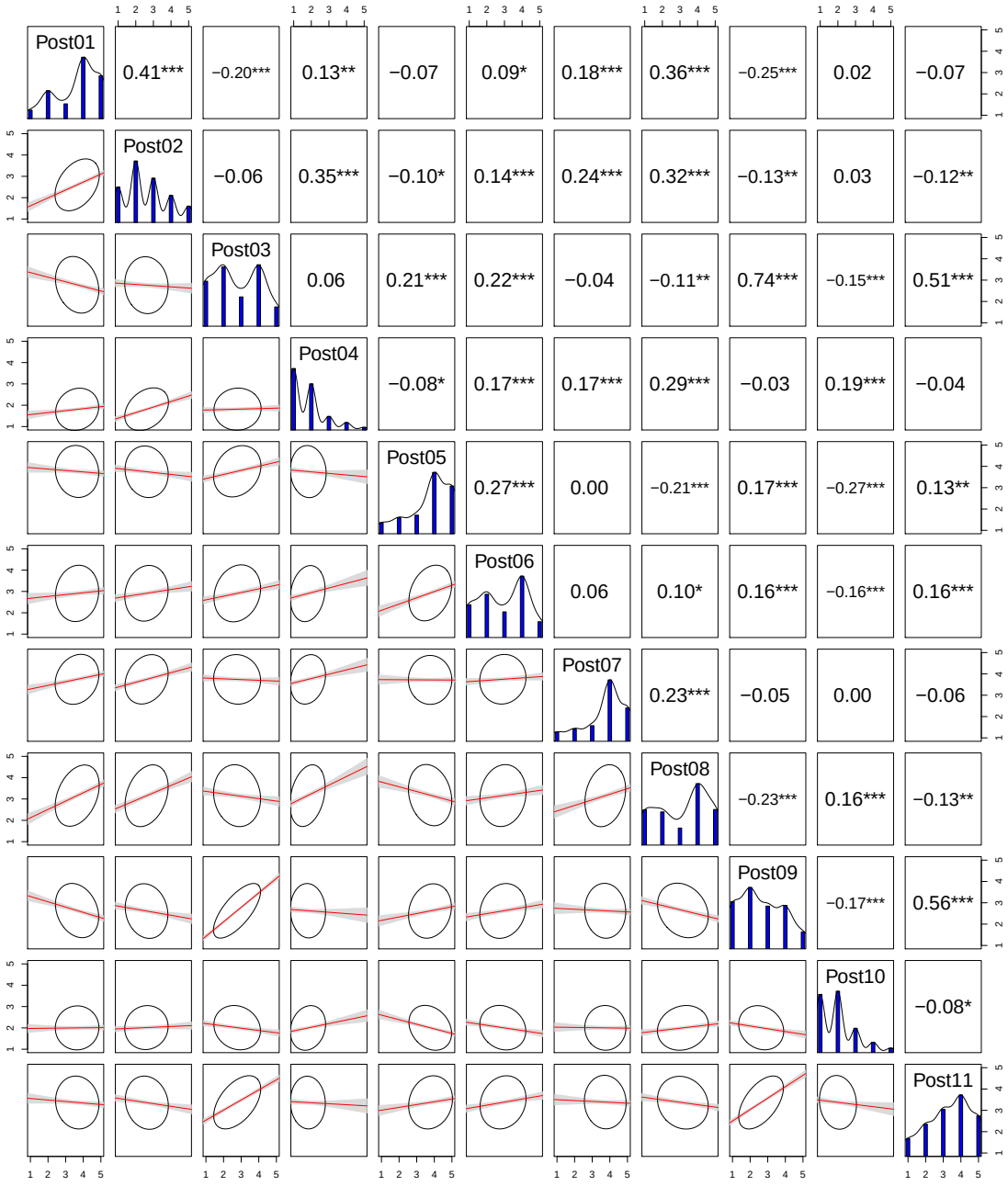

Figure VM2-8
Post-questionnaire items

VM2-2.3.2 Color estimate

```
summary(df$PostTGcolor)

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   25.00   50.00   49.12   70.00  100.00
```

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

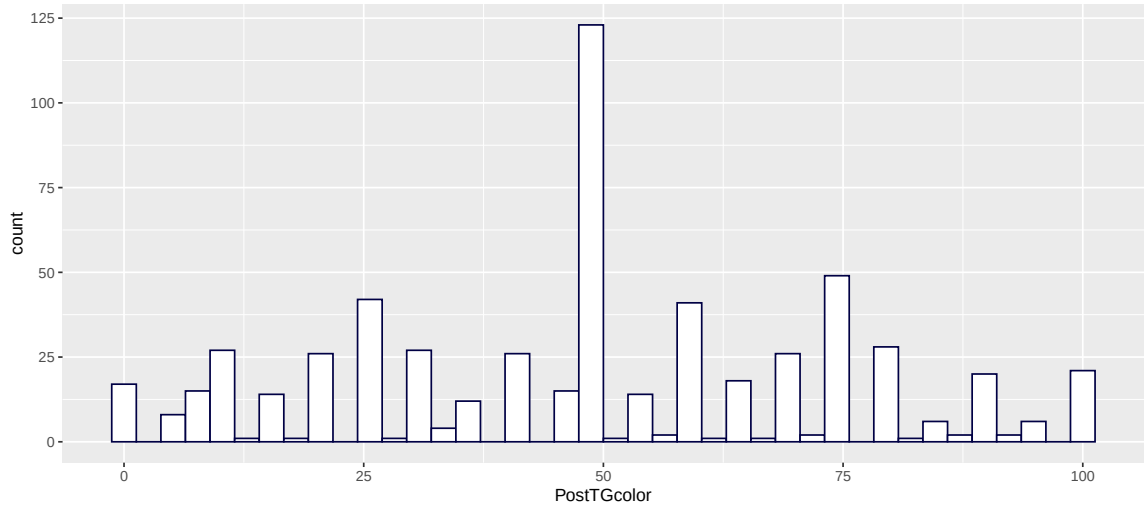

Figure VM2-9
How likely is it that your final color is purple?

VM2-2.3.3 Roundwise Estimates

```
#Data preparation:

round<-c()
round[1:600]<-1
round[601:1200]<-5
round[1201:1800]<-10
round[1801:2400]<-15
round[2401:3000]<-20
round[3001:3600]<-25
```

```
participantID<-c()
participantID[1:600]<-1:600
participantID[601:1200]<-1:600
participantID[1201:1800]<-1:600
participantID[1801:2400]<-1:600
participantID[2401:3000]<-1:600
participantID[3001:3600]<-1:600

estimatePurple<-c()
estimatePurple[1:600] <-df$PostTGestimatepurple_1
estimatePurple[601:1200] <-df$PostTGestimatepurple_2
estimatePurple[1201:1800] <-df$PostTGestimatepurple_3
estimatePurple[1801:2400] <-df$PostTGestimatepurple_4
estimatePurple[2401:3000] <-df$PostTGestimatepurple_5
estimatePurple[3001:3600] <-df$PostTGestimatepurple_6

estimateH<-c()
estimateH[1:600] <-df$PostTGestimateH_1
estimateH[601:1200] <-df$PostTGestimateH_2
estimateH[1201:1800] <-df$PostTGestimateH_3
estimateH[1801:2400] <-df$PostTGestimateH_4
estimateH[2401:3000] <-df$PostTGestimateH_5
estimateH[3001:3600] <-df$PostTGestimateH_6

lineFramePurple<-data.frame(
  round,
  estimatePurple,
  participantID
)

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

Data preparation.

Estimates of number of purple players. Participants were asked: "How many players in your group do you think were purple in each of the following rounds?" with estimates for rounds 1,5, 10, 15, 20, and 25.

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

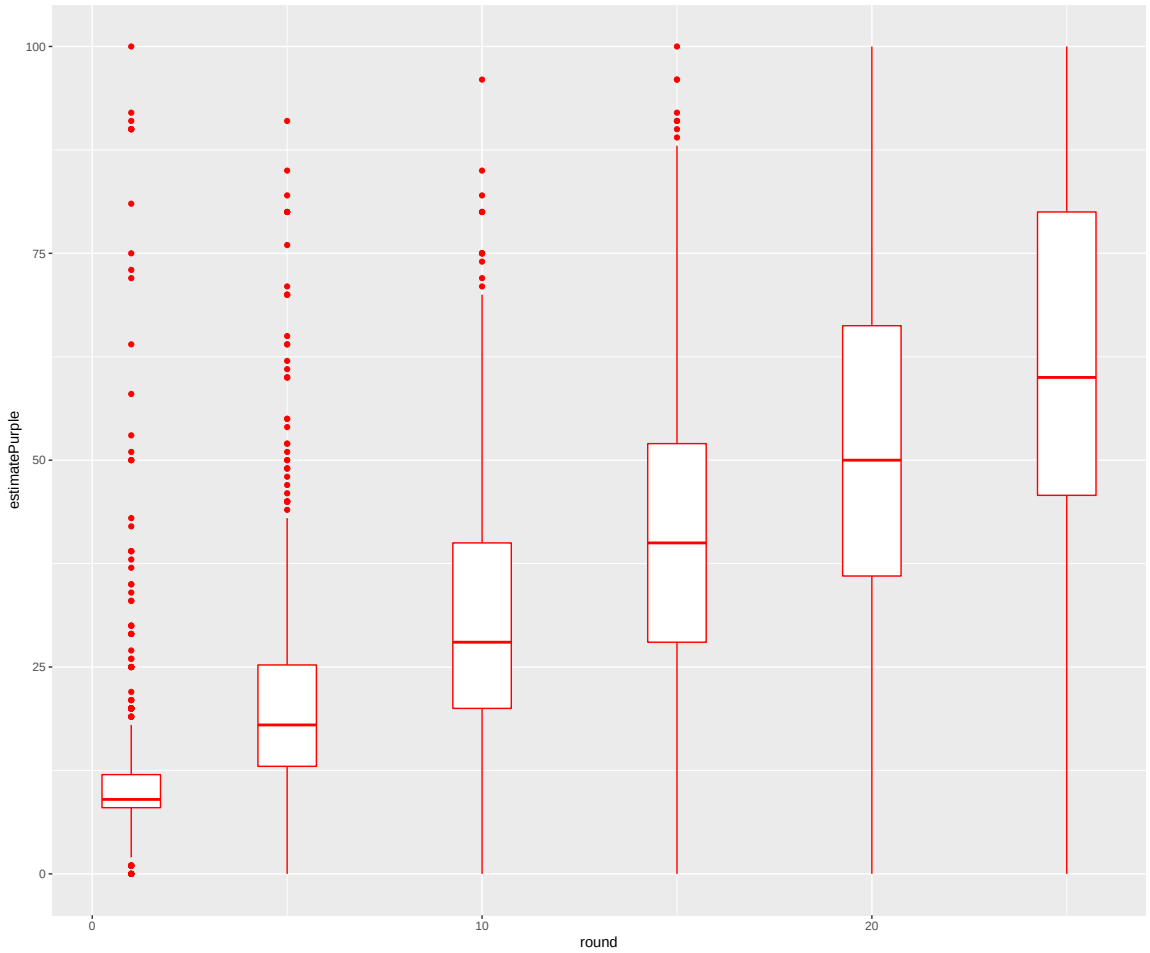

Figure VM2-10
Estimates for the proportion of purple players: Boxplots

```
lineFramePurple %>%
ggplot( aes(x=round, y=estimatePurple, 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")
```

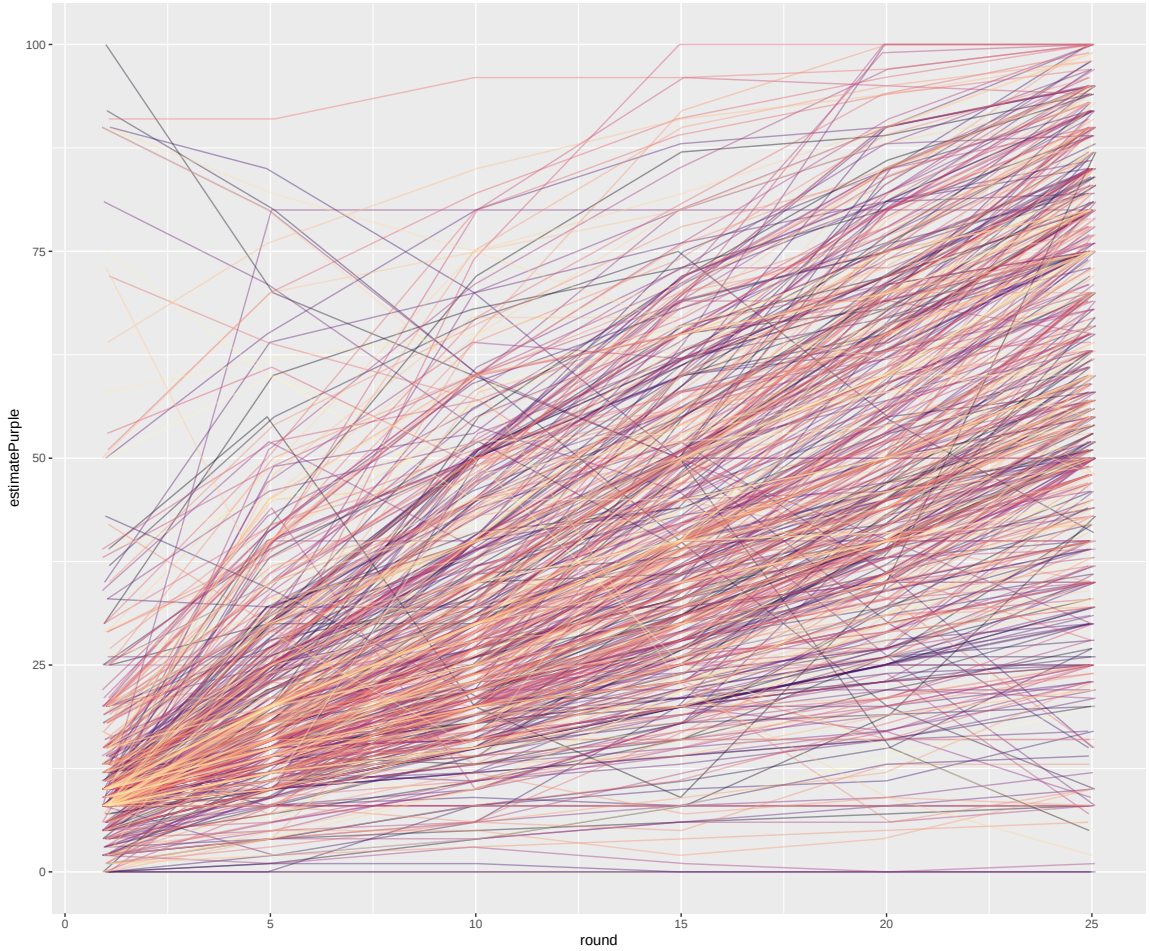

Figure VM2-11
Estimates for the proportion of purple players: Individual lineplots

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")
```

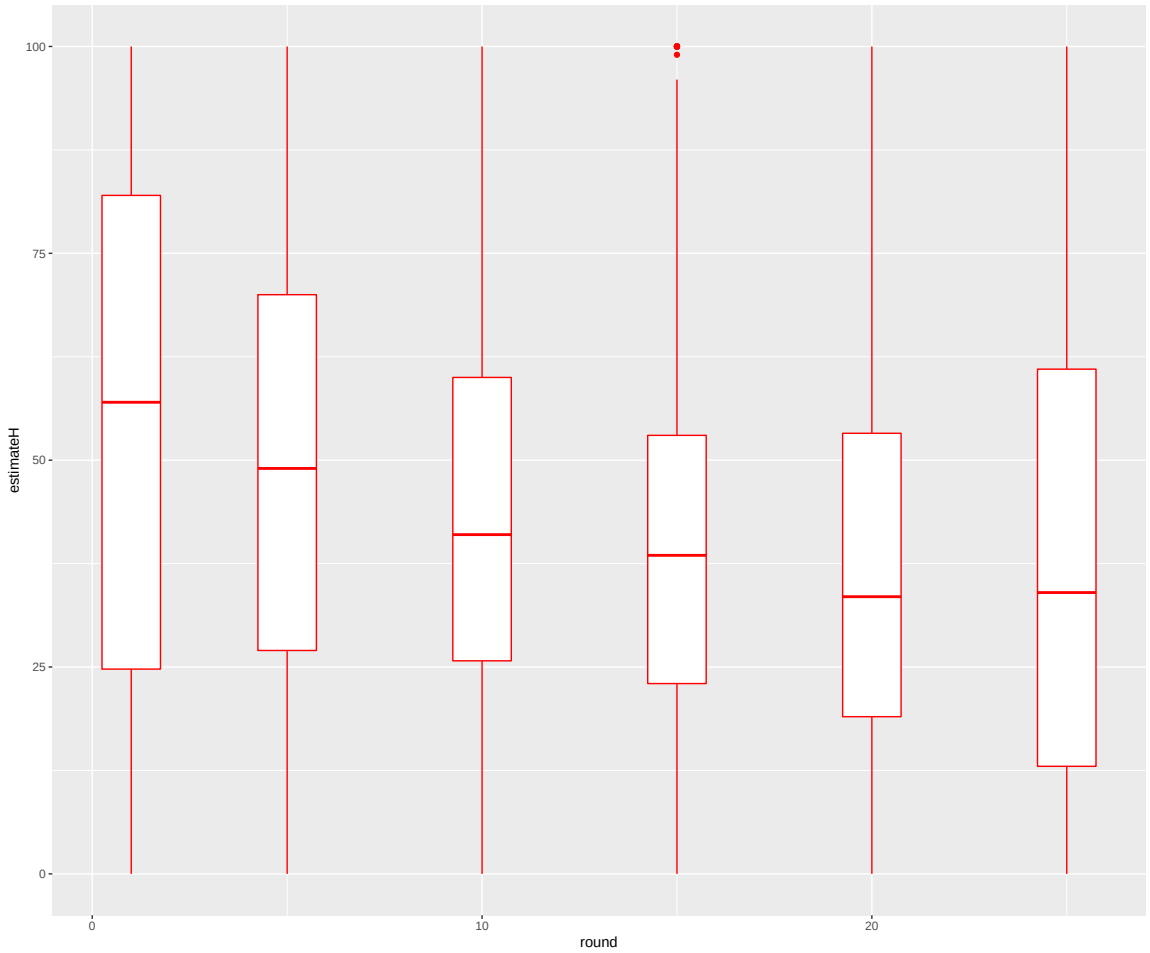

Figure VM2-12
Estimates for the proportion of players choosing H: Boxplots

```
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")
```

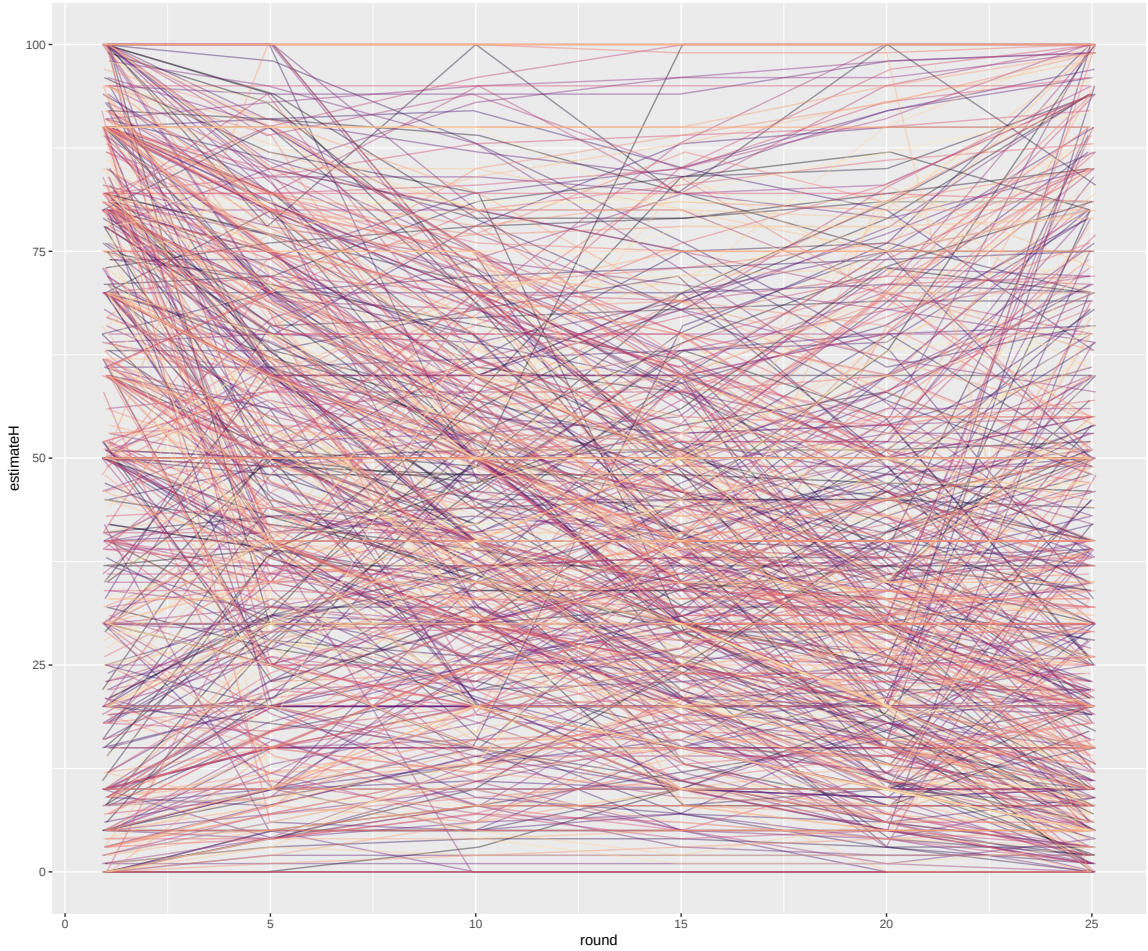

Figure VM2-13
Estimates for the proportion of players choosing H: Individual lineplots

VM2-2.3.4 Specific Postquestionnaire: Chain reaction

Six questions were answered on a scale from 1–6: Strongly disagree—Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree. Five of these questions were also presented in Study 1.

- **PostCR1**: I liked the demonstration.
- **PostCR2**: The demonstration was easy to understand.
- **PostCR3**: The demonstration influenced my decisions in the game.
- **PostCR4**: The demonstration was a waste of my time.
- **PostCR5**:I would have chosen action H (40 points) more often, if I had not seen the demonstration.

- **PostCR6**:I would have chosen action H (40 points) less often, if I had not seen the demonstration.

```
    VarsPostCR <- c("AddPostquestChain_1", "AddPostquestChain_2",
    "AddPostquestChain_3", "AddPostquestChain_4",
    "AddPostquestChain_5","AddPostquestChain_6")

    FramePostCR <- df[VarsPostCR]

  FramePostCR <- FramePostCR %>%
    rename(
    PostCR1=AddPostquestChain_1,PostCR2=AddPostquestChain_2,
    PostCR3=AddPostquestChain_3,PostCR4=AddPostquestChain_4,
    PostCR5=AddPostquestChain_5,PostCR6=AddPostquestChain_6
    )

    FramePostCR[] <-data.matrix(FramePostCR)

 summary(FramePostCR)
```

```
##     PostCR1         PostCR2         PostCR3         PostCR4         PostCR5
##  Min.   :1.00   Min.   :1.00   Min.   :1.00   Min.   :1.00   Min.   :1.00
##  1st Qu.:4.00   1st Qu.:4.00   1st Qu.:3.00   1st Qu.:2.00   1st Qu.:2.00
##  Median :5.00   Median :5.00   Median :5.00   Median :2.00   Median :3.00
##  Mean   :4.44   Mean   :4.29   Mean   :4.13   Mean   :2.42   Mean   :3.21
##  3rd Qu.:5.00   3rd Qu.:5.00   3rd Qu.:5.00   3rd Qu.:3.00   3rd Qu.:5.00
##  Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00
##  NA's   :500    NA's   :500    NA's   :500    NA's   :500    NA's   :500
##     PostCR6
##  Min.   :1.00
##  1st Qu.:1.75
##  Median :2.00
##  Mean   :2.51
##  3rd Qu.:3.00
##  Max.   :6.00
##  NA's   :500
```

```
   pairs.panels(FramePostCR, 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)
```

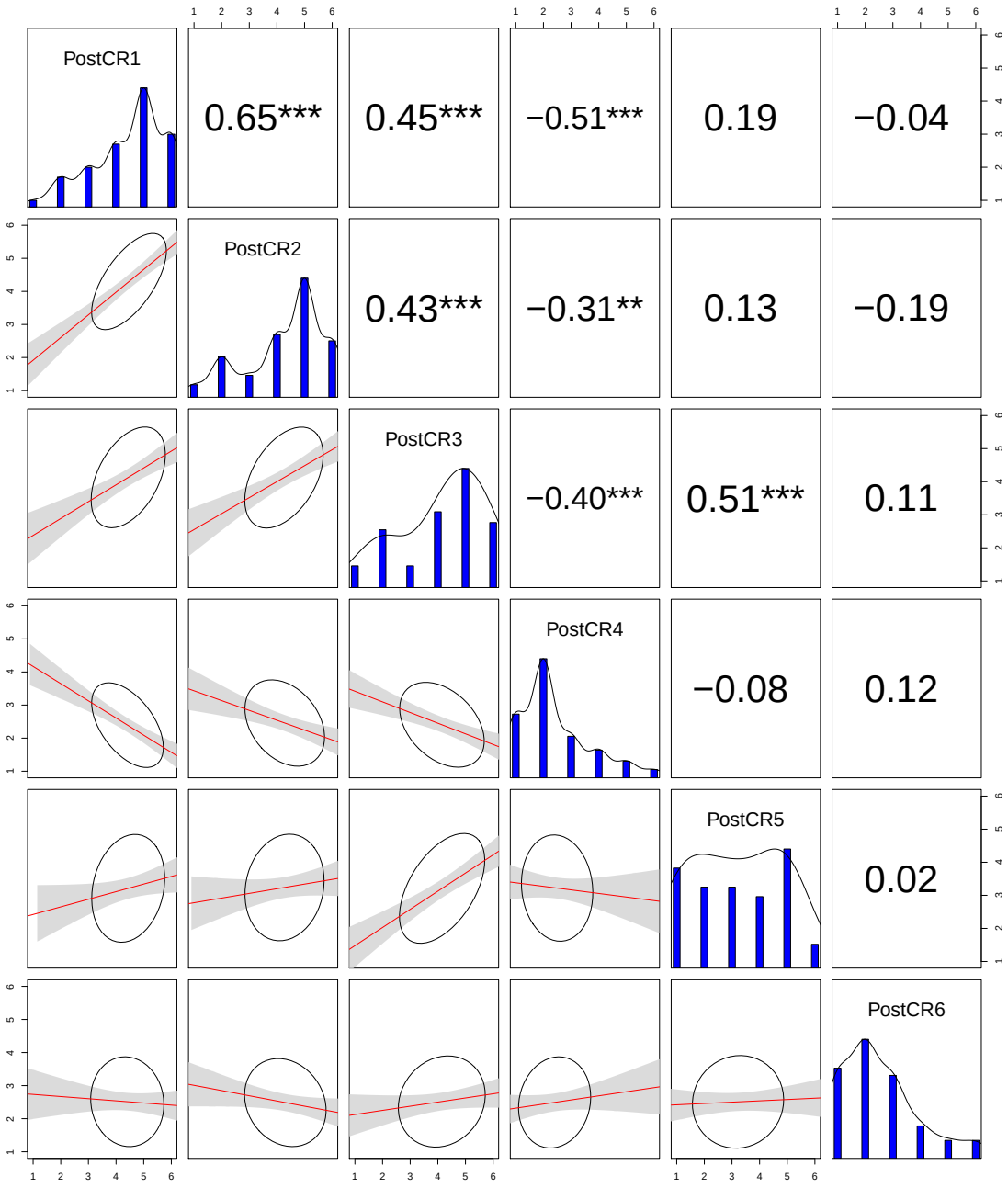

Figure VM2-14
Post-questionnaire items Chain Reaction

VM2-2.3.5 Specific Postquestionnaire: Simulator

Seven questions were answered on a scale from 1–6: Strongly disagree—Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree. Five of these questions were also presented in Study 1.

- **PostSIM1**: I liked the simulator.
- **PostSIM2**: The simulator was easy to understand.
- **PostSIM3**: The simulator was easy to use.
- **PostSIM4**: The simulator influenced my decisions in the game.
- **PostSIM5**: The simulator was a waste of my time.
- **PostSIM6**: I would have chosen action H (40 points) more often, if I had not played around with the simulator.
- **PostSIM7**: I would have chosen action H (40 points) less often, if I had not played around with the simulator.

```
    VarsPostSIM <- c("AddPostquestSimul_1", "AddPostquestSimul_2",
    "AddPostquestSimul_3", "AddPostquestSimul_4",
    "AddPostquestSimul_5","AddPostquestSimul_6","AddPostquestSimul_7")

    FramePostSIM <- df[VarsPostSIM]

  FramePostSIM <- FramePostSIM %>%
    rename(
    PostSIM1=AddPostquestSimul_1,PostSIM2=AddPostquestSimul_2,
    PostSIM3=AddPostquestSimul_3,PostSIM4=AddPostquestSimul_4,
    PostSIM5=AddPostquestSimul_5,PostSIM6=AddPostquestSimul_6,
    PostSIM7=AddPostquestSimul_7
    )

    FramePostSIM[] <-data.matrix(FramePostSIM)

 summary(FramePostSIM)
```

```
##     PostSIM1        PostSIM2        PostSIM3      PostSIM4        PostSIM5
##  Min.   :1.00   Min.   :1.00   Min.   :1     Min.   :1.00   Min.   :1.0
##  1st Qu.:4.00   1st Qu.:4.00   1st Qu.:5     1st Qu.:3.00   1st Qu.:1.0
##  Median :5.00   Median :5.00   Median :5     Median :5.00   Median :2.0
##  Mean   :4.52   Mean   :4.52   Mean   :5     Mean   :4.15   Mean   :2.2
##  3rd Qu.:5.00   3rd Qu.:5.00   3rd Qu.:6     3rd Qu.:5.00   3rd Qu.:3.0
##  Max.   :6.00   Max.   :6.00   Max.   :6     Max.   :6.00   Max.   :6.0
```

```
##  NA's   :500    NA's   :500    NA's   :500   NA's   :500    NA's   :500
##     PostSIM6       PostSIM7
##  Min.   :1.00   Min.   :1.00
##  1st Qu.:2.00   1st Qu.:1.00
##  Median :3.00   Median :2.00
##  Mean   :3.51   Mean   :2.11
##  3rd Qu.:5.00   3rd Qu.:3.00
##  Max.   :6.00   Max.   :5.00
##  NA's   :500    NA's   :500
```

```
pairs.panels(FramePostSIM, 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)
```

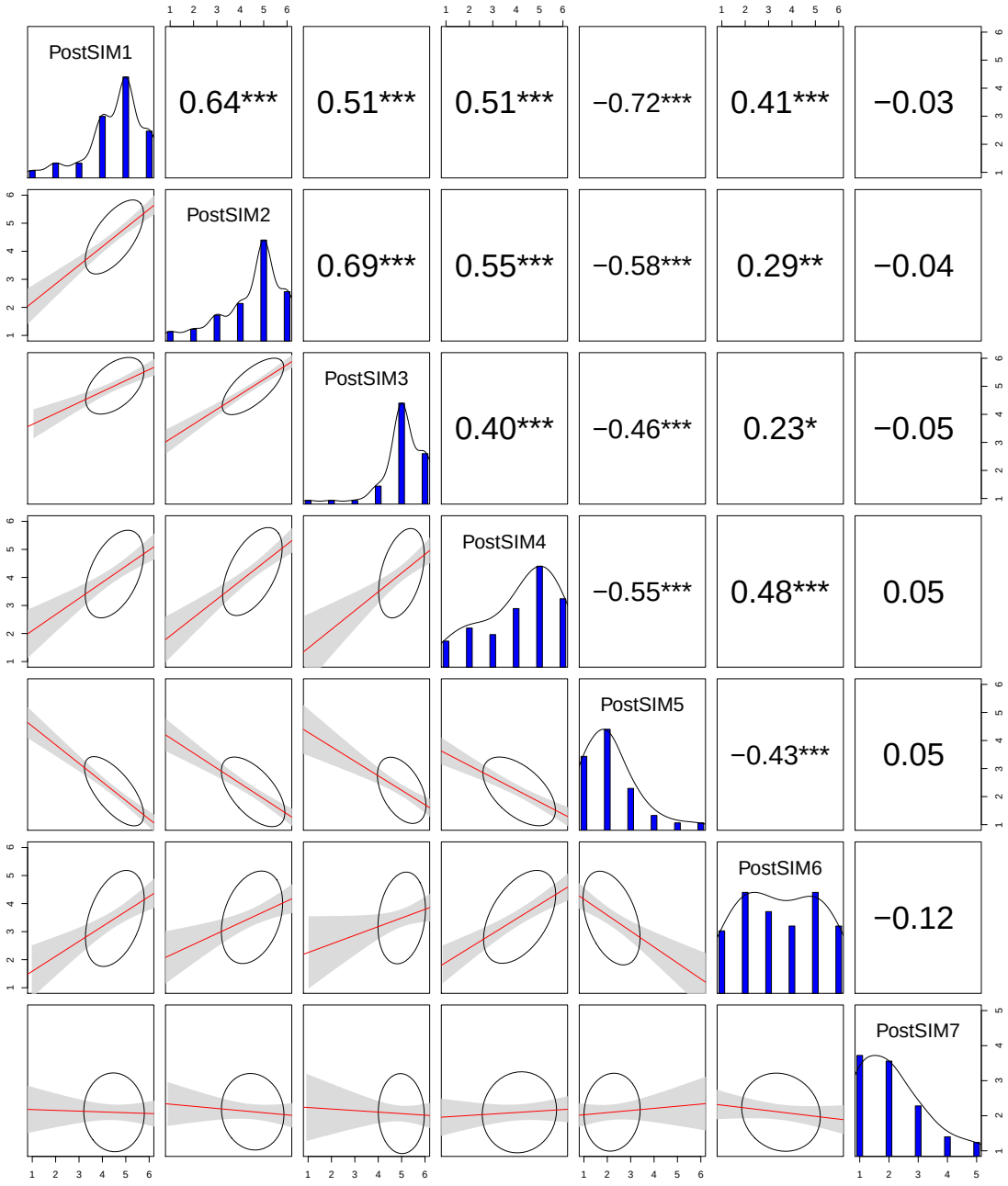

Figure VM2-15
Post-questionnaire items Simulator

VM2-2.3.6 Specific Postquestionnaire: Vicarious Learning

Six questions were answered on a scale from 1–6: Strongly disagree—Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree. Five of these questions were also presented in Study 1.

- **PostVL1**: I liked the information.
- **PostVL2**: The information was easy to understand.
- **PostVL3**: The information influenced my decisions in the game.
- **PostVL4**: The information was a waste of my time.
- **PostVL5**:I would have chosen action H (40 points) more often, if I had not received this information.
- **PostVL6**:I would have chosen action H (40 points) less often, if I had not received this information.

```
    VarsPostVL <- c("AddPostVicar_1", "AddPostVicar_2",
    "AddPostVicar_3", "AddPostVicar_4",
    "AddPostVicar_5","AddPostVicar_6")

    FramePostVL <- df[VarsPostVL]

  FramePostVL <- FramePostVL %>%
    rename(
    PostVL1=AddPostVicar_1,PostVL2=AddPostVicar_2,
    PostVL3=AddPostVicar_3,PostVL4=AddPostVicar_4,
    PostVL5=AddPostVicar_5,PostVL6=AddPostVicar_6
    )

    FramePostVL[] <-data.matrix(FramePostVL)

 summary(FramePostVL)
```

```
##     PostVL1         PostVL2         PostVL3         PostVL4         PostVL5
##  Min.   :1.00   Min.   :1.00   Min.   :1.00   Min.   :1.00   Min.   :1.0
##  1st Qu.:4.00   1st Qu.:4.00   1st Qu.:4.00   1st Qu.:1.00   1st Qu.:2.0
##  Median :5.00   Median :5.00   Median :5.00   Median :2.00   Median :3.0
##  Mean   :4.75   Mean   :4.65   Mean   :4.43   Mean   :1.97   Mean   :3.4
##  3rd Qu.:5.00   3rd Qu.:6.00   3rd Qu.:5.00   3rd Qu.:2.00   3rd Qu.:5.0
##  Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.0
##  NA's   :500    NA's   :500    NA's   :500    NA's   :500    NA's   :500
##     PostVL6
##  Min.   :1.00
```

```
##  1st Qu.:2.00
##  Median :2.00
##  Mean   :2.63
##  3rd Qu.:3.25
##  Max.   :6.00
##  NA's   :500
```

```
pairs.panels(FramePostVL, 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)
```

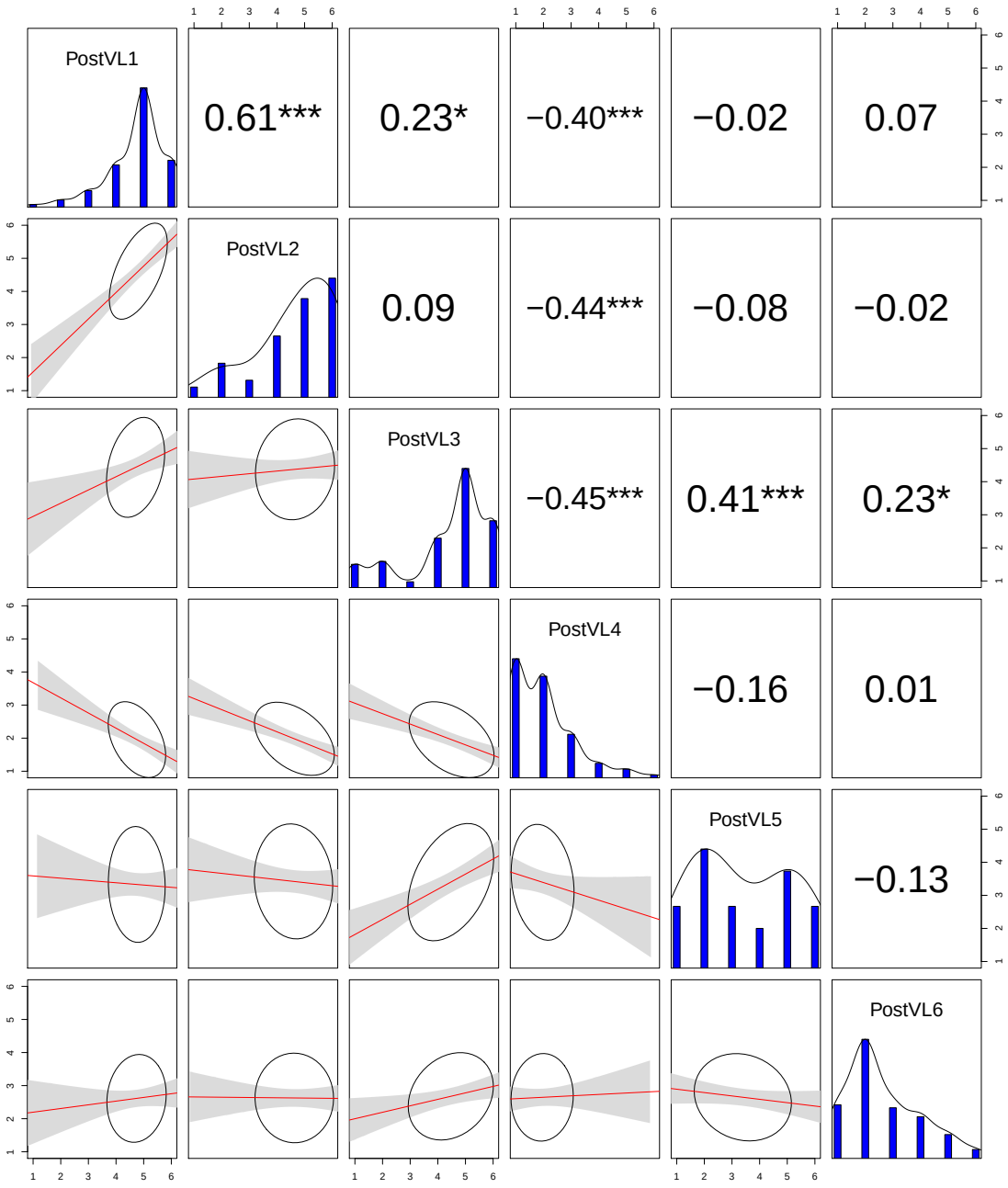

Figure VM2-16
Post-questionnaire items Vicarious Learning

VM2-2.3.7 Specific Postquestionnaire: Descriptive norms

Six questions were answered on a scale from 1–6: Strongly disagree—Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree. Five of these questions were also presented in Study 1.

- **PostDN1**: I liked the information.
- **PostDN2**: The information was easy to understand.
- **PostDN3**: The information influenced my decisions in the game.
- **PostDN4**: The information was a waste of my time.
- **PostDN5**:I would have chosen action H (40 points) more often, if I had not received this information.
- **PostDN6**:I would have chosen action H (40 points) less often, if I had not received this information.

```
    VarsPostDN <- c("AddPostDescriptive_1", "AddPostDescriptive_2",
    "AddPostDescriptive_3", "AddPostDescriptive_4",
    "AddPostDescriptive_5","AddPostDescriptive_6")

    FramePostDN <- df[VarsPostDN]

  FramePostDN <- FramePostDN %>%
    rename(
    PostDN1=AddPostDescriptive_1,PostDN2=AddPostDescriptive_2,
    PostDN3=AddPostDescriptive_3,PostDN4=AddPostDescriptive_4,
    PostDN5=AddPostDescriptive_5,PostDN6=AddPostDescriptive_6
    )

    FramePostDN[] <-data.matrix(FramePostDN)

 summary(FramePostDN)
```

```
##     PostDN1         PostDN2         PostDN3         PostDN4         PostDN5
##  Min.   :1.00   Min.   :2.00   Min.   :1.00   Min.   :1.00   Min.   :1.00
##  1st Qu.:4.00   1st Qu.:5.00   1st Qu.:2.00   1st Qu.:1.00   1st Qu.:1.75
##  Median :5.00   Median :5.00   Median :4.00   Median :2.00   Median :3.00
##  Mean   :4.45   Mean   :5.01   Mean   :3.94   Mean   :2.45   Mean   :3.07
##  3rd Qu.:5.00   3rd Qu.:6.00   3rd Qu.:5.00   3rd Qu.:3.00   3rd Qu.:5.00
##  Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00
##  NA's   :500    NA's   :500    NA's   :500    NA's   :500    NA's   :500
##     PostDN6
##  Min.   :1.00
```

```
##  1st Qu.:1.00
##  Median :2.00
##  Mean   :2.35
##  3rd Qu.:3.00
##  Max.   :6.00
##  NA's   :500
```

```
pairs.panels(FramePostDN, 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)
```

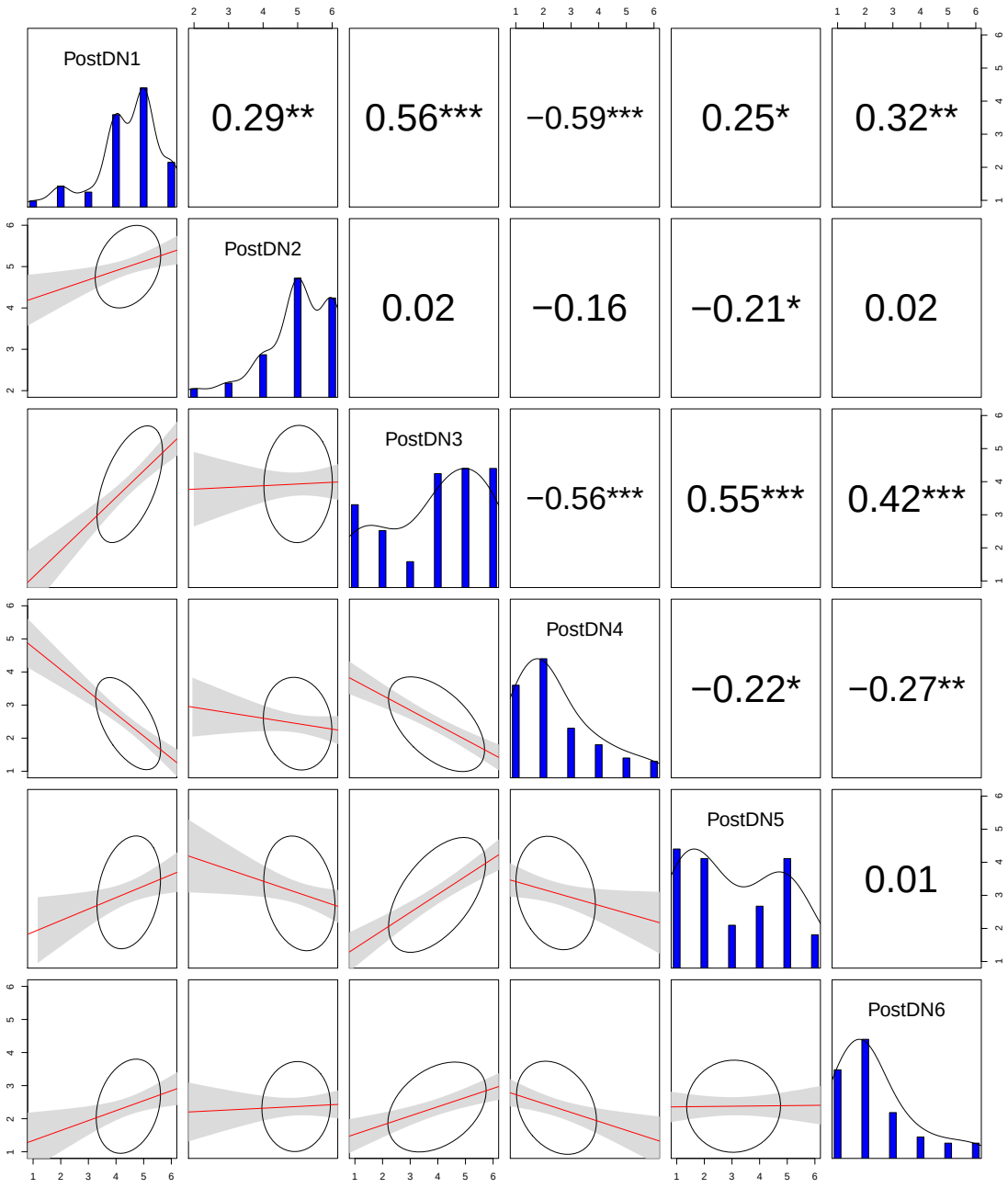

Figure VM2-17
Post-questionnaire items Descriptive Norms

VM2-2.3.8 Specific Postquestionnaire: Injunctive norms

Six questions were answered on a scale from 1–6: Strongly disagree—Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree. Five of these questions were also presented in Study 1.

- **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**:I would have chosen action H (40 points) more often, if I had not received message.
- **PostIN6**:I would have chosen action H (40 points) less often, if I had not received 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(FramePostDN)
```

```
##     PostDN1         PostDN2         PostDN3         PostDN4         PostDN5
##  Min.   :1.00   Min.   :2.00   Min.   :1.00   Min.   :1.00   Min.   :1.00
##  1st Qu.:4.00   1st Qu.:5.00   1st Qu.:2.00   1st Qu.:1.00   1st Qu.:1.75
##  Median :5.00   Median :5.00   Median :4.00   Median :2.00   Median :3.00
##  Mean   :4.45   Mean   :5.01   Mean   :3.94   Mean   :2.45   Mean   :3.07
##  3rd Qu.:5.00   3rd Qu.:6.00   3rd Qu.:5.00   3rd Qu.:3.00   3rd Qu.:5.00
##  Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00   Max.   :6.00
##  NA's   :500    NA's   :500    NA's   :500    NA's   :500    NA's   :500
##     PostDN6
##  Min.   :1.00
```

```
##  1st Qu.:1.00
##  Median :2.00
##  Mean   :2.35
##  3rd Qu.:3.00
##  Max.   :6.00
##  NA's   :500
```

```
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)
```

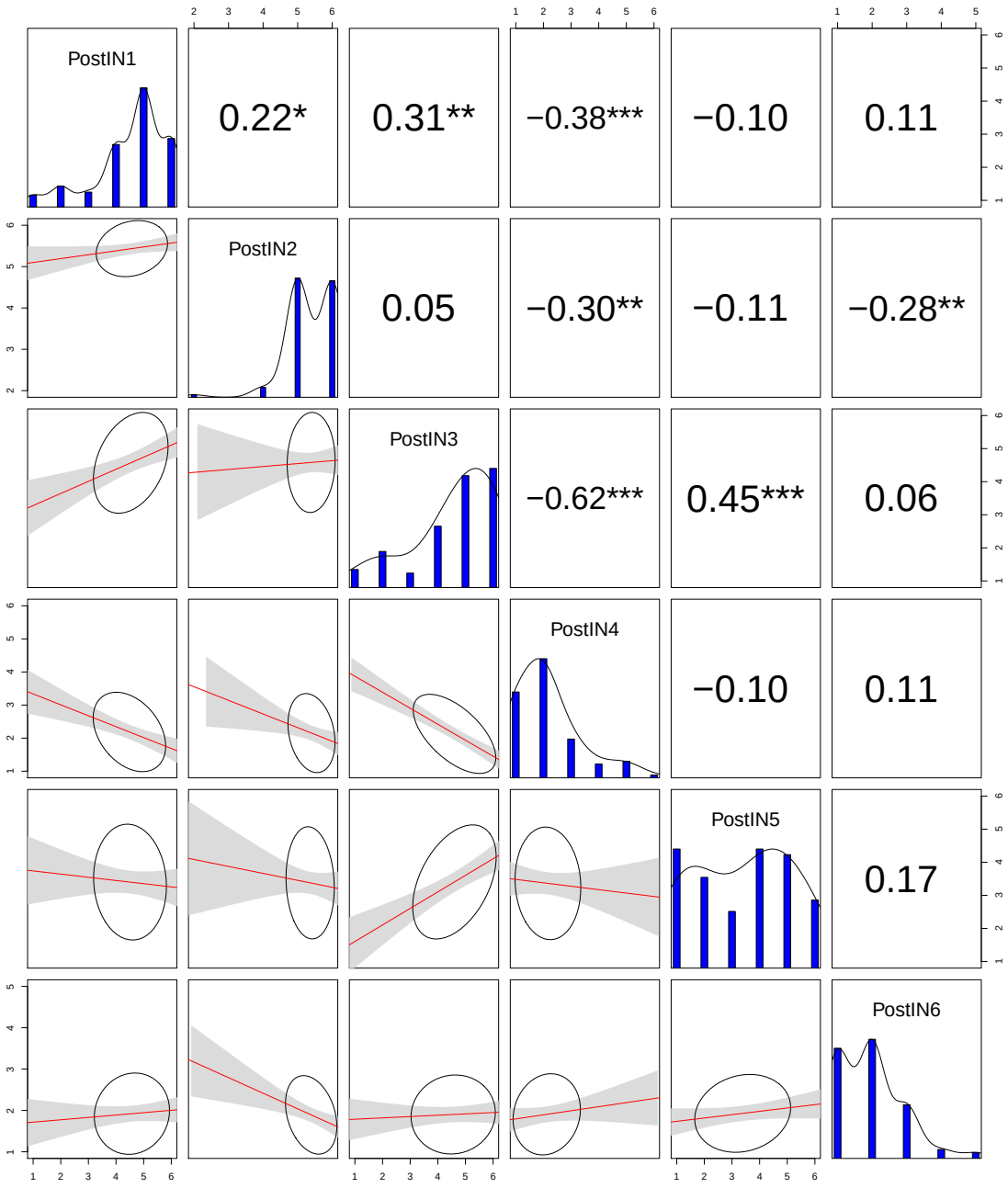

Figure VM2-18
Post-questionnaire items Injunctive Norms

VM2-2.4 Single-item measures

VM2-2.4.1 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)
```

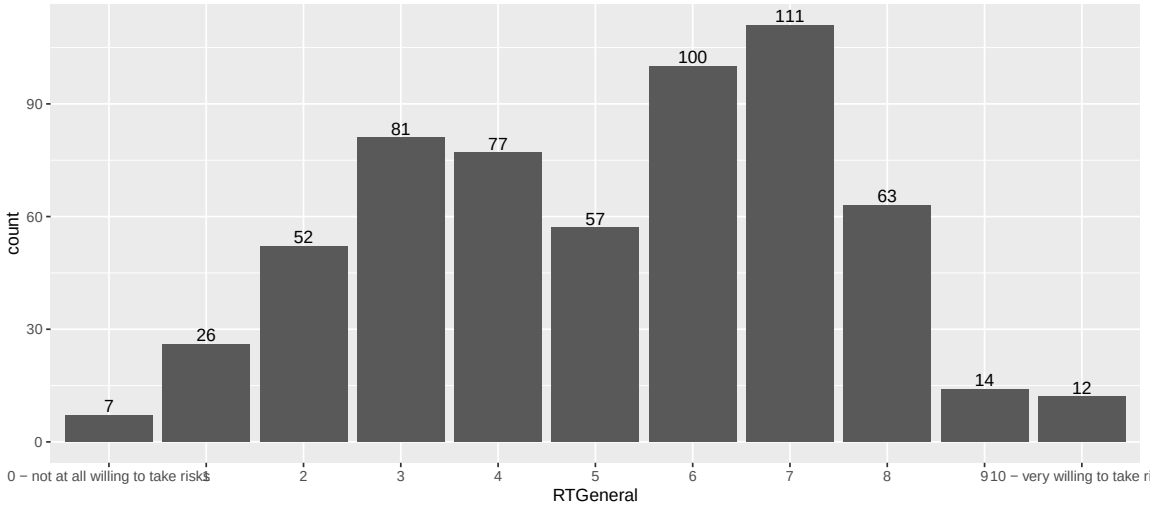

Figure VM2-19
Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

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

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   3.000   5.500   5.155   7.000  10.000
```

Responses.

VM2-2.4.2 Trust

Source. The trust question was part of the global preference survey, as described in Falk et al. (2018).

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

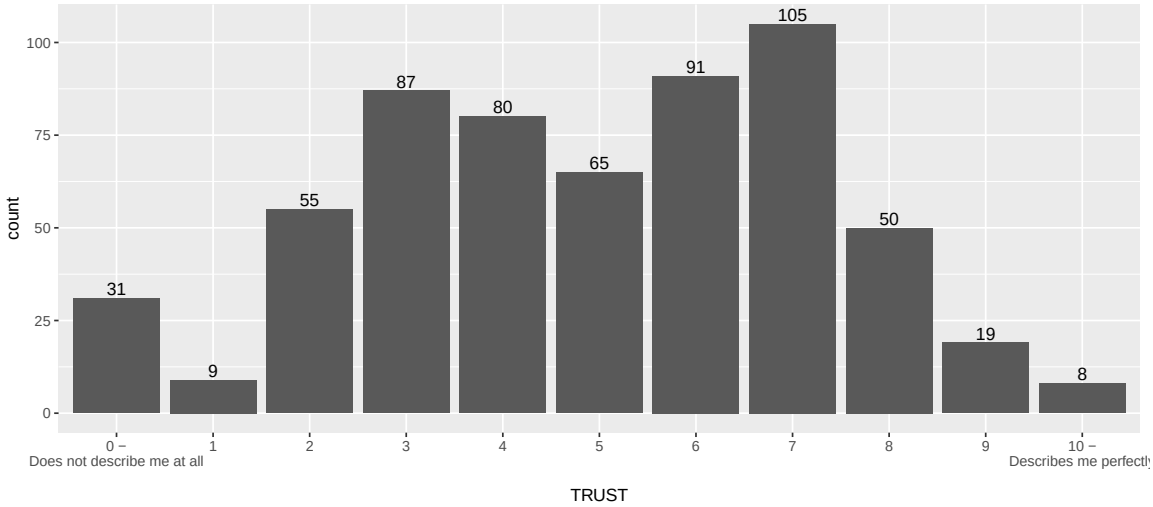

Figure VM2-20
I assume that people have only the best intentions.

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

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   3.000   5.000   4.928   7.000  10.000
```

Responses.

VM2-2.4.3 Time preference

Source. The time preference measure is used as a "qualitative measure of patience" in Falk et al. (2018, p. 1654).

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

Responses.

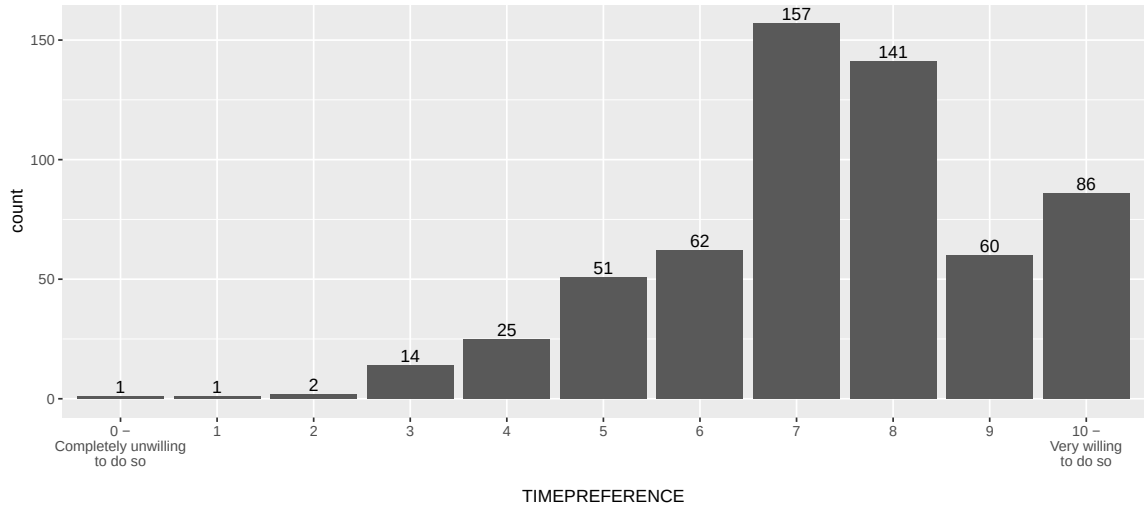

Figure VM2-21
How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?

VM2-2.5 Politics and religion

VM2-2.5.1 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.

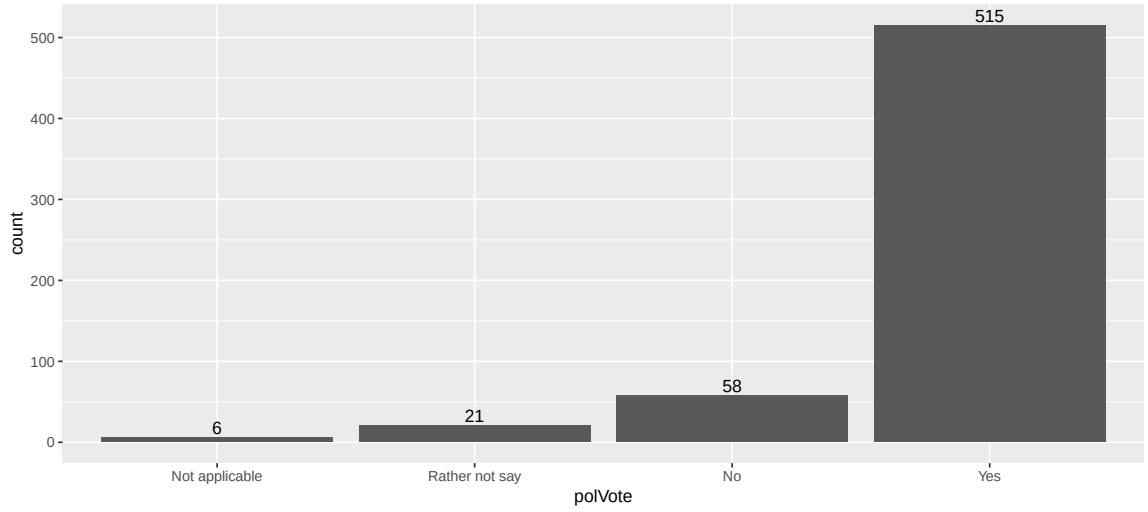

Figure VM2-22
Are you currently registered to vote?

VM2-2.5.2 Presidential candidates

```
polVars <- c("polCandScale_2", "polCandScale_4")
scoresCandidates <- df[polVars]

scoresCandidates <- scoresCandidates %>%
  rename(
     Trump=polCandScale_2,
     Biden=polCandScale_4
    )
summary(scoresCandidates)
```

```
##      Trump             Biden
##  Min.   :-100.00   Min.   :-100.00
##  1st Qu.:-100.00   1st Qu.: -52.00
##  Median : -99.00   Median :   0.00
##  Mean   : -59.34   Mean   :   0.16
##  3rd Qu.: -39.50   3rd Qu.:  53.25
##  Max.   : 100.00   Max.   : 100.00
```

```
  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)
```

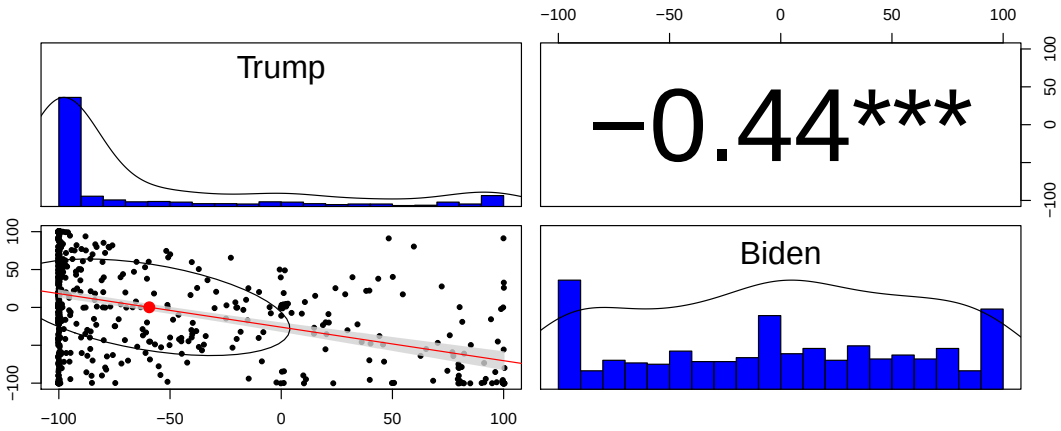

Figure VM2-23
Please rate each candidate individually according to how you would feel if they were elected in 2020

Responses.

VM2-2.5.3 Political position

"Slightly conservative" was erroneously mapped to the highest integer in Qualtrics. The following command corrects the ordering.

```
df$polPosition=fct_relevel(df$polPosition,
"slightly\nconser-\nvative", after = 4)
```

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

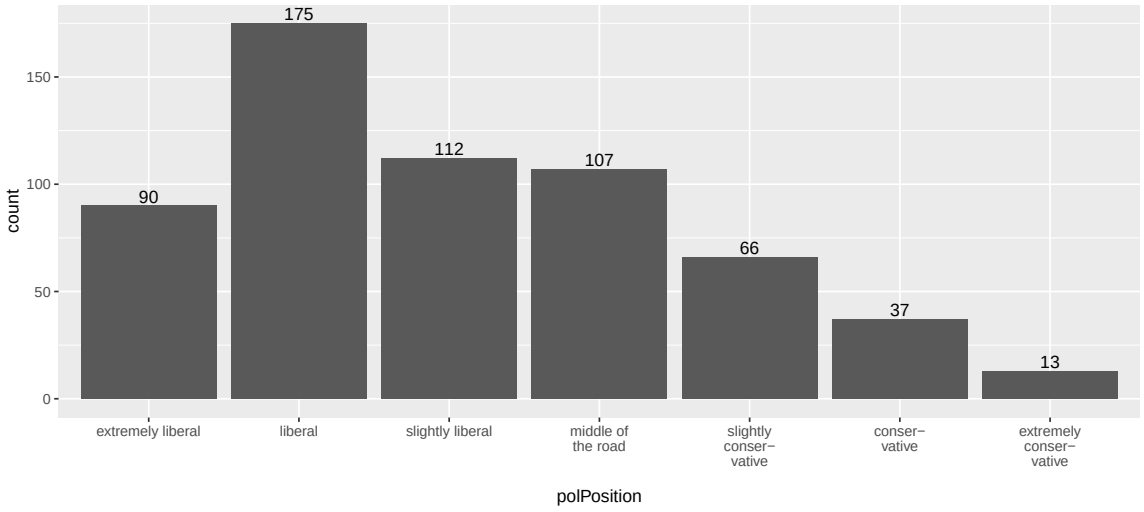

Figure VM2-24

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?

VM2-2.5.4 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)
```

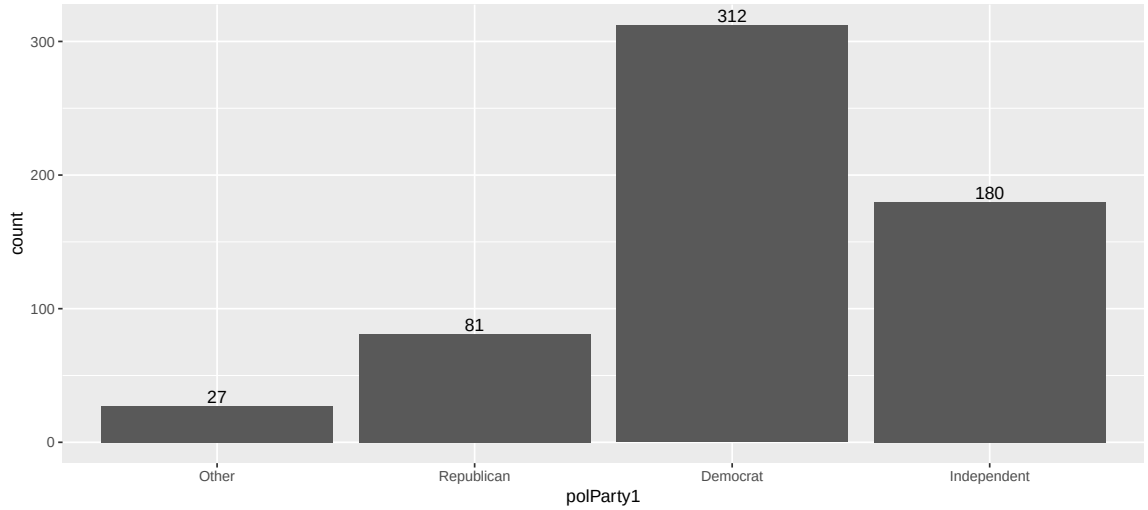

Figure VM2-25
Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?

VM2-2.5.5 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()
```

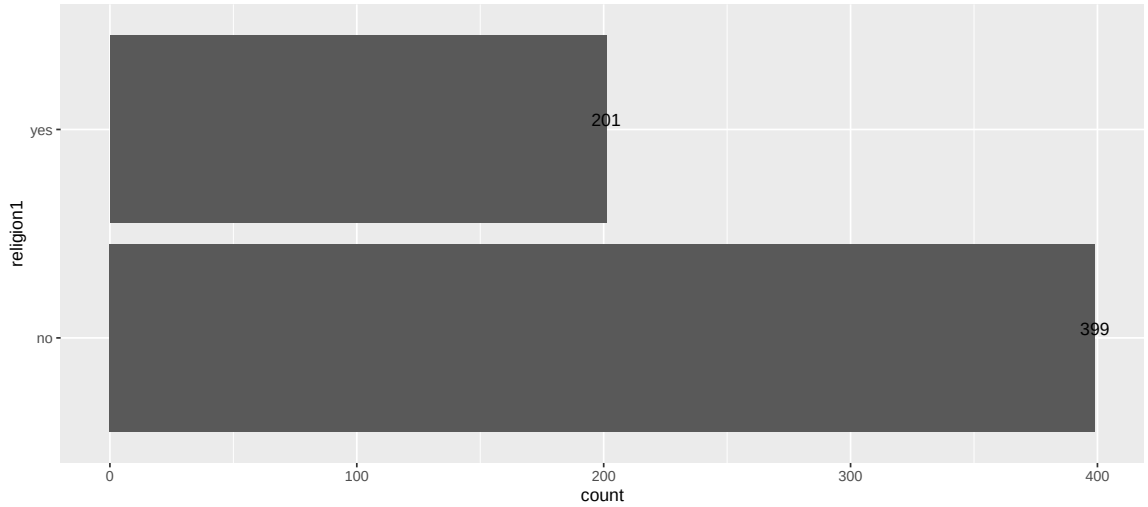

Figure VM2-26
Do you consider religion to be an important part of your life?

VM2-2.6 COVID-19 related

VM2-2.6.1 Job situation

This question is similar to the one asked in Dennis et al. (2020).

```
ggplot(df, aes(x=demo04jobcorona))+
geom_bar(aes(y = ..count..), stat="count")+
   geom_text(aes( label = (..count..),
                  y= ..count.. ), stat= "count",  vjust = -0.25) +
coord_flip()
```

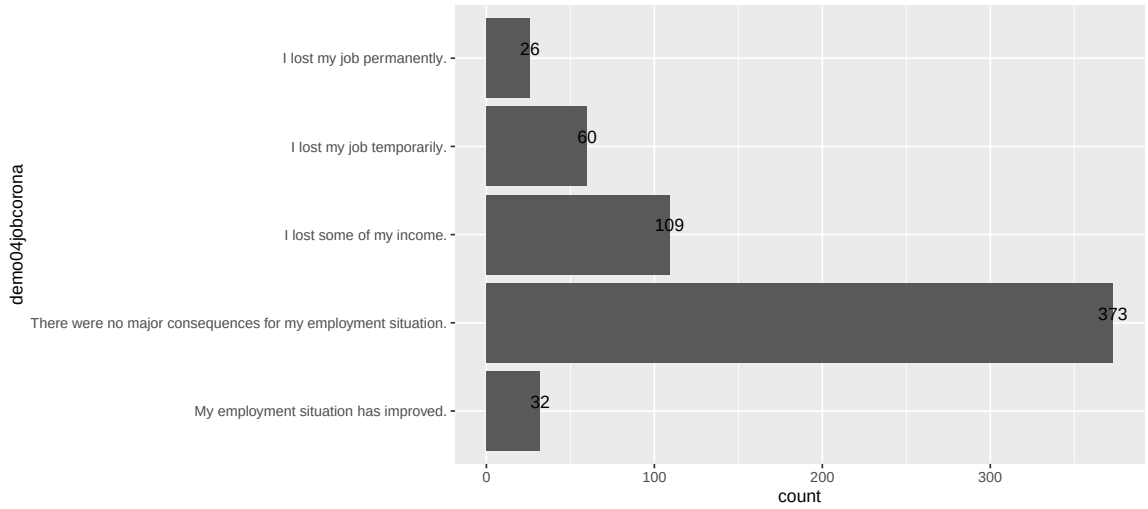

Figure VM2-27
Has the current coronavirus disease (COVID-19) affected your employment situation?

Responses.

VM2-2.6.2 Positive tests

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

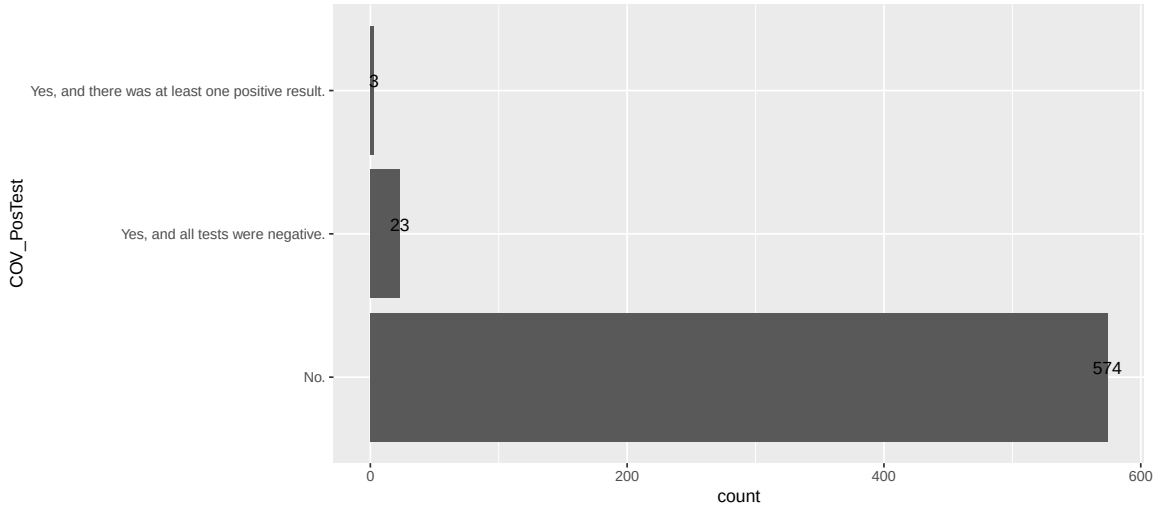

Figure VM2-28
Have you at any point been tested for COVID-19?

VM2-2.6.3 Single items

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

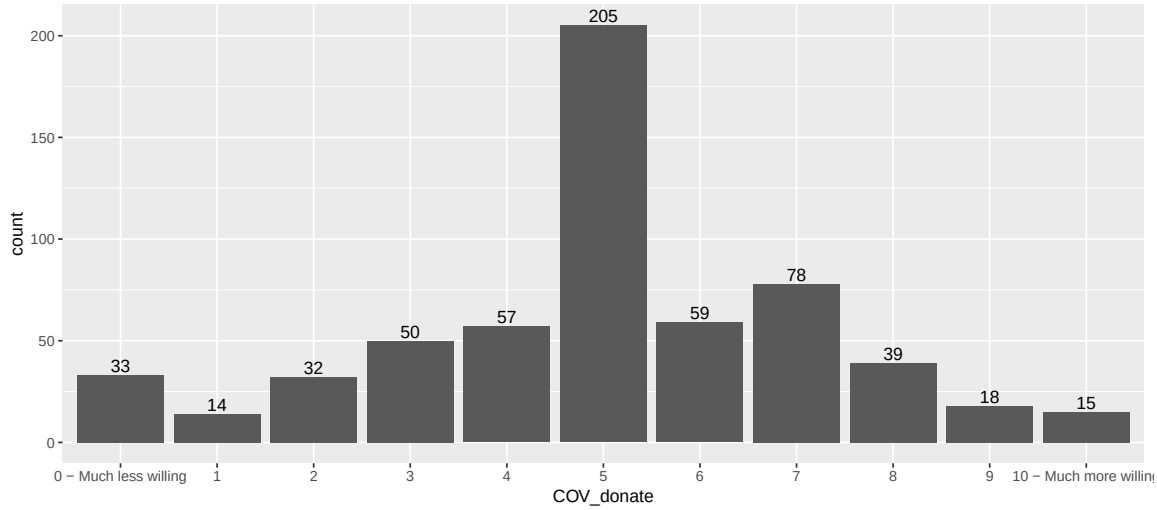

Figure VM2-29
Compared to other people in your region are you more willing or less willing to donate time or money to support others who suffer from consequences of COVID-19?

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

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   4.000   5.000   5.008   6.250  10.000
```

Donations.

VM2-2.7 Comprehension checks

VM2-2.7.1 Transmission game

```
cctgVars <- c("CCtgi01", "CCtgi02", "CCtgi03",
                  "CCtgi04","CCtgi05","CCtgi06","CCtgi07",
                  "CCtgi08", "CCtgi09","CCtgi10","CCtgi11",
                  "CCtgi12","CCtgi13", "CCtgi14","CCtgi15",
                  "CCtgi16.0" )


comprehensionTGframe <- df[cctgVars]

 summary(comprehensionTGframe)
```

```
##     CCtgi01            CCtgi02            CCtgi03           CCtgi04
##  Min.   :0.000000   Min.   :0.000000   Min.   : 0.0000   Min.   :0.00000
##  1st Qu.:0.000000   1st Qu.:0.000000   1st Qu.: 0.0000   1st Qu.:0.00000
##  Median :0.000000   Median :0.000000   Median : 0.0000   Median :0.00000
##  Mean   :0.001667   Mean   :0.006667   Mean   : 0.2167   Mean   :0.06667
##  3rd Qu.:0.000000   3rd Qu.:0.000000   3rd Qu.: 0.0000   3rd Qu.:0.00000
##  Max.   :1.000000   Max.   :1.000000   Max.   :24.0000   Max.   :2.00000
##     CCtgi05         CCtgi06         CCtgi07           CCtgi08
##  Min.   :0.000   Min.   :0.00   Min.   :0.00000   Min.   :0.000
##  1st Qu.:0.000   1st Qu.:0.00   1st Qu.:0.00000   1st Qu.:0.000
##  Median :0.000   Median :0.00   Median :0.00000   Median :0.000
##  Mean   :0.065   Mean   :0.49   Mean   :0.01667   Mean   :0.065
##  3rd Qu.:0.000   3rd Qu.:1.00   3rd Qu.:0.00000   3rd Qu.:0.000
##  Max.   :4.000   Max.   :9.00   Max.   :1.00000   Max.   :3.000
##     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   :0.3667   Mean   :0.1467   Mean   :0.1867   Mean   :0.1967
##  3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000
##  Max.   :7.0000   Max.   :4.0000   Max.   :9.0000   Max.   :7.0000
##     CCtgi13          CCtgi14          CCtgi15         CCtgi16.0
```

```
##  Min.   :0.0000   Min.   : 0.000   Min.   :0.000   Min.   : 0.0000
##  1st Qu.:0.0000   1st Qu.: 0.000   1st Qu.:0.000   1st Qu.: 0.0000
##  Median :0.0000   Median : 0.000   Median :0.000   Median : 0.0000
##  Mean   :0.1833   Mean   : 0.265   Mean   :0.235   Mean   : 0.2783
##  3rd Qu.:0.0000   3rd Qu.: 0.000   3rd Qu.:0.000   3rd Qu.: 0.0000
##  Max.   :8.0000   Max.   :10.000   Max.   :8.000   Max.   :10.0000
```

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

```
## Number of categories should be increased  in order to count frequencies.
```

```
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   0.58
##
## Standard errors of unstandardized Alpha:
##       Scale1
## ASE    0.028
##
## Average item correlation:
##           Scale1
## average.r   0.08
##
## Median item correlation:
## Scale1
##  0.069
##
##  Guttman 6* reliability:
##          Scale1
## Lambda.6   0.63
##
## 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   0.58
##
##  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   : 2.787
##  3rd Qu.: 3.000
##  Max.   :24.000
```

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

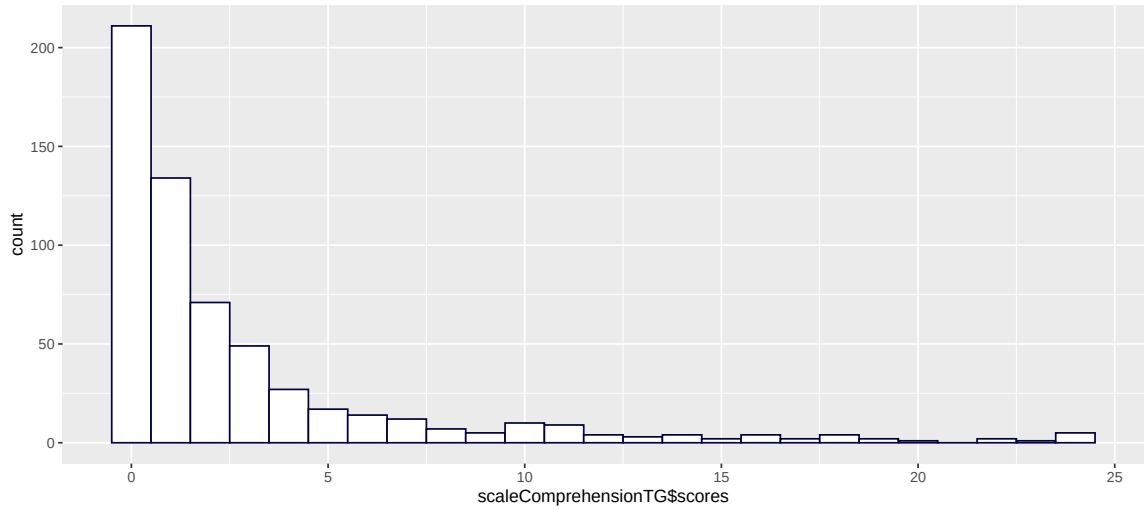

Figure VM2-30
Comprehension check errors: distribution

VM2-3 Scales in Study 2

VM2-3.1 HEXACO scales

VM2-3.1.1 Source

Brief HEXCACO inventory (BHI). The 24-item Brief HEXACO Inventory (De Vries, 2013) offers scales for all six personality factors:

1. H: Honesty-Humility (4 items, not in Study 2)
2. E: Emotionality (4 items, not in Study 2)
3. X: eXtraversion (4 items)
4. A: Agreeableness (4 items)
5. C: Conscientiousness (4 items)
6. O: Openness to Experience (4 items)

Four of these scales were used in Study 2: X, A, C, and O (16 items). Each item was rated on a scale from 1–5 with 1 = strongly disagree, 2 = disagree, 3 = neutral (neither agree, nor disagree), 4 = agree, and 5 = strongly agree.

HEXACO-60: 60 item version (only H and E). In addition, participants completed the full Honesty-Humility scale and the full Emotionality scale of the 60-item HEXACO-60 scales (based on the HEXACO-PI-R) in the self report form (Ashton & Lee, 2009).

Items were presented in a matrix and answered on a five-point scale (1–5): strongly disagree (1) —(2) — neither agree nor disagree (3) —(4)—strongly agree (5).

VM2-3.1.2 Items

Brief X-scale.

- Nobody likes talking with me. (bX1-)
- I easily approach strangers. (bX2+)
- I like to talk with others. (bX3+)
- I am seldom cheerful. (bX4-)

Brief A-scale.

- I remain unfriendly to someone who was mean to me. (bA1-)
- I often express criticism. (bA2-)
- I tend to quickly agree with others. (bA3+)
- Even when I'm treated badly, I remain calm. (bA4+)

Brief C-scale.

- I make sure that things are in the right spot. (bC1+)
- I postpone complicated tasks as long as possible. (bC2-)
- I work very precisely. (bC3+)
- I often do things without really thinking. (bC4-)

Brief O-scale.

- I can look at a painting for a long time. (bO1+)
- I think science is boring. (bO2-)
- I have a lot of imagination. (bO3+)
- I like people with strange ideas. (bO4+)

H60-scale.

- I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed. (H60_01+)
- If I knew that I could never get caught, I would be willing to steal a million dollars. (H60_02-)
- Having a lot of money is not especially important to me. (H60_03+)
- I think that I am entitled to more respect than the average person is. (H60_04-)
- If I want something from someone, I will laugh at that person's worst jokes. (H60_05-)
- I would never accept a bribe, even if it were very large. (H60_06+)
- I would get a lot of pleasure from owning expensive luxury goods. (H60_07-)
- I want people to know that I am an important person of high status. (H60_08-)
- I wouldn't pretend to like someone just to get that person to do favors for me. (H60_09+)
- I'd be tempted to use counterfeit money, if I were sure I could get away with it. (H60_10-)

E60-scale.

- I would feel afraid if I had to travel in bad weather conditions. (E60_01+)
- I sometimes can't help worrying about little things. (E60_02+)
- When I suffer from a painful experience, I need someone to make me feel comfortable. (E60_03+)
- I feel like crying when I see other people crying. (E60_04+)
- When it comes to physical danger, I am very fearful. (E60_05+)
- I worry a lot less than most people do. (E60_06-)
- I can handle difficult situations without needing emotional support from anyone else. (E60_07-)

- I feel strong emotions when someone close to me is going away for a long time. (E60_08+)
- Even in an emergency I wouldn't feel like panicking. (E60_09-)
- I remain unemotional even in situations where most people get very sentimental. (E60_10-)

VM2-3.1.3 Item histograms

```
scaleVars <- c("HexBHI_O01", "HexBHI_C02", "HexBHI_A03R",
"HexBHI_X04R","HexBHI_O07R","HexBHI_C08R","HexBHI_A09R",
"HexBHI_X10","HexBHI_O13","HexBHI_C14","HexBHI_A15",
"HexBHI_X16","HexBHI_O19","HexBHI_C20R","HexBHI_A21",
"HexBHI_X22R", "HexacoH_06", "HexacoH_12R", "HexacoH_18",
"HexacoH_24R", "HexacoH_30R", "HexacoH_36", "HexacoH_42R",
"HexacoH_48R", "HexacoH_54", "HexacoH_60R","HexacoE_05",
"HexacoE_11","HexacoE_17","HexacoE_23","HexacoE_29",
"HexacoE_35R","HexacoE_41R","HexacoE_47","HexacoE_53R",
"HexacoE_59R" )


 scaleFrame <- df[scaleVars]

 scaleFrame <- scaleFrame %>%
  rename(
  H60_01p=HexacoH_06,H60_02n=HexacoH_12R,H60_03p=HexacoH_18,
  H60_04n=HexacoH_24R,H60_05n=HexacoH_30R,H60_06p=HexacoH_36,
  H60_07n=HexacoH_42R,H60_08n=HexacoH_48R,H60_09p=HexacoH_54,
  H60_10n=HexacoH_60R,
  E60_01p=HexacoE_05,E60_02p=HexacoE_11,E60_03p=HexacoE_17,
  E60_04p=HexacoE_23,E60_05p=HexacoE_29,E60_06n=HexacoE_35R,
  E60_07n=HexacoE_41R,E60_08p=HexacoE_47,E60_09n=HexacoE_53R,
  E60_10n=HexacoE_59R,
  bO1p=HexBHI_O01, bC1p=HexBHI_C02, bA1n=HexBHI_A03R,
  bX1n=HexBHI_X04R,bO2n=HexBHI_O07R,bC2n=HexBHI_C08R,
  bA2n=HexBHI_A09R,bX2p=HexBHI_X10,bO3p=HexBHI_O13,
  bC3p=HexBHI_C14, bA3p=HexBHI_A15,bX3p=HexBHI_X16,
  bO4p=HexBHI_O19, bC4n=HexBHI_C20R,bA4p=HexBHI_A21,
  bX4n=HexBHI_X22R
 )

scaleFrame[] <-data.matrix(scaleFrame)

weightsHEX <-list(
```

```
 scaleH60= c("H60_01p","-H60_02n","H60_03p","-H60_04n",
             "-H60_05n","H60_06p","-H60_07n","-H60_08n",
             "H60_09p","-H60_10n"),
 scaleE60= c("E60_01p","E60_02p","E60_03p","E60_04p",
             "E60_05p","-E60_06n","-E60_07n","E60_08p",
             "-E60_09n","-E60_10n"),
 scaleBX = c("-bX1n","bX2p","bX3p","-bX4n"),
 scaleBA =  c("-bA1n","-bA2n","bA3p","bA4p"),
 scaleBC =  c("bC1p","-bC2n","bC3p","-bC4n"),
 scaleBO = c("bO1p","-bO2n","bO3p","bO4p")
)


scaleVarsH60 <- c("H60_01p","H60_02n","H60_03p","H60_04n",
             "H60_05n","H60_06p","H60_07n","H60_08n",
             "H60_09p","H60_10n")

scaleVarsE60= c("E60_01p","E60_02p","E60_03p","E60_04p",
             "E60_05p","E60_06n","E60_07n","E60_08p",
             "E60_09n","E60_10n")

 scaleVarsBX <- c("bX1n","bX2p","bX3p","bX4n")
 scaleVarsBA <- c("bA1n","bA2n","bA3p","bA4p")
 scaleVarsBC <- c("bC1p","bC2n","bC3p","bC4n")
 scaleVarsBO <- c("bO1p","bO2n","bO3p","bO4p")


 scaleFrameH60 <- scaleFrame[scaleVarsH60]
 scaleFrameE60 <- scaleFrame[scaleVarsE60]
 scaleFrameBX <- scaleFrame[scaleVarsBX]
 scaleFrameBA <- scaleFrame[scaleVarsBA]
 scaleFrameBC <- scaleFrame[scaleVarsBC]
 scaleFrameBO <- scaleFrame[scaleVarsBO]


 scaleFrameH60[] <-data.matrix(scaleFrameH60)
 scaleFrameE60[] <-data.matrix(scaleFrameE60)
 scaleFrameBX[] <-data.matrix(scaleFrameBX)
 scaleFrameBA[] <-data.matrix(scaleFrameBA)
 scaleFrameBC[] <-data.matrix(scaleFrameBC)
 scaleFrameBO[] <-data.matrix(scaleFrameBO)


 scale_mean =summarise_all(scaleFrame,mean)
```

```
sdf=data.frame(scale_mean=t(summarise_all(scaleFrame,mean)),
        key=names(scaleFrame))

scaleFrame %>%
  keep(is.numeric) %>%
    gather() %>%
      ggplot(aes(value)) +
       facet_wrap(~ key, ncol=4) +
       geom_histogram(aes(y =..count..), color="#000044",
              fill="white",bins=5) +
       geom_vline(aes(xintercept =scale_mean),sdf,col='red',
       linetype = "dashed",size=1)
```

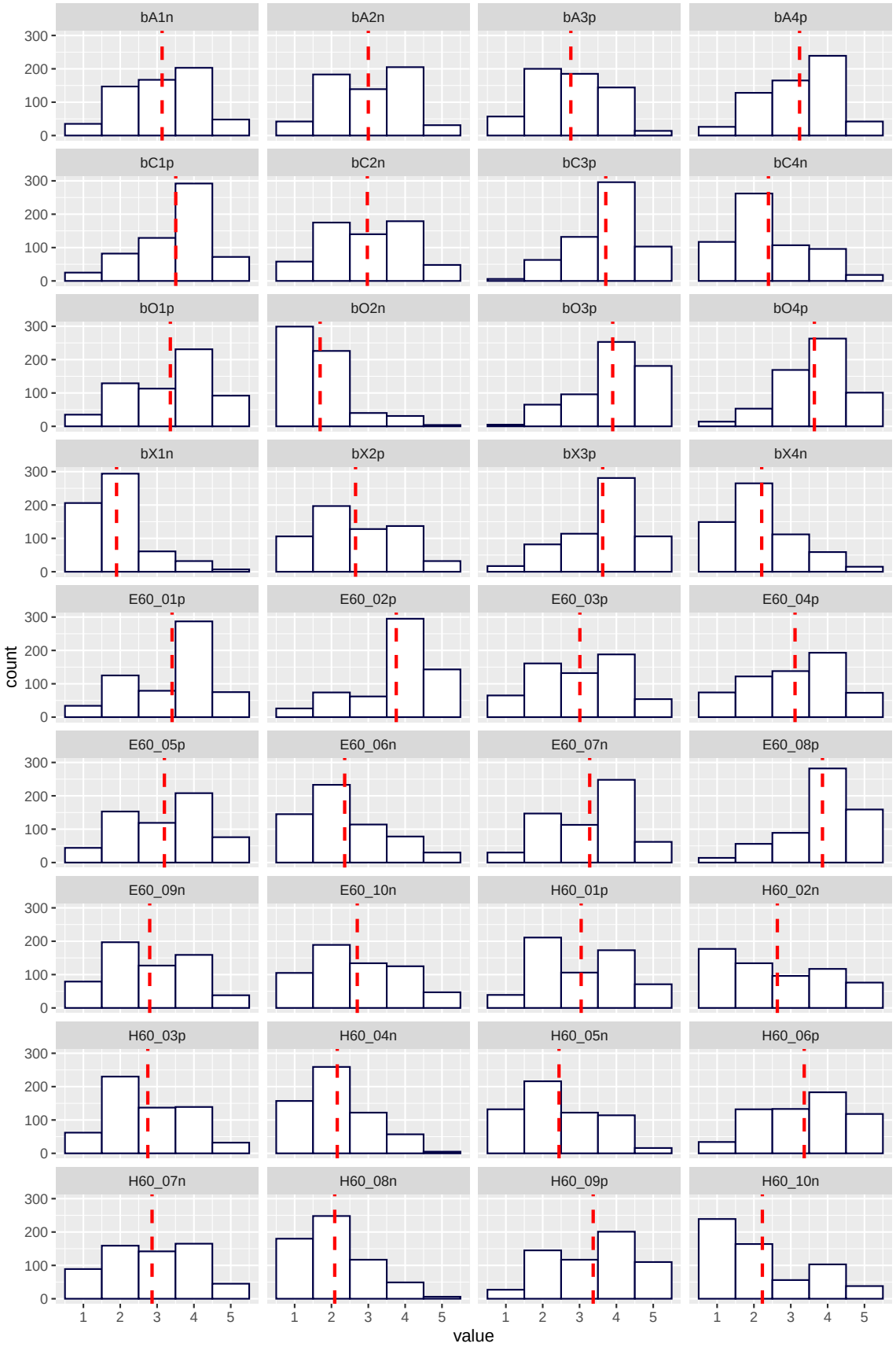

Figure VM2-31
All HEXACO items: Histograms with marked means

VM2-3.1.4 Inter-correlations

```
corPlot(scaleFrameH60,numbers=TRUE,diag=FALSE,
 main="H60-scale",stars=TRUE,upper=FALSE,
 cuts=c(.001,.01,.05),gr=palette2,cex=1.25,
 zlim=c(-0.7,0.7))
```

H60-scale.

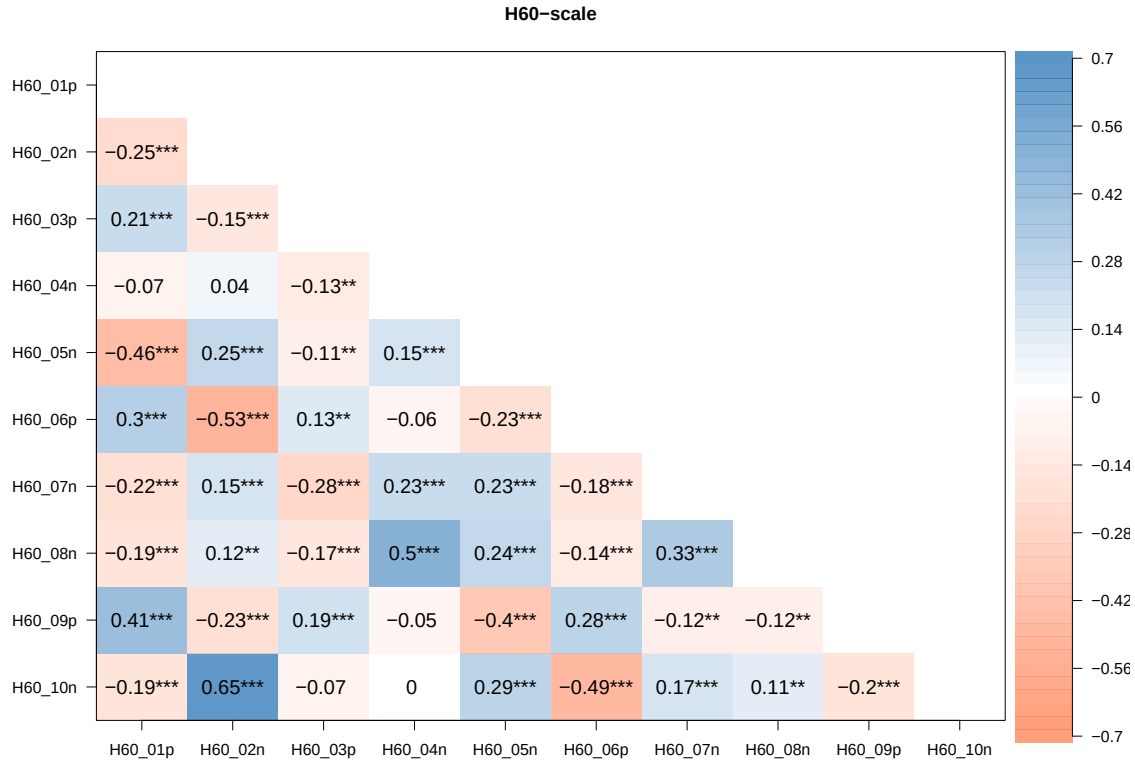

Figure VM2-32
H60-scale: item inter-correlations

```
corPlot(scaleFrameE60,numbers=TRUE,diag=FALSE,
 main="E60-scale",stars=TRUE,upper=FALSE,
 cuts=c(.001,.01,.05),gr=palette2,cex=1.25,
 zlim=c(-0.7,0.7))
```

E60-scale.

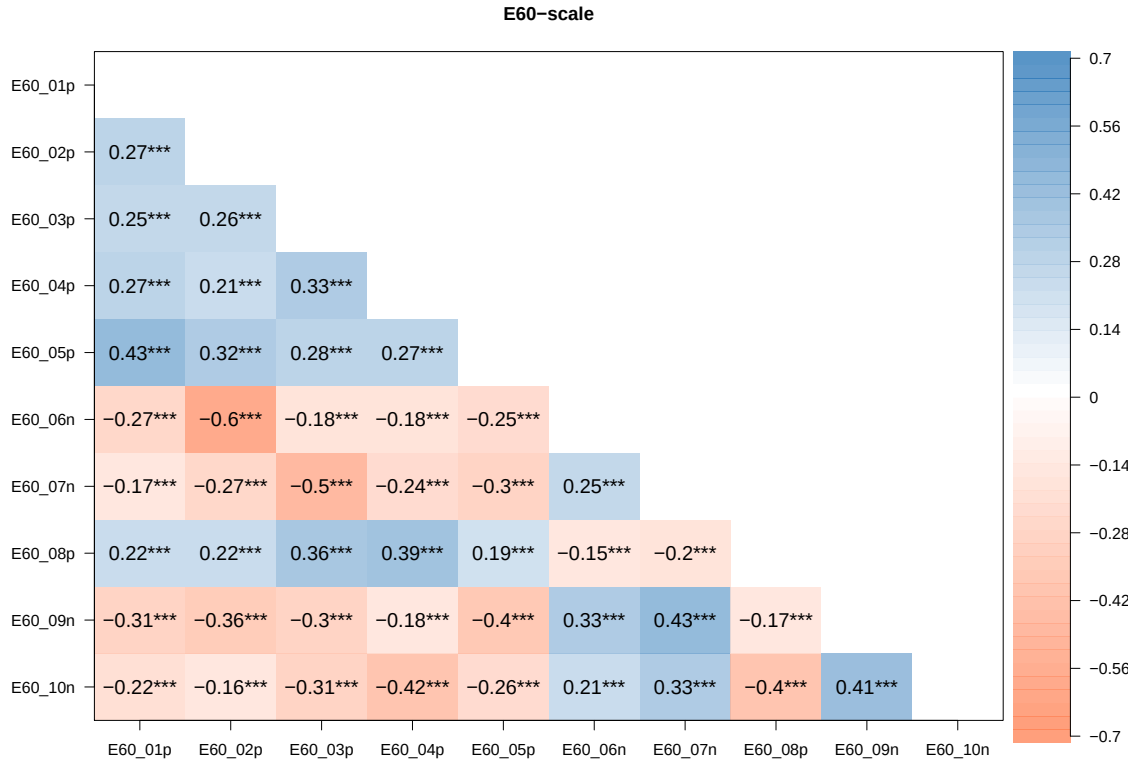

Figure VM2-33
E60-scale: item inter-correlations

```
  palette2=colorRampPalette(c("#ff7f50", "white", "#2171B5"))
corPlot(scaleFrameBX,numbers=TRUE,diag=FALSE,
 main="Brief X-scale",stars=TRUE,upper=FALSE,
 cuts=c(.001,.01,.05),gr=palette2,cex=1.25,
 zlim=c(-0.7,0.7))
```

Brief scales.

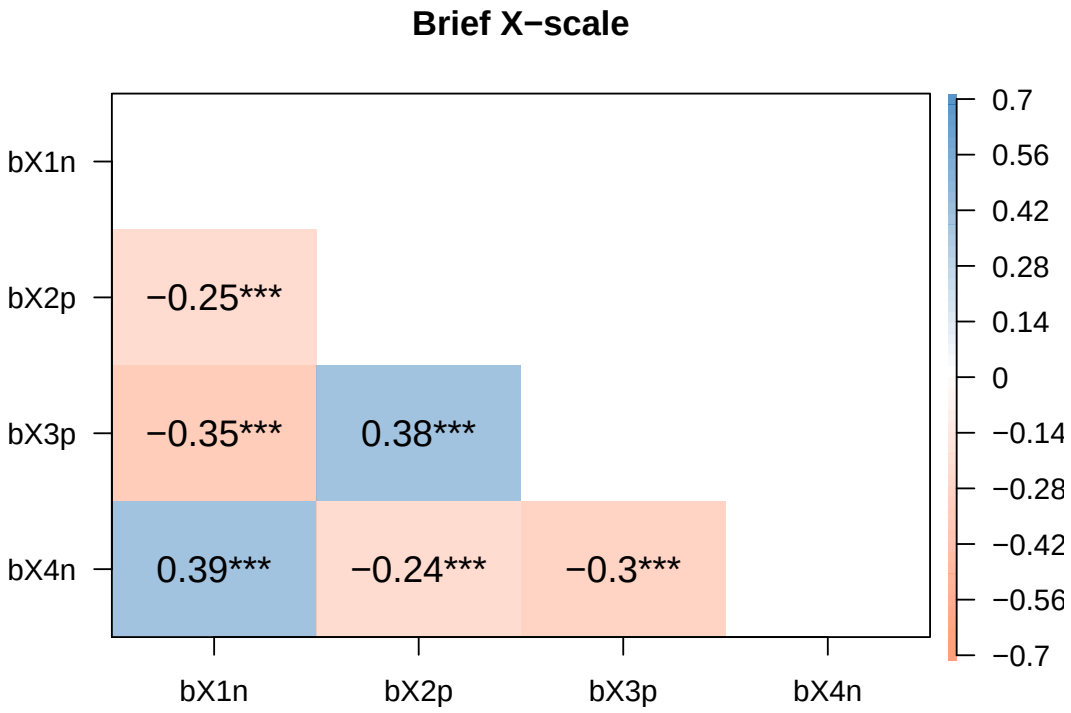

Figure VM2-34
Brief X-scale: item inter-correlations

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

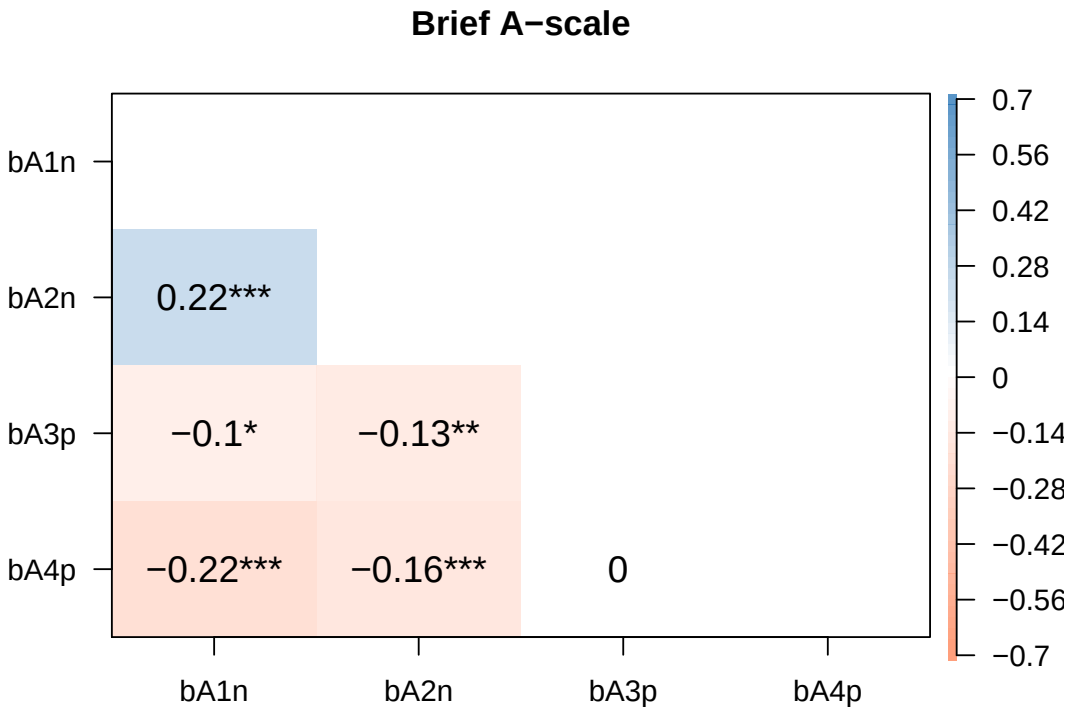

Figure VM2-35
Brief A-scale: item inter-correlations

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

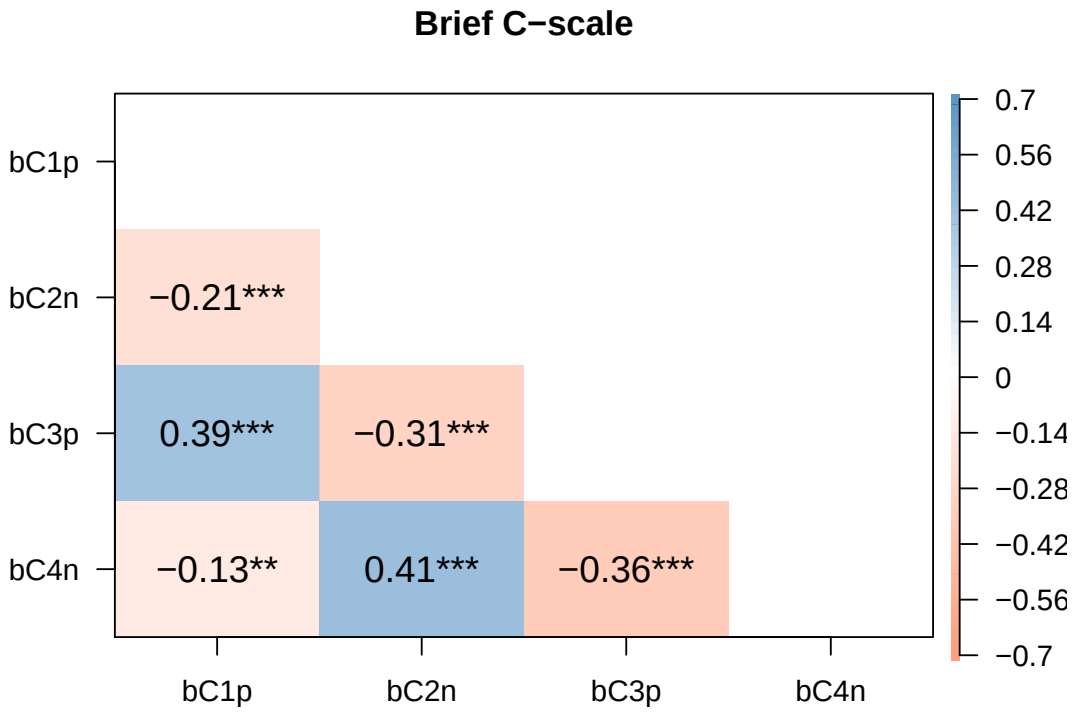

Figure VM2-36
Brief C-scale: item inter-correlations

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

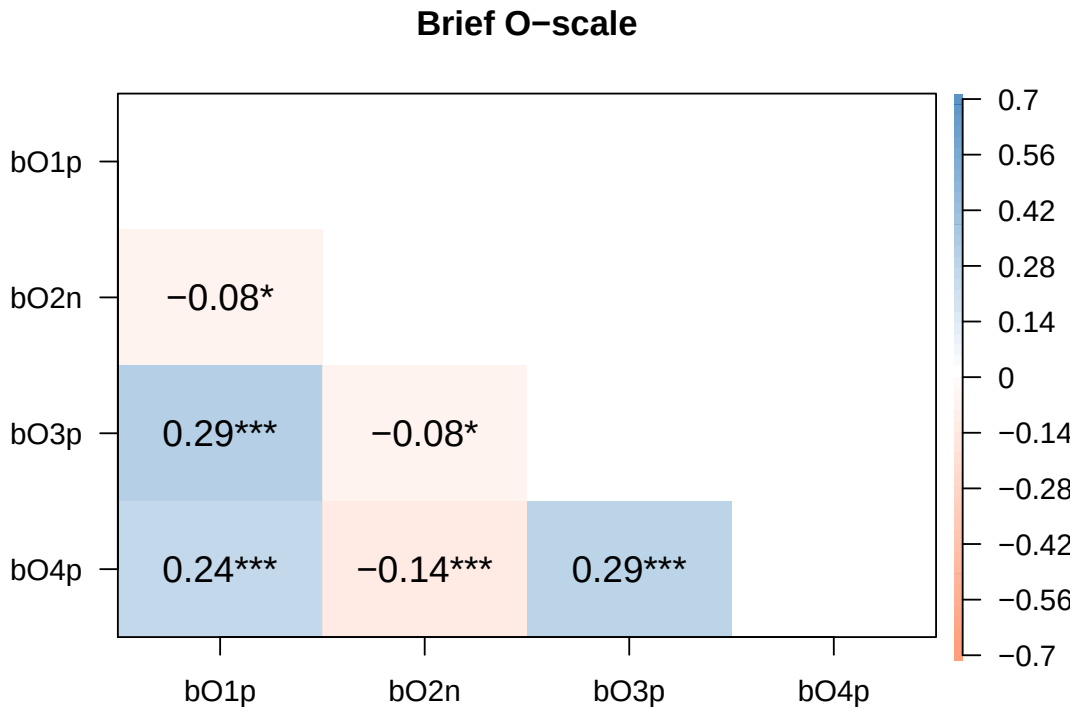

Figure VM2-37
Brief O-scale: item inter-correlations

VM2-3.1.5 Scale statistics (for subscales)

```
scoresHEXACO=scoreItems(keys= weightsHEX , items=scaleFrame)
print(scoresHEXACO)

## Call: scoreItems(keys = weightsHEX, items = scaleFrame)
##
## (Unstandardized) Alpha:
##       scaleH60 scaleE60 scaleBX scaleBA scaleBC scaleBO
## alpha     0.75      0.8    0.64     0.4    0.63    0.49
##
## Standard errors of unstandardized Alpha:
##       scaleH60 scaleE60 scaleBX scaleBA scaleBC scaleBO
## ASE      0.021    0.018   0.038    0.05   0.039   0.046
##
## Average item correlation:
##           scaleH60 scaleE60 scaleBX scaleBA scaleBC scaleBO
```

```
## average.r     0.23     0.29    0.31    0.14     0.3    0.19
##
## Median item correlation:
## scaleH60 scaleE60  scaleBX  scaleBA  scaleBC  scaleBO
##     0.19     0.27     0.32     0.14     0.33     0.19
##
##  Guttman 6* reliability:
##          scaleH60 scaleE60 scaleBX scaleBA scaleBC scaleBO
## Lambda.6      0.8     0.84    0.65    0.48    0.66     0.5
##
## Signal/Noise based upon av.r :
##              scaleH60 scaleE60 scaleBX scaleBA scaleBC scaleBO
## Signal/Noise      2.9      4.1     1.8    0.66     1.7    0.95
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##          scaleH60 scaleE60 scaleBX scaleBA scaleBC scaleBO
## scaleH60    0.746   -0.090  -0.032   0.339   0.351   0.173
## scaleE60   -0.069    0.803  -0.134  -0.174  -0.265  -0.027
## scaleBX    -0.023   -0.096   0.645   0.214   0.252   0.447
## scaleBA     0.185   -0.098   0.108   0.397   0.305   0.031
## scaleBC     0.241   -0.188   0.161   0.152   0.629   0.133
## scaleBO     0.104   -0.017   0.251   0.014   0.074   0.487
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

summary(scoresHEXACO$scores)

##     scaleH60        scaleE60        scaleBX         scaleBA
##  Min.   :1.400   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:3.000   1st Qu.:2.900   1st Qu.:3.000   1st Qu.:2.500
##  Median :3.400   Median :3.300   Median :3.500   Median :3.000
##  Mean   :3.411   Mean   :3.321   Mean   :3.543   Mean   :2.966
##  3rd Qu.:3.800   3rd Qu.:3.800   3rd Qu.:4.000   3rd Qu.:3.500
##  Max.   :5.000   Max.   :5.000   Max.   :5.000   Max.   :5.000
##     scaleBC         scaleBO
##  Min.   :1.000   Min.   :1.750
##  1st Qu.:3.000   1st Qu.:3.250
##  Median :3.500   Median :3.750
##  Mean   :3.463   Mean   :3.802
##  3rd Qu.:4.000   3rd Qu.:4.250
##  Max.   :5.000   Max.   :5.000
```

VM2-3.1.6 Subscale inter-correlations

```
pairs.panels(scoresHEXACO$scores, 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)
```

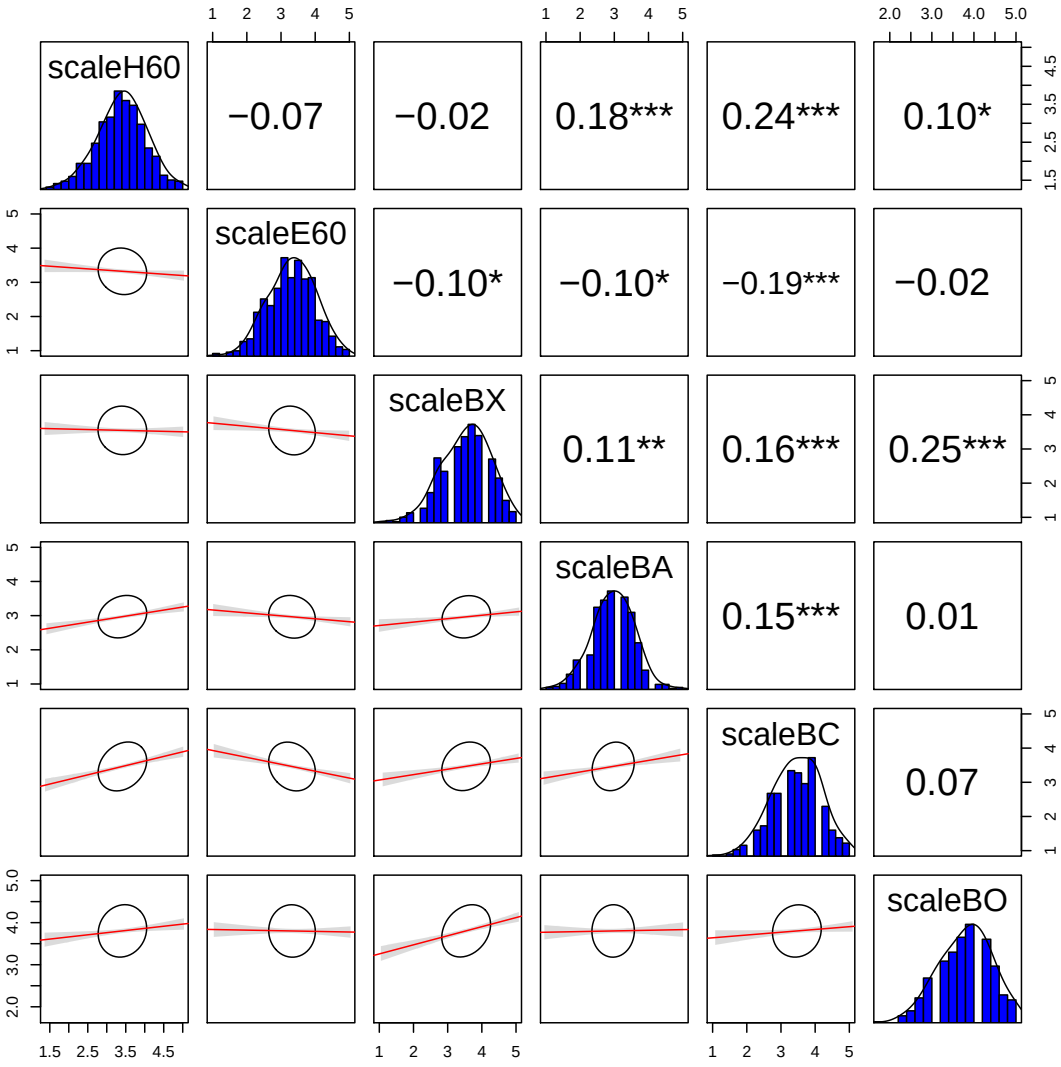

Figure VM2-38
HEXACO: subscale inter-correlations

VM2-3.2 Cognitive Reflection Test (CRT)

VM2-3.2.1 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).

VM2-3.2.2 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?

VM2-3.2.3 Item preparation

```
   scaleVarsCRT <- c("CRT01", "CRT02", "CRT03",
        "CRT04")
   scaleFrameCRT <- df[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$CRT01cat <- recode(scaleFrameCRT$CRT01num,
          "7"="intuitive","8"="correct", .default="other")
   scaleFrameCRT$CRT02cat <- recode(scaleFrameCRT$CRT02num,
         "5"="intuitive","6"="correct", .default="other")
   scaleFrameCRT$CRT03cat <- recode(scaleFrameCRT$CRT03num,
        "4"="intuitive","7"="correct", .default="other")
   scaleFrameCRT$CRT04cat <- recode(scaleFrameCRT$CRT04num,
       "4"="intuitive","5"="correct", .default="other")

scaleFrameCRT = subset(scaleFrameCRT,
```

```
  select=-c(CRT01num,CRT02num,CRT03num,CRT04num))

  scaleFrameCRT$CRT01int <- recode(scaleFrameCRT$CRT01cat,
      "intuitive"=1, .default=0)
  scaleFrameCRT$CRT02int <- recode(scaleFrameCRT$CRT02cat,
      "intuitive"=1, .default=0)
  scaleFrameCRT$CRT03int <- recode(scaleFrameCRT$CRT03cat,
      "intuitive"=1, .default=0)
  scaleFrameCRT$CRT04int <- recode(scaleFrameCRT$CRT04cat,
      "intuitive"=1, .default=0)

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

VM2-3.2.4 Item pie charts

```
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(0,600))
```

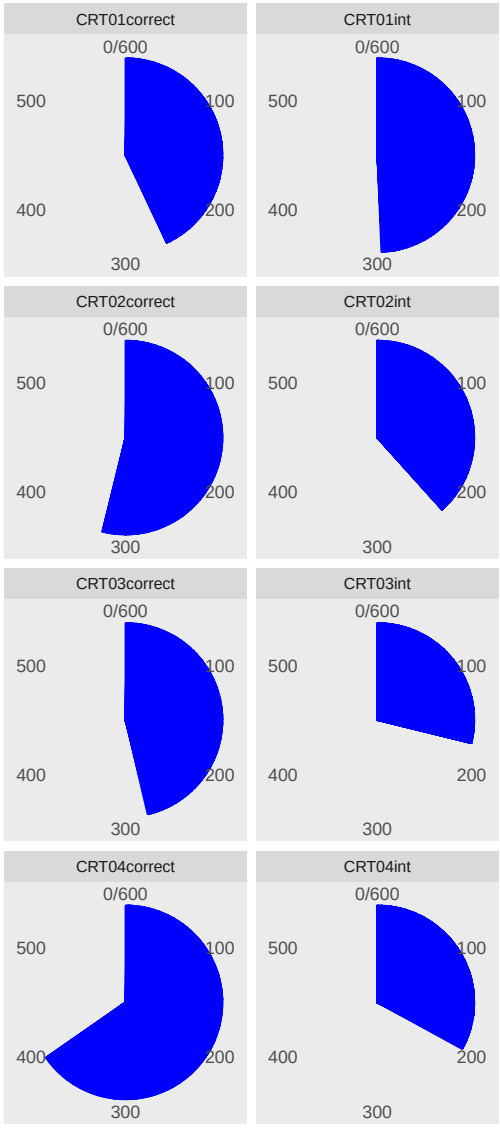

Figure VM2-39
CRT: pie charts of numbers of correct and intuitive answers

VM2-3.2.5 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))
```

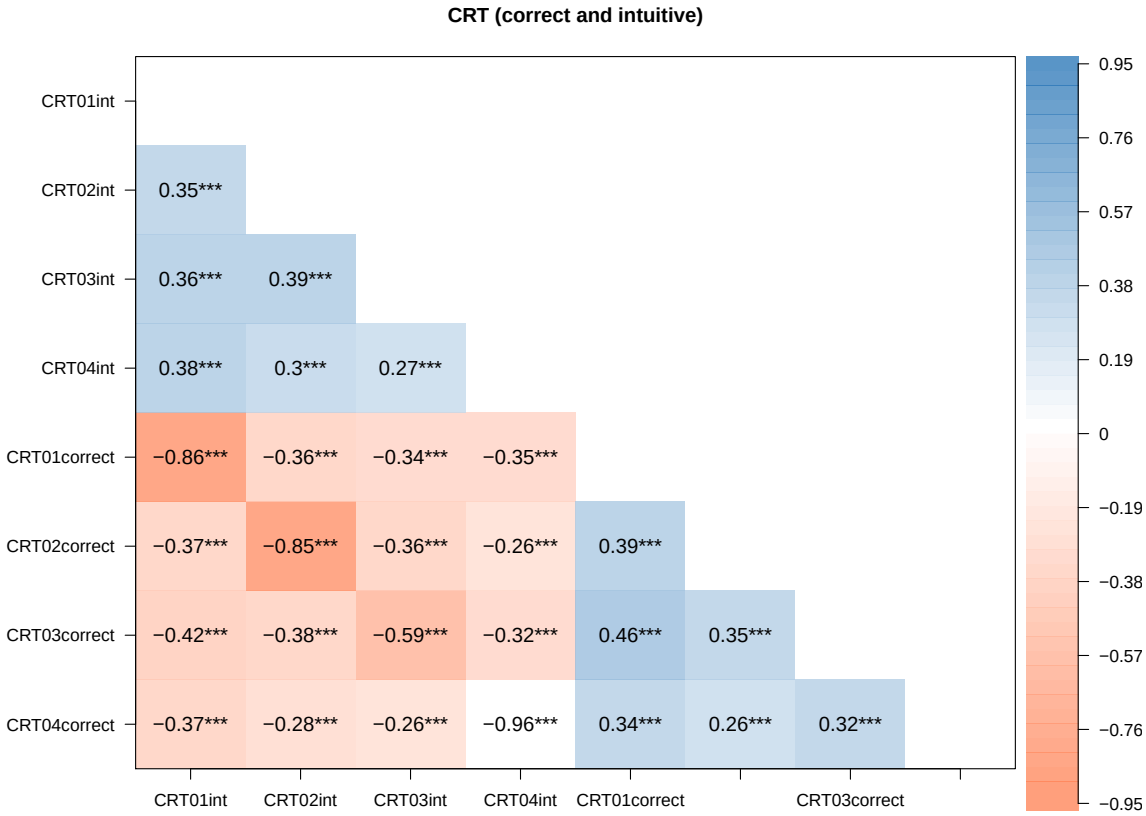

Figure VM2-40
CRT items (scored as correct, intuitive or neither): Inter-correlations

VM2-3.2.6 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     0.69         0.67
##
## Standard errors of unstandardized Alpha:
##       CRTscore CRTintuitive
## ASE      0.036        0.036
```

```
##
## Average item correlation:
##           CRTscore CRTintuitive
## average.r     0.35         0.34
##
## Median item correlation:
##     CRTscore CRTintuitive
##         0.35         0.36
##
##  Guttman 6* reliability:
##          CRTscore CRTintuitive
## Lambda.6     0.86         0.86
##
## Signal/Noise based upon av.r :
##              CRTscore CRTintuitive
## Signal/Noise      2.2          2.1
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##              CRTscore CRTintuitive
## CRTscore         0.69        -1.33
## CRTintuitive    -0.90         0.67
##
##  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.   :0.000
##  1st Qu.:1.000   1st Qu.:0.000
##  Median :2.000   Median :1.000
##  Mean   :2.085   Mean   :1.495
##  3rd Qu.:3.000   3rd Qu.:3.000
##  Max.   :4.000   Max.   :4.000

cor(scoresCRT)

##                CRTscore CRTintuitive
## CRTscore      1.0000000   -0.9016679
## CRTintuitive -0.9016679    1.0000000

head(scoresCRT)
```

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

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

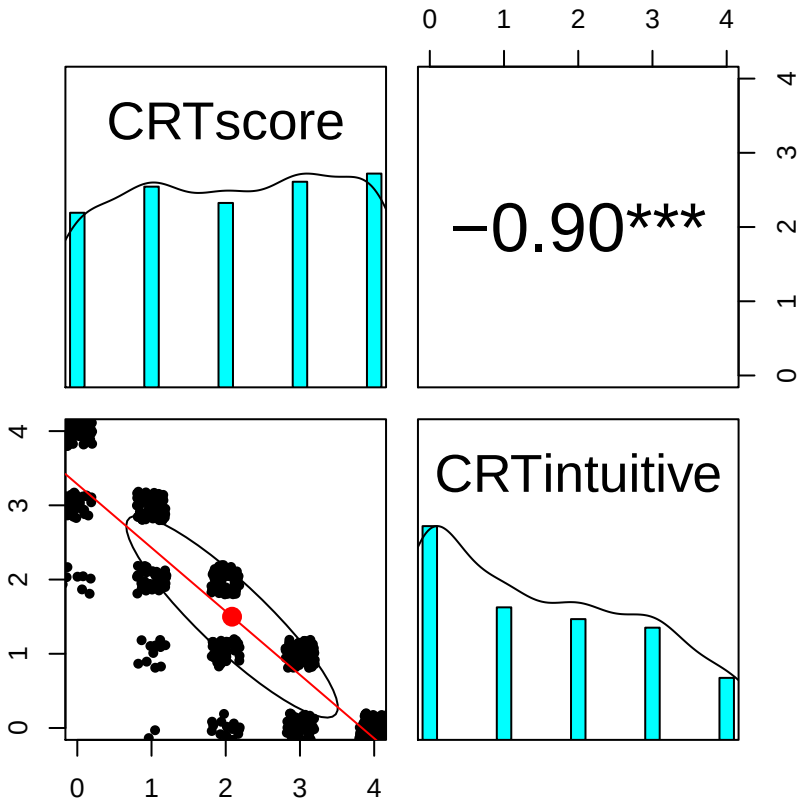

Figure VM2-41
CRT scores: Distribution and inter-correlation of subscale values

Only the CRTscore variable[2] is used for further analysis. Both measures are (as expected) highly correlated, as most incorrect answers are "intuitive" answers.

VM2-3.3 Psychological reactance scale

VM2-3.3.1 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)

VM2-3.3.2 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.

VM2-3.3.3 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,
```

[2] As in Woike (2019) and in Study 1 the average CRT score is higher than in previous samples with traditional participants.

```
    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    2    2    1    2    4    4    2    1    4    2    2
## 2    4    2    4    3    5    5    4    3    3    4    3
## 3    3    3    3    3    3    3    3    3    3    3    3
## 4    2    1    1    2    4    5    2    1    2    3    1
## 5    2    2    2    2    2    2    3    3    3    3    3
## 6    3    3    2    2    4    3    3    2    3    2    2
```

```
  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)
```

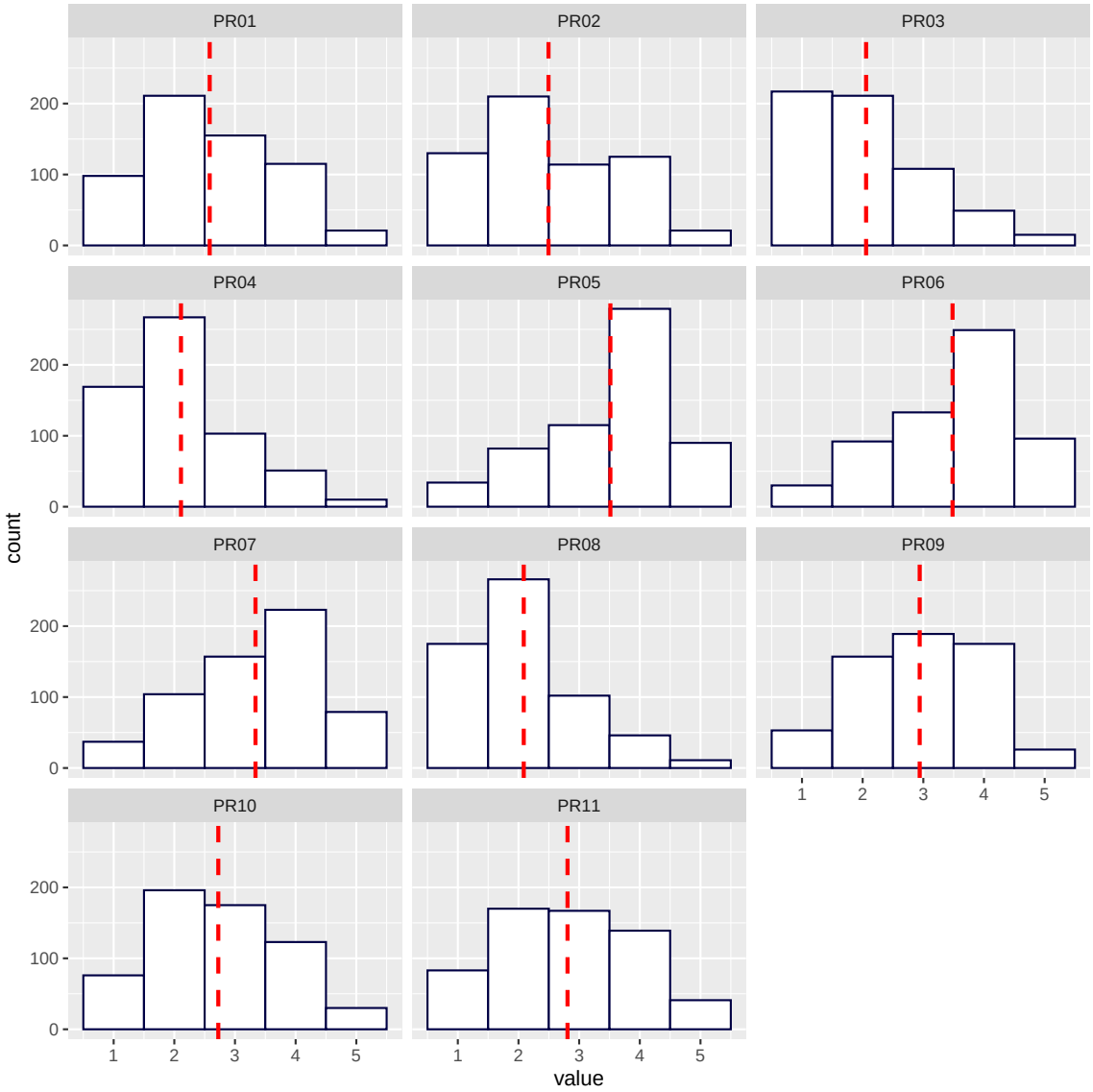

Figure VM2-42

Psychological reactance scale: Item histograms with marked means

VM2-3.3.4 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))
```

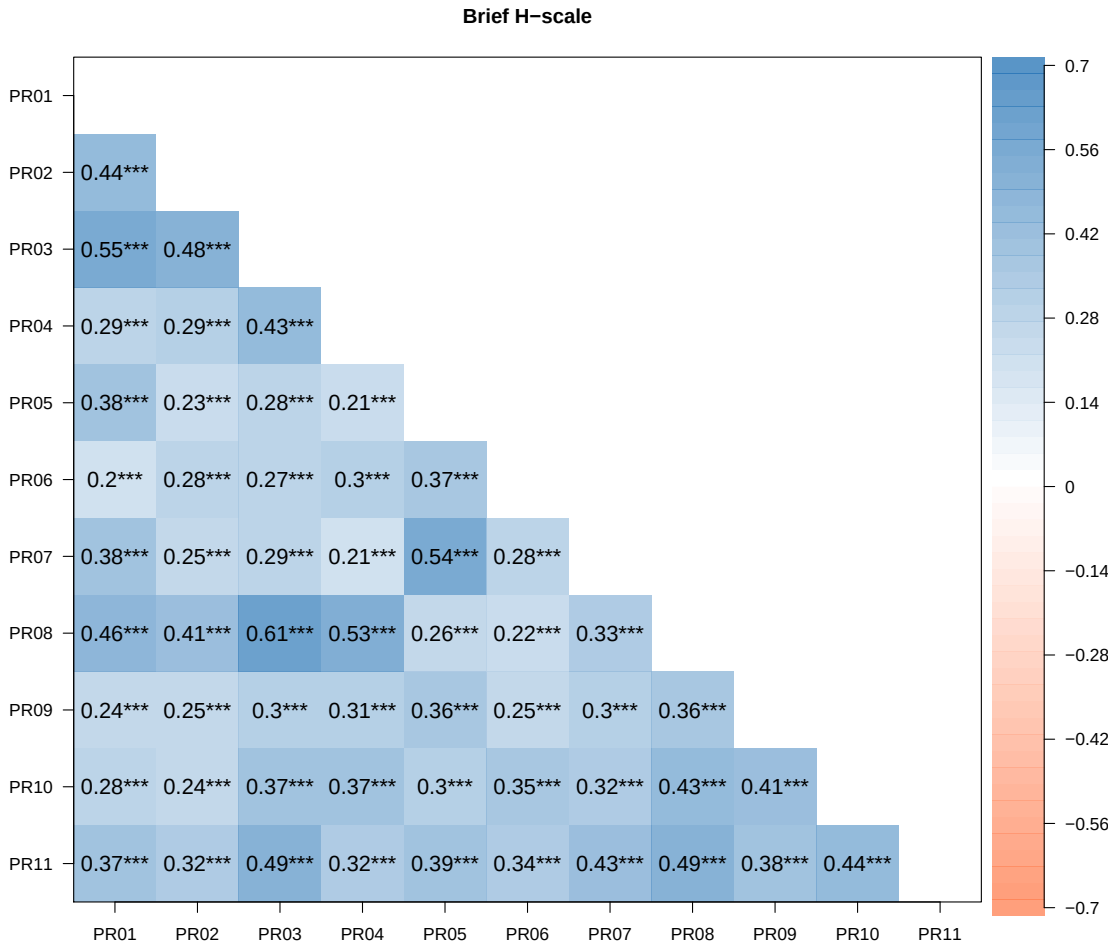

Figure VM2-43
Psychological reactance scale: item inter-correlations

VM2-3.3.5 Scale statistics

```
scoresPR=scoreItems(items=scaleReactanceFrame,
keys=c(1,1,1,1,1,1,1,1,1,1,1))
print(scoresPR)

## Call: scoreItems(keys = c(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1), items = scaleReactanceFrame)
##
## (Unstandardized) Alpha:
##       Scale1
## alpha   0.85
##
## Standard errors of unstandardized Alpha:
##       Scale1
## ASE    0.014
##
## Average item correlation:
##           Scale1
## average.r   0.35
##
## Median item correlation:
## Scale1
##   0.33
##
##  Guttman 6* reliability:
##          Scale1
## Lambda.6   0.86
##
## Signal/Noise based upon av.r :
##              Scale1
## Signal/Noise    5.8
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##        Scale1
## Scale1   0.85
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

summary(scoresPR$scores)

##      Scale1
##  Min.   :1.000
##  1st Qu.:2.273
##  Median :2.727
```

```
##  Mean   :2.740
##  3rd Qu.:3.182
##  Max.   :4.727

head(scoresPR$scores)

##        Scale1
## [1,] 2.363636
## [2,] 3.636364
## [3,] 3.000000
## [4,] 2.181818
## [5,] 2.454545
## [6,] 2.636364
```

VM2-3.4 Social and Economic Conservatism Scale

VM2-3.4.1 Source

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

VM2-3.4.2 Items

Responses were given on slider scales from very negative (-100) to very positive (+100).[3]

- **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

[3]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).

VM2-3.4.3 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 %>%
    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.   :-100.00   Min.   :-100.000   Min.   :-100.00
##  1st Qu.:  10.00   1st Qu.:   8.00   1st Qu.: -22.250   1st Qu.: -24.00
##  Median :  67.00   Median :  40.00   Median :   5.000   Median :  13.00
##  Mean   :  46.77   Mean   :  35.03   Mean   :   8.168   Mean   :  10.22
##  3rd Qu.: 100.00   3rd Qu.:  70.00   3rd Qu.:  40.000   3rd Qu.:  50.00
##  Max.   : 100.00   Max.   : 100.00   Max.   : 100.000   Max.   : 100.00
##      SC03p              EC03p              SC04p              SC05p
##  Min.   :-100.00   Min.   :-100.00   Min.   :-100.000   Min.   :-100.000
##  1st Qu.: -61.25   1st Qu.: -73.25   1st Qu.: -25.000   1st Qu.: -40.000
##  Median :   0.00   Median : -15.50   Median :   0.000   Median :   1.000
##  Mean   :  -7.13   Mean   : -13.27   Mean   :   9.117   Mean   :   2.175
##  3rd Qu.:  36.00   3rd Qu.:  35.00   3rd Qu.:  50.000   3rd Qu.:  41.250
##  Max.   : 100.00   Max.   : 100.00   Max.   : 100.000   Max.   : 100.000
##      EC04p              EC05p              SC06p              SC07p
##  Min.   :-100.00   Min.   :-100.00   Min.   :-100.00   Min.   :-100.000
##  1st Qu.:  15.00   1st Qu.:   0.00   1st Qu.:   0.00   1st Qu.: -30.250
##  Median :  45.00   Median :  22.00   Median :  43.00   Median :   3.000
##  Mean   :  43.03   Mean   :  20.53   Mean   :  39.75   Mean   :   5.762
```

```
##  3rd Qu.:  75.00   3rd Qu.:  50.25   3rd Qu.:  84.00   3rd Qu.:  46.250
##  Max.   : 100.00   Max.   : 100.00   Max.   : 100.00   Max.   : 100.000
```

VM2-3.4.4 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)
```

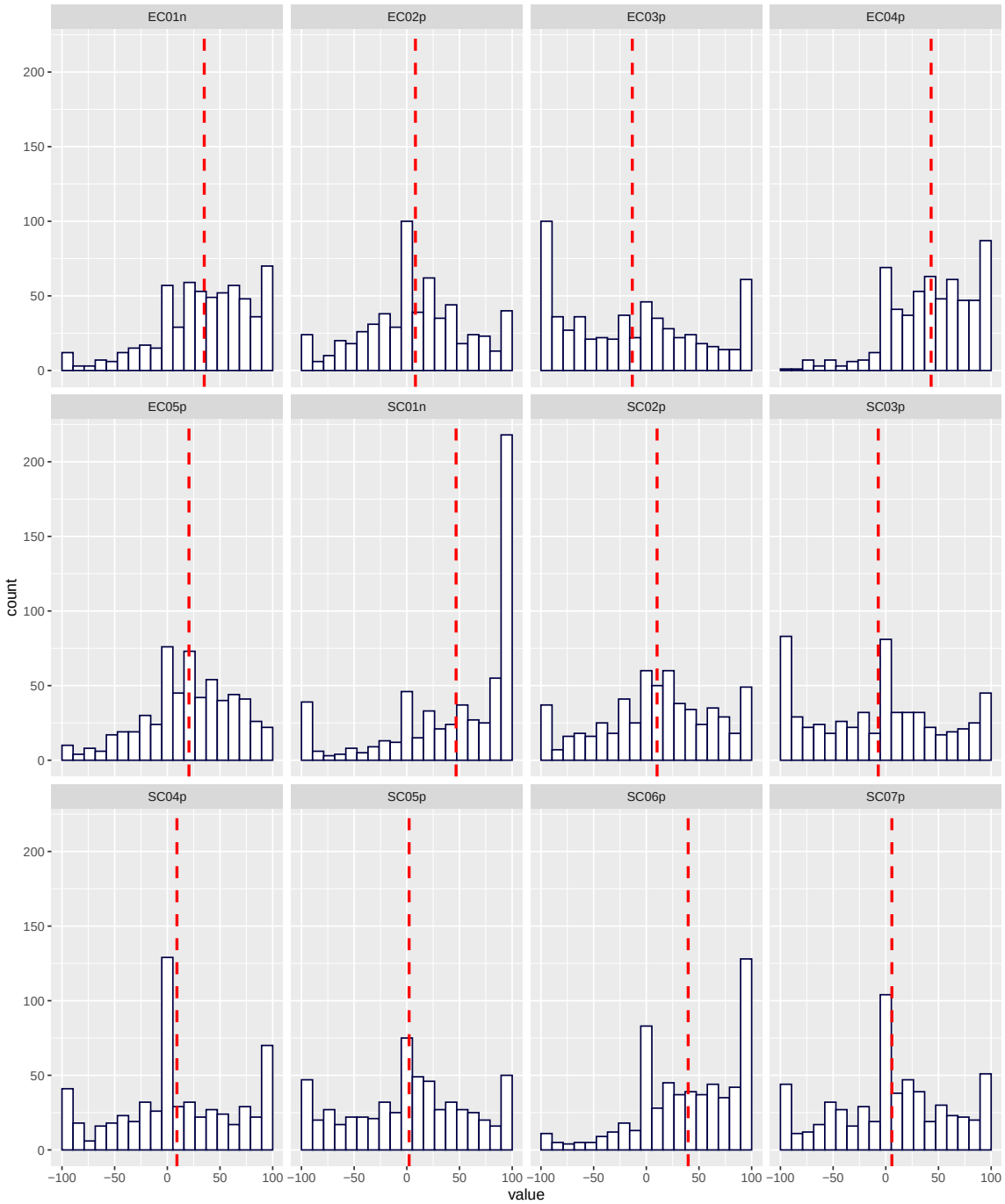

Figure VM2-44

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

VM2-3.4.5 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))
```

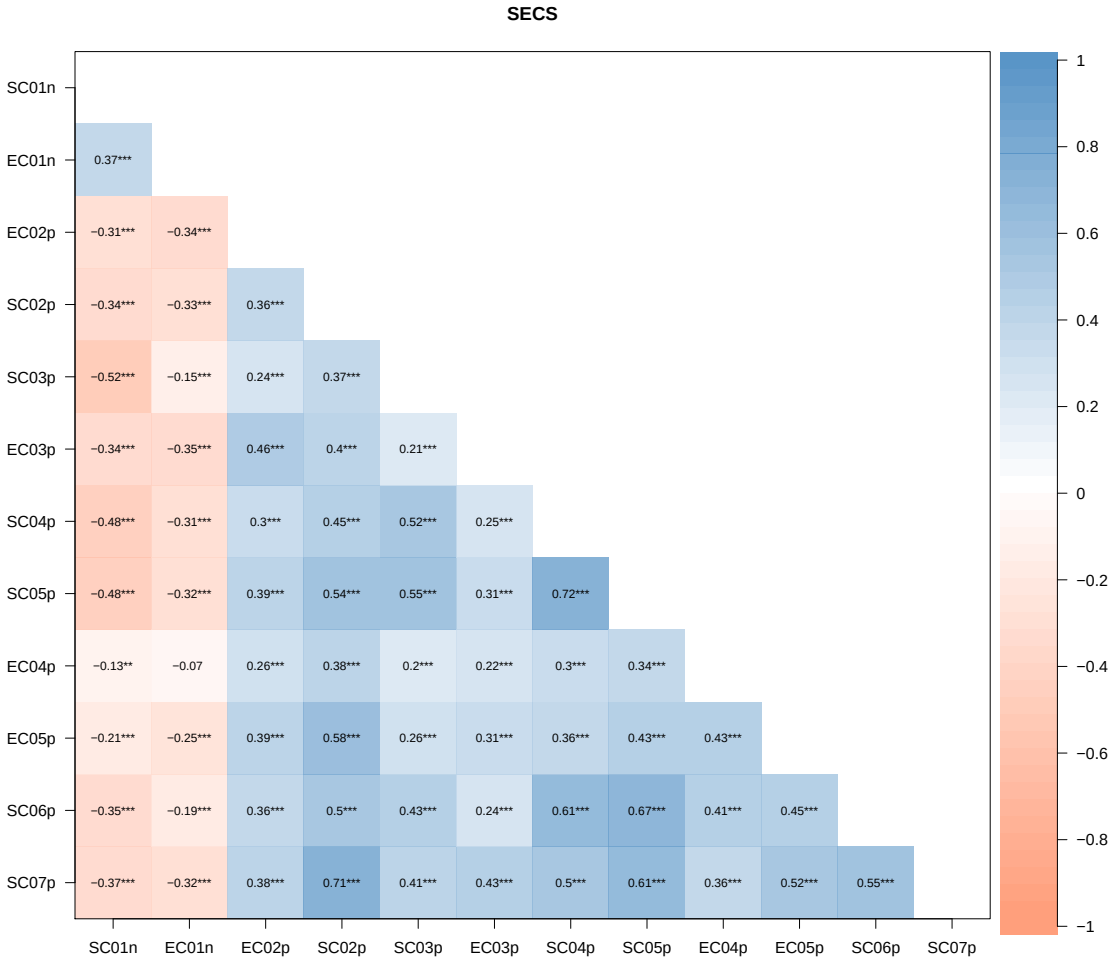

Figure VM2-45
SECS items: Inter-correlations

VM2-3.4.6 Scale statistics (for subscales)

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

## Number of categories should be increased  in order to count frequencies.

print(scaleSECS)

## Call: scoreItems(keys = weightsSECS, items = scaleFrameSECS, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclConsALL sclConsSoc sclConsEcon
## alpha       0.88       0.88        0.69
```

```
##
## Standard errors of unstandardized Alpha:
##       sclConsALL sclConsSoc sclConsEcon
## ASE        0.013      0.016       0.032
##
## Average item correlation:
##           sclConsALL sclConsSoc sclConsEcon
## average.r        0.4        0.5         0.3
##
## Median item correlation:
##  sclConsALL  sclConsSoc sclConsEcon
##        0.39        0.50        0.32
##
##  Guttman 6* reliability:
##          sclConsALL sclConsSoc sclConsEcon
## Lambda.6        0.9       0.89         0.7
##
## Signal/Noise based upon av.r :
##              sclConsALL sclConsSoc sclConsEcon
## Signal/Noise        7.2          7         2.2
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##             sclConsALL sclConsSoc sclConsEcon
## sclConsALL        0.88       1.09        1.04
## sclConsSoc        0.96       0.88        0.81
## sclConsEcon       0.81       0.63        0.69
##
##  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.   :-91.636   Min.   :-100.000   Min.   :-89.200
##  1st Qu.:-17.455   1st Qu.: -25.143   1st Qu.:-17.850
##  Median :  4.773   Median :   1.143   Median :  2.400
##  Mean   :  6.508   Mean   :   1.875   Mean   :  4.686
##  3rd Qu.: 27.818   3rd Qu.:  27.643   3rd Qu.: 23.500
##  Max.   :100.000   Max.   : 100.000   Max.   :100.000

head(scoresSECS)

##   sclConsALL sclConsSoc sclConsEcon
```

```
## 1  33.454545  39.142857        20.8
## 2  27.818182  27.571429        16.8
## 3   3.272727  -2.428571         7.4
## 4 -41.909091 -46.571429       -42.0
## 5   2.909091  -9.285714         9.6
## 6  64.272727  64.428571        46.2
```

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

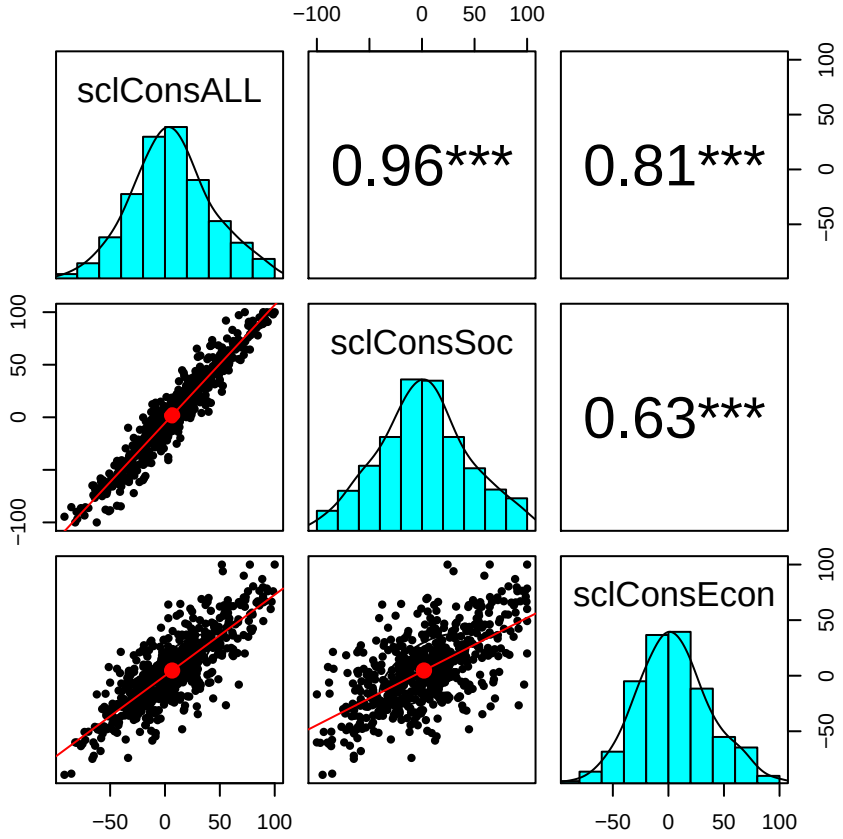

Figure VM2-46
SECS scores: Distribution and inter-correlation of subscale values

VM2-3.5 Social Value Orientation

VM2-3.5.1 Source

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

VM2-3.5.2 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$SVO1self <- recode(scaleFrameSVO$SVO1_1,
    .default=85)
scaleFrameSVO$SVO1other <- recode(scaleFrameSVO$SVO1_1,
    "1"=85,"2"=76,"3"=68,"4"=59,"5"=50, "6"=41,"7"=33,
    "8"=24,"9"=15)

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

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

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

```
        "8"=26,"9"=15)

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

    scaleFrameSVO$SVO6self <- recode(scaleFrameSVO$SVO6_1,
       "1"=100,"2"=98,"3"=96,"4"=94,"5"=93,"6"=91,"7"=89,
       "8"=87,"9"=85)
    scaleFrameSVO$SVO6other <- recode(scaleFrameSVO$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)

 summary(scaleFrameSVO)
```

```
##     SVO1self    SVO1other        SVO2self        SVO2other        SVO3self
##  Min.   :85   Min.   :15.00   Min.   : 85.00   Min.   :15.00   Min.   :50.00
##  1st Qu.:85   1st Qu.:85.00   1st Qu.:100.00   1st Qu.:50.00   1st Qu.:85.00
##  Median :85   Median :85.00   Median :100.00   Median :50.00   Median :85.00
##  Mean   :85   Mean   :79.95   Mean   : 99.33   Mean   :48.46   Mean   :83.13
##  3rd Qu.:85   3rd Qu.:85.00   3rd Qu.:100.00   3rd Qu.:50.00   3rd Qu.:85.00
##  Max.   :85   Max.   :85.00   Max.   :100.00   Max.   :50.00   Max.   :85.00
##    SVO3other         SVO4self       SVO4other         SVO5self
##  Min.   : 85.00   Min.   :50.00   Min.   : 15.00   Min.   : 50.00
##  1st Qu.: 85.00   1st Qu.:63.00   1st Qu.: 36.00   1st Qu.: 75.00
##  Median : 85.00   Median :68.00   Median : 58.00   Median : 75.00
##  Mean   : 85.81   Mean   :69.18   Mean   : 53.85   Mean   : 82.79
##  3rd Qu.: 85.00   3rd Qu.:76.00   3rd Qu.: 68.00   3rd Qu.:100.00
##  Max.   :100.00   Max.   :85.00   Max.   :100.00   Max.   :100.00
##    SVO5other         SVO6self       SVO6other
##  Min.   : 50.00   Min.   : 85.0   Min.   :50.00
##  1st Qu.: 50.00   1st Qu.: 85.0   1st Qu.:59.00
##  Median : 75.00   Median : 85.0   Median :85.00
##  Mean   : 67.25   Mean   : 89.5   Mean   :74.58
##  3rd Qu.: 75.00   3rd Qu.: 96.0   3rd Qu.:85.00
##  Max.   :100.00   Max.   :100.0   Max.   :85.00
```

```
#"SVO1self" has no variance (everyone chose 85)

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

VM2-3.5.3 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)
```

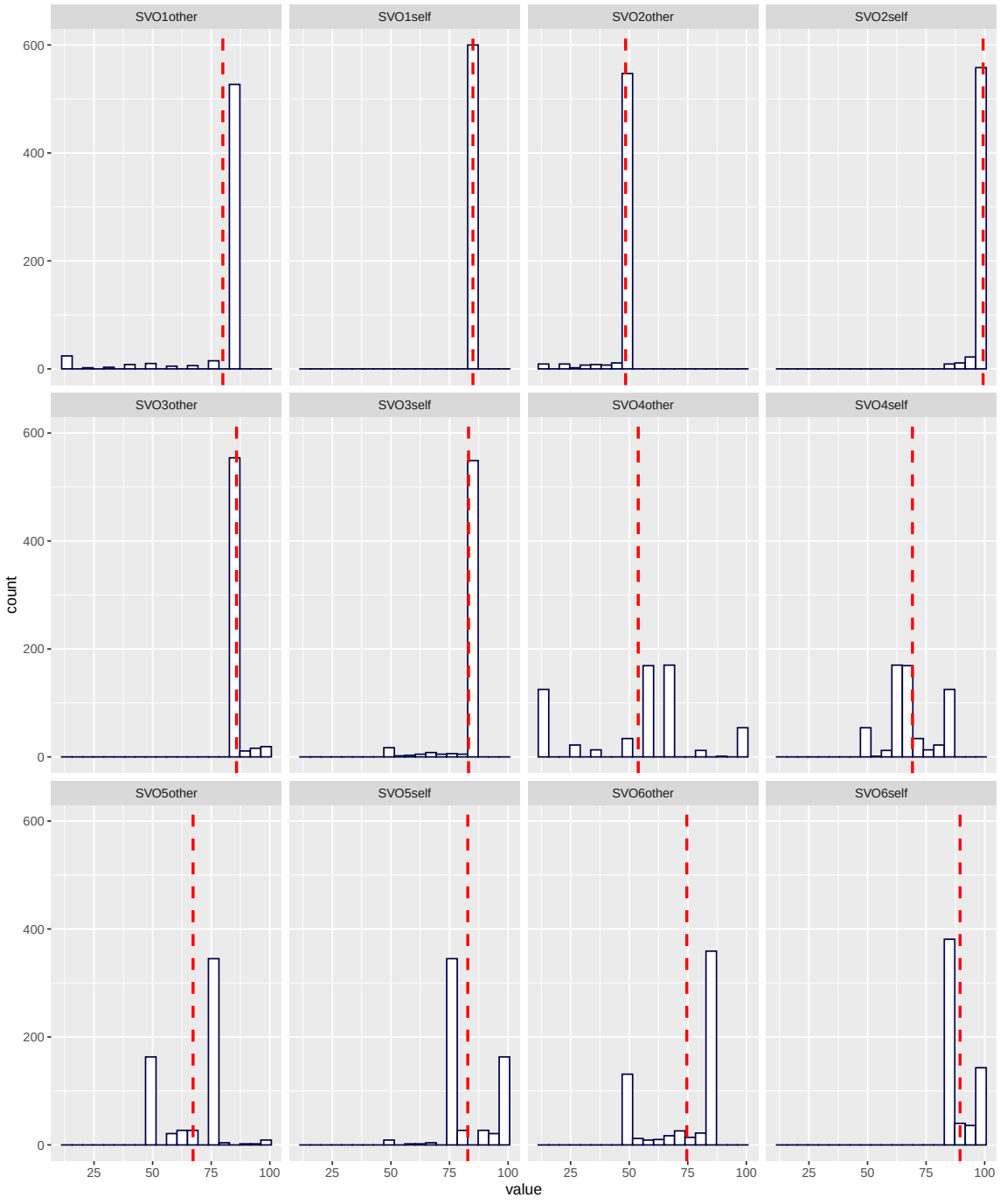

Figure VM2-47

Social value orientation (SVO): Item histograms with marked means

VM2-3.5.4 Scale statistics (for subscales)

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

## Number of categories should be increased  in order to count frequencies.

 sumSVOscores=meanSVOinc$scores
# 85 was deleted due to lack of variance and is artificially added again
 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   17.79   34.88   27.82   37.48   61.39

head(angleSVO)

##        1        2        3        4        5        6
## 36.44444 23.83874 29.43257 18.14558 29.13841 36.44444
```

```
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).
```

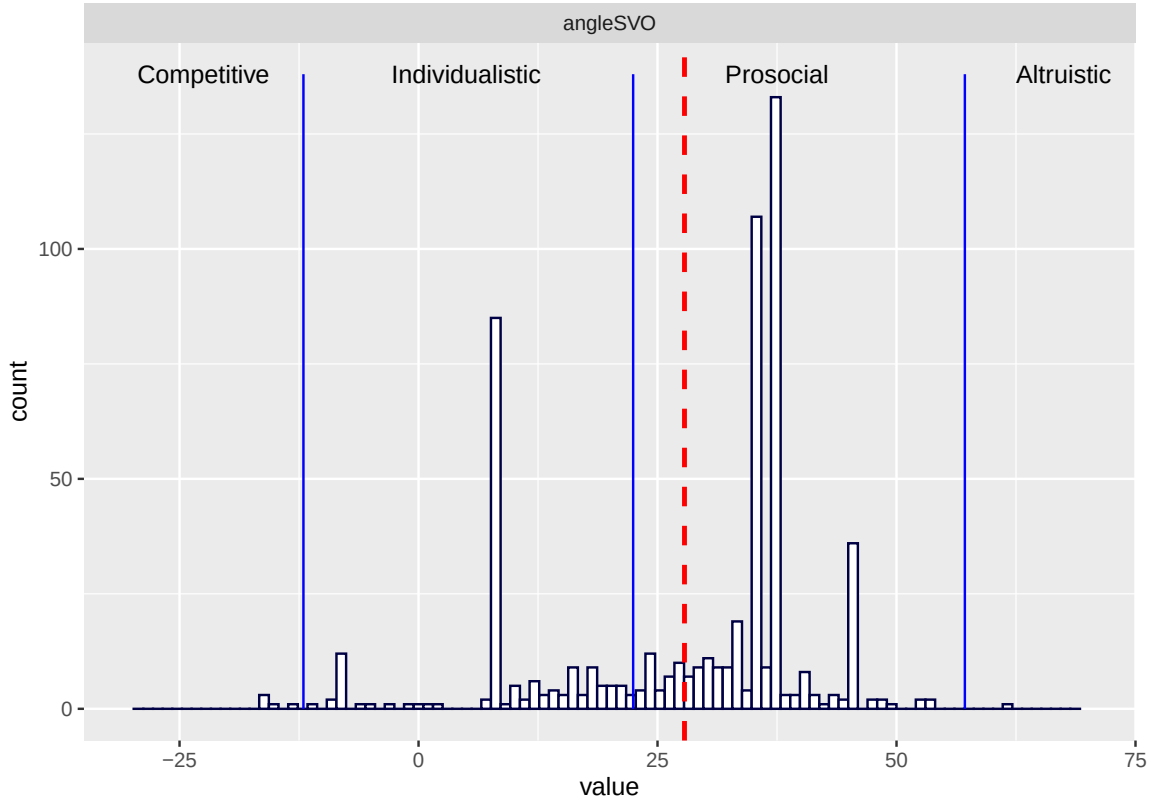

Figure VM2-48
SVO: histogram of scores

VM2-3.6 COV-Worries

VM2-3.6.1 Items

Items were answered on a scale from 0 (not worried at all) to 10 (extremely worried).

- **CVW1+**: How worried are you about consequences of COVID-19 for your health on a scale from 0 (not worried at all) to 10 (extremely worried)?
- **CVW2+**: How worried are you about consequences of COVID-19 for your finances?

- **CVW3+**: How worried are you about consequences of COVID-19 for other people?
- **CVW4+**: How worried are you about consequences of COVID-19 for the economy?
- **CVW5+**: How worried are you about consequences of COVID-19 for our democracy?

VM2-3.6.2 Item preparation

```
    scaleVarsCVW <- c("COV_WORyoursel", "COV_WORfinancial",
    "COV_WORotherpeople","COV_WOReconomy", "COV_WORDemocracy" )

   scaleFrameCVW <- df[scaleVarsCVW]

 scaleFrameCVW <- scaleFrameCVW %>%
   rename(
   CVW1=COV_WORyoursel,CVW2=COV_WORfinancial,
   CVW3=COV_WORotherpeople,CVW4=COV_WOReconomy,CVW5=COV_WORDemocracy )

   scaleFrameCVW[] <-data.matrix(scaleFrameCVW)

weightsCVW <-list(sclCOVWorry=c("CVW1","CVW2","CVW3","CVW4","CVW5")
)

summary(scaleFrameCVW)
```

```
##       CVW1            CVW2            CVW3            CVW4
##  Min.   : 1.000   Min.   : 1.000   Min.   : 1.000   Min.   : 1.00
##  1st Qu.: 4.000   1st Qu.: 5.000   1st Qu.: 7.000   1st Qu.: 7.00
##  Median : 7.000   Median : 7.000   Median : 9.000   Median : 9.00
##  Mean   : 6.353   Mean   : 6.917   Mean   : 8.398   Mean   : 8.48
##  3rd Qu.: 8.000   3rd Qu.: 9.000   3rd Qu.:10.000   3rd Qu.:10.00
##  Max.   :11.000   Max.   :11.000   Max.   :11.000   Max.   :11.00
##       CVW5
##  Min.   : 1.000
##  1st Qu.: 6.000
##  Median : 7.000
##  Mean   : 7.135
##  3rd Qu.: 9.000
##  Max.   :11.000
```

VM2-3.6.3 Item histograms

```
 CVWdf=data.frame(scale_mean=t(summarise_all(scaleFrameCVW,mean)),
         key=names(scaleFrameCVW))
```

```
scaleFrameCVW %>%
  keep(is.numeric) %>%
    gather() %>%
      ggplot(aes(value)) +
       facet_wrap(~ key, ncol=3) +
       geom_histogram(aes(y =..count..), color="#000044",
              fill="white",bins=11)+
       geom_vline(aes(xintercept =scale_mean),CVWdf,col='red',
       linetype = "dashed",size=1)
```

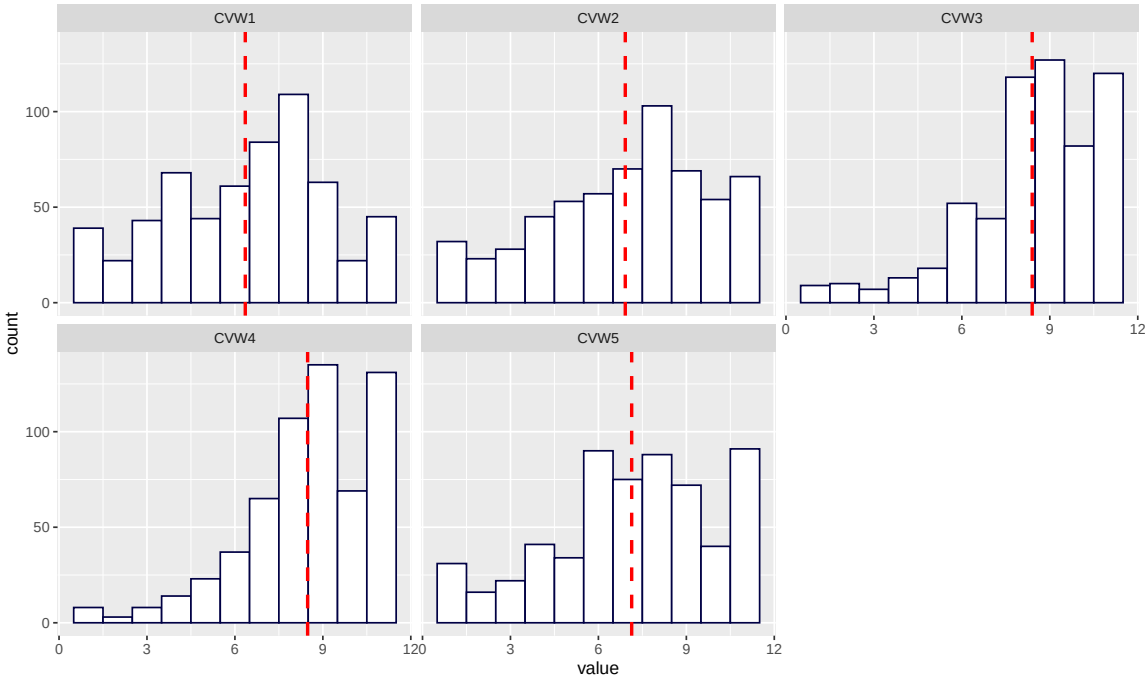

Figure VM2-49
COV-Worries: Item histograms with marked means

VM2-3.6.4 Inter-correlations

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

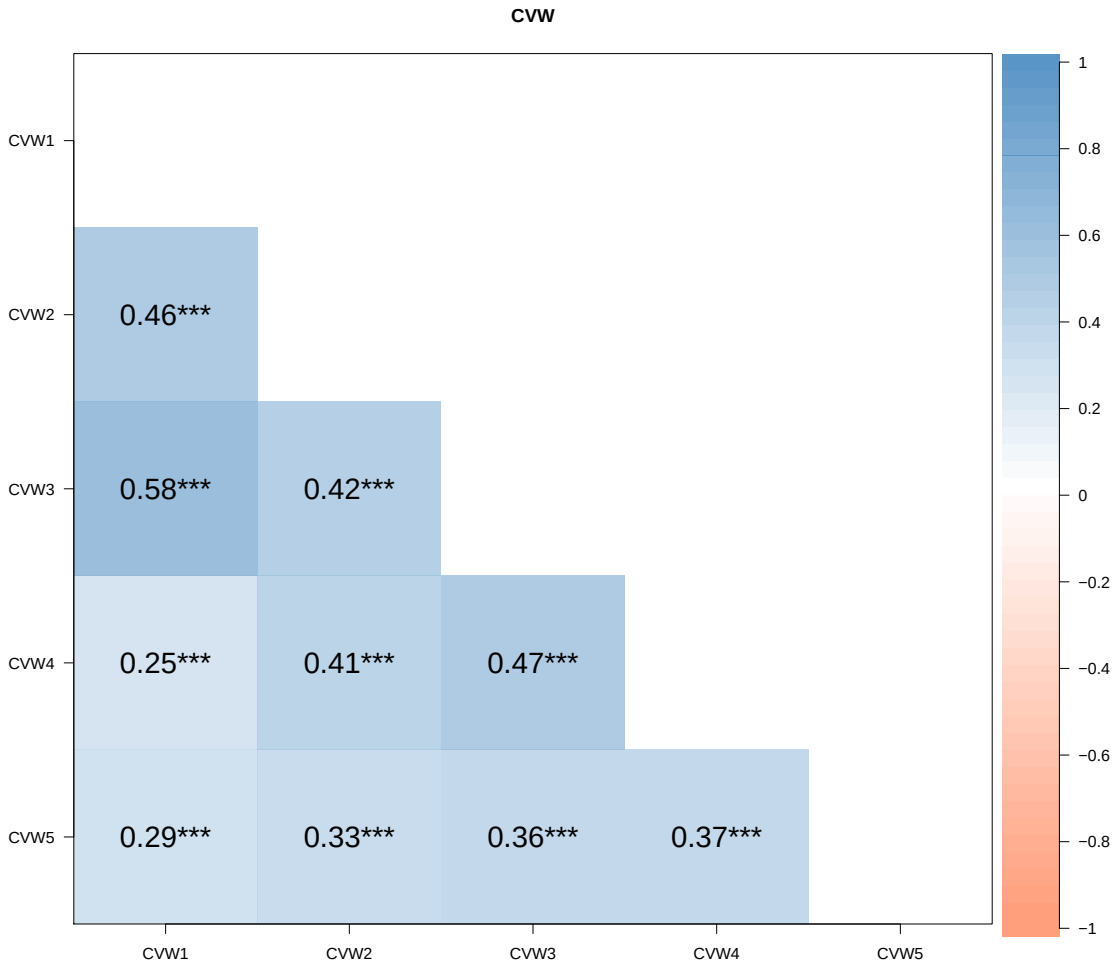

Figure VM2-50
COV-Worries items: Inter-correlations

VM2-3.6.5 Scale statistics (for subscales)

```
scaleCVW=scoreItems(keys=weightsCVW, items =scaleFrameCVW,totals=FALSE)

## Number of categories should be increased  in order to count frequencies.

print(scaleCVW)

## Call: scoreItems(keys = weightsCVW, items = scaleFrameCVW, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclCOVWorry
## alpha        0.76
```

```
##
## Standard errors of unstandardized Alpha:
##       sclCOVWorry
## ASE         0.028
##
## Average item correlation:
##           sclCOVWorry
## average.r        0.39
##
## Median item correlation:
## sclCOVWorry
##        0.39
##
##  Guttman 6* reliability:
##          sclCOVWorry
## Lambda.6        0.74
##
## Signal/Noise based upon av.r :
##              sclCOVWorry
## Signal/Noise         3.1
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##             sclCOVWorry
## sclCOVWorry        0.76
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

 #The summary scores are translated back to the original 0-10 interval
#(R interprets the original numbers as factor levels)

 scoresCVW<-data.frame(scaleCVW$scores-1)
summary(scoresCVW)

##   sclCOVWorry
##  Min.   : 0.000
##  1st Qu.: 5.400
##  Median : 6.600
##  Mean   : 6.457
##  3rd Qu.: 7.600
##  Max.   :10.000

head(scoresCVW)
```

```
##   sclCOVWorry
## 1         3.2
## 2         7.2
## 3         7.0
## 4         8.0
## 5        10.0
## 6         7.8
```

```
scalesCVW=data.frame(scale_mean=t(summarise_all(scoresCVW,mean)),
                     key=names(scoresCVW))

scoresCVW %>%
  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),
             scalesCVW,col='red', linetype = "dashed",size=1)
```

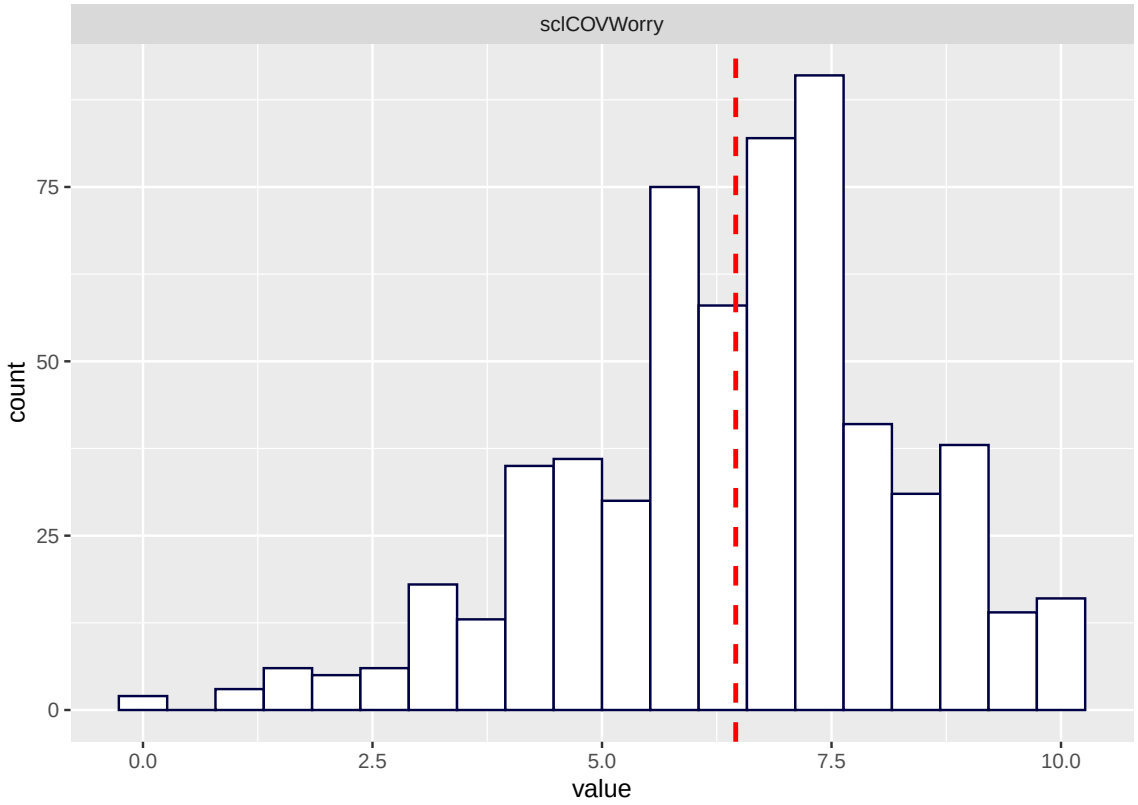

Figure VM2-51
COV-Worries: histogram of scores

VM2-3.7 COV-Compliance

VM2-3.7.1 Items

Responses were given in a scale from 0–10, with higher numbers indicating higher willingness or following more closely. Items CVCP4+ and CVCP5- were added to this scale by reformatting differently worded items in Study 1[4].

- **CVCP1+**: Compared to other people who are similar to you in age and live in your area, do you follow guidelines (such as social distancing) more closely or less closely than others do?
- **CVCP2+**: Compared to other people in your region are you more willing or less willing to wear a protective mask?
- **CVCP3-**: Compared to other people in your region are you more willing or less willing to break rules to meet other people in person?

[4]The variable name in the dataset for CVCP5- is "Q579", but should have been "COV_protest". As a principle the raw data set is used unchanged (except for the deletion of variables such as non-varying fields, redundant variables or open-format answers). "COV_donate" meausres the willingness to donate to victims and was presented in the same block, but does not conceptually fit into the compliance measure.

- **CVCP4+**: Compared to other people in your region are you more willing or less willing to be vaccinated if a vaccine is developed for COVID-19 that is considered medically safe?

- **CVCP5-**: Compared to other people in your region are you more willing or less willing to protest against restrictions and regulations that are introduced in reaction to COVID-19?

VM2-3.7.2 Item preparation

```
    scaleVarsCVCP <- c("COV_guidelines", "COV_mask",
    "COV_meet", "COV_vaccine","Q579" )

   scaleFrameCVCP <- df[scaleVarsCVCP]

 scaleFrameCVCP <- scaleFrameCVCP %>%
   rename(
   CVCP1p=COV_guidelines,CVCP2p=COV_mask,CVCP3n=COV_meet,
   CVCP4p=COV_vaccine, CVCP5n=Q579
   )

   scaleFrameCVCP[] <-data.matrix(scaleFrameCVCP)

weightsCVCP <-list(sclCompliance=c("CVCP1p","CVCP2p","-CVCP3n",
"CVCP4p","-CVCP5n")
)

summary(scaleFrameCVCP)
```

```
##      CVCP1p          CVCP2p           CVCP3n           CVCP4p
##  Min.   : 1.0   Min.   : 1.000   Min.   : 1.000   Min.   : 1.000
##  1st Qu.: 8.0   1st Qu.: 7.000   1st Qu.: 2.000   1st Qu.: 6.000
##  Median : 9.0   Median : 9.000   Median : 3.000   Median : 8.000
##  Mean   : 8.6   Mean   : 8.538   Mean   : 3.903   Mean   : 7.955
##  3rd Qu.:10.0   3rd Qu.:11.000   3rd Qu.: 6.000   3rd Qu.:11.000
##  Max.   :11.0   Max.   :11.000   Max.   :11.000   Max.   :11.000
##      CVCP5n
##  Min.   : 1.000
##  1st Qu.: 1.000
##  Median : 2.000
##  Mean   : 3.358
##  3rd Qu.: 5.250
##  Max.   :11.000
```

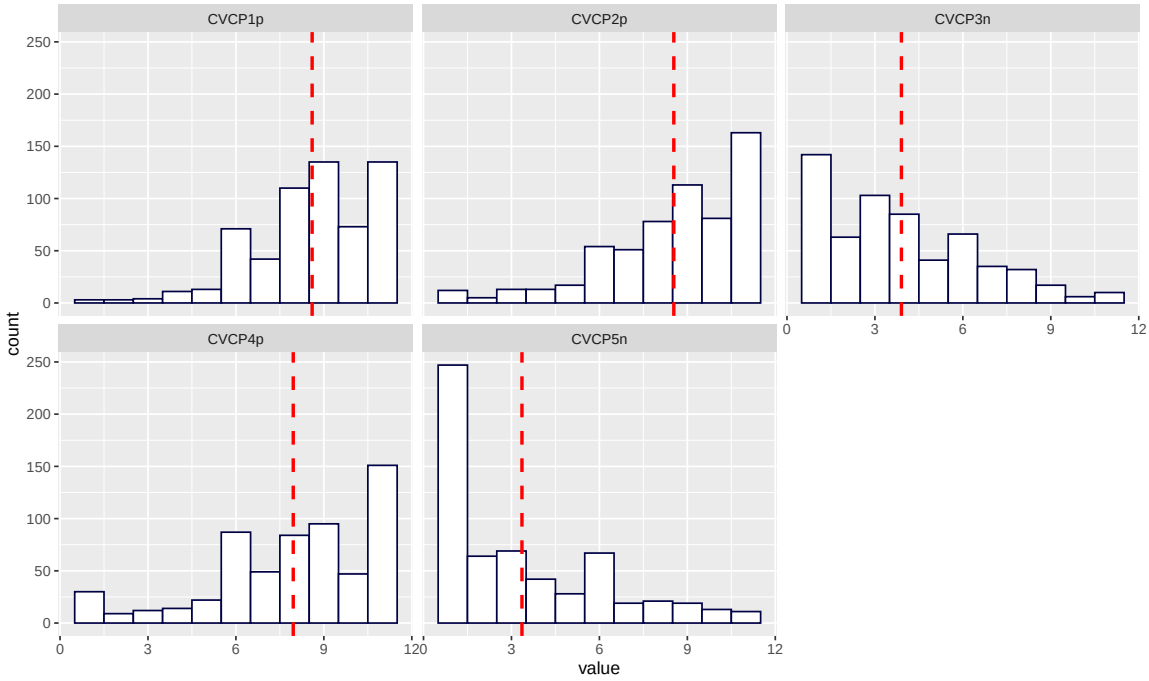

Figure VM2-52
COV-Compliance: Item histograms with marked means

VM2-3.7.3 Item histograms

```
CVCPdf=data.frame(scale_mean=t(summarise_all(scaleFrameCVCP,mean)),
        key=names(scaleFrameCVCP))

scaleFrameCVCP %>%
  keep(is.numeric) %>%
    gather() %>%
      ggplot(aes(value)) +
       facet_wrap(~ key, ncol=3) +
       geom_histogram(aes(y =..count..), color="#000044",
              fill="white",bins=11)+
       geom_vline(aes(xintercept =scale_mean),CVCPdf,col='red',
       linetype = "dashed",size=1)
```

VM2-3.7.4 Inter-correlations

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

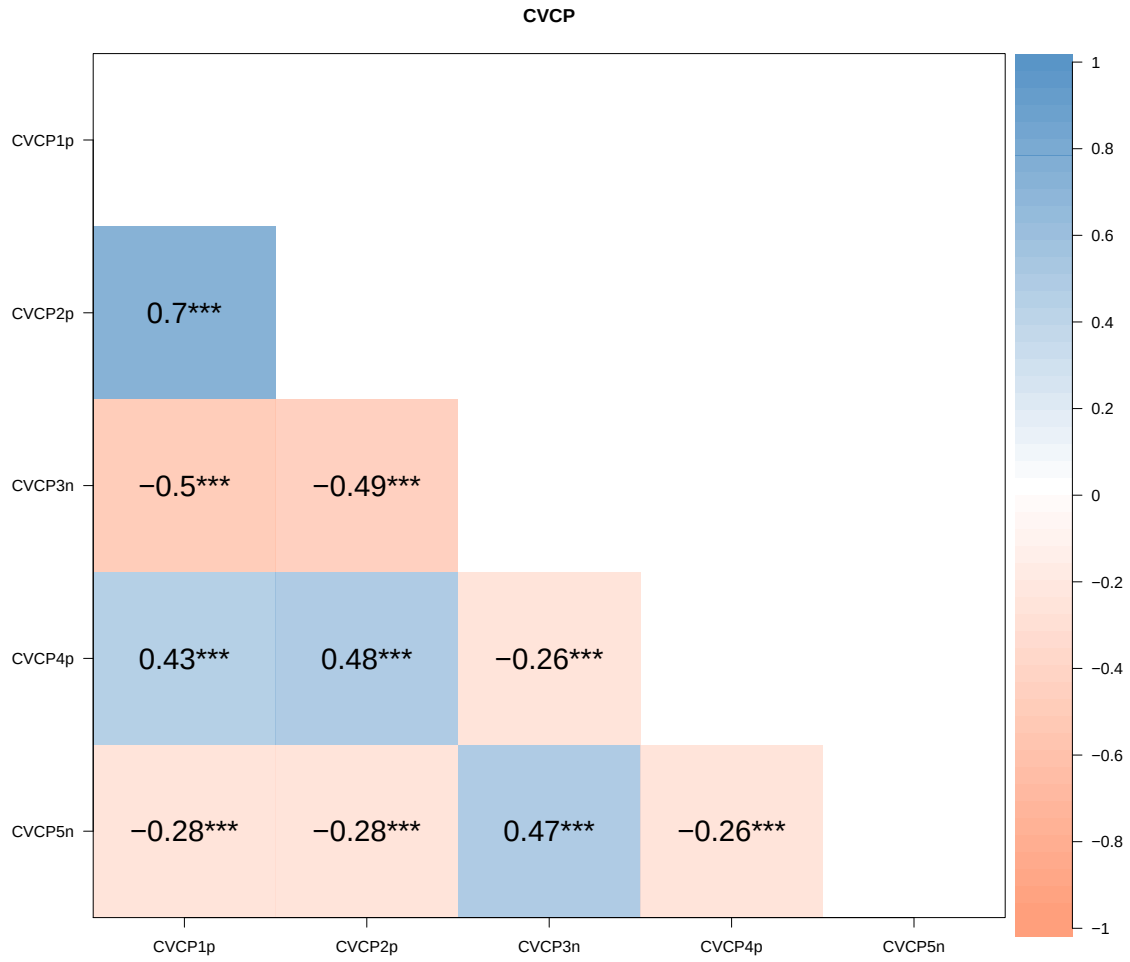

Figure VM2-53
COV-Compliance items: Inter-correlations

VM2-3.7.5 Scale statistics (for subscales)

```
scaleCVCP=scoreItems(keys=weightsCVCP, items =scaleFrameCVCP,
totals=FALSE)

## Number of categories should be increased  in order to count frequencies.

print(scaleCVCP)

## Call: scoreItems(keys = weightsCVCP, items = scaleFrameCVCP, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclCompliance
```

```
## alpha          0.77
##
## Standard errors of unstandardized Alpha:
##       sclCompliance
## ASE           0.027
##
## Average item correlation:
##           sclCompliance
## average.r           0.4
##
## Median item correlation:
## sclCompliance
##          0.45
##
##  Guttman 6* reliability:
##          sclCompliance
## Lambda.6          0.76
##
## Signal/Noise based upon av.r :
##              sclCompliance
## Signal/Noise           3.3
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##               sclCompliance
## sclCompliance          0.77
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE
```

```
#The summary scores are translated back to the original 0-10 interval
#(R interprets the original numbers as factor levels)

scoresCVCP<-data.frame(scaleCVCP$scores-1)
summary(scoresCVCP)
```

```
##  sclCompliance
##  Min.   : 1.200
##  1st Qu.: 6.200
##  Median : 7.600
##  Mean   : 7.366
##  3rd Qu.: 8.800
##  Max.   :10.000
```

```
head(scoresCVCP)
```

```
##   sclCompliance
## 1           9.6
## 2           7.4
## 3           5.8
## 4           8.8
## 5           6.0
## 6           8.0
```

```
scalesCVCP=data.frame(scale_mean=t(summarise_all(scoresCVCP,mean)),
                      key=names(scoresCVCP))

scoresCVCP %>%
  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),
             scalesCVCP,col='red', linetype = "dashed",size=1)
```

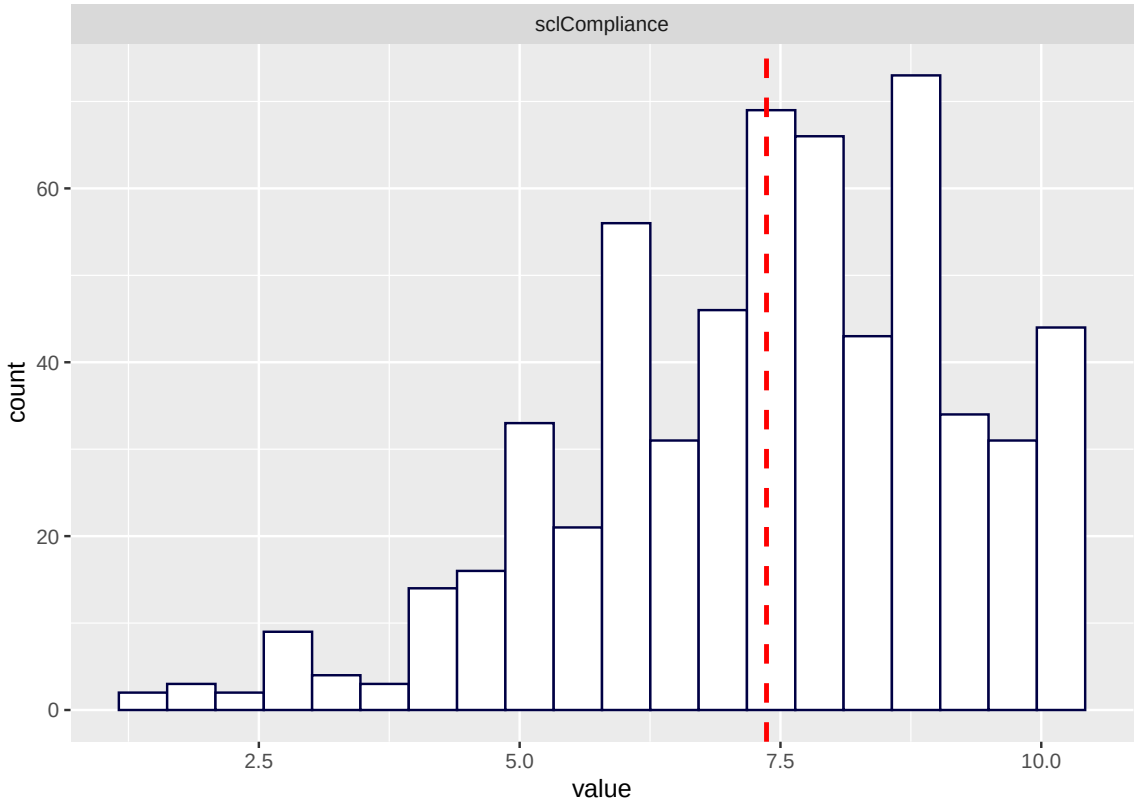

Figure VM2-54
COV-Compliance: histogram of scores

VM2-3.8 COV-Tradeoffs

VM2-3.8.1 Items

Items were answered on a six-point scale (1–6): Strongly disagree— Disagree—Slightly disagree—Slightly agree—Agree—Strongly agree.

- **CVTO1**: We need to accept that some members of vulnerable populations will die so that we can live our lives without severe restrictions.
- **CVTO2**: We need to accept that some members of vulnerable populations will die so that we can attend large sports events again.
- **CVTO3**: We need to accept that some members of vulnerable populations will die so that children can attend school again.
- **CVTO4**: We need to accept that some members of vulnerable populations will die so that we can quickly return to work again.
- **CVTO5**: We need to accept that some members of vulnerable populations will die so that we can go on vacation again.

- **CVTO6**: We need to accept that some members of vulnerable populations will die so that we do not lose too many jobs.

VM2-3.8.2 Item preparation

```
    scaleVarsCVTO <- c("COV_tradeoffs_1", "COV_tradeoffs_2", "COV_tradeoffs_3",
   "COV_tradeoffs_4", "COV_tradeoffs_5", "COV_tradeoffs_6" )

   scaleFrameCVTO <- df[scaleVarsCVTO]

 scaleFrameCVTO <- scaleFrameCVTO %>%
   rename(
   CVTO1=COV_tradeoffs_1,CVTO2=COV_tradeoffs_2,CVTO3=COV_tradeoffs_3,
   CVTO4=COV_tradeoffs_4,CVTO5=COV_tradeoffs_5, CVTO6=COV_tradeoffs_6 )

   scaleFrameCVTO[] <-data.matrix(scaleFrameCVTO)

weightsCVTO <-list(sclClimSkept=c("CVTO1","CVTO2","CVTO3","CVTO4","CVTO5","CVTO6")
)

summary(scaleFrameCVTO)
```

```
##      CVTO1           CVTO2           CVTO3          CVTO4           CVTO5
##  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.:1.000
##  Median :2.000   Median :1.000   Median :2.00   Median :2.000   Median :1.000
##  Mean   :2.272   Mean   :1.655   Mean   :2.36   Mean   :2.372   Mean   :1.732
##  3rd Qu.:3.000   3rd Qu.:2.000   3rd Qu.:3.00   3rd Qu.:3.000   3rd Qu.:2.000
##  Max.   :6.000   Max.   :6.000   Max.   :6.00   Max.   :6.000   Max.   :6.000
##      CVTO6
##  Min.   :1.000
##  1st Qu.:1.000
##  Median :2.000
##  Mean   :2.515
##  3rd Qu.:4.000
##  Max.   :6.000
```

VM2-3.8.3 Item histograms

```
 CVTOdf=data.frame(scale_mean=t(summarise_all(scaleFrameCVTO,mean)),
         key=names(scaleFrameCVTO))

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

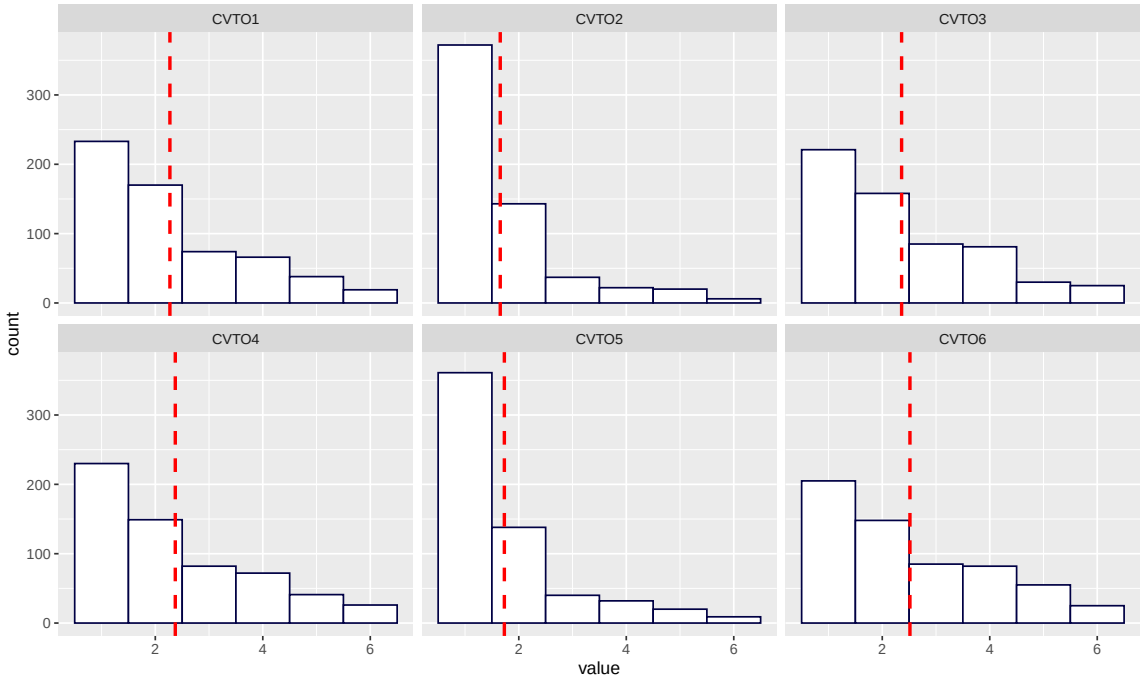

Figure VM2-55
COV-Tradeoffs: Item histograms with marked means

```
      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),CVTOdf,col='red',
         linetype = "dashed",size=1)
```

VM2-3.8.4 Inter-correlations

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

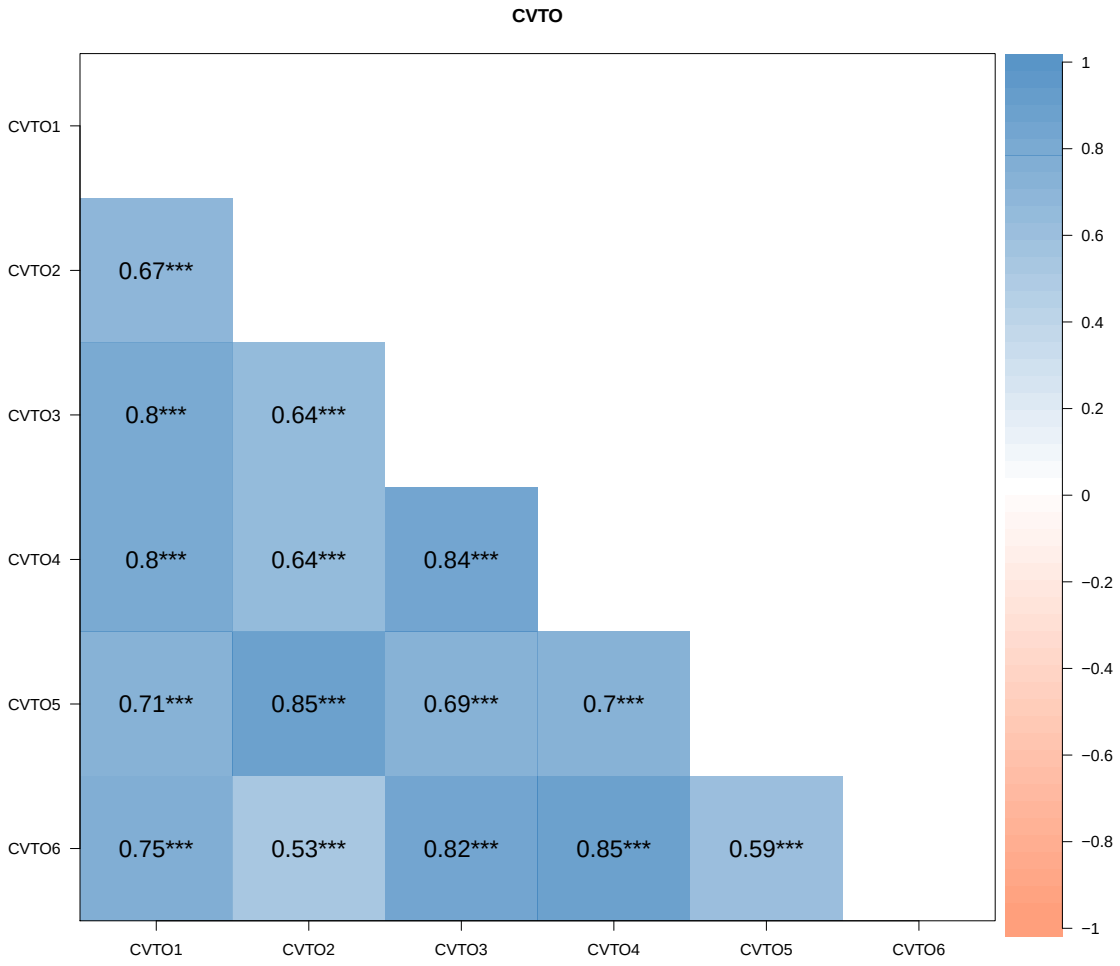

Figure VM2-56
COV-Tradeoffs items: Inter-correlations

VM2-3.8.5 Scale statistics (for subscales)

```
   scaleCVTO=scoreItems(keys=weightsCVTO, items =scaleFrameCVTO,totals=FALSE)

 print(scaleCVTO)

## Call: scoreItems(keys = weightsCVTO, items = scaleFrameCVTO, totals = FALSE)
##
## (Unstandardized) Alpha:
##       sclClimSkept
## alpha         0.94
##
```

```
## Standard errors of unstandardized Alpha:
##       sclClimSkept
## ASE          0.014
##
## Average item correlation:
##           sclClimSkept
## average.r         0.72
##
## Median item correlation:
## sclClimSkept
##         0.71
##
##  Guttman 6* reliability:
##          sclClimSkept
## Lambda.6         0.95
##
## Signal/Noise based upon av.r :
##              sclClimSkept
## Signal/Noise           15
##
## Scale intercorrelations corrected for attenuation
##  raw correlations below the diagonal, alpha on the diagonal
##  corrected correlations above the diagonal:
##              sclClimSkept
## sclClimSkept         0.94
##
##  In order to see the item by scale loadings and frequency counts of the data
##  print with the short option = FALSE

scoresCVTO<-data.frame(scaleCVTO$scores)
summary(scoresCVTO)

##   sclClimSkept
##  Min.   :1.000
##  1st Qu.:1.000
##  Median :2.000
##  Mean   :2.151
##  3rd Qu.:2.833
##  Max.   :6.000

head(scoresCVTO)

##   sclClimSkept
## 1     2.000000
## 2     2.333333
```

```
## 3     3.166667
## 4     1.000000
## 5     1.500000
## 6     2.333333
```

```
scalesCVTO=data.frame(scale_mean=t(summarise_all(scoresCVTO,mean)),
                      key=names(scoresCVTO))

scoresCVTO %>%
  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),
             scalesCVTO,col='red', linetype = "dashed",size=1)
```

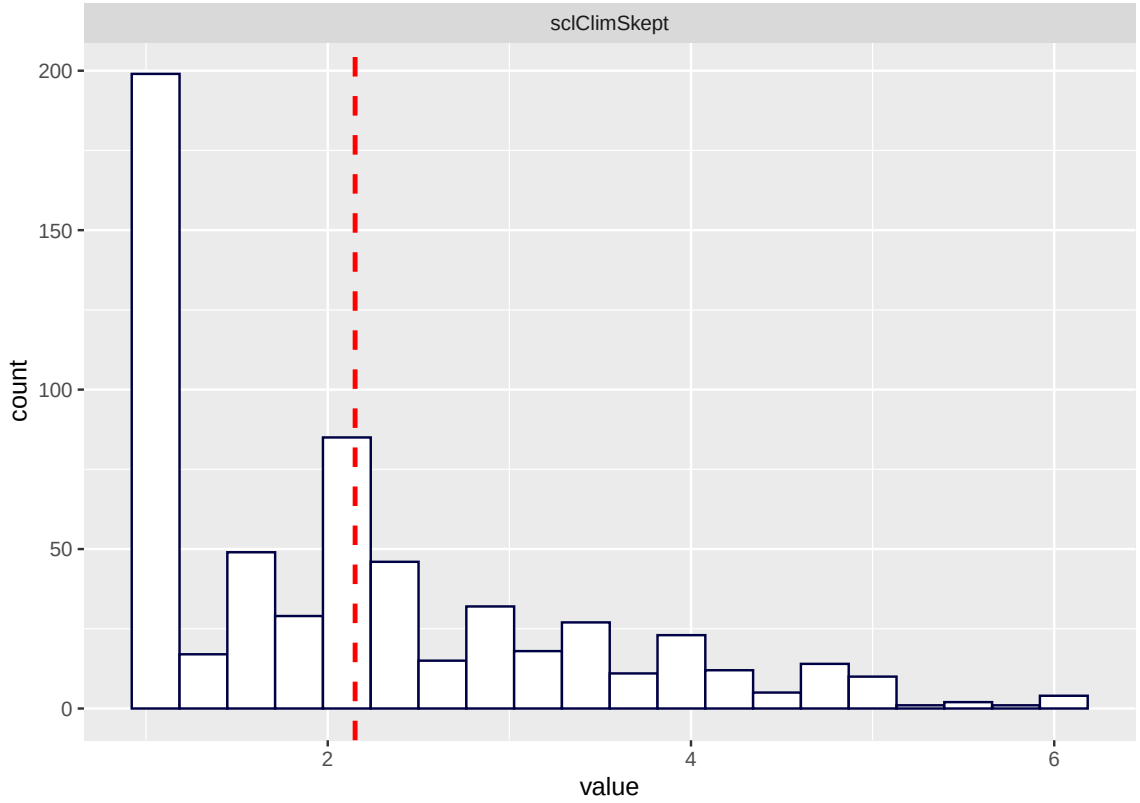

Figure VM2-57
COV-Tradeoffs: histogram of scores

VM2-4 Qualitative Data

VM2-4.1 General game comments and comparison with other situations

Most people did not associate the game with the COVID-19 situation. Below are some examples of answers:

- this was brand new to me, i loved it
- Working for commissions/shared tips feels close to this model. Your earnings are tied to others behaviors, and their behaviors reflect on you (and vice versa)
- This game reminds me of when professors say that everyone can receive a 5% grade increase if less than some percentage request a 10% increase; the problem though is that the anonymity factor makes it so that people will probably pick the 40/H option because there is no shame/group knowledge factor to it, and people are probably taking online surveys to make money anyway, so the risk is high. I would factor that into the results knowing that respondents (especially during the pandemic) will probably take more risks than normal.
- It's a very interesting game, it's just worrisome that a potential bonus lies in the hands of how greedy or willing to gamble someone else could be.
- I would love to see a simulation play out with this data. Its a very interesting thought experiment but i think if there were higher stakes people would be playing it a lot safer. The 5 percent guaranteed chance of change if a blue encounters a purple swayed my decision, without that 5 percent chance i would have picked Blue every time. I assume you all planned for that, hence the small chance of always getting turned.
- More than ever today, more people view getting ahead as a zero sum game willing to hurt others in order to get ahead. It makes the world a worse place.
- I don't, actually. Sorry. It was kind of fun and I am excited to hear the results.
- Very interesting study that got my brain thinking and ready to go! What a great exercise this was! I have never participated in such game but I had a great time!
- This reminds me of gambling/playing the lottery.
- This reminds me of a statistics class that I took for graduate school. I realized how much I missed it. I am doing creative work that I love yet miss this!
- This is a novel game that doesn't remind me of anything else.
- This game reminds me of Monopoly. I don't know why. Odd.
- This game reminds me a bit of the board game Othello.
- There isn't anything this game reminds me of, and I have no other comments regarding it.

- The butterfly effect. Here, my effectiveness was completely out of my control.
- Seemed like a fun game of luck and a bit of strategy. I have personally never played a similar game. Curious as to the results.
- Reminds me of zombie tag
- Reminds me of a thought problem about choosing the greater good over personal gain/risk.
- No, it doesn't remind me of any other games. I think it was pure luck and had nothing to do with strategy.
- No, I have not experienced anything in this game that reminds me of anything else.
- No, I don't believe I have participated in a game like this before.
- No this was pretty new to me. I hope I stayed blue!
- No this is the first game of this type I have completed.
- No the game didn't remind me of anything. I enjoyed playing the game.
- Never played a game like this before.
- It was like a complicated math problem.
- It reminds me of many other studies that are just as pointlessly complicated. All I can figure out for WHY you would possibly want the "data" generated is that you're looking into how to overcomplicate terms of service for things like banking and taxes so that you can trick people out of even more of their money.
- It reminds me of a game called Betrayal at House on the Hill where there's one permutation that every time you interact with another player, there's a chance they swap to the evil side, given that the person they are interacting with is already evil
- It is very unique and thus I can't think of anything it reminds me of. Thanks for the fun game and opportunity!
- I think it reminds me of when you're on the road driving and you're responsible for others safety by following the speed limit or you can be reckless and put others at risk
- I may be overestimating how good other people are at conceptualizing exponential growth...
- I enjoyed playing this game. I wish I could see in real time all of the decisions and consequences of those actions. From a Political Science and Public Policy perspective (my background), I can see the ripple effect (multiplier) causing pros and cons on people not even closely connected to the initial decision. This game is a small slice of life and the randomness of it contained within 100 people. Multiply that by estimated 8 billion people on earth and it plays out on a level that cannot possibly be computed.

Thank you for taking my mind to this really cool place via your survey. That's the main reason I participate in studies. I never know what I will learn or how it will improve my thinking. In this case, I see that it's okay to not know all of the variables in life and how they will play out. Just play the game and give it your best shot hoping everything will work out.

- Decision making in business, which is where I'm the most familiar, requires plotting out possible ramifications/impact on others
- Gambling. Socialized benefits.
- Choosing between a growth stock and a dividend stock
- A social pressure situation – it built over time and I'm sad that I felt influenced by it.
- I don't have any similar experiences. This game required a lot of logical thinking, which I particularly loved about it. I prefer to think through these steps rather than a gut feeling. It also incorporated some level of planning as well for the best, desired outcome. Overall, critical thinking seemed to be the key factor in the game.
- It didn't remind me of anything, but it was kind of a depressing game as I felt almost certain that I was going to be purple by the end so there wasn't much point to it.

Some people found parallels to game-theoretic paradigms and economic experiments or biological simulations. Below are some examples:

- This reminds me a bit of the prisoner's dilemma, in that our outcome is influenced by others, and you have to think of the "overall good" of the group to get a good outcome.
- This game reminds me a little of the prisoner's dilemma but with a few twists/complexities.
- There is a game show where you and another person can either both choose to split money or take it for yourself but if you both take it all then the other person gets nothing. this was similar tot that
- It makes me think of the Golden Balls game show, where participants were either rewarded or punished for their greed depending on what the other chose.
- It is a new variation of the economic sharing/decision games I haven't seen before
- Prisoner's dilemma, in a sense, in which if every player looks out for the good of the group the group benefits, but there is an incentive to harm the group and be selfish.
- The Game of Life.
- Game Theory
- it reminds me of the prisoner's dilemna but over several rounds and more people making decisions that affect the outcome

- It just reminds me of classic economic games where we talk about the nash equilibriums and such.
- No, I mean it seems vaguely like a question of risks and social good.
- It seems like a more intricate but less personal game version of the prisoner's dilemma
- Yes, I took a game theory class and we did something similar
- Yes there are videos on youtube of a game similar to this. Where two groups are split up and how much money is awarded to each group depends on the color choice of each group. If both groups agree on one color they share the money. If one group chooses one color, red, and the other group chooses blue, red group wins the money. If both groups choose red, winning color, neither group wins the money.
- Yeah it seems like a classic example of the prisoner's dilemma. Good example of game theory in action.
- This reminds me of a game played in high school biology class where a "disease" was spread
- This game reminds me of rock paper scissors
- This game and the information I read about it reminded me of studies of genetics and punnet squares and probability.

Parallels to COVID-19 (or viruses, in general) were identified spontaneously by about 80-90 participants. The following are examples for these statements:

- I drew some parallels between the game and the Coronavirus pandemic. The option that benefits one person more (analogous to going out and having fun) increases the chances that person and everyone they interact with will lose in the end (become infected). The greatest benefit for the most people comes from everyone cooperating in making sacrifices for the common good. A very clever study.
- Reminds me of "Flattening the curve" with COVID.
- Covid, duh. Fun experiment though.
- I believe you could apply this game to the spread of COVID-19, with option "H" being only going out in public for essential business and option "G" being going out in public just like normal
- Yes, this honestly reminds me of the spread of the coronavirus. By not wearing masks or staying at home (for economic benefits or otherwise) people are choosing "H" and risking spreading COVID or "purple" to everyone else. Fun game!
- It was obvious that the social conditioning messages in this game paralleled pandemic messaging.

- Coronavirus simulation, people being selfish and not protecting themselves at the expense of themselves and others.
- This reminds me of the current situation of people protesting the stay-at-home orders and not wearing masks. They care more about their convenience and comfort than the lives of others.
- Um, this is a simulation of the COVID-19 pandemic, accidentally or not that's what it is.
- This game seems like a representation of the spread potential of contagins. The option of G or H was representing certain choices to do some sort of activity or to perhaps wear PPE. It showed potential spread rates.
- This game makes me think of the current COVID pandemic. Like, if everyone wears a mask to prevent the spread of the virus.
- The spread of Covid 19, the game seems to act as a metaphor for peopel spreading the virus, and who is risking other peoples health (blue or purple, healthy or sick) for their own personal reasons.
- The illustration brings to mind the COVID infection chart in which the choices of each individual have an exponential downstream effect.
- The game reminds me of coronavirus outbreaks. How one person can eventually infect, or turn purple, dozens in a short period of time.
- Something about someone feeding a bat to the family one night for supper in China killing off thousands if not millions of people around the world. Also the effects of personal choice in reducing the rate of spread.
- Seems like social distancing. Either you do it for everyone's good or you do your thing and screw everyone else over.
- Kinda like the stay at home order. More people choose to go out, more people get infected.
- It's not exactly a game, but it reminds me of simulations of infectious diseases like HIV or COVID-19 and how preventive measures stop the spread from being severe. In this case, a preventive measure would be choosing G (because although risk remains, there is less of it) while no preventive measures would be H. I'm not sure if that was the goal of the study, but I thought it was interesting nonetheless.
- It reminds me of charts I used to see in middle school regarding the spread of venereal diseases, how each person having more than one sexual partner exponentially increases the chance of the spread of the disease. I assume, given the current state of the world, and my home country (the U.S.) in particular, that this game is an analogy for the spread of Covid 19.

- It reminds me of the current COVID-19 pandemic. Two healthy(no virus) people coming into contact have a 0% chance of spreading the virus. Two people with the virus also have a 0% chance of spreading it to each other, because they already have it. However, having the virus and making a risky decision such as not following health professional safety advice with PPE and distancing can greatly increase the spread(the purple color)to others.
- It reminded me of the choice between gain and risk many are facing now during the pandemic. Expose yourself at work or isolate and make no money.
- It kind of reminds me of the way an infectious disease does or doesn't spread. If only the people in the initial group interact with each other to determine whether they get the disease or not, it should remain within that group. It's only if their actions affect others outside of the group that the disease would spread.
- Is this a Covid risk study in disguise?
- I have a very strong feeling this game is related to the ongoing Coronavirus, and not just because every other survey is about it. The mechanics resemble a game of infection pretty closely.
- I guess coronavirus. One person's actions affect many.
- herd immunity?
- Deciding whether or not wear a mask outdoors. Not doing so increases my risk and yours but if I wear one and you don't it slightly decreases your risk and if everybody wears masks (stays blue) then the benefit is better for everyone but as people get sick (turn purple) they can increase the risk for everyone and not think about how their willingness to take risks impacts everyone else
- This seems to replicate the dilemma currently occurring with shelter-in-place orders and the individual decision for people to either stay at home or go out. You can play it safe and help everyone else out, or you can be risky to have the better potential bonus (participation in regular activities) but your risk of turning purple or not getting a bonus is increased, and also raising the odds other people turn purple as well.
- I can tell this game was somewhat modeled after the spread of a virus (i.e. coronavirus) This was in interesting model and I played with an amount of risk proportionate to how I would have in a real life situation.
- This seems like a game theory analysis of social distancing and the Coronavirus. I would very much like to see the results.
- Contagion (in our current situation)... Purple players are infected or carriers. Both players choosing G could be both people wearing a mask, both players choosing H could be neither wearing a mask, and one G and one H could be one person wearing a mask and the other not. It also kind of made me think of the prisoner's dilemma (I'm not totally sure that's the right thing I'm thinking of), the game where two people

have to make a choice (e.g. confess or not confess), and if both confess they get a lesser sentence or something, and if one confesses and the other doesn't, one person gets a full sentence and the other gets immunity, and if neither confess, they both get a lesser sentence. So in this case, choosing option G is staying silent (getting the lesser sentence) and choosing H is betraying, and I'm not really sure where I was going with this but it reminded me of that. But again, I mainly thought about this whole wearing masks diagram I saw a couple days ago with the probability of contagion with one person, two people, or neither people wearing masks

VM2-4.2 Messages for players

The pairs of messages were categorized and are analyzed in the main supplement.

VM2-4.3 Comments on Chain Reaction intervention

- Very useful!
- While I understand the decision to include it- the demo went on far too long. The point of the demonstration- that choosing H is more risky, could be surmised from the previous chart and the initial instructions. Honesty, the demonstration was frustrating.
- The picture that accompanied the explanation helped to illustrate what could have been a confusing and abstract concept for some people.
- The demonstration was effective - similar to the models that show the risk of people spreading COVID-19 to others.
- The demonstration seemed tedious, and it didn't hold my attention.
- The compounding effects of each action in later rounds was well explained.
- the chain reaction is nicely illustrated and can be comprehend very easily.
- It wasn't very easy on they eyes, so to speak.
- It was very clear and easy to understand and I enjoyed the graphics. The wording was comprehensible and digestible and went along well with the imagery shown.
- It was overly confusing. I felt like I had a better handle on it all before I saw it. I assume that was the intention.
- It was difficult to understand without reading very carefully.
- It really was effective how it was shown "in waves". It felt like, "but wait, there's more!" each time.
- It made me more likely to choose action G
- I thought it was very clear and concise, most prolific games are confusing and take a few read-throughs to fully comprehend

- I think this was really cool and an awesome psychological experiment
- I felt that demonstration was informative and great. It showed me how decisions (not just in this game) can multiply and affect others. The first thing that came to mind is the spread of COVID-19. The next thing that came to mind was the stock market losing value. Finally, it showed me that humans are all connected and people still deal with the impact of decisions others make.
- I DON'T THINK THE INSTRUCTIONS WERE HELPFUL
- I did more H in the beginning when the risk was lower.
- Could have been shorter
- Concise and clear

VM2-4.4 Comments on Simulator intervention

- Without the simulator I probably would have only chosen H for the first round, but after viewing the simulator I felt it would be a similar low risk to it round 2 as well.
- Using the simulator made more a lot less optimistic about getting a bonus. Even in the best possible scenario it seemed like there was still a sizeable chance of turning to purple.
- Was not helpful to me.
- This definitely had an influence on my choices.
- The simulator was really helpful because I could easily visualize what my chances of turning purple were.
- The simulator made me feel like I had less to lose, oddly enough. It made me more reckless.
- The simulator definitely influenced my strategy. I would have chosen action H for all 25 rounds had I not used it beforehand.
- The instructions for this simulator were very long. It took forever to get to the game. The instructions for the simulator could be summed up on one page. It was annoying that I had to read all these instructions when the simulator was not even difficult to use
- It was visually appealing but difficult to understand.
- It was very intuitive and easy to understand
- It was very easy to interpret, and when selecting the same or a different scenario the simulator loaded surprisingly quick.
- It was helpful to click each option multiple times.

- It was good to see the effects of different strategies in an easy-to-understand model.
- It was aesthetically pleasing.
- It felt pointless being in the study.
- It didn't change my strategy at all.
- In thought it was quite informative. I didn't think the probability was so high after 25 rounds, so I thought it was useful.
- I"m glad it was there so would could see how our actions would affect the game
- I would actually like a copy of the research paper (if that's okay) to see how the study/data plays out ...
- I think it would've been easier to view if the simulator looked like the board of dots we were shown to show the game. For instance if I saw that 89 dots were purple at the end and only 11 were blue it'd speak more to me as it's a visual graphic. I don't know that it'd influence my opinion more, but I feel I'd still get a greater sense of the outcome.
- I liked it! This was a fun experiment and I liked being able to review my risk with real time variations.
- I found this whole thing to be extremely confusing.
- Great simulator! Loved being able to see the simulations of the outcomes!
- Difficult to understand
- Easy to use; nice insight to earnings potential

VM2-4.5 Comments on Vicarious Learning intervention

- Towards the end of the rounds, it seems as if people have given up.
- This was confusing
- The more purple players the less risk I was willing to take.
- The information was useful to me in implementing my strategy–I wanted to keep pressing "H" until 1 in 4 players were purple
- The information was a little too much
- The information about previous purple players was useful but hard to actually take into account without doing the math for each choice
- Seemed like a slow increase given the possibilities.
- Seeing the number grow made me think of playing it safer.

- It's likely my group followed a similar pattern.
- It was somewhat confusing to see the chart of previous players, but it made me less risky.
- It was rather irrelevant, since the only semi-smart option was to choose G.
- It was interesting to see when it hit little plateaus in increases.
- It was handy? Told me my chances of being paired with a purple player.
- It makes it clear, "this game is a waste of your time, because at the end it's still basically a coinflip". So seeing the rise no matter what ensured I didn't care what option was picked, since it absolutely would not matter.
- It definitely made me want to take less risks when I saw that the number of purple players was increasing.
- I used this to gauge the likelihood that I was paired with someone a different color
- I think it was an interesting twist to the game/experiment. It certainly helped me to make decisions based on what I interpreted as the actions of others.
- I think it made me worry more
- I felt like this was all a game of chance and it wouldnt matter what i selected
- I am worried that they "infected" me.

VM2-4.6 Comments on Descriptive Norms intervention

- The information was interesting but didn't matter since I figured the odds were best if you went with option G every time.
- The information given helped me make guesses on what others would do, but my decisions were more influenced to primarily choose H in the beginning when there would be a smaller chance of encountering a purple player (presuming I was not already one) rather than because of the given information.
- The information about previous choices helped me slow down and think about how much I wanted to risk. This is because I was being told about how much others did risk.
- The choices of others really do make an impact
- The choices of others rarely influences my decisions
- Previous choice information didn't impact my selection at all. I knew that there was always a growing amount of purple and so my odds of being paired with a purple person were always increasing, so choosing H was increasingly risky.

- Maybe add a percentage split between G and H in order to get a more objective take on the data[5].
- it was interesting to see actual numbers although it didn't influence my decisions
- It helped understand what choice i should go with
- I would have just picked H everytime but once i saw others pick g i knew my chancers at being converted were too high so g was now safer
- I was surprised that most chose option G most of the time. Would have thought more people would be selfish in early rounds.
- I was surprised by how many people chose G. It was a larger group than I expected.
- I switched back and forth between G and H just because I was curious about the final outcome, the information didn't impact my decision at all
- I just chose H every time hoping for the max bonus.
- I don't have any more information to add. I just tried to maximize my bonus regardless of the chances of becoming purple.
- i did not use this information in making my decisions
- I chose my letter based on the information from previous participants
- This is, again, absolutely pointlessly complicated.

VM2-4.7 Comments on Injunctive Norms intervention

- While reading the directions, I had already decided to always choose G before the message popped up.
- The message was simple, but effective
- The message was reassuring without pressuring me to choose G.
- The message served as a cautionary warning for me
- The message seems pushy
- seems a bit like a mind game
- Probably helped that the message was bold and blue
- Message was helpful in my choices.
- its a nice reminder to some participants
- It's a good summary.

[5]There were 100 participants in each group.

- It would be helpful if I was having trouble understanding the rules, but I didn't feel like I was having trouble.
- It was very influential
- It was repetitive
- It was ominous and made me think about my effects on others more
- It was obvious which way that the researchers were trying to sway the game and so it had less impact.
- It was interesting to have it constantly appear
- It was a little confusing
- it was a good reminder to think of the whole picture
- It was a good reminder about how to take less risks in this game.
- It seemed like a good, altruistic push.
- It reminded me to be kind
- It reinforced my conclusion that choosing action G was the best course.
- it provided understanding
- It makes me feel forced to choose G
- It made me think twice before every round
- it made me think about the other players
- It kinda seemed like a suggestion but it was presented like a rule to follow
- It kept the player focused that they were influencing others and changing their outcomes.
- It kept me from pressing H the entire game.
- It kept me aware
- It felt like it was influencing me to not take a risk.
- it does seem like it would have skewed responses formore people to pick G since it felt like an instruction
- It clarified what was present in the data making the message easier to understand.
- I'm bad at math (I have dyscalculia), so I appreciated the bluntness/simplicity.

- I was teetering on the edge of "should I just choose H every time? It's a meaningless game and I don't really care about the bonus money", but this message made me buy into the collective mindset a bit more.
- I think it was helpful advice to beginning players of this game, to avoid risky moves while learning.
- I think it helped add perspective to the game, which most likely impacted some players' decisions.
- I mean, you could've put that at the BEGINNING of the study instructions but hey idk
- I didn't really pay attention to it. The rules were pretty self-explanatory.
- I bet this didn't change people's actions - the people who were gonna choose H chose H and the people who were gonna choose G chose G
- I already understood that choosing action G would protect our bonuses, but it is a useful message and makes it clearer to everyone what the consequences are of their actions.
- Are the versions where this message is not included?

VM2-4.8 COVID-19 comments (selection)

- The minimization of loss of human life trumps all other concerns.
- COVID-19 is a very complex pandemic to deal with. There's still a lot of gaps in information as to what it is and how it works. Vaccine will likely not be available until next year, if at all. The treatments are lacking as we do not have enough data to really make an educated decision
- If everyone would wear masks in enclosed spaces, we can slow the spread of the virus but apparently wearing masks is an infringement of freedom (which does not make sense because we are required to wear clothes in closed establishments and a mask is technically an article of clothing)
- I think it revealed how many people are just pure selfish and stupid in this country
- Humans will never learn. Every major viral pandemic sees everyone wanting to rush back. We'll have a 2nd wave and we'll have to shut down again. Such a waste and stupidity just because of %&%ing churchies and republicans
- I am personally getting tired of social distancing, I hope it is over soon.
- None, other than there's a lot of deception coming from the media, the CDC, and state health departments.
- I am a fire lieutenant, my live-in gf is a pediatric anesthesiologist. I am sure some of my answers were colored by how high-risk we both are b/c of our professions (our hours have gone way up, I worked 106 hours last week, my g worked 82

- People who are protesting the restrictions are thinking only of themselves; my grandfather almost died from covid-19 and I feel very strongly about the restrictions to protect vulnerable populations.

- It is incredibly unfortunate but I am happy with the quarantine and am very comfortable staying at home for long periods of time.

- It's brought to light a lot of existing injustices in current social systems in this country. Amazing that unemployment benefits are upped and extended for people with the ability to work, yet vulnerable populations who were previously struggling due to things like chronic illness can't get a break in their quest to be determined disabled (at least temporarily during the pandemic, when working in the public sphere presents a major health hazard for them).

- I'm frustrated to see the government inaction at the beginning of this mess, the denial later, and the greed and lunacy now. With the general public I can cut them some slack for not taking this seriously at first but now I can understand people living without income and savings can be desperate to get back to work, but I can't fathom how seeming adults who don't need to go out can't sit at home with their creature comforts and be able to ride this out. There are plenty of outlets for blowing off steam, entertainment, and socializing that don't involve putting others at risk.

- There are positives to look at through COVID-19 crisis. There should be some more positive news instead of all negative news.

- I had the COVID-19 back in December and it almost killed me, I was coughing up blood and a chunk of lung tissue, I had severe neurological issues of extreme dizziness that prevented to do any work for a few months. This virus in the real deal and it will kill you if you don't take care of yourself! Right now I am in a serious financial situation where my job is lost and I have no idea what to do at this moment and I am extremely scared!

- I hope it ends as soon as possible, in 2-3 weeks!

- There is a balance between "save lives" and "save the economy." I am not qualified to make those decisions, and I'm not sure that anyone really could be. This really is a case of being stuck between a rock and a hard place.

- The restrictions are fine but at some point we need to accept that many of us must return to living our lives with some safety guidelines in place, or the cure will become worse than the disease. Also, not to do with COVID19, but in regards to the previous questions about stealing a million dollars if I could get away with it - anyone my age with student debt who says they wouldn't is probably lying. Also, who am I stealing a million dollars from that doesn't notice such an amount missing? Jeff Bezos? A Saudi Arabian prince? If so, I should steal it and donate what I don't need to pay off my stupid student loans to those who DO need it, especially to those who need it for essentials like food or medicine... and this makes me just like Robin Hood. ;)

- I believe that GDP and other economic metrics should not be valued over human life. However, as a population we need to be vigilant that restrictions imposed that may limit or infringe upon our constitutional rights are temporary if at allowed at all.
- I'm extremely concerned about COVID-19 because I'm part of the population that is very vulnerable to it.
- Many more people in the US will die than current predictions.
- Very eye-opening to see people I used to respect acting recklessly and foolishly and believe the ramblings of our sundowning leader.
- over it at this point, life is not worth living if we all live in a bubble.
- UBI is necessary and was before the crisis to prevent this very situation from becoming dire for the majority of Americans. We NEED to use this opportunity to completely rethink and overhaul any system that wasn't working for regular Americans before this crisis and implement a Universal Basic Income RIGHT NOW to deal with the millions of jobs that have been lost and will not return. One $1200 dollar payment only stopped people from rioting for a short time. If we decide to reopen rather than extend lockdown and start paying regular people to stay home, we are going to see a spike. The spike won't subside and politicians will try to convince us, daily, that it the "curve will flatten" while people keep dying. It will take some major politicians dying before they make the decision to do what we should have done in the first place and stayed home and under lockdown until the curve has been flattened, like in New York.
- It's a weaponized hoax meant to take down our current president and reverse all his gains. China is responsible due to their need to preserve their position globally.
- make the pain end
- I want the government to give us more money and jobs. Punish the wealthy and rich billionaires and millionaires that profit off of us the working class.
- I think it's really, really disgusting how people are willing to let so many people die in order to get a haircut. I know it's frustrating to be inside for so long, and I also hate it, but how can people be so willing to let others die? People were so upset over 9/11 (and rightfully so), but now, are willing to let hundreds of thousands die. It really makes me so upset that death is a political agenda to platform war or a way to talk about an economic crisis rather than understanding how difficult it is for the people who lose loved ones.
- It's insanely overblown and is being used as an excuse for a power-grab–very successfully.
- If our forefathers could pause the terrible behemoth of the Great War for the Spanish Flu, then it seems to me we can pause the engine of Wall Street and industry for Covid-19.

- I want to work again. Willing to take a chance personally. This is affecting everyone's finances, relationships and mental health. I will do my part to prevent spreading by being responsible.
- The flu has caused more deaths, to date. I'm largely unimpressed by both the media's handling of the problem and the world in general looking to the US, like it's our job to fix their mistakes. If we were more isolationistic, this would not be a problem.
- The people on 'front lines' are so impressive. I admire them so much.
- Too many honestly. I wish that previous administrations had paid more attention and done more to prepare for what was the eventual outbreak of a dangerous pandemic. Unfortunately previous epidemics that did not turn into pandemics or were as deadly have desensitized people.
- My background is in Political Science and I have a [degree]. I always wondered, due to my background, how American would respond to something like this happening. We haven't really had something like this happen to the current group of citizens. They have been able to see other nations suffer with death, destruction, violence, hunger and chaos, but nothing like that has ever really happened here. Most Americans can see it on TV or pretend it doesn't exist. They can get lost in a steady diet of pop culture and social media carefully curating a low to non-thinking stream of infotainment. In my estimation, 80-90% of Americans prefer this type of life over anything substantial or serious. And Hollywood provides it for them. It's their drug of choice. I see that this pandemic isn't a television show or movie. It can't be paused or permanently turned off. For the first time, reality TV is all around them. And it's not scripted like most reality TV shows or edited in such a way to make them get their daily dopamine rush. COVID-19 has shown me that the USA isn't as strong as we believe ourselves to be. American Exceptionalism is a myth. Trust me, what I write, I already knew. I wonder how people feel that always blamed "the other" for being lazy feel now that they have to wait in long lines for food due to not having jobs. I wonder if they now think, "If only you'd get a job, you could live the American Dream like me." COVID-19 is like your game. It is going to impact so many people that didn't catch it in so many different ways. Our way of life has changed. I see so many people desperate to go back to the way it was before COVID-19 hit. They cannot adjust to this new reality. However, those same people expect other international people to come to the USA and immediately adjust. They expect war ravaged countries they see on TV to simply adjust and turn the corner. They expect other countries to not complain and make the changes without having a
- I like Donald Trump, but he and his government caused its massive spread in the United States.
- wish I was in New Zealand... I also wish I had a car because so many people can actually go places like hiking or just out to see views or just to go on drives but my room mates don't really like leaving (they've been on my nerves; mostly my room mate's boyfriend who moved in without asking or even telling me or my other room mate... and he's clingy and childish and a slob who expects us to clean up after him)

- The Covid-19 virus pandamic is over hyped for sure!
- I hate that the issue has become so political with democrats wanting a complete and total shutdown and republicans wanting no restrictions what so ever, and I also hate that so much misinformation is being spread. And why punish bars and restaurants and allow thousands to flock to the grocery store and Walmart with no restrictions.
- All the evidence I've seen shows that the economy started cratering when people realized there was a pandemic, and not when lockdowns were actually put into place. The economy-vs-public health is incorrect framing. The economy sucks because people are afraid and not spending money. We need to fix the public health situation to fix the economy.
- My father passed away and if social distance was enacted sooner it could be prevented
- I'm tired of talking about it

VM2-4.9 Final comment (selection)

- Very interesting survey, the questions after the game itself felt like they stretched on for a bit too long - almost like I was doing a different survey entirely.
- I thought the interactive survey with the short game was very interesting. I've never tried anything like it before and I eagerly await the results of that game.
- All of these surveys are pointless. It started with economics and decision making between blue and purple. It sway towards individual's sense of identity, then towards political opinions, then perception of coronavirus. How can you allocate data and are these secondary outcomes even beneficial to primary outcomes?
- I would be hoping to see the results of the game. I'd like to see when most people change from option H to G. I felt as though in order to make more money, I chose H in the early game and as more people became purple, I changed to G to hopefully save myself.
- I don't understand what the game had to do with the other questions...but maybe that was the point.
- Very very long, but interesting.
- Though a long survey, it was very beneficial and opened my eyes to morals about myself that I never thought of before. In addition, in incorporated a logical exercise that I enjoyed - this is due to the fact that I like brain teasers
- This survey is far too long. There are too many comprehension questions- including the multiple pages of comprehension questions related to the game. There is far too much reading material dedicated to describing game play. After which, there are too many riddle questions. Followed by, 2 surveys. One dedicated to determining your moral compass, which goes on far too long, and the other- dedicated to covid 19, that is relativity short. I suggest you restructure this survey. Focus on a single topic.

- Best designed survey I've seen in a long time on this platform.
- I hope I'm blue!

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