

S2_Rscript_R2.R

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```
rm(list=ls())
current_dir<-getwd()
setwd(current_dir)
#install and load packages
# Define a vector of package names
packages <- c('openxlsx','dplyr','tidyverse','car','psych','memisc','Hmisc','ltm','MASS',
              'lavaan','semTools','sem','mirt','eRm','mokken','CTT','correlation','compareGroups')
# Loop over the package names and install each package
for (pkg in packages) {
  if (!require(pkg, character.only = TRUE)) {
    install.packages(pkg)
    library(pkg, character.only = TRUE)
  }
}
```

```
## Loading required package: openxlsx
```

```
## Loading required package: 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
```

```
## Loading required package: tidyverse
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
```

```
## v forcats 1.0.0 v readr 2.1.4
```

```
## v ggplot2 3.4.2 v stringr 1.5.0
```

```
## v lubridate 1.9.2 v tibble 3.2.1
```

```
## v purrr 1.0.1 v tidyr 1.3.0
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
```

```
## x dplyr::lag() masks stats::lag()
```

```

## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
## Loading required package: car
##
## Loading required package: carData
##
##
## Attaching package: 'car'
##
##
## The following object is masked from 'package:purrr':
##
##     some
##
##
## The following object is masked from 'package:dplyr':
##
##     recode
##
##
## Loading required package: psych
##
##
## Attaching package: 'psych'
##
##
## The following object is masked from 'package:car':
##
##     logit
##
##
## The following objects are masked from 'package:ggplot2':
##
##     %+%, alpha
##
##
## Loading required package: memisc
##
## Loading required package: lattice
##
## Loading required package: MASS
##
##
## Attaching package: 'MASS'
##
##
## The following object is masked from 'package:dplyr':
##
##     select
##
##
## Attaching package: 'memisc'
##
##

```

```

## The following object is masked from 'package:car':
##
##   recode
##
## The following objects are masked from 'package:lubridate':
##
##   as.interval, is.interval
##
## The following object is masked from 'package:purrr':
##
##   %@%
##
## The following object is masked from 'package:tibble':
##
##   view
##
## The following object is masked from 'package:ggplot2':
##
##   syms
##
## The following objects are masked from 'package:dplyr':
##
##   collect, recode, rename, syms
##
## The following objects are masked from 'package:stats':
##
##   contr.sum, contr.treatment, contrasts
##
## The following object is masked from 'package:base':
##
##   as.array
##
## Loading required package: Hmisc
##
## Attaching package: 'Hmisc'
##
## The following objects are masked from 'package:memisc':
##
##   %nin%, html, Mean
##
## The following object is masked from 'package:psych':
##
##   describe

```

```

##
##
## The following objects are masked from 'package:dplyr':
##
##   src, summarize
##
##
## The following objects are masked from 'package:base':
##
##   format.pval, units
##
##
## Loading required package: ltm
##
## Loading required package: msm
##
## Loading required package: polycor
##
##
## Attaching package: 'polycor'
##
##
## The following object is masked from 'package:psych':
##
##   polyserial
##
##
## Attaching package: 'ltm'
##
##
## The following object is masked from 'package:psych':
##
##   factor.scores
##
##
## Loading required package: lavaan
##
## This is lavaan 0.6-15
## lavaan is FREE software! Please report any bugs.
##
##
## Attaching package: 'lavaan'
##
##
## The following object is masked from 'package:psych':
##
##   cor2cov
##
## Loading required package: semTools
##
##
##

```

```

## #####
##
## This is semTools 0.5-6
##
## All users of R (or SEM) are invited to submit functions or ideas for functions.
##
## #####
##
##
## Attaching package: 'semTools'
##
##
## The following objects are masked from 'package:psych':
##
##     reliability, skew
##
## The following object is masked from 'package:readr':
##
##     clipboard
##
## Loading required package: sem
##
##
## Attaching package: 'sem'
##
##
## The following objects are masked from 'package:lavaan':
##
##     cfa, sem
##
## Loading required package: mirt
##
## Loading required package: stats4
##
##
## Attaching package: 'mirt'
##
##
## The following object is masked from 'package:sem':
##
##     fscores
##
## The following object is masked from 'package:ltm':
##
##     Science
##
## Loading required package: eRm
##
##

```

```

## Attaching package: 'eRm'
##
##
## The following objects are masked from 'package:mirt':
##
##     itemfit, personfit
##
##
## The following object is masked from 'package:psych':
##
##     sim.rasch
##
##
## Loading required package: mokken
##
## Loading required package: poLCA
##
## Loading required package: scatterplot3d
##
##
## Attaching package: 'mokken'
##
##
## The following object is masked from 'package:memisc':
##
##     recode
##
##
## The following object is masked from 'package:psych':
##
##     ICC
##
##
## The following object is masked from 'package:car':
##
##     recode
##
##
## The following object is masked from 'package:dplyr':
##
##     recode
##
##
## Loading required package: CTT
##
##
## Attaching package: 'CTT'
##
##
## The following object is masked from 'package:semTools':
##
##     reliability
##
##

```

```
## The following object is masked from 'package:polycor':
##
##     polyserial
##
## The following objects are masked from 'package:psych':
##
##     polyserial, reliability
##
## Loading required package: correlation
##
## Loading required package: compareGroups
```

```
#load datasets
combined_536<-read.xlsx("S1_dataset_R2.xlsx")
#=====
#Descriptive analysis
#Calculate the mean and standard deviation of age split by Source
mean_sd_age<-aggregate(Age ~ Source, data = combined_536, FUN = function(x) c(mean = mean(x), sd = sd(x)))
# Calculate the frequency of gender split by Source
Frequency_gender <- aggregate(list(Frequency = combined_536$Sex), by = list(Source = combined_536$Source), FUN = function(x) c(Frequency.0 = sum(x=="F"), Frequency.1 = sum(x=="M")))
# Calculate the frequency of education split by Source
Frequency_education <- aggregate(list(Frequency = combined_536$Educational_level), by = list(Source = combined_536$Source), FUN = function(x) c(Frequency.0 = sum(x=="High School", x=="Some College", x=="Bachelor's", x=="Master's", x=="PhD"), Frequency.1 = sum(x=="Other")))
#Calculate the mean and standard deviation of ISI split by Source
mean_sd_ISI<-aggregate(ISI_total ~ Source, data = combined_536, FUN = function(x) c(mean = mean(x), sd = sd(x)))
#Calculate the mean and standard deviation of PSQI split by Source
mean_sd_PSQI<-aggregate(PSQI_Global ~ Source, data = combined_536, FUN = function(x) c(mean = mean(x), sd = sd(x)))
#Print the results
print(mean_sd_age)
```

```
##      Source Age.mean Age.sd
## 1 Sample 1 29.308571 12.445258
## 2 Sample 2 30.715596  6.571673
## 3 Sample 3 27.500000  9.205071
```

```
print(Frequency_gender)
```

```
##      Source Frequency.0 Frequency.1
## 1 Sample 1         108         243
## 2 Sample 2          24          85
## 3 Sample 3          21          54
```

```
print(Frequency_education)
```

```
##      Source Frequency.0 Frequency.1
## 1 Sample 1          44         307
## 2 Sample 2          15          94
## 3 Sample 3          13          63
```

```
print(mean_sd_ISI)
```

```
##      Source ISI_total.mean ISI_total.sd
## 1 Sample 1      13.754986      3.554847
## 2 Sample 3      14.407895      3.809384
```

```
print(mean_sd_PSQI)
```

```
##      Source PSQI_Global.mean PSQI_Global.sd
## 1 Sample 1      8.663818      2.762158
## 2 Sample 2      9.412844      2.517388
## 3 Sample 3      8.802632      2.833230
```

```
#=====
## Mokken scale analysis

# include only SRBQ items
new_srbq_clin <- combined_536 %>% dplyr::select(starts_with("SRBQ_"))

# check for outliers
mydata_n <- data.matrix(new_srbq_clin)
xPlus_n <- rowSums(new_srbq_clin)
gPlus_n <- check.errors(new_srbq_clin, TRUE, FALSE)$Gplus
oPlus_n <- check.errors(new_srbq_clin, TRUE, TRUE)$Oplus
Q3_n <- summary(gPlus_n)[[5]]
IQR_n <- Q3_n - summary(gPlus_n)[[2]]
outlier_n <- gPlus_n > Q3_n + 1.5 * IQR_n
new_srbq_xout <- new_srbq_clin[!outlier_n,]

# sensitivity analysis -----
coefH(mydata_n[!outlier_n,])$Hi
```

```
## $Hij
##      SRBQ_1 se      SRBQ_2 se      SRBQ_3 se      SRBQ_4 se
## SRBQ_1      0.099 (0.051) 0.099 (0.051) 0.216 (0.047) 0.212 (0.053)
## SRBQ_2 0.099 (0.051)      0.097 (0.048)      0.145 (0.052)
## SRBQ_3 0.216 (0.047) 0.097 (0.048)      0.155 (0.052)
## SRBQ_4 0.212 (0.053) 0.145 (0.052) 0.155 (0.052)
## SRBQ_5 0.077 (0.053) 0.231 (0.050) 0.092 (0.051) 0.242 (0.047)
## SRBQ_6 0.123 (0.054) 0.120 (0.051) 0.179 (0.050) 0.285 (0.050)
## SRBQ_7 0.155 (0.053) 0.224 (0.050) 0.098 (0.052) 0.274 (0.052)
## SRBQ_8 0.450 (0.047) 0.079 (0.052) 0.213 (0.050) 0.160 (0.052)
## SRBQ_9 0.085 (0.054) 0.231 (0.050) 0.154 (0.051) 0.237 (0.045)
## SRBQ_10 0.258 (0.051) 0.139 (0.050) 0.361 (0.048) 0.155 (0.048)
## SRBQ_11 0.078 (0.050) 0.187 (0.047) 0.121 (0.050) 0.183 (0.049)
## SRBQ_12 0.355 (0.045) 0.086 (0.050) 0.132 (0.051) 0.114 (0.048)
## SRBQ_13 0.185 (0.055) 0.080 (0.054) 0.205 (0.051) 0.027 (0.056)
## SRBQ_14 0.116 (0.054) 0.269 (0.051) 0.102 (0.050) 0.165 (0.049)
## SRBQ_15 0.208 (0.066) 0.100 (0.049) 0.105 (0.058) 0.216 (0.054)
## SRBQ_16 0.084 (0.047) 0.007 (0.049) 0.039 (0.047) 0.026 (0.051)
## SRBQ_17 0.238 (0.054) 0.044 (0.053) 0.166 (0.058) 0.187 (0.052)
## SRBQ_18 0.366 (0.048) 0.181 (0.048) 0.158 (0.048) 0.169 (0.050)
```


##	SRBQ_19	0.047	(0.052)	0.375	(0.047)	0.088	(0.054)	0.225	(0.048)
##	SRBQ_20	0.114	(0.053)	0.216	(0.053)	0.058	(0.053)	0.091	(0.049)
##	SRBQ_21	0.050	(0.052)	0.493	(0.042)	0.079	(0.053)	0.183	(0.049)
##	SRBQ_22	0.219	(0.052)	0.256	(0.050)	0.129	(0.052)	0.279	(0.048)
##	SRBQ_23	0.063	(0.053)	0.173	(0.052)	0.132	(0.050)	0.076	(0.051)
##	SRBQ_24	0.290	(0.049)	0.090	(0.051)	0.152	(0.050)	0.140	(0.049)
##	SRBQ_25	0.004	(0.051)	0.317	(0.049)	-0.008	(0.050)	0.175	(0.049)
##	SRBQ_26	0.222	(0.054)	0.238	(0.051)	0.144	(0.052)	0.353	(0.046)
##	SRBQ_27	0.158	(0.048)	0.182	(0.051)	0.109	(0.049)	0.286	(0.051)
##	SRBQ_28	0.242	(0.052)	0.185	(0.050)	0.112	(0.051)	0.363	(0.048)
##	SRBQ_29	0.233	(0.055)	0.052	(0.051)	0.130	(0.051)	0.210	(0.050)
##	SRBQ_30	0.272	(0.049)	0.125	(0.048)	0.513	(0.043)	0.097	(0.053)
##	SRBQ_31	0.211	(0.053)	0.209	(0.049)	0.266	(0.049)	0.255	(0.051)
##	SRBQ_32	0.187	(0.053)	0.132	(0.051)	0.248	(0.051)	0.194	(0.053)
##	SRBQ_5	se		SRBQ_6	se	SRBQ_7	se	SRBQ_8	se
##	SRBQ_1	0.077	(0.053)	0.123	(0.054)	0.155	(0.053)	0.450	(0.047)
##	SRBQ_2	0.231	(0.050)	0.120	(0.051)	0.224	(0.050)	0.079	(0.052)
##	SRBQ_3	0.092	(0.051)	0.179	(0.050)	0.098	(0.052)	0.213	(0.050)
##	SRBQ_4	0.242	(0.047)	0.285	(0.050)	0.274	(0.052)	0.160	(0.052)
##	SRBQ_5			0.298	(0.044)	0.348	(0.053)	0.195	(0.051)
##	SRBQ_6	0.298	(0.044)			0.317	(0.049)	0.132	(0.051)
##	SRBQ_7	0.348	(0.053)	0.317	(0.049)			0.186	(0.053)
##	SRBQ_8	0.195	(0.051)	0.132	(0.051)	0.186	(0.053)		
##	SRBQ_9	0.342	(0.045)	0.247	(0.049)	0.352	(0.047)	0.197	(0.049)
##	SRBQ_10	0.127	(0.051)	0.216	(0.046)	0.233	(0.054)	0.245	(0.050)
##	SRBQ_11	0.213	(0.050)	0.410	(0.050)	0.265	(0.051)	0.104	(0.053)
##	SRBQ_12	0.230	(0.046)	0.155	(0.049)	0.103	(0.049)	0.332	(0.046)
##	SRBQ_13	0.170	(0.052)	0.063	(0.053)	0.112	(0.049)	0.373	(0.047)
##	SRBQ_14	0.383	(0.048)	0.237	(0.050)	0.293	(0.046)	0.212	(0.049)
##	SRBQ_15	0.274	(0.062)	0.277	(0.052)	0.090	(0.069)	0.140	(0.065)
##	SRBQ_16	0.150	(0.051)	0.050	(0.049)	0.005	(0.051)	0.408	(0.046)
##	SRBQ_17	0.165	(0.052)	0.159	(0.051)	0.084	(0.057)	0.207	(0.051)
##	SRBQ_18	0.161	(0.050)	0.174	(0.048)	0.108	(0.050)	0.327	(0.048)
##	SRBQ_19	0.490	(0.045)	0.267	(0.049)	0.309	(0.048)	0.172	(0.049)
##	SRBQ_20	0.272	(0.048)	0.186	(0.047)	0.313	(0.049)	0.169	(0.049)
##	SRBQ_21	0.317	(0.047)	0.224	(0.051)	0.342	(0.044)	0.077	(0.052)
##	SRBQ_22	0.305	(0.047)	0.254	(0.051)	0.324	(0.046)	0.280	(0.046)
##	SRBQ_23	0.131	(0.050)	0.221	(0.049)	0.154	(0.049)	-0.007	(0.051)
##	SRBQ_24	0.116	(0.048)	0.203	(0.048)	0.098	(0.048)	0.209	(0.049)
##	SRBQ_25	0.359	(0.047)	0.196	(0.049)	0.219	(0.047)	0.170	(0.050)
##	SRBQ_26	0.214	(0.047)	0.352	(0.043)	0.220	(0.052)	0.066	(0.058)
##	SRBQ_27	0.262	(0.049)	0.364	(0.045)	0.275	(0.051)	0.146	(0.056)
##	SRBQ_28	0.186	(0.050)	0.299	(0.044)	0.227	(0.052)	0.148	(0.055)
##	SRBQ_29	0.169	(0.050)	0.175	(0.055)	0.122	(0.057)	0.083	(0.053)
##	SRBQ_30	0.152	(0.050)	0.167	(0.047)	0.158	(0.050)	0.238	(0.051)
##	SRBQ_31	0.218	(0.050)	0.340	(0.048)	0.250	(0.050)	0.067	(0.053)
##	SRBQ_32	0.158	(0.051)	0.129	(0.051)	0.168	(0.047)	0.174	(0.052)
##	SRBQ_9	se		SRBQ_10	se	SRBQ_11	se	SRBQ_12	se
##	SRBQ_1	0.085	(0.054)	0.258	(0.051)	0.078	(0.050)	0.355	(0.045)
##	SRBQ_2	0.231	(0.050)	0.139	(0.050)	0.187	(0.047)	0.086	(0.050)
##	SRBQ_3	0.154	(0.051)	0.361	(0.048)	0.121	(0.050)	0.132	(0.051)
##	SRBQ_4	0.237	(0.045)	0.155	(0.048)	0.183	(0.049)	0.114	(0.048)
##	SRBQ_5	0.342	(0.045)	0.127	(0.051)	0.213	(0.050)	0.230	(0.046)
##	SRBQ_6	0.247	(0.049)	0.216	(0.046)	0.410	(0.050)	0.155	(0.049)

##	SRBQ_7	0.352	(0.047)	0.233	(0.054)	0.265	(0.051)	0.103	(0.049)
##	SRBQ_8	0.197	(0.049)	0.245	(0.050)	0.104	(0.053)	0.332	(0.046)
##	SRBQ_9			0.174	(0.050)	0.269	(0.051)	0.099	(0.051)
##	SRBQ_10	0.174	(0.050)			0.205	(0.047)	0.181	(0.049)
##	SRBQ_11	0.269	(0.051)	0.205	(0.047)			0.088	(0.054)
##	SRBQ_12	0.099	(0.051)	0.181	(0.049)	0.088	(0.054)		
##	SRBQ_13	0.115	(0.054)	0.236	(0.051)	0.039	(0.054)	0.284	(0.047)
##	SRBQ_14	0.444	(0.045)	0.184	(0.053)	0.236	(0.052)	0.213	(0.050)
##	SRBQ_15	0.193	(0.062)	0.179	(0.056)	0.334	(0.054)	0.088	(0.069)
##	SRBQ_16	0.005	(0.054)	0.100	(0.051)	-0.033	(0.050)	0.179	(0.048)
##	SRBQ_17	0.147	(0.056)	0.239	(0.054)	0.190	(0.055)	0.227	(0.053)
##	SRBQ_18	0.083	(0.046)	0.307	(0.048)	0.126	(0.053)	0.387	(0.043)
##	SRBQ_19	0.315	(0.047)	0.153	(0.052)	0.228	(0.053)	0.185	(0.049)
##	SRBQ_20	0.281	(0.047)	0.136	(0.049)	0.012	(0.053)	0.226	(0.050)
##	SRBQ_21	0.334	(0.047)	0.201	(0.054)	0.275	(0.050)	0.208	(0.051)
##	SRBQ_22	0.548	(0.036)	0.213	(0.051)	0.298	(0.054)	0.156	(0.050)
##	SRBQ_23	0.076	(0.050)	0.187	(0.048)	0.196	(0.052)	0.057	(0.051)
##	SRBQ_24	0.142	(0.051)	0.248	(0.046)	0.162	(0.050)	0.441	(0.043)
##	SRBQ_25	0.386	(0.046)	0.192	(0.053)	0.242	(0.052)	0.165	(0.050)
##	SRBQ_26	0.275	(0.048)	0.246	(0.048)	0.350	(0.050)	0.199	(0.049)
##	SRBQ_27	0.364	(0.048)	0.248	(0.049)	0.316	(0.045)	0.179	(0.049)
##	SRBQ_28	0.255	(0.050)	0.207	(0.051)	0.336	(0.049)	0.187	(0.053)
##	SRBQ_29	0.133	(0.054)	0.108	(0.055)	0.236	(0.053)	0.101	(0.054)
##	SRBQ_30	0.069	(0.052)	0.557	(0.039)	0.130	(0.051)	0.222	(0.049)
##	SRBQ_31	0.204	(0.050)	0.323	(0.048)	0.371	(0.050)	0.144	(0.050)
##	SRBQ_32	0.181	(0.054)	0.319	(0.049)	0.162	(0.055)	0.160	(0.049)
##	SRBQ_13	se		SRBQ_14	se	SRBQ_15	se	SRBQ_16	se
##	SRBQ_1	0.185	(0.055)	0.116	(0.054)	0.208	(0.066)	0.084	(0.047)
##	SRBQ_2	0.080	(0.054)	0.269	(0.051)	0.100	(0.049)	0.007	(0.049)
##	SRBQ_3	0.205	(0.051)	0.102	(0.050)	0.105	(0.058)	0.039	(0.047)
##	SRBQ_4	0.027	(0.056)	0.165	(0.049)	0.216	(0.054)	0.026	(0.051)
##	SRBQ_5	0.170	(0.052)	0.383	(0.048)	0.274	(0.062)	0.150	(0.051)
##	SRBQ_6	0.063	(0.053)	0.237	(0.050)	0.277	(0.052)	0.050	(0.049)
##	SRBQ_7	0.112	(0.049)	0.293	(0.046)	0.090	(0.069)	0.005	(0.051)
##	SRBQ_8	0.373	(0.047)	0.212	(0.049)	0.140	(0.065)	0.408	(0.046)
##	SRBQ_9	0.115	(0.054)	0.444	(0.045)	0.193	(0.062)	0.005	(0.054)
##	SRBQ_10	0.236	(0.051)	0.184	(0.053)	0.179	(0.056)	0.100	(0.051)
##	SRBQ_11	0.039	(0.054)	0.236	(0.052)	0.334	(0.054)	-0.033	(0.050)
##	SRBQ_12	0.284	(0.047)	0.213	(0.050)	0.088	(0.069)	0.179	(0.048)
##	SRBQ_13			0.267	(0.050)	-0.050	(0.070)	0.150	(0.052)
##	SRBQ_14	0.267	(0.050)			0.330	(0.056)	0.026	(0.052)
##	SRBQ_15	-0.050	(0.070)	0.330	(0.056)			0.042	(0.052)
##	SRBQ_16	0.150	(0.052)	0.026	(0.052)	0.042	(0.052)		
##	SRBQ_17	0.155	(0.058)	0.150	(0.054)	0.238	(0.057)	0.259	(0.056)
##	SRBQ_18	0.287	(0.045)	0.258	(0.045)	0.251	(0.063)	0.100	(0.051)
##	SRBQ_19	0.187	(0.051)	0.359	(0.045)	0.333	(0.055)	0.120	(0.053)
##	SRBQ_20	0.217	(0.053)	0.497	(0.044)	-0.022	(0.067)	0.131	(0.054)
##	SRBQ_21	0.143	(0.051)	0.390	(0.043)	0.210	(0.050)	0.042	(0.050)
##	SRBQ_22	0.158	(0.052)	0.378	(0.044)	0.263	(0.057)	0.170	(0.053)
##	SRBQ_23	0.016	(0.050)	0.155	(0.048)	0.129	(0.062)	-0.142	(0.050)
##	SRBQ_24	0.185	(0.051)	0.175	(0.047)	0.208	(0.062)	0.074	(0.051)
##	SRBQ_25	0.109	(0.048)	0.412	(0.043)	0.251	(0.060)	0.018	(0.048)
##	SRBQ_26	0.026	(0.058)	0.236	(0.055)	0.289	(0.057)	-0.019	(0.052)
##	SRBQ_27	0.026	(0.055)	0.338	(0.051)	0.242	(0.051)	0.060	(0.049)

##	SRBQ_28	0.088	(0.055)	0.277	(0.050)	0.244	(0.057)	0.070	(0.048)
##	SRBQ_29	0.127	(0.051)	0.134	(0.055)	0.443	(0.056)	0.015	(0.053)
##	SRBQ_30	0.187	(0.048)	0.051	(0.052)	0.139	(0.053)	0.061	(0.047)
##	SRBQ_31	0.096	(0.050)	0.132	(0.049)	0.204	(0.057)	0.008	(0.051)
##	SRBQ_32	0.335	(0.047)	0.165	(0.048)	0.200	(0.064)	0.095	(0.051)
##	SRBQ_17	se		SRBQ_18	se	SRBQ_19	se	SRBQ_20	se
##	SRBQ_1	0.238	(0.054)	0.366	(0.048)	0.047	(0.052)	0.114	(0.053)
##	SRBQ_2	0.044	(0.053)	0.181	(0.048)	0.375	(0.047)	0.216	(0.053)
##	SRBQ_3	0.166	(0.058)	0.158	(0.048)	0.088	(0.054)	0.058	(0.053)
##	SRBQ_4	0.187	(0.052)	0.169	(0.050)	0.225	(0.048)	0.091	(0.049)
##	SRBQ_5	0.165	(0.052)	0.161	(0.050)	0.490	(0.045)	0.272	(0.048)
##	SRBQ_6	0.159	(0.051)	0.174	(0.048)	0.267	(0.049)	0.186	(0.047)
##	SRBQ_7	0.084	(0.057)	0.108	(0.050)	0.309	(0.048)	0.313	(0.049)
##	SRBQ_8	0.207	(0.051)	0.327	(0.048)	0.172	(0.049)	0.169	(0.049)
##	SRBQ_9	0.147	(0.056)	0.083	(0.046)	0.315	(0.047)	0.281	(0.047)
##	SRBQ_10	0.239	(0.054)	0.307	(0.048)	0.153	(0.052)	0.136	(0.049)
##	SRBQ_11	0.190	(0.055)	0.126	(0.053)	0.228	(0.053)	0.012	(0.053)
##	SRBQ_12	0.227	(0.053)	0.387	(0.043)	0.185	(0.049)	0.226	(0.050)
##	SRBQ_13	0.155	(0.058)	0.287	(0.045)	0.187	(0.051)	0.217	(0.053)
##	SRBQ_14	0.150	(0.054)	0.258	(0.045)	0.359	(0.045)	0.497	(0.044)
##	SRBQ_15	0.238	(0.057)	0.251	(0.063)	0.333	(0.055)	-0.022	(0.067)
##	SRBQ_16	0.259	(0.056)	0.100	(0.051)	0.120	(0.053)	0.131	(0.054)
##	SRBQ_17			0.308	(0.046)	0.198	(0.057)	0.036	(0.053)
##	SRBQ_18	0.308	(0.046)			0.262	(0.047)	0.159	(0.049)
##	SRBQ_19	0.198	(0.057)	0.262	(0.047)			0.321	(0.048)
##	SRBQ_20	0.036	(0.053)	0.159	(0.049)	0.321	(0.048)		
##	SRBQ_21	0.141	(0.055)	0.197	(0.049)	0.431	(0.045)	0.372	(0.048)
##	SRBQ_22	0.236	(0.053)	0.174	(0.048)	0.288	(0.047)	0.193	(0.051)
##	SRBQ_23	0.099	(0.055)	0.145	(0.047)	0.187	(0.050)	-0.001	(0.054)
##	SRBQ_24	0.213	(0.054)	0.446	(0.042)	0.177	(0.048)	0.145	(0.052)
##	SRBQ_25	0.043	(0.052)	0.257	(0.045)	0.359	(0.044)	0.335	(0.049)
##	SRBQ_26	0.278	(0.055)	0.264	(0.047)	0.295	(0.050)	0.102	(0.049)
##	SRBQ_27	0.222	(0.053)	0.244	(0.047)	0.341	(0.052)	0.193	(0.048)
##	SRBQ_28	0.261	(0.052)	0.331	(0.045)	0.294	(0.049)	0.098	(0.049)
##	SRBQ_29	0.229	(0.049)	0.124	(0.050)	0.188	(0.053)	-0.058	(0.054)
##	SRBQ_30	0.141	(0.053)	0.309	(0.046)	0.115	(0.050)	0.057	(0.053)
##	SRBQ_31	0.234	(0.051)	0.182	(0.049)	0.248	(0.045)	0.081	(0.055)
##	SRBQ_32	0.287	(0.054)	0.164	(0.050)	0.165	(0.050)	0.038	(0.054)
##	SRBQ_21	se		SRBQ_22	se	SRBQ_23	se	SRBQ_24	se
##	SRBQ_1	0.050	(0.052)	0.219	(0.052)	0.063	(0.053)	0.290	(0.049)
##	SRBQ_2	0.493	(0.042)	0.256	(0.050)	0.173	(0.052)	0.090	(0.051)
##	SRBQ_3	0.079	(0.053)	0.129	(0.052)	0.132	(0.050)	0.152	(0.050)
##	SRBQ_4	0.183	(0.049)	0.279	(0.048)	0.076	(0.051)	0.140	(0.049)
##	SRBQ_5	0.317	(0.047)	0.305	(0.047)	0.131	(0.050)	0.116	(0.048)
##	SRBQ_6	0.224	(0.051)	0.254	(0.051)	0.221	(0.049)	0.203	(0.048)
##	SRBQ_7	0.342	(0.044)	0.324	(0.046)	0.154	(0.049)	0.098	(0.048)
##	SRBQ_8	0.077	(0.052)	0.280	(0.046)	-0.007	(0.051)	0.209	(0.049)
##	SRBQ_9	0.334	(0.047)	0.548	(0.036)	0.076	(0.050)	0.142	(0.051)
##	SRBQ_10	0.201	(0.054)	0.213	(0.051)	0.187	(0.048)	0.248	(0.046)
##	SRBQ_11	0.275	(0.050)	0.298	(0.054)	0.196	(0.052)	0.162	(0.050)
##	SRBQ_12	0.208	(0.051)	0.156	(0.050)	0.057	(0.051)	0.441	(0.043)
##	SRBQ_13	0.143	(0.051)	0.158	(0.052)	0.016	(0.050)	0.185	(0.051)
##	SRBQ_14	0.390	(0.043)	0.378	(0.044)	0.155	(0.048)	0.175	(0.047)
##	SRBQ_15	0.210	(0.050)	0.263	(0.057)	0.129	(0.062)	0.208	(0.062)

##	SRBQ_16	0.042	(0.050)	0.170	(0.053)	-0.142	(0.050)	0.074	(0.051)
##	SRBQ_17	0.141	(0.055)	0.236	(0.053)	0.099	(0.055)	0.213	(0.054)
##	SRBQ_18	0.197	(0.049)	0.174	(0.048)	0.145	(0.047)	0.446	(0.042)
##	SRBQ_19	0.431	(0.045)	0.288	(0.047)	0.187	(0.050)	0.177	(0.048)
##	SRBQ_20	0.372	(0.048)	0.193	(0.051)	-0.001	(0.054)	0.145	(0.052)
##	SRBQ_21			0.400	(0.047)	0.137	(0.051)	0.165	(0.047)
##	SRBQ_22	0.400	(0.047)			0.178	(0.049)	0.193	(0.050)
##	SRBQ_23	0.137	(0.051)	0.178	(0.049)			0.168	(0.049)
##	SRBQ_24	0.165	(0.047)	0.193	(0.050)	0.168	(0.049)		
##	SRBQ_25	0.369	(0.044)	0.456	(0.042)	0.178	(0.048)	0.248	(0.047)
##	SRBQ_26	0.307	(0.052)	0.365	(0.053)	0.147	(0.053)	0.238	(0.051)
##	SRBQ_27	0.318	(0.049)	0.410	(0.048)	0.175	(0.048)	0.281	(0.048)
##	SRBQ_28	0.278	(0.053)	0.295	(0.052)	0.181	(0.050)	0.349	(0.049)
##	SRBQ_29	0.107	(0.052)	0.202	(0.055)	0.154	(0.051)	0.176	(0.051)
##	SRBQ_30	0.150	(0.050)	0.134	(0.053)	0.096	(0.051)	0.148	(0.052)
##	SRBQ_31	0.268	(0.050)	0.259	(0.048)	0.235	(0.052)	0.187	(0.048)
##	SRBQ_32	0.135	(0.053)	0.244	(0.051)	0.106	(0.050)	0.207	(0.051)
##	SRBQ_25	se		SRBQ_26	se	SRBQ_27	se	SRBQ_28	se
##	SRBQ_1	0.004	(0.051)	0.222	(0.054)	0.158	(0.048)	0.242	(0.052)
##	SRBQ_2	0.317	(0.049)	0.238	(0.051)	0.182	(0.051)	0.185	(0.050)
##	SRBQ_3	-0.008	(0.050)	0.144	(0.052)	0.109	(0.049)	0.112	(0.051)
##	SRBQ_4	0.175	(0.049)	0.353	(0.046)	0.286	(0.051)	0.363	(0.048)
##	SRBQ_5	0.359	(0.047)	0.214	(0.047)	0.262	(0.049)	0.186	(0.050)
##	SRBQ_6	0.196	(0.049)	0.352	(0.043)	0.364	(0.045)	0.299	(0.044)
##	SRBQ_7	0.219	(0.047)	0.220	(0.052)	0.275	(0.051)	0.227	(0.052)
##	SRBQ_8	0.170	(0.050)	0.066	(0.058)	0.146	(0.056)	0.148	(0.055)
##	SRBQ_9	0.386	(0.046)	0.275	(0.048)	0.364	(0.048)	0.255	(0.050)
##	SRBQ_10	0.192	(0.053)	0.246	(0.048)	0.248	(0.049)	0.207	(0.051)
##	SRBQ_11	0.242	(0.052)	0.350	(0.050)	0.316	(0.045)	0.336	(0.049)
##	SRBQ_12	0.165	(0.050)	0.199	(0.049)	0.179	(0.049)	0.187	(0.053)
##	SRBQ_13	0.109	(0.048)	0.026	(0.058)	0.026	(0.055)	0.088	(0.055)
##	SRBQ_14	0.412	(0.043)	0.236	(0.055)	0.338	(0.051)	0.277	(0.050)
##	SRBQ_15	0.251	(0.060)	0.289	(0.057)	0.242	(0.051)	0.244	(0.057)
##	SRBQ_16	0.018	(0.048)	-0.019	(0.052)	0.060	(0.049)	0.070	(0.048)
##	SRBQ_17	0.043	(0.052)	0.278	(0.055)	0.222	(0.053)	0.261	(0.052)
##	SRBQ_18	0.257	(0.045)	0.264	(0.047)	0.244	(0.047)	0.331	(0.045)
##	SRBQ_19	0.359	(0.044)	0.295	(0.050)	0.341	(0.052)	0.294	(0.049)
##	SRBQ_20	0.335	(0.049)	0.102	(0.049)	0.193	(0.048)	0.098	(0.049)
##	SRBQ_21	0.369	(0.044)	0.307	(0.052)	0.318	(0.049)	0.278	(0.053)
##	SRBQ_22	0.456	(0.042)	0.365	(0.053)	0.410	(0.048)	0.295	(0.052)
##	SRBQ_23	0.178	(0.048)	0.147	(0.053)	0.175	(0.048)	0.181	(0.050)
##	SRBQ_24	0.248	(0.047)	0.238	(0.051)	0.281	(0.048)	0.349	(0.049)
##	SRBQ_25			0.270	(0.055)	0.344	(0.050)	0.265	(0.051)
##	SRBQ_26	0.270	(0.055)			0.592	(0.040)	0.576	(0.041)
##	SRBQ_27	0.344	(0.050)	0.592	(0.040)			0.548	(0.041)
##	SRBQ_28	0.265	(0.051)	0.576	(0.041)	0.548	(0.041)		
##	SRBQ_29	0.136	(0.053)	0.223	(0.052)	0.252	(0.053)	0.297	(0.051)
##	SRBQ_30	0.099	(0.051)	0.249	(0.051)	0.193	(0.047)	0.256	(0.050)
##	SRBQ_31	0.174	(0.050)	0.468	(0.050)	0.404	(0.049)	0.509	(0.045)
##	SRBQ_32	0.061	(0.048)	0.255	(0.051)	0.161	(0.054)	0.283	(0.048)
##	SRBQ_29	se		SRBQ_30	se	SRBQ_31	se	SRBQ_32	se
##	SRBQ_1	0.233	(0.055)	0.272	(0.049)	0.211	(0.053)	0.187	(0.053)
##	SRBQ_2	0.052	(0.051)	0.125	(0.048)	0.209	(0.049)	0.132	(0.051)
##	SRBQ_3	0.130	(0.051)	0.513	(0.043)	0.266	(0.049)	0.248	(0.051)

```

## SRBQ_4    0.210 (0.050) 0.097 (0.053) 0.255 (0.051) 0.194 (0.053)
## SRBQ_5    0.169 (0.050) 0.152 (0.050) 0.218 (0.050) 0.158 (0.051)
## SRBQ_6    0.175 (0.055) 0.167 (0.047) 0.340 (0.048) 0.129 (0.051)
## SRBQ_7    0.122 (0.057) 0.158 (0.050) 0.250 (0.050) 0.168 (0.047)
## SRBQ_8    0.083 (0.053) 0.238 (0.051) 0.067 (0.053) 0.174 (0.052)
## SRBQ_9    0.133 (0.054) 0.069 (0.052) 0.204 (0.050) 0.181 (0.054)
## SRBQ_10   0.108 (0.055) 0.557 (0.039) 0.323 (0.048) 0.319 (0.049)
## SRBQ_11   0.236 (0.053) 0.130 (0.051) 0.371 (0.050) 0.162 (0.055)
## SRBQ_12   0.101 (0.054) 0.222 (0.049) 0.144 (0.050) 0.160 (0.049)
## SRBQ_13   0.127 (0.051) 0.187 (0.048) 0.096 (0.050) 0.335 (0.047)
## SRBQ_14   0.134 (0.055) 0.051 (0.052) 0.132 (0.049) 0.165 (0.048)
## SRBQ_15   0.443 (0.056) 0.139 (0.053) 0.204 (0.057) 0.200 (0.064)
## SRBQ_16   0.015 (0.053) 0.061 (0.047) 0.008 (0.051) 0.095 (0.051)
## SRBQ_17   0.229 (0.049) 0.141 (0.053) 0.234 (0.051) 0.287 (0.054)
## SRBQ_18   0.124 (0.050) 0.309 (0.046) 0.182 (0.049) 0.164 (0.050)
## SRBQ_19   0.188 (0.053) 0.115 (0.050) 0.248 (0.045) 0.165 (0.050)
## SRBQ_20   -0.058 (0.054) 0.057 (0.053) 0.081 (0.055) 0.038 (0.054)
## SRBQ_21   0.107 (0.052) 0.150 (0.050) 0.268 (0.050) 0.135 (0.053)
## SRBQ_22   0.202 (0.055) 0.134 (0.053) 0.259 (0.048) 0.244 (0.051)
## SRBQ_23   0.154 (0.051) 0.096 (0.051) 0.235 (0.052) 0.106 (0.050)
## SRBQ_24   0.176 (0.051) 0.148 (0.052) 0.187 (0.048) 0.207 (0.051)
## SRBQ_25   0.136 (0.053) 0.099 (0.051) 0.174 (0.050) 0.061 (0.048)
## SRBQ_26   0.223 (0.052) 0.249 (0.051) 0.468 (0.050) 0.255 (0.051)
## SRBQ_27   0.252 (0.053) 0.193 (0.047) 0.404 (0.049) 0.161 (0.054)
## SRBQ_28   0.297 (0.051) 0.256 (0.050) 0.509 (0.045) 0.283 (0.048)
## SRBQ_29           0.230 (0.047) 0.359 (0.046) 0.253 (0.053)
## SRBQ_30   0.230 (0.047)           0.416 (0.046) 0.296 (0.046)
## SRBQ_31   0.359 (0.046) 0.416 (0.046)           0.330 (0.044)
## SRBQ_32   0.253 (0.053) 0.296 (0.046) 0.330 (0.044)
##
## $Hi
##      Item H se
## SRBQ_1    0.183 (0.025)
## SRBQ_2    0.172 (0.022)
## SRBQ_3    0.154 (0.023)
## SRBQ_4    0.188 (0.022)
## SRBQ_5    0.225 (0.021)
## SRBQ_6    0.219 (0.022)
## SRBQ_7    0.205 (0.023)
## SRBQ_8    0.194 (0.023)
## SRBQ_9    0.221 (0.023)
## SRBQ_10   0.223 (0.023)
## SRBQ_11   0.202 (0.025)
## SRBQ_12   0.193 (0.022)
## SRBQ_13   0.154 (0.024)
## SRBQ_14   0.242 (0.023)
## SRBQ_15   0.203 (0.029)
## SRBQ_16   0.073 (0.025)
## SRBQ_17   0.188 (0.026)
## SRBQ_18   0.228 (0.020)
## SRBQ_19   0.247 (0.022)
## SRBQ_20   0.161 (0.024)
## SRBQ_21   0.234 (0.022)
## SRBQ_22   0.263 (0.022)

```

```
## SRBQ_23 0.122 (0.024)
## SRBQ_24 0.205 (0.022)
## SRBQ_25 0.217 (0.022)
## SRBQ_26 0.259 (0.024)
## SRBQ_27 0.264 (0.022)
## SRBQ_28 0.266 (0.023)
## SRBQ_29 0.173 (0.027)
## SRBQ_30 0.196 (0.022)
## SRBQ_31 0.244 (0.022)
## SRBQ_32 0.193 (0.023)
##
## $H
## Scale H se
## 0.203 (0.015)
```

```
## Item H se
## SRBQ_1 0.183 (0.025)
## SRBQ_2 0.172 (0.022)
## SRBQ_3 0.154 (0.023)
## SRBQ_4 0.188 (0.022)
## SRBQ_5 0.225 (0.021)
## SRBQ_6 0.219 (0.022)
## SRBQ_7 0.205 (0.023)
## SRBQ_8 0.194 (0.023)
## SRBQ_9 0.221 (0.023)
## SRBQ_10 0.223 (0.023)
## SRBQ_11 0.202 (0.025)
## SRBQ_12 0.193 (0.022)
## SRBQ_13 0.154 (0.024)
## SRBQ_14 0.242 (0.023)
## SRBQ_15 0.203 (0.029)
## SRBQ_16 0.073 (0.025)
## SRBQ_17 0.188 (0.026)
## SRBQ_18 0.228 (0.020)
## SRBQ_19 0.247 (0.022)
## SRBQ_20 0.161 (0.024)
## SRBQ_21 0.234 (0.022)
## SRBQ_22 0.263 (0.022)
## SRBQ_23 0.122 (0.024)
## SRBQ_24 0.205 (0.022)
## SRBQ_25 0.217 (0.022)
## SRBQ_26 0.259 (0.024)
## SRBQ_27 0.264 (0.022)
## SRBQ_28 0.266 (0.023)
## SRBQ_29 0.173 (0.027)
## SRBQ_30 0.196 (0.022)
## SRBQ_31 0.244 (0.022)
## SRBQ_32 0.193 (0.023)
```

```
Hvalues_32 <- coefH(new_srbq_clin) # compute scalability coefficients
```

```
## $Hij
## SRBQ_1 se SRBQ_2 se SRBQ_3 se SRBQ_4 se
```

##	SRBQ_1			0.103	(0.051)	0.205	(0.048)	0.218	(0.052)
##	SRBQ_2	0.103	(0.051)			0.097	(0.048)	0.134	(0.051)
##	SRBQ_3	0.205	(0.048)	0.097	(0.048)			0.132	(0.052)
##	SRBQ_4	0.218	(0.052)	0.134	(0.051)	0.132	(0.052)		
##	SRBQ_5	0.065	(0.054)	0.267	(0.049)	0.101	(0.050)	0.230	(0.049)
##	SRBQ_6	0.126	(0.054)	0.139	(0.050)	0.157	(0.051)	0.287	(0.050)
##	SRBQ_7	0.135	(0.052)	0.226	(0.052)	0.066	(0.053)	0.268	(0.052)
##	SRBQ_8	0.428	(0.048)	0.079	(0.053)	0.199	(0.050)	0.164	(0.051)
##	SRBQ_9	0.079	(0.052)	0.206	(0.052)	0.109	(0.052)	0.209	(0.045)
##	SRBQ_10	0.223	(0.050)	0.119	(0.050)	0.340	(0.048)	0.112	(0.048)
##	SRBQ_11	0.070	(0.050)	0.206	(0.046)	0.108	(0.050)	0.190	(0.049)
##	SRBQ_12	0.343	(0.044)	0.051	(0.050)	0.120	(0.051)	0.103	(0.047)
##	SRBQ_13	0.169	(0.054)	0.079	(0.053)	0.216	(0.051)	0.009	(0.056)
##	SRBQ_14	0.075	(0.054)	0.259	(0.051)	0.092	(0.050)	0.122	(0.051)
##	SRBQ_15	0.257	(0.064)	0.111	(0.048)	0.114	(0.057)	0.191	(0.056)
##	SRBQ_16	0.068	(0.047)	-0.027	(0.049)	0.023	(0.047)	0.032	(0.050)
##	SRBQ_17	0.255	(0.052)	0.026	(0.052)	0.182	(0.056)	0.170	(0.051)
##	SRBQ_18	0.335	(0.048)	0.156	(0.047)	0.145	(0.047)	0.155	(0.049)
##	SRBQ_19	0.028	(0.051)	0.385	(0.046)	0.046	(0.053)	0.221	(0.047)
##	SRBQ_20	0.085	(0.054)	0.198	(0.052)	0.052	(0.052)	0.073	(0.049)
##	SRBQ_21	0.025	(0.050)	0.489	(0.042)	0.053	(0.053)	0.166	(0.049)
##	SRBQ_22	0.199	(0.051)	0.251	(0.048)	0.104	(0.052)	0.256	(0.048)
##	SRBQ_23	0.032	(0.052)	0.175	(0.051)	0.140	(0.049)	0.055	(0.050)
##	SRBQ_24	0.251	(0.050)	0.064	(0.052)	0.123	(0.050)	0.112	(0.049)
##	SRBQ_25	-0.019	(0.050)	0.327	(0.049)	-0.011	(0.050)	0.140	(0.050)
##	SRBQ_26	0.225	(0.052)	0.227	(0.050)	0.101	(0.051)	0.363	(0.045)
##	SRBQ_27	0.159	(0.047)	0.161	(0.051)	0.062	(0.049)	0.253	(0.052)
##	SRBQ_28	0.244	(0.051)	0.193	(0.049)	0.093	(0.050)	0.370	(0.047)
##	SRBQ_29	0.250	(0.054)	0.059	(0.049)	0.114	(0.049)	0.208	(0.049)
##	SRBQ_30	0.248	(0.049)	0.089	(0.049)	0.511	(0.043)	0.068	(0.052)
##	SRBQ_31	0.207	(0.053)	0.171	(0.050)	0.257	(0.048)	0.231	(0.050)
##	SRBQ_32	0.181	(0.051)	0.121	(0.051)	0.226	(0.052)	0.167	(0.052)
##	SRBQ_5	se		SRBQ_6	se	SRBQ_7	se	SRBQ_8	se
##	SRBQ_1	0.065	(0.054)	0.126	(0.054)	0.135	(0.052)	0.428	(0.048)
##	SRBQ_2	0.267	(0.049)	0.139	(0.050)	0.226	(0.052)	0.079	(0.053)
##	SRBQ_3	0.101	(0.050)	0.157	(0.051)	0.066	(0.053)	0.199	(0.050)
##	SRBQ_4	0.230	(0.049)	0.287	(0.050)	0.268	(0.052)	0.164	(0.051)
##	SRBQ_5			0.255	(0.046)	0.353	(0.051)	0.235	(0.049)
##	SRBQ_6	0.255	(0.046)			0.307	(0.048)	0.082	(0.054)
##	SRBQ_7	0.353	(0.051)	0.307	(0.048)			0.187	(0.053)
##	SRBQ_8	0.235	(0.049)	0.082	(0.054)	0.187	(0.053)		
##	SRBQ_9	0.314	(0.045)	0.195	(0.050)	0.356	(0.049)	0.208	(0.050)
##	SRBQ_10	0.107	(0.052)	0.191	(0.046)	0.208	(0.054)	0.216	(0.050)
##	SRBQ_11	0.215	(0.051)	0.414	(0.050)	0.270	(0.051)	0.101	(0.055)
##	SRBQ_12	0.205	(0.049)	0.135	(0.050)	0.117	(0.049)	0.331	(0.045)
##	SRBQ_13	0.179	(0.052)	0.029	(0.053)	0.094	(0.049)	0.380	(0.047)
##	SRBQ_14	0.397	(0.048)	0.170	(0.052)	0.294	(0.045)	0.206	(0.051)
##	SRBQ_15	0.220	(0.061)	0.266	(0.053)	0.065	(0.067)	0.128	(0.068)
##	SRBQ_16	0.122	(0.050)	0.012	(0.050)	0.007	(0.050)	0.390	(0.047)
##	SRBQ_17	0.130	(0.051)	0.146	(0.050)	0.044	(0.056)	0.187	(0.051)
##	SRBQ_18	0.142	(0.050)	0.158	(0.047)	0.103	(0.049)	0.314	(0.048)
##	SRBQ_19	0.499	(0.043)	0.229	(0.049)	0.317	(0.047)	0.170	(0.049)
##	SRBQ_20	0.293	(0.047)	0.116	(0.050)	0.283	(0.049)	0.180	(0.050)
##	SRBQ_21	0.352	(0.045)	0.176	(0.050)	0.348	(0.043)	0.098	(0.052)

##	SRBQ_22	0.298	(0.045)	0.233	(0.052)	0.305	(0.047)	0.297	(0.045)
##	SRBQ_23	0.136	(0.050)	0.202	(0.049)	0.147	(0.049)	-0.016	(0.051)
##	SRBQ_24	0.090	(0.049)	0.177	(0.047)	0.088	(0.048)	0.188	(0.049)
##	SRBQ_25	0.378	(0.046)	0.164	(0.048)	0.235	(0.047)	0.166	(0.050)
##	SRBQ_26	0.186	(0.047)	0.354	(0.043)	0.202	(0.052)	0.040	(0.057)
##	SRBQ_27	0.249	(0.049)	0.324	(0.048)	0.287	(0.052)	0.161	(0.055)
##	SRBQ_28	0.194	(0.050)	0.287	(0.043)	0.193	(0.052)	0.147	(0.054)
##	SRBQ_29	0.145	(0.050)	0.186	(0.053)	0.121	(0.055)	0.068	(0.055)
##	SRBQ_30	0.140	(0.050)	0.121	(0.049)	0.115	(0.050)	0.229	(0.052)
##	SRBQ_31	0.148	(0.050)	0.323	(0.048)	0.191	(0.051)	0.024	(0.053)
##	SRBQ_32	0.120	(0.052)	0.158	(0.050)	0.127	(0.048)	0.142	(0.051)
##	SRBQ_9	se		SRBQ_10	se	SRBQ_11	se	SRBQ_12	se
##	SRBQ_1	0.079	(0.052)	0.223	(0.050)	0.070	(0.050)	0.343	(0.044)
##	SRBQ_2	0.206	(0.052)	0.119	(0.050)	0.206	(0.046)	0.051	(0.050)
##	SRBQ_3	0.109	(0.052)	0.340	(0.048)	0.108	(0.050)	0.120	(0.051)
##	SRBQ_4	0.209	(0.045)	0.112	(0.048)	0.190	(0.049)	0.103	(0.047)
##	SRBQ_5	0.314	(0.045)	0.107	(0.052)	0.215	(0.051)	0.205	(0.049)
##	SRBQ_6	0.195	(0.050)	0.191	(0.046)	0.414	(0.050)	0.135	(0.050)
##	SRBQ_7	0.356	(0.049)	0.208	(0.054)	0.270	(0.051)	0.117	(0.049)
##	SRBQ_8	0.208	(0.050)	0.216	(0.050)	0.101	(0.055)	0.331	(0.045)
##	SRBQ_9			0.132	(0.050)	0.203	(0.052)	0.100	(0.052)
##	SRBQ_10	0.132	(0.050)			0.197	(0.047)	0.179	(0.048)
##	SRBQ_11	0.203	(0.052)	0.197	(0.047)			0.083	(0.055)
##	SRBQ_12	0.100	(0.052)	0.179	(0.048)	0.083	(0.055)		
##	SRBQ_13	0.109	(0.054)	0.227	(0.051)	0.041	(0.054)	0.275	(0.047)
##	SRBQ_14	0.417	(0.046)	0.188	(0.052)	0.217	(0.053)	0.193	(0.051)
##	SRBQ_15	0.202	(0.060)	0.151	(0.054)	0.281	(0.056)	0.085	(0.067)
##	SRBQ_16	0.026	(0.054)	0.077	(0.050)	-0.058	(0.050)	0.182	(0.047)
##	SRBQ_17	0.108	(0.054)	0.232	(0.053)	0.159	(0.054)	0.236	(0.053)
##	SRBQ_18	0.089	(0.046)	0.299	(0.047)	0.127	(0.051)	0.392	(0.042)
##	SRBQ_19	0.302	(0.048)	0.137	(0.051)	0.225	(0.053)	0.164	(0.049)
##	SRBQ_20	0.266	(0.047)	0.142	(0.047)	0.006	(0.054)	0.188	(0.050)
##	SRBQ_21	0.350	(0.047)	0.162	(0.054)	0.259	(0.050)	0.164	(0.052)
##	SRBQ_22	0.531	(0.039)	0.189	(0.050)	0.287	(0.053)	0.152	(0.049)
##	SRBQ_23	0.079	(0.051)	0.196	(0.047)	0.197	(0.052)	0.036	(0.051)
##	SRBQ_24	0.124	(0.052)	0.261	(0.046)	0.147	(0.050)	0.444	(0.043)
##	SRBQ_25	0.395	(0.047)	0.153	(0.054)	0.225	(0.052)	0.133	(0.051)
##	SRBQ_26	0.256	(0.049)	0.219	(0.048)	0.331	(0.050)	0.172	(0.049)
##	SRBQ_27	0.345	(0.051)	0.247	(0.048)	0.305	(0.046)	0.188	(0.050)
##	SRBQ_28	0.230	(0.049)	0.155	(0.053)	0.327	(0.049)	0.146	(0.053)
##	SRBQ_29	0.097	(0.052)	0.102	(0.053)	0.224	(0.053)	0.107	(0.053)
##	SRBQ_30	0.030	(0.053)	0.547	(0.039)	0.077	(0.051)	0.213	(0.049)
##	SRBQ_31	0.134	(0.052)	0.321	(0.047)	0.325	(0.051)	0.127	(0.050)
##	SRBQ_32	0.109	(0.056)	0.301	(0.049)	0.166	(0.054)	0.144	(0.050)
##	SRBQ_13	se		SRBQ_14	se	SRBQ_15	se	SRBQ_16	se
##	SRBQ_1	0.169	(0.054)	0.075	(0.054)	0.257	(0.064)	0.068	(0.047)
##	SRBQ_2	0.079	(0.053)	0.259	(0.051)	0.111	(0.048)	-0.027	(0.049)
##	SRBQ_3	0.216	(0.051)	0.092	(0.050)	0.114	(0.057)	0.023	(0.047)
##	SRBQ_4	0.009	(0.056)	0.122	(0.051)	0.191	(0.056)	0.032	(0.050)
##	SRBQ_5	0.179	(0.052)	0.397	(0.048)	0.220	(0.061)	0.122	(0.050)
##	SRBQ_6	0.029	(0.053)	0.170	(0.052)	0.266	(0.053)	0.012	(0.050)
##	SRBQ_7	0.094	(0.049)	0.294	(0.045)	0.065	(0.067)	0.007	(0.050)
##	SRBQ_8	0.380	(0.047)	0.206	(0.051)	0.128	(0.068)	0.390	(0.047)
##	SRBQ_9	0.109	(0.054)	0.417	(0.046)	0.202	(0.060)	0.026	(0.054)

##	SRBQ_10	0.227	(0.051)	0.188	(0.052)	0.151	(0.054)	0.077	(0.050)
##	SRBQ_11	0.041	(0.054)	0.217	(0.053)	0.281	(0.056)	-0.058	(0.050)
##	SRBQ_12	0.275	(0.047)	0.193	(0.051)	0.085	(0.067)	0.182	(0.047)
##	SRBQ_13			0.246	(0.052)	-0.045	(0.069)	0.120	(0.051)
##	SRBQ_14	0.246	(0.052)			0.270	(0.056)	0.032	(0.052)
##	SRBQ_15	-0.045	(0.069)	0.270	(0.056)			0.011	(0.055)
##	SRBQ_16	0.120	(0.051)	0.032	(0.052)	0.011	(0.055)		
##	SRBQ_17	0.154	(0.057)	0.105	(0.053)	0.238	(0.055)	0.240	(0.056)
##	SRBQ_18	0.278	(0.045)	0.242	(0.046)	0.206	(0.064)	0.094	(0.050)
##	SRBQ_19	0.179	(0.051)	0.369	(0.045)	0.269	(0.059)	0.112	(0.052)
##	SRBQ_20	0.205	(0.054)	0.515	(0.043)	-0.054	(0.070)	0.124	(0.054)
##	SRBQ_21	0.153	(0.050)	0.398	(0.045)	0.167	(0.052)	0.035	(0.049)
##	SRBQ_22	0.153	(0.053)	0.362	(0.044)	0.243	(0.059)	0.157	(0.054)
##	SRBQ_23	0.030	(0.049)	0.164	(0.048)	0.119	(0.061)	-0.167	(0.050)
##	SRBQ_24	0.169	(0.051)	0.156	(0.049)	0.178	(0.061)	0.092	(0.050)
##	SRBQ_25	0.125	(0.047)	0.424	(0.043)	0.230	(0.059)	-0.001	(0.048)
##	SRBQ_26	-0.002	(0.057)	0.199	(0.055)	0.271	(0.056)	-0.029	(0.051)
##	SRBQ_27	0.030	(0.054)	0.310	(0.052)	0.234	(0.053)	0.051	(0.050)
##	SRBQ_28	0.070	(0.054)	0.249	(0.051)	0.223	(0.056)	0.065	(0.048)
##	SRBQ_29	0.112	(0.050)	0.117	(0.054)	0.439	(0.057)	0.004	(0.054)
##	SRBQ_30	0.185	(0.048)	0.065	(0.053)	0.138	(0.054)	0.048	(0.048)
##	SRBQ_31	0.074	(0.051)	0.091	(0.050)	0.216	(0.058)	-0.006	(0.051)
##	SRBQ_32	0.315	(0.047)	0.110	(0.050)	0.187	(0.062)	0.059	(0.051)
##	SRBQ_17	se		SRBQ_18	se	SRBQ_19	se	SRBQ_20	se
##	SRBQ_1	0.255	(0.052)	0.335	(0.048)	0.028	(0.051)	0.085	(0.054)
##	SRBQ_2	0.026	(0.052)	0.156	(0.047)	0.385	(0.046)	0.198	(0.052)
##	SRBQ_3	0.182	(0.056)	0.145	(0.047)	0.046	(0.053)	0.052	(0.052)
##	SRBQ_4	0.170	(0.051)	0.155	(0.049)	0.221	(0.047)	0.073	(0.049)
##	SRBQ_5	0.130	(0.051)	0.142	(0.050)	0.499	(0.043)	0.293	(0.047)
##	SRBQ_6	0.146	(0.050)	0.158	(0.047)	0.229	(0.049)	0.116	(0.050)
##	SRBQ_7	0.044	(0.056)	0.103	(0.049)	0.317	(0.047)	0.283	(0.049)
##	SRBQ_8	0.187	(0.051)	0.314	(0.048)	0.170	(0.049)	0.180	(0.050)
##	SRBQ_9	0.108	(0.054)	0.089	(0.046)	0.302	(0.048)	0.266	(0.047)
##	SRBQ_10	0.232	(0.053)	0.299	(0.047)	0.137	(0.051)	0.142	(0.047)
##	SRBQ_11	0.159	(0.054)	0.127	(0.051)	0.225	(0.053)	0.006	(0.054)
##	SRBQ_12	0.236	(0.053)	0.392	(0.042)	0.164	(0.049)	0.188	(0.050)
##	SRBQ_13	0.154	(0.057)	0.278	(0.045)	0.179	(0.051)	0.205	(0.054)
##	SRBQ_14	0.105	(0.053)	0.242	(0.046)	0.369	(0.045)	0.515	(0.043)
##	SRBQ_15	0.238	(0.055)	0.206	(0.064)	0.269	(0.059)	-0.054	(0.070)
##	SRBQ_16	0.240	(0.056)	0.094	(0.050)	0.112	(0.052)	0.124	(0.054)
##	SRBQ_17			0.306	(0.046)	0.158	(0.057)	0.015	(0.053)
##	SRBQ_18	0.306	(0.046)			0.244	(0.047)	0.144	(0.049)
##	SRBQ_19	0.158	(0.057)	0.244	(0.047)			0.330	(0.047)
##	SRBQ_20	0.015	(0.053)	0.144	(0.049)	0.330	(0.047)		
##	SRBQ_21	0.092	(0.055)	0.170	(0.049)	0.458	(0.043)	0.386	(0.047)
##	SRBQ_22	0.207	(0.053)	0.185	(0.048)	0.268	(0.047)	0.197	(0.050)
##	SRBQ_23	0.069	(0.054)	0.126	(0.047)	0.181	(0.050)	0.020	(0.054)
##	SRBQ_24	0.196	(0.053)	0.419	(0.043)	0.175	(0.048)	0.124	(0.051)
##	SRBQ_25	-0.002	(0.051)	0.216	(0.047)	0.374	(0.045)	0.332	(0.049)
##	SRBQ_26	0.267	(0.054)	0.251	(0.046)	0.293	(0.050)	0.096	(0.049)
##	SRBQ_27	0.190	(0.052)	0.206	(0.049)	0.328	(0.053)	0.199	(0.048)
##	SRBQ_28	0.242	(0.051)	0.304	(0.045)	0.294	(0.048)	0.108	(0.049)
##	SRBQ_29	0.228	(0.048)	0.099	(0.049)	0.174	(0.052)	-0.080	(0.054)
##	SRBQ_30	0.151	(0.053)	0.277	(0.046)	0.073	(0.050)	0.078	(0.053)

##	SRBQ_31	0.239	(0.050)	0.140	(0.050)	0.194	(0.046)	0.064	(0.054)
##	SRBQ_32	0.289	(0.052)	0.150	(0.050)	0.116	(0.051)	0.014	(0.054)
##	SRBQ_21	se		SRBQ_22	se	SRBQ_23	se	SRBQ_24	se
##	SRBQ_1	0.025	(0.050)	0.199	(0.051)	0.032	(0.052)	0.251	(0.050)
##	SRBQ_2	0.489	(0.042)	0.251	(0.048)	0.175	(0.051)	0.064	(0.052)
##	SRBQ_3	0.053	(0.053)	0.104	(0.052)	0.140	(0.049)	0.123	(0.050)
##	SRBQ_4	0.166	(0.049)	0.256	(0.048)	0.055	(0.050)	0.112	(0.049)
##	SRBQ_5	0.352	(0.045)	0.298	(0.045)	0.136	(0.050)	0.090	(0.049)
##	SRBQ_6	0.176	(0.050)	0.233	(0.052)	0.202	(0.049)	0.177	(0.047)
##	SRBQ_7	0.348	(0.043)	0.305	(0.047)	0.147	(0.049)	0.088	(0.048)
##	SRBQ_8	0.098	(0.052)	0.297	(0.045)	-0.016	(0.051)	0.188	(0.049)
##	SRBQ_9	0.350	(0.047)	0.531	(0.039)	0.079	(0.051)	0.124	(0.052)
##	SRBQ_10	0.162	(0.054)	0.189	(0.050)	0.196	(0.047)	0.261	(0.046)
##	SRBQ_11	0.259	(0.050)	0.287	(0.053)	0.197	(0.052)	0.147	(0.050)
##	SRBQ_12	0.164	(0.052)	0.152	(0.049)	0.036	(0.051)	0.444	(0.043)
##	SRBQ_13	0.153	(0.050)	0.153	(0.053)	0.030	(0.049)	0.169	(0.051)
##	SRBQ_14	0.398	(0.045)	0.362	(0.044)	0.164	(0.048)	0.156	(0.049)
##	SRBQ_15	0.167	(0.052)	0.243	(0.059)	0.119	(0.061)	0.178	(0.061)
##	SRBQ_16	0.035	(0.049)	0.157	(0.054)	-0.167	(0.050)	0.092	(0.050)
##	SRBQ_17	0.092	(0.055)	0.207	(0.053)	0.069	(0.054)	0.196	(0.053)
##	SRBQ_18	0.170	(0.049)	0.185	(0.048)	0.126	(0.047)	0.419	(0.043)
##	SRBQ_19	0.458	(0.043)	0.268	(0.047)	0.181	(0.050)	0.175	(0.048)
##	SRBQ_20	0.386	(0.047)	0.197	(0.050)	0.020	(0.054)	0.124	(0.051)
##	SRBQ_21			0.386	(0.047)	0.146	(0.050)	0.139	(0.049)
##	SRBQ_22	0.386	(0.047)			0.172	(0.049)	0.169	(0.050)
##	SRBQ_23	0.146	(0.050)	0.172	(0.049)			0.161	(0.049)
##	SRBQ_24	0.139	(0.049)	0.169	(0.050)	0.161	(0.049)		
##	SRBQ_25	0.412	(0.042)	0.438	(0.042)	0.196	(0.047)	0.215	(0.048)
##	SRBQ_26	0.284	(0.051)	0.351	(0.051)	0.133	(0.053)	0.209	(0.051)
##	SRBQ_27	0.305	(0.049)	0.393	(0.050)	0.161	(0.049)	0.281	(0.049)
##	SRBQ_28	0.284	(0.052)	0.297	(0.050)	0.154	(0.050)	0.296	(0.051)
##	SRBQ_29	0.081	(0.052)	0.172	(0.055)	0.129	(0.050)	0.166	(0.051)
##	SRBQ_30	0.109	(0.051)	0.114	(0.053)	0.094	(0.050)	0.132	(0.051)
##	SRBQ_31	0.204	(0.053)	0.211	(0.050)	0.217	(0.052)	0.186	(0.048)
##	SRBQ_32	0.092	(0.054)	0.250	(0.050)	0.085	(0.050)	0.176	(0.051)
##	SRBQ_25	se		SRBQ_26	se	SRBQ_27	se	SRBQ_28	se
##	SRBQ_1	-0.019	(0.050)	0.225	(0.052)	0.159	(0.047)	0.244	(0.051)
##	SRBQ_2	0.327	(0.049)	0.227	(0.050)	0.161	(0.051)	0.193	(0.049)
##	SRBQ_3	-0.011	(0.050)	0.101	(0.051)	0.062	(0.049)	0.093	(0.050)
##	SRBQ_4	0.140	(0.050)	0.363	(0.045)	0.253	(0.052)	0.370	(0.047)
##	SRBQ_5	0.378	(0.046)	0.186	(0.047)	0.249	(0.049)	0.194	(0.050)
##	SRBQ_6	0.164	(0.048)	0.354	(0.043)	0.324	(0.048)	0.287	(0.043)
##	SRBQ_7	0.235	(0.047)	0.202	(0.052)	0.287	(0.052)	0.193	(0.052)
##	SRBQ_8	0.166	(0.050)	0.040	(0.057)	0.161	(0.055)	0.147	(0.054)
##	SRBQ_9	0.395	(0.047)	0.256	(0.049)	0.345	(0.051)	0.230	(0.049)
##	SRBQ_10	0.153	(0.054)	0.219	(0.048)	0.247	(0.048)	0.155	(0.053)
##	SRBQ_11	0.225	(0.052)	0.331	(0.050)	0.305	(0.046)	0.327	(0.049)
##	SRBQ_12	0.133	(0.051)	0.172	(0.049)	0.188	(0.050)	0.146	(0.053)
##	SRBQ_13	0.125	(0.047)	-0.002	(0.057)	0.030	(0.054)	0.070	(0.054)
##	SRBQ_14	0.424	(0.043)	0.199	(0.055)	0.310	(0.052)	0.249	(0.051)
##	SRBQ_15	0.230	(0.059)	0.271	(0.056)	0.234	(0.053)	0.223	(0.056)
##	SRBQ_16	-0.001	(0.048)	-0.029	(0.051)	0.051	(0.050)	0.065	(0.048)
##	SRBQ_17	-0.002	(0.051)	0.267	(0.054)	0.190	(0.052)	0.242	(0.051)
##	SRBQ_18	0.216	(0.047)	0.251	(0.046)	0.206	(0.049)	0.304	(0.045)

```

## SRBQ_19 0.374 (0.045) 0.293 (0.050) 0.328 (0.053) 0.294 (0.048)
## SRBQ_20 0.332 (0.049) 0.096 (0.049) 0.199 (0.048) 0.108 (0.049)
## SRBQ_21 0.412 (0.042) 0.284 (0.051) 0.305 (0.049) 0.284 (0.052)
## SRBQ_22 0.438 (0.042) 0.351 (0.051) 0.393 (0.050) 0.297 (0.050)
## SRBQ_23 0.196 (0.047) 0.133 (0.053) 0.161 (0.049) 0.154 (0.050)
## SRBQ_24 0.215 (0.048) 0.209 (0.051) 0.281 (0.049) 0.296 (0.051)
## SRBQ_25 0.236 (0.055) 0.321 (0.052) 0.257 (0.051)
## SRBQ_26 0.236 (0.055) 0.547 (0.046) 0.575 (0.040)
## SRBQ_27 0.321 (0.052) 0.547 (0.046) 0.497 (0.045)
## SRBQ_28 0.257 (0.051) 0.575 (0.040) 0.497 (0.045)
## SRBQ_29 0.119 (0.051) 0.221 (0.051) 0.238 (0.053) 0.275 (0.051)
## SRBQ_30 0.076 (0.050) 0.210 (0.051) 0.164 (0.048) 0.207 (0.051)
## SRBQ_31 0.136 (0.051) 0.443 (0.050) 0.362 (0.051) 0.462 (0.048)
## SRBQ_32 0.033 (0.049) 0.252 (0.050) 0.167 (0.054) 0.275 (0.049)
## SRBQ_29 se SRBQ_30 se SRBQ_31 se SRBQ_32 se
## SRBQ_1 0.250 (0.054) 0.248 (0.049) 0.207 (0.053) 0.181 (0.051)
## SRBQ_2 0.059 (0.049) 0.089 (0.049) 0.171 (0.050) 0.121 (0.051)
## SRBQ_3 0.114 (0.049) 0.511 (0.043) 0.257 (0.048) 0.226 (0.052)
## SRBQ_4 0.208 (0.049) 0.068 (0.052) 0.231 (0.050) 0.167 (0.052)
## SRBQ_5 0.145 (0.050) 0.140 (0.050) 0.148 (0.050) 0.120 (0.052)
## SRBQ_6 0.186 (0.053) 0.121 (0.049) 0.323 (0.048) 0.158 (0.050)
## SRBQ_7 0.121 (0.055) 0.115 (0.050) 0.191 (0.051) 0.127 (0.048)
## SRBQ_8 0.068 (0.055) 0.229 (0.052) 0.024 (0.053) 0.142 (0.051)
## SRBQ_9 0.097 (0.052) 0.030 (0.053) 0.134 (0.052) 0.109 (0.056)
## SRBQ_10 0.102 (0.053) 0.547 (0.039) 0.321 (0.047) 0.301 (0.049)
## SRBQ_11 0.224 (0.053) 0.077 (0.051) 0.325 (0.051) 0.166 (0.054)
## SRBQ_12 0.107 (0.053) 0.213 (0.049) 0.127 (0.050) 0.144 (0.050)
## SRBQ_13 0.112 (0.050) 0.185 (0.048) 0.074 (0.051) 0.315 (0.047)
## SRBQ_14 0.117 (0.054) 0.065 (0.053) 0.091 (0.050) 0.110 (0.050)
## SRBQ_15 0.439 (0.057) 0.138 (0.054) 0.216 (0.058) 0.187 (0.062)
## SRBQ_16 0.004 (0.054) 0.048 (0.048) -0.006 (0.051) 0.059 (0.051)
## SRBQ_17 0.228 (0.048) 0.151 (0.053) 0.239 (0.050) 0.289 (0.052)
## SRBQ_18 0.099 (0.049) 0.277 (0.046) 0.140 (0.050) 0.150 (0.050)
## SRBQ_19 0.174 (0.052) 0.073 (0.050) 0.194 (0.046) 0.116 (0.051)
## SRBQ_20 -0.080 (0.054) 0.078 (0.053) 0.064 (0.054) 0.014 (0.054)
## SRBQ_21 0.081 (0.052) 0.109 (0.051) 0.204 (0.053) 0.092 (0.054)
## SRBQ_22 0.172 (0.055) 0.114 (0.053) 0.211 (0.050) 0.250 (0.050)
## SRBQ_23 0.129 (0.050) 0.094 (0.050) 0.217 (0.052) 0.085 (0.050)
## SRBQ_24 0.166 (0.051) 0.132 (0.051) 0.186 (0.048) 0.176 (0.051)
## SRBQ_25 0.119 (0.051) 0.076 (0.050) 0.136 (0.051) 0.033 (0.049)
## SRBQ_26 0.221 (0.051) 0.210 (0.051) 0.443 (0.050) 0.252 (0.050)
## SRBQ_27 0.238 (0.053) 0.164 (0.048) 0.362 (0.051) 0.167 (0.054)
## SRBQ_28 0.275 (0.051) 0.207 (0.051) 0.462 (0.048) 0.275 (0.049)
## SRBQ_29 0.232 (0.047) 0.370 (0.046) 0.245 (0.051)
## SRBQ_30 0.232 (0.047) 0.425 (0.046) 0.283 (0.047)
## SRBQ_31 0.370 (0.046) 0.425 (0.046) 0.326 (0.044)
## SRBQ_32 0.245 (0.051) 0.283 (0.047) 0.326 (0.044)
##
## $Hi
## Item H se
## SRBQ_1 0.170 (0.024)
## SRBQ_2 0.165 (0.021)
## SRBQ_3 0.139 (0.022)
## SRBQ_4 0.173 (0.021)

```

```
## SRBQ_5    0.217 (0.019)
## SRBQ_6    0.197 (0.022)
## SRBQ_7    0.194 (0.022)
## SRBQ_8    0.187 (0.022)
## SRBQ_9    0.201 (0.022)
## SRBQ_10   0.206 (0.022)
## SRBQ_11   0.190 (0.023)
## SRBQ_12   0.181 (0.021)
## SRBQ_13   0.146 (0.023)
## SRBQ_14   0.226 (0.022)
## SRBQ_15   0.185 (0.028)
## SRBQ_16   0.061 (0.024)
## SRBQ_17   0.170 (0.025)
## SRBQ_18   0.211 (0.020)
## SRBQ_19   0.234 (0.021)
## SRBQ_20   0.153 (0.023)
## SRBQ_21   0.221 (0.021)
## SRBQ_22   0.250 (0.021)
## SRBQ_23   0.115 (0.023)
## SRBQ_24   0.186 (0.021)
## SRBQ_25   0.205 (0.021)
## SRBQ_26   0.241 (0.023)
## SRBQ_27   0.248 (0.021)
## SRBQ_28   0.248 (0.022)
## SRBQ_29   0.162 (0.026)
## SRBQ_30   0.177 (0.021)
## SRBQ_31   0.217 (0.022)
## SRBQ_32   0.173 (0.022)
##
## $H
## Scale H      se
##    0.188 (0.015)
```

```
# run automatic item selection procedure
aisp_32 <- aisp(new_srbq_clin,lowerbound=seq(0,0.80,0.05))
```

```
## Warning in aisp(new_srbq_clin, lowerbound = seq(0, 0.8, 0.05)): Some lower
## bounds are greater than max(Hij) rendering all items unscalable. Lower bounds
## greater than max(Hij) are removed
```

```
Hvalues_32$Hi # homogeneity values
```

```
##           Item H   se
## SRBQ_1    0.170 (0.024)
## SRBQ_2    0.165 (0.021)
## SRBQ_3    0.139 (0.022)
## SRBQ_4    0.173 (0.021)
## SRBQ_5    0.217 (0.019)
## SRBQ_6    0.197 (0.022)
## SRBQ_7    0.194 (0.022)
## SRBQ_8    0.187 (0.022)
## SRBQ_9    0.201 (0.022)
## SRBQ_10   0.206 (0.022)
```

```
## SRBQ_11 0.190 (0.023)
## SRBQ_12 0.181 (0.021)
## SRBQ_13 0.146 (0.023)
## SRBQ_14 0.226 (0.022)
## SRBQ_15 0.185 (0.028)
## SRBQ_16 0.061 (0.024)
## SRBQ_17 0.170 (0.025)
## SRBQ_18 0.211 (0.020)
## SRBQ_19 0.234 (0.021)
## SRBQ_20 0.153 (0.023)
## SRBQ_21 0.221 (0.021)
## SRBQ_22 0.250 (0.021)
## SRBQ_23 0.115 (0.023)
## SRBQ_24 0.186 (0.021)
## SRBQ_25 0.205 (0.021)
## SRBQ_26 0.241 (0.023)
## SRBQ_27 0.248 (0.021)
## SRBQ_28 0.248 (0.022)
## SRBQ_29 0.162 (0.026)
## SRBQ_30 0.177 (0.021)
## SRBQ_31 0.217 (0.022)
## SRBQ_32 0.173 (0.022)
```

```
# sensitivity analysis -----
# 18 outliers removed
new_srbq_xout <- new_srbq_clin[!outlier_n,]

# aisp
aisp_32_s <- aisp(new_srbq_xout, lowerbound=seq(0, 0.80, 0.05))
```

```
## Warning in aisp(new_srbq_xout, lowerbound = seq(0, 0.8, 0.05)): Some lower
## bounds are greater than max(Hij) rendering all items unscalable. Lower bounds
## greater than max(Hij) are removed
```

```
aisp_32_s
```

```
##      0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
## SRBQ_1 1 1 1 1 2 3 4 4 5 0 0 0
## SRBQ_2 1 1 1 1 1 0 3 0 4 5 0 0
## SRBQ_3 2 2 3 0 2 2 2 2 2 0 0 0
## SRBQ_4 1 1 1 1 1 0 0 0 0 0 0 0
## SRBQ_5 1 1 1 1 1 1 3 3 0 6 0 0
## SRBQ_6 1 1 1 1 1 1 1 7 8 0 0 0
## SRBQ_7 1 1 1 1 1 1 0 0 0 0 0 0
## SRBQ_8 1 1 1 1 2 3 4 4 5 0 0 0
## SRBQ_9 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_10 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_11 1 1 1 1 1 1 1 7 8 0 0 0
## SRBQ_12 1 1 1 1 2 3 4 5 6 0 0 0
## SRBQ_13 2 2 2 2 2 3 6 0 0 0 0 0
## SRBQ_14 1 1 1 1 1 1 3 3 3 4 0 0
## SRBQ_15 1 1 1 1 1 1 5 6 7 0 0 0
## SRBQ_16 2 2 2 0 0 4 0 0 0 0 0 0
```

```
## SRBQ_17 1 1 1 1 2 4 0 0 0 0 0 0
## SRBQ_18 1 1 1 1 2 3 4 5 6 0 0 0
## SRBQ_19 1 1 1 1 1 1 3 3 4 6 0 0
## SRBQ_20 2 2 2 2 0 0 3 0 0 4 0 0
## SRBQ_21 1 1 1 1 1 1 3 3 4 5 0 0
## SRBQ_22 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_23 0 0 3 0 0 0 0 0 0 0 0 0
## SRBQ_24 1 1 1 1 2 3 4 5 6 0 0 0
## SRBQ_25 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_26 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_27 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_28 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_29 1 1 1 1 1 0 5 6 7 0 0 0
## SRBQ_30 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_31 1 1 1 1 1 1 1 1 1 1 0 0
## SRBQ_32 1 1 1 1 2 2 6 0 0 0 0 0
```

```
# remove item 3, 16, 23
```

```
new_xout_29 <- new_srbq_xout[-c(3,16,23)]
```

```
aisp_29_s <- aisp(new_xout_29,lowerbound=seq(0,0.80,0.05))
```

```
## Warning in aisp(new_xout_29, lowerbound = seq(0, 0.8, 0.05)): Some lower bounds
## are greater than max(Hij) rendering all items unscalable. Lower bounds greater
## than max(Hij) are removed
```

```
aisp_29_s
```

```
##      0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
## SRBQ_1 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_2 1 1 1 1 1 0 3 0 4 5 0 0
## SRBQ_4 1 1 1 1 1 0 0 0 0 0 0 0
## SRBQ_5 1 1 1 1 1 1 3 3 0 6 0 0
## SRBQ_6 1 1 1 1 1 1 1 7 8 0 0 0
## SRBQ_7 1 1 1 1 1 1 0 0 0 0 0 0
## SRBQ_8 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_9 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_10 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_11 1 1 1 1 1 1 1 7 8 0 0 0
## SRBQ_12 1 1 1 1 2 2 4 5 6 0 0 0
## SRBQ_13 2 2 2 2 2 2 0 0 0 0 0 0
## SRBQ_14 1 1 1 1 1 1 3 3 3 4 0 0
## SRBQ_15 1 1 1 1 1 1 5 6 7 0 0 0
## SRBQ_17 1 1 1 1 2 0 0 0 0 0 0 0
## SRBQ_18 1 1 1 1 2 2 4 5 6 0 0 0
## SRBQ_19 1 1 1 1 1 1 3 3 4 6 0 0
## SRBQ_20 2 2 2 2 0 0 3 0 0 4 0 0
## SRBQ_21 1 1 1 1 1 1 3 3 4 5 0 0
## SRBQ_22 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_24 1 1 1 1 2 2 4 5 6 0 0 0
## SRBQ_25 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_26 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_27 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_28 1 1 1 1 1 1 1 1 1 1 1 1
```

```
## SRBQ_29 1 1 1 1 1 0 5 6 7 0 0 0
## SRBQ_30 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_31 1 1 1 1 1 1 1 1 1 1 0 0
## SRBQ_32 1 1 1 1 2 2 2 0 0 0 0 0
```

```
# remove item 2, 4, 17, 20, 29
new_xout_24 <- new_xout_29[-c(2,3,15,18,26)]
aisp_24_s <- aisp(new_xout_24,lowerbound=seq(0,0.80,0.05))
```

```
## Warning in aisp(new_xout_24, lowerbound = seq(0, 0.8, 0.05)): Some lower bounds
## are greater than max(Hij) rendering all items unscalable. Lower bounds greater
## than max(Hij) are removed
```

```
aisp_24_s
```

```
##      0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
## SRBQ_1 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_5 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_6 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_7 1 1 1 1 1 1 3 0 0 0 0 0
## SRBQ_8 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_9 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_10 1 1 1 1 1 2 2 2 2 2 2 2
## SRBQ_11 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_12 1 1 1 1 2 2 4 5 6 0 0 0
## SRBQ_13 0 0 0 0 2 2 0 0 0 0 0 0
## SRBQ_14 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_15 1 1 1 1 1 1 0 0 0 0 0 0
## SRBQ_18 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_19 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_21 1 1 1 1 1 1 3 3 0 0 0 0
## SRBQ_22 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_24 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_25 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_26 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_27 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_28 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_30 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_31 1 1 1 1 1 1 1 1 1 1 0 0
## SRBQ_32 1 1 1 1 2 2 2 0 0 0 0 0
```

```
# remove item 13
new_xout_23 <- new_xout_24[-10]
aisp_23_s <- aisp(new_xout_23,lowerbound=seq(0,0.80,0.05))
```

```
## Warning in aisp(new_xout_23, lowerbound = seq(0, 0.8, 0.05)): Some lower bounds
## are greater than max(Hij) rendering all items unscalable. Lower bounds greater
## than max(Hij) are removed
```

```
aisp_23_s
```

```
##      0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
## SRBQ_1 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_5 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_6 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_7 1 1 1 1 1 1 3 0 0 0 0 0
## SRBQ_8 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_9 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_10 1 1 1 1 1 2 2 2 2 2 2 2
## SRBQ_11 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_12 1 1 1 1 2 2 4 5 6 0 0 0
## SRBQ_14 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_15 1 1 1 1 1 1 0 0 0 0 0 0
## SRBQ_18 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_19 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_21 1 1 1 1 1 1 3 3 0 0 0 0
## SRBQ_22 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_24 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_25 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_26 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_27 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_28 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_30 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_31 1 1 1 1 1 1 1 1 1 1 0 0
## SRBQ_32 1 1 1 1 2 2 2 0 0 0 0 0
```

```
# remove item 15
new_xout_22 <- new_xout_23[-11]
aisp_22_s <- aisp(new_xout_22, lowerbound=seq(0, 0.80, 0.05))
```

```
## Warning in aisp(new_xout_22, lowerbound = seq(0, 0.8, 0.05)): Some lower bounds
## are greater than max(Hij) rendering all items unscalable. Lower bounds greater
## than max(Hij) are removed
```

```
aisp_22_s
```

```
##      0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
## SRBQ_1 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_5 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_6 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_7 1 1 1 1 1 1 3 0 0 0 0 0
## SRBQ_8 1 1 1 1 2 2 4 4 5 0 0 0
## SRBQ_9 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_10 1 1 1 1 1 2 2 2 2 2 2 2
## SRBQ_11 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_12 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_14 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_18 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_19 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_21 1 1 1 1 1 1 3 3 0 0 0 0
## SRBQ_22 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_24 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_25 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_26 1 1 1 1 1 1 1 1 1 1 1 1
```



```
## SRBQ_27 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_28 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_30 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_31 1 1 1 1 1 1 1 1 1 0 0 0
## SRBQ_32 1 1 1 1 0 2 2 0 0 0 0 0
```

```
# remove item 32
new_xout_21 <- new_xout_22[-22]
aisp_21_s <- aisp(new_xout_21,lowerbound=seq(0,0.80,0.05))
```

```
## Warning in aisp(new_xout_21, lowerbound = seq(0, 0.8, 0.05)): Some lower bounds
## are greater than max(Hij) rendering all items unscalable. Lower bounds greater
## than max(Hij) are removed
```

```
aisp_21_s
```

```
##      0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
## SRBQ_1 1 1 1 1 2 2 2 4 5 0 0 0
## SRBQ_5 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_6 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_7 1 1 1 1 1 1 3 0 0 0 0 0
## SRBQ_8 1 1 1 1 2 2 2 4 5 0 0 0
## SRBQ_9 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_10 1 1 1 1 1 2 2 2 2 2 2 2
## SRBQ_11 1 1 1 1 1 1 1 6 7 0 0 0
## SRBQ_12 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_14 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_18 1 1 1 1 1 2 2 5 6 0 0 0
## SRBQ_19 1 1 1 1 1 1 3 3 4 4 0 0
## SRBQ_21 1 1 1 1 1 1 3 3 0 0 0 0
## SRBQ_22 1 1 1 1 1 1 1 3 3 3 3 0
## SRBQ_24 1 1 1 1 1 2 4 5 6 0 0 0
## SRBQ_25 1 1 1 1 1 1 3 3 3 0 0 0
## SRBQ_26 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_27 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_28 1 1 1 1 1 1 1 1 1 1 1 1
## SRBQ_30 1 1 1 1 2 2 2 2 2 2 2 2
## SRBQ_31 1 1 1 1 1 1 1 1 1 0 0 0
```

```
Hvalues_21_s <- coefH(new_xout_21)
```

```
## $Hij
##      SRBQ_1 se      SRBQ_5 se      SRBQ_6 se      SRBQ_7 se      SRBQ_8
## SRBQ_1      0.077 (0.053) 0.123 (0.054) 0.155 (0.053) 0.450
## SRBQ_5 0.077 (0.053)      0.298 (0.044) 0.348 (0.053) 0.195
## SRBQ_6 0.123 (0.054) 0.298 (0.044)      0.317 (0.049) 0.132
## SRBQ_7 0.155 (0.053) 0.348 (0.053) 0.317 (0.049)      0.186
## SRBQ_8 0.450 (0.047) 0.195 (0.051) 0.132 (0.051) 0.186 (0.053)
## SRBQ_9 0.085 (0.054) 0.342 (0.045) 0.247 (0.049) 0.352 (0.047) 0.197
## SRBQ_10 0.258 (0.051) 0.127 (0.051) 0.216 (0.046) 0.233 (0.054) 0.245
## SRBQ_11 0.078 (0.050) 0.213 (0.050) 0.410 (0.050) 0.265 (0.051) 0.104
## SRBQ_12 0.355 (0.045) 0.230 (0.046) 0.155 (0.049) 0.103 (0.049) 0.332
```

##	SRBQ_14	0.116	(0.054)	0.383	(0.048)	0.237	(0.050)	0.293	(0.046)	0.212
##	SRBQ_18	0.366	(0.048)	0.161	(0.050)	0.174	(0.048)	0.108	(0.050)	0.327
##	SRBQ_19	0.047	(0.052)	0.490	(0.045)	0.267	(0.049)	0.309	(0.048)	0.172
##	SRBQ_21	0.050	(0.052)	0.317	(0.047)	0.224	(0.051)	0.342	(0.044)	0.077
##	SRBQ_22	0.219	(0.052)	0.305	(0.047)	0.254	(0.051)	0.324	(0.046)	0.280
##	SRBQ_24	0.290	(0.049)	0.116	(0.048)	0.203	(0.048)	0.098	(0.048)	0.209
##	SRBQ_25	0.004	(0.051)	0.359	(0.047)	0.196	(0.049)	0.219	(0.047)	0.170
##	SRBQ_26	0.222	(0.054)	0.214	(0.047)	0.352	(0.043)	0.220	(0.052)	0.066
##	SRBQ_27	0.158	(0.048)	0.262	(0.049)	0.364	(0.045)	0.275	(0.051)	0.146
##	SRBQ_28	0.242	(0.052)	0.186	(0.050)	0.299	(0.044)	0.227	(0.052)	0.148
##	SRBQ_30	0.272	(0.049)	0.152	(0.050)	0.167	(0.047)	0.158	(0.050)	0.238
##	SRBQ_31	0.211	(0.053)	0.218	(0.050)	0.340	(0.048)	0.250	(0.050)	0.067
##	se	SRBQ_9	se	SRBQ_10	se	SRBQ_11	se	SRBQ_12	se	
##	SRBQ_1	(0.047)	0.085	(0.054)	0.258	(0.051)	0.078	(0.050)	0.355	(0.045)
##	SRBQ_5	(0.051)	0.342	(0.045)	0.127	(0.051)	0.213	(0.050)	0.230	(0.046)
##	SRBQ_6	(0.051)	0.247	(0.049)	0.216	(0.046)	0.410	(0.050)	0.155	(0.049)
##	SRBQ_7	(0.053)	0.352	(0.047)	0.233	(0.054)	0.265	(0.051)	0.103	(0.049)
##	SRBQ_8		0.197	(0.049)	0.245	(0.050)	0.104	(0.053)	0.332	(0.046)
##	SRBQ_9	(0.049)			0.174	(0.050)	0.269	(0.051)	0.099	(0.051)
##	SRBQ_10	(0.050)	0.174	(0.050)			0.205	(0.047)	0.181	(0.049)
##	SRBQ_11	(0.053)	0.269	(0.051)	0.205	(0.047)			0.088	(0.054)
##	SRBQ_12	(0.046)	0.099	(0.051)	0.181	(0.049)	0.088	(0.054)		
##	SRBQ_14	(0.049)	0.444	(0.045)	0.184	(0.053)	0.236	(0.052)	0.213	(0.050)
##	SRBQ_18	(0.048)	0.083	(0.046)	0.307	(0.048)	0.126	(0.053)	0.387	(0.043)
##	SRBQ_19	(0.049)	0.315	(0.047)	0.153	(0.052)	0.228	(0.053)	0.185	(0.049)
##	SRBQ_21	(0.052)	0.334	(0.047)	0.201	(0.054)	0.275	(0.050)	0.208	(0.051)
##	SRBQ_22	(0.046)	0.548	(0.036)	0.213	(0.051)	0.298	(0.054)	0.156	(0.050)
##	SRBQ_24	(0.049)	0.142	(0.051)	0.248	(0.046)	0.162	(0.050)	0.441	(0.043)
##	SRBQ_25	(0.050)	0.386	(0.046)	0.192	(0.053)	0.242	(0.052)	0.165	(0.050)
##	SRBQ_26	(0.058)	0.275	(0.048)	0.246	(0.048)	0.350	(0.050)	0.199	(0.049)
##	SRBQ_27	(0.056)	0.364	(0.048)	0.248	(0.049)	0.316	(0.045)	0.179	(0.049)
##	SRBQ_28	(0.055)	0.255	(0.050)	0.207	(0.051)	0.336	(0.049)	0.187	(0.053)
##	SRBQ_30	(0.051)	0.069	(0.052)	0.557	(0.039)	0.130	(0.051)	0.222	(0.049)
##	SRBQ_31	(0.053)	0.204	(0.050)	0.323	(0.048)	0.371	(0.050)	0.144	(0.050)
##	SRBQ_14	se	SRBQ_18	se	SRBQ_19	se	SRBQ_21	se	SRBQ_22	
##	SRBQ_1	0.116	(0.054)	0.366	(0.048)	0.047	(0.052)	0.050	(0.052)	0.219
##	SRBQ_5	0.383	(0.048)	0.161	(0.050)	0.490	(0.045)	0.317	(0.047)	0.305
##	SRBQ_6	0.237	(0.050)	0.174	(0.048)	0.267	(0.049)	0.224	(0.051)	0.254
##	SRBQ_7	0.293	(0.046)	0.108	(0.050)	0.309	(0.048)	0.342	(0.044)	0.324
##	SRBQ_8	0.212	(0.049)	0.327	(0.048)	0.172	(0.049)	0.077	(0.052)	0.280
##	SRBQ_9	0.444	(0.045)	0.083	(0.046)	0.315	(0.047)	0.334	(0.047)	0.548
##	SRBQ_10	0.184	(0.053)	0.307	(0.048)	0.153	(0.052)	0.201	(0.054)	0.213
##	SRBQ_11	0.236	(0.052)	0.126	(0.053)	0.228	(0.053)	0.275	(0.050)	0.298
##	SRBQ_12	0.213	(0.050)	0.387	(0.043)	0.185	(0.049)	0.208	(0.051)	0.156
##	SRBQ_14			0.258	(0.045)	0.359	(0.045)	0.390	(0.043)	0.378
##	SRBQ_18	0.258	(0.045)			0.262	(0.047)	0.197	(0.049)	0.174
##	SRBQ_19	0.359	(0.045)	0.262	(0.047)			0.431	(0.045)	0.288
##	SRBQ_21	0.390	(0.043)	0.197	(0.049)	0.431	(0.045)			0.400
##	SRBQ_22	0.378	(0.044)	0.174	(0.048)	0.288	(0.047)	0.400	(0.047)	
##	SRBQ_24	0.175	(0.047)	0.446	(0.042)	0.177	(0.048)	0.165	(0.047)	0.193
##	SRBQ_25	0.412	(0.043)	0.257	(0.045)	0.359	(0.044)	0.369	(0.044)	0.456
##	SRBQ_26	0.236	(0.055)	0.264	(0.047)	0.295	(0.050)	0.307	(0.052)	0.365
##	SRBQ_27	0.338	(0.051)	0.244	(0.047)	0.341	(0.052)	0.318	(0.049)	0.410
##	SRBQ_28	0.277	(0.050)	0.331	(0.045)	0.294	(0.049)	0.278	(0.053)	0.295

```

## SRBQ_30 0.051 (0.052) 0.309 (0.046) 0.115 (0.050) 0.150 (0.050) 0.134
## SRBQ_31 0.132 (0.049) 0.182 (0.049) 0.248 (0.045) 0.268 (0.050) 0.259
##          se      SRBQ_24 se      SRBQ_25 se      SRBQ_26 se      SRBQ_27 se
## SRBQ_1  (0.052) 0.290 (0.049) 0.004 (0.051) 0.222 (0.054) 0.158 (0.048)
## SRBQ_5  (0.047) 0.116 (0.048) 0.359 (0.047) 0.214 (0.047) 0.262 (0.049)
## SRBQ_6  (0.051) 0.203 (0.048) 0.196 (0.049) 0.352 (0.043) 0.364 (0.045)
## SRBQ_7  (0.046) 0.098 (0.048) 0.219 (0.047) 0.220 (0.052) 0.275 (0.051)
## SRBQ_8  (0.046) 0.209 (0.049) 0.170 (0.050) 0.066 (0.058) 0.146 (0.056)
## SRBQ_9  (0.036) 0.142 (0.051) 0.386 (0.046) 0.275 (0.048) 0.364 (0.048)
## SRBQ_10 (0.051) 0.248 (0.046) 0.192 (0.053) 0.246 (0.048) 0.248 (0.049)
## SRBQ_11 (0.054) 0.162 (0.050) 0.242 (0.052) 0.350 (0.050) 0.316 (0.045)
## SRBQ_12 (0.050) 0.441 (0.043) 0.165 (0.050) 0.199 (0.049) 0.179 (0.049)
## SRBQ_14 (0.044) 0.175 (0.047) 0.412 (0.043) 0.236 (0.055) 0.338 (0.051)
## SRBQ_18 (0.048) 0.446 (0.042) 0.257 (0.045) 0.264 (0.047) 0.244 (0.047)
## SRBQ_19 (0.047) 0.177 (0.048) 0.359 (0.044) 0.295 (0.050) 0.341 (0.052)
## SRBQ_21 (0.047) 0.165 (0.047) 0.369 (0.044) 0.307 (0.052) 0.318 (0.049)
## SRBQ_22          0.193 (0.050) 0.456 (0.042) 0.365 (0.053) 0.410 (0.048)
## SRBQ_24 (0.050)          0.248 (0.047) 0.238 (0.051) 0.281 (0.048)
## SRBQ_25 (0.042) 0.248 (0.047)          0.270 (0.055) 0.344 (0.050)
## SRBQ_26 (0.053) 0.238 (0.051) 0.270 (0.055)          0.592 (0.040)
## SRBQ_27 (0.048) 0.281 (0.048) 0.344 (0.050) 0.592 (0.040)
## SRBQ_28 (0.052) 0.349 (0.049) 0.265 (0.051) 0.576 (0.041) 0.548 (0.041)
## SRBQ_30 (0.053) 0.148 (0.052) 0.099 (0.051) 0.249 (0.051) 0.193 (0.047)
## SRBQ_31 (0.048) 0.187 (0.048) 0.174 (0.050) 0.468 (0.050) 0.404 (0.049)
##          SRBQ_28 se      SRBQ_30 se      SRBQ_31 se
## SRBQ_1  0.242 (0.052) 0.272 (0.049) 0.211 (0.053)
## SRBQ_5  0.186 (0.050) 0.152 (0.050) 0.218 (0.050)
## SRBQ_6  0.299 (0.044) 0.167 (0.047) 0.340 (0.048)
## SRBQ_7  0.227 (0.052) 0.158 (0.050) 0.250 (0.050)
## SRBQ_8  0.148 (0.055) 0.238 (0.051) 0.067 (0.053)
## SRBQ_9  0.255 (0.050) 0.069 (0.052) 0.204 (0.050)
## SRBQ_10 0.207 (0.051) 0.557 (0.039) 0.323 (0.048)
## SRBQ_11 0.336 (0.049) 0.130 (0.051) 0.371 (0.050)
## SRBQ_12 0.187 (0.053) 0.222 (0.049) 0.144 (0.050)
## SRBQ_14 0.277 (0.050) 0.051 (0.052) 0.132 (0.049)
## SRBQ_18 0.331 (0.045) 0.309 (0.046) 0.182 (0.049)
## SRBQ_19 0.294 (0.049) 0.115 (0.050) 0.248 (0.045)
## SRBQ_21 0.278 (0.053) 0.150 (0.050) 0.268 (0.050)
## SRBQ_22 0.295 (0.052) 0.134 (0.053) 0.259 (0.048)
## SRBQ_24 0.349 (0.049) 0.148 (0.052) 0.187 (0.048)
## SRBQ_25 0.265 (0.051) 0.099 (0.051) 0.174 (0.050)
## SRBQ_26 0.576 (0.041) 0.249 (0.051) 0.468 (0.050)
## SRBQ_27 0.548 (0.041) 0.193 (0.047) 0.404 (0.049)
## SRBQ_28          0.256 (0.050) 0.509 (0.045)
## SRBQ_30 0.256 (0.050)          0.416 (0.046)
## SRBQ_31 0.509 (0.045) 0.416 (0.046)
##
## $Hi
##          Item H se
## SRBQ_1  0.194 (0.027)
## SRBQ_5  0.247 (0.024)
## SRBQ_6  0.248 (0.024)
## SRBQ_7  0.235 (0.026)
## SRBQ_8  0.200 (0.027)

```

```
## SRBQ_9    0.255 (0.025)
## SRBQ_10   0.237 (0.026)
## SRBQ_11   0.233 (0.027)
## SRBQ_12   0.216 (0.024)
## SRBQ_14   0.264 (0.026)
## SRBQ_18   0.252 (0.022)
## SRBQ_19   0.265 (0.025)
## SRBQ_21   0.263 (0.025)
## SRBQ_22   0.293 (0.024)
## SRBQ_24   0.230 (0.025)
## SRBQ_25   0.257 (0.024)
## SRBQ_26   0.300 (0.026)
## SRBQ_27   0.315 (0.024)
## SRBQ_28   0.303 (0.025)
## SRBQ_30   0.207 (0.025)
## SRBQ_31   0.265 (0.024)
##
## $H
## Scale H      se
##    0.251 (0.018)
```

```
# create subscales according to aisp -----
```

```
# subscale 1, items 5 6 7 9 11 14 19 21 22 25 26 27 28 31
new_sub1 <- new_srbq_xout[c(5,6,7,9,11,14,19,21,22,25,26,27,28,31)]
Hvalues_sub1 <- coefH(new_sub1)
```

```
## $Hij
##          SRBQ_5 se          SRBQ_6 se          SRBQ_7 se          SRBQ_9 se          SRBQ_11
## SRBQ_5    0.298 (0.044)    0.298 (0.044)    0.348 (0.053)    0.342 (0.045)    0.213
## SRBQ_6    0.298 (0.044)          0.317 (0.049)    0.247 (0.049)    0.410
## SRBQ_7    0.348 (0.053)    0.317 (0.049)          0.352 (0.047)    0.265
## SRBQ_9    0.342 (0.045)    0.247 (0.049)    0.352 (0.047)    0.269
## SRBQ_11   0.213 (0.050)    0.410 (0.050)    0.265 (0.051)    0.269 (0.051)
## SRBQ_14   0.383 (0.048)    0.237 (0.050)    0.293 (0.046)    0.444 (0.045)    0.236
## SRBQ_19   0.490 (0.045)    0.267 (0.049)    0.309 (0.048)    0.315 (0.047)    0.228
## SRBQ_21   0.317 (0.047)    0.224 (0.051)    0.342 (0.044)    0.334 (0.047)    0.275
## SRBQ_22   0.305 (0.047)    0.254 (0.051)    0.324 (0.046)    0.548 (0.036)    0.298
## SRBQ_25   0.359 (0.047)    0.196 (0.049)    0.219 (0.047)    0.386 (0.046)    0.242
## SRBQ_26   0.214 (0.047)    0.352 (0.043)    0.220 (0.052)    0.275 (0.048)    0.350
## SRBQ_27   0.262 (0.049)    0.364 (0.045)    0.275 (0.051)    0.364 (0.048)    0.316
## SRBQ_28   0.186 (0.050)    0.299 (0.044)    0.227 (0.052)    0.255 (0.050)    0.336
## SRBQ_31   0.218 (0.050)    0.340 (0.048)    0.250 (0.050)    0.204 (0.050)    0.371
##          se          SRBQ_14 se          SRBQ_19 se          SRBQ_21 se          SRBQ_22 se
## SRBQ_5 (0.050)    0.383 (0.048)    0.490 (0.045)    0.317 (0.047)    0.305 (0.047)
## SRBQ_6 (0.050)    0.237 (0.050)    0.267 (0.049)    0.224 (0.051)    0.254 (0.051)
## SRBQ_7 (0.051)    0.293 (0.046)    0.309 (0.048)    0.342 (0.044)    0.324 (0.046)
## SRBQ_9 (0.051)    0.444 (0.045)    0.315 (0.047)    0.334 (0.047)    0.548 (0.036)
## SRBQ_11          0.236 (0.052)    0.228 (0.053)    0.275 (0.050)    0.298 (0.054)
## SRBQ_14 (0.052)          0.359 (0.045)    0.390 (0.043)    0.378 (0.044)
## SRBQ_19 (0.053)    0.359 (0.045)          0.431 (0.045)    0.288 (0.047)
## SRBQ_21 (0.050)    0.390 (0.043)    0.431 (0.045)          0.400 (0.047)
## SRBQ_22 (0.054)    0.378 (0.044)    0.288 (0.047)    0.400 (0.047)
## SRBQ_25 (0.052)    0.412 (0.043)    0.359 (0.044)    0.369 (0.044)    0.456 (0.042)
```

```

## SRBQ_26 (0.050) 0.236 (0.055) 0.295 (0.050) 0.307 (0.052) 0.365 (0.053)
## SRBQ_27 (0.045) 0.338 (0.051) 0.341 (0.052) 0.318 (0.049) 0.410 (0.048)
## SRBQ_28 (0.049) 0.277 (0.050) 0.294 (0.049) 0.278 (0.053) 0.295 (0.052)
## SRBQ_31 (0.050) 0.132 (0.049) 0.248 (0.045) 0.268 (0.050) 0.259 (0.048)
## SRBQ_25 se SRBQ_26 se SRBQ_27 se SRBQ_28 se SRBQ_31
## SRBQ_5 0.359 (0.047) 0.214 (0.047) 0.262 (0.049) 0.186 (0.050) 0.218
## SRBQ_6 0.196 (0.049) 0.352 (0.043) 0.364 (0.045) 0.299 (0.044) 0.340
## SRBQ_7 0.219 (0.047) 0.220 (0.052) 0.275 (0.051) 0.227 (0.052) 0.250
## SRBQ_9 0.386 (0.046) 0.275 (0.048) 0.364 (0.048) 0.255 (0.050) 0.204
## SRBQ_11 0.242 (0.052) 0.350 (0.050) 0.316 (0.045) 0.336 (0.049) 0.371
## SRBQ_14 0.412 (0.043) 0.236 (0.055) 0.338 (0.051) 0.277 (0.050) 0.132
## SRBQ_19 0.359 (0.044) 0.295 (0.050) 0.341 (0.052) 0.294 (0.049) 0.248
## SRBQ_21 0.369 (0.044) 0.307 (0.052) 0.318 (0.049) 0.278 (0.053) 0.268
## SRBQ_22 0.456 (0.042) 0.365 (0.053) 0.410 (0.048) 0.295 (0.052) 0.259
## SRBQ_25 0.270 (0.055) 0.344 (0.050) 0.265 (0.051) 0.174
## SRBQ_26 0.270 (0.055) 0.592 (0.040) 0.576 (0.041) 0.468
## SRBQ_27 0.344 (0.050) 0.592 (0.040) 0.548 (0.041) 0.404
## SRBQ_28 0.265 (0.051) 0.576 (0.041) 0.548 (0.041) 0.509
## SRBQ_31 0.174 (0.050) 0.468 (0.050) 0.404 (0.049) 0.509 (0.045)
## se
## SRBQ_5 (0.050)
## SRBQ_6 (0.048)
## SRBQ_7 (0.050)
## SRBQ_9 (0.050)
## SRBQ_11 (0.050)
## SRBQ_14 (0.049)
## SRBQ_19 (0.045)
## SRBQ_21 (0.050)
## SRBQ_22 (0.048)
## SRBQ_25 (0.050)
## SRBQ_26 (0.050)
## SRBQ_27 (0.049)
## SRBQ_28 (0.045)
## SRBQ_31
##
## $Hi
## Item H se
## SRBQ_5 0.302 (0.026)
## SRBQ_6 0.293 (0.027)
## SRBQ_7 0.287 (0.028)
## SRBQ_9 0.332 (0.026)
## SRBQ_11 0.294 (0.029)
## SRBQ_14 0.316 (0.027)
## SRBQ_19 0.325 (0.026)
## SRBQ_21 0.328 (0.027)
## SRBQ_22 0.351 (0.026)
## SRBQ_25 0.311 (0.027)
## SRBQ_26 0.349 (0.028)
## SRBQ_27 0.376 (0.026)
## SRBQ_28 0.335 (0.027)
## SRBQ_31 0.293 (0.028)
##
## $H
## Scale H se

```

```
## 0.320 (0.020)
```

```
# subscale 2, items 1 8 10 12 18 24 30
```

```
new_sub2 <- new_srbq_xout[c(1,8,10,12,18,24,30,3,13)] # add item 3 and 13 due to clinical consideration
```

```
Hvalues_sub2 <- coefH(new_sub2)
```

```
## $Hij
```

	SRBQ_1	se	SRBQ_8	se	SRBQ_10	se	SRBQ_12	se	SRBQ_18
## SRBQ_1			0.450	(0.047)	0.258	(0.051)	0.355	(0.045)	0.366
## SRBQ_8	0.450	(0.047)			0.245	(0.050)	0.332	(0.046)	0.327
## SRBQ_10	0.258	(0.051)	0.245	(0.050)			0.181	(0.049)	0.307
## SRBQ_12	0.355	(0.045)	0.332	(0.046)	0.181	(0.049)			0.387
## SRBQ_18	0.366	(0.048)	0.327	(0.048)	0.307	(0.048)	0.387	(0.043)	
## SRBQ_24	0.290	(0.049)	0.209	(0.049)	0.248	(0.046)	0.441	(0.043)	0.446
## SRBQ_30	0.272	(0.049)	0.238	(0.051)	0.557	(0.039)	0.222	(0.049)	0.309
## SRBQ_3	0.216	(0.047)	0.213	(0.050)	0.361	(0.048)	0.132	(0.051)	0.158
## SRBQ_13	0.185	(0.055)	0.373	(0.047)	0.236	(0.051)	0.284	(0.047)	0.287

	se	SRBQ_24	se	SRBQ_30	se	SRBQ_3	se	SRBQ_13	se
## SRBQ_1	(0.048)	0.290	(0.049)	0.272	(0.049)	0.216	(0.047)	0.185	(0.055)
## SRBQ_8	(0.048)	0.209	(0.049)	0.238	(0.051)	0.213	(0.050)	0.373	(0.047)
## SRBQ_10	(0.048)	0.248	(0.046)	0.557	(0.039)	0.361	(0.048)	0.236	(0.051)
## SRBQ_12	(0.043)	0.441	(0.043)	0.222	(0.049)	0.132	(0.051)	0.284	(0.047)
## SRBQ_18		0.446	(0.042)	0.309	(0.046)	0.158	(0.048)	0.287	(0.045)
## SRBQ_24	(0.042)			0.148	(0.052)	0.152	(0.050)	0.185	(0.051)
## SRBQ_30	(0.046)	0.148	(0.052)			0.513	(0.043)	0.187	(0.048)
## SRBQ_3	(0.048)	0.152	(0.050)	0.513	(0.043)			0.205	(0.051)
## SRBQ_13	(0.045)	0.185	(0.051)	0.187	(0.048)	0.205	(0.051)		

```
##
```

```
## $Hi
```

	Item H	se
## SRBQ_1	0.299	(0.028)
## SRBQ_8	0.296	(0.028)
## SRBQ_10	0.297	(0.028)
## SRBQ_12	0.294	(0.027)
## SRBQ_18	0.324	(0.024)
## SRBQ_24	0.271	(0.027)
## SRBQ_30	0.304	(0.027)
## SRBQ_3	0.241	(0.029)
## SRBQ_13	0.244	(0.030)

```
##
```

```
## $H
```

Scale H	se
## 0.286	(0.020)

```
# check local dependence
```

```
CA.def.sub1 <- check.ca(new_sub1, TRUE)
```

```
CA.def.sub1$InScale[[1]]
```

```
## [1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
```

```
CA.def.sub1$Index
```

```
## [[1]]
```

```

## [[1]]$W1
##          SRBQ_5  SRBQ_6  SRBQ_7  SRBQ_9  SRBQ_11  SRBQ_14  SRBQ_19
## SRBQ_5          NA 7.810991 5.775172 10.380692 4.309531 8.154376 8.677588
## SRBQ_6 11.415669          NA 5.882101 5.458337 9.187225 5.618142 8.379344
## SRBQ_7 10.416409 8.660681          NA 9.747248 2.978483 5.611354 5.921391
## SRBQ_9 11.855530 3.740196 6.667028          NA 5.247914 4.630575 3.918039
## SRBQ_11 7.541115 8.682108 4.453955 5.487178          NA 5.461683 4.691600
## SRBQ_14 12.982039 5.208671 4.845041 7.411183 6.421123          NA 5.488941
## SRBQ_19 10.597078 7.500722 4.130804 6.122822 4.015547 5.651389          NA
## SRBQ_21 8.651734 3.953375 5.924734 6.404311 4.286174 6.895850 6.507678
## SRBQ_22 7.182323 2.584881 4.997001 7.966565 2.781537 5.274068 2.290330
## SRBQ_25 12.326421 3.729605 3.733708 9.760152 6.207874 7.196206 6.693475
## SRBQ_26 9.404957 5.198065 3.389491 5.205994 4.188098 3.163094 4.130360
## SRBQ_27 5.962374 3.419975 2.185612 5.338901 2.570886 2.456728 3.729814
## SRBQ_28 6.567533 5.063639 3.165136 5.765024 6.134979 5.908585 5.077548
## SRBQ_31 8.381325 8.633425 5.727197 6.147622 7.543986 3.824786 6.634489
##          SRBQ_21 SRBQ_22 SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5 7.159727 7.293463 8.096440 7.804074 9.425954 4.874230 6.374416
## SRBQ_6 4.903048 6.336899 4.182996 10.444261 9.745976 7.780249 7.494444
## SRBQ_7 8.259989 9.741176 4.242110 5.651872 9.080181 5.455656 4.856006
## SRBQ_9 4.784917 7.453942 5.127562 5.131802 8.688520 4.424635 2.460411
## SRBQ_11 8.943344 6.279457 6.453716 6.839257 9.200458 6.871295 6.986155
## SRBQ_14 7.079932 9.540482 6.867354 7.369380 10.361482 6.413132 3.147071
## SRBQ_19 6.700216 5.592512 4.848795 6.113760 11.024305 5.196683 4.338988
## SRBQ_21          NA 6.630283 4.874973 5.479051 7.251016 3.975252 4.527163
## SRBQ_22 4.769782          NA 6.035878 5.110170 6.733555 3.125695 2.507985
## SRBQ_25 8.371409 9.374663          NA 6.430571 10.673918 4.901680 5.888516
## SRBQ_26 5.323989 6.727299 4.169660          NA 12.300025 9.840049 5.304548
## SRBQ_27 6.135607 4.199518 5.237098 5.188095          NA 5.225649 3.866731
## SRBQ_28 5.586589 5.477085 3.688487 10.453397 11.113938          NA 9.308657
## SRBQ_31 7.510008 9.365744 5.908715 11.262863 10.566420 14.073645          NA
##
## [[1]]$W2
##          [,1]      [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]
## [1,] 176.9699 181.8008 180.0143 169.3476 186.6767 170.555 170.9917 173.2976
##          [,9]      [,10]     [,11]     [,12]     [,13]     [,14]
## [1,] 164.6607 177.2188 165.6791 160.9451 163.4911 177.7026
##
## [[1]]$W3
##          SRBQ_5  SRBQ_6  SRBQ_7  SRBQ_9  SRBQ_11  SRBQ_14  SRBQ_19
## SRBQ_5          NA 13.89232 11.28222 10.243801 17.46953 10.874213 7.110722
## SRBQ_6 13.892324          NA 12.18947 15.497561 10.95586 15.325506 15.788033
## SRBQ_7 11.282221 12.18947          NA 12.229627 16.04154 12.741687 12.676055
## SRBQ_9 10.243801 15.49756 12.22963          NA 14.96957 7.595423 13.388121
## SRBQ_11 17.469533 10.95586 16.04154 14.969567          NA 17.488590 17.352097
## SRBQ_14 10.874213 15.32551 12.74169 7.595423 17.48859          NA 11.125056
## SRBQ_19 7.110722 15.78803 12.67605 13.388121 17.35210 11.125056          NA
## SRBQ_21 15.302884 15.61310 11.33987 14.536696 14.76931 11.025142 9.956622
## SRBQ_22 13.496126 15.67900 15.29719 6.647824 13.76172 12.275756 14.657539
## SRBQ_25 12.441637 18.52277 13.87667 11.525915 16.45569 9.502422 11.773575
## SRBQ_26 16.095338 11.56811 17.21974 15.382135 12.73001 16.530009 15.302107
## SRBQ_27 14.439893 11.64259 15.06672 13.448994 12.92828 14.641079 14.135417
## SRBQ_28 18.181877 13.28860 15.90019 16.105929 10.56867 13.461705 13.840019
## SRBQ_31 16.139360 11.83790 14.15334 17.776000 11.18582 17.968403 13.886339

```

```

##          SRBQ_21  SRBQ_22  SRBQ_25  SRBQ_26  SRBQ_27  SRBQ_28  SRBQ_31
## SRBQ_5  15.302884 13.496126 12.441637 16.095338 14.439893 18.181877 16.139360
## SRBQ_6  15.613101 15.679004 18.522774 11.568108 11.642595 13.288605 11.837900
## SRBQ_7  11.339873 15.297188 13.876669 17.219738 15.066721 15.900192 14.153340
## SRBQ_9  14.536696  6.647824 11.525915 15.382135 13.448994 16.105929 17.776000
## SRBQ_11 14.769308 13.761725 16.455686 12.730014 12.928282 10.568666 11.185817
## SRBQ_14 11.025142 12.275756  9.502422 16.530009 14.641079 13.461705 17.968403
## SRBQ_19  9.956622 14.657539 11.773575 15.302107 14.135417 13.840019 13.886339
## SRBQ_21          NA 10.364850 11.800176 13.552597 15.526013 14.588353 14.922032
## SRBQ_22 10.364850          NA  9.084222 11.292635 12.106910 14.256826 15.740083
## SRBQ_25 11.800176  9.084222          NA 16.784019 12.914584 15.248498 17.288614
## SRBQ_26 13.552597 11.292635 16.784019          NA  6.579058  4.112817  8.530572
## SRBQ_27 15.526013 12.106910 12.914584  6.579058          NA  6.589530 10.926067
## SRBQ_28 14.588353 14.256826 15.248498  4.112817  6.589530          NA  7.348072
## SRBQ_31 14.922032 15.740083 17.288614  8.530572 10.926067  7.348072          NA
##
##
## [[2]]
## [[2]]$W1
##          SRBQ_5  SRBQ_6  SRBQ_7  SRBQ_9  SRBQ_11  SRBQ_14  SRBQ_19
## SRBQ_5          NA  6.647154  5.054984  9.428550  3.615873  7.727273  7.701493
## SRBQ_6 10.905074          NA  5.724511  5.375464  8.450000  5.472628  7.722379
## SRBQ_7  9.340024  7.563783          NA  8.754695  2.539941  5.391983  5.611568
## SRBQ_9 10.569283  2.897702  5.683489          NA  4.177757  3.998421  3.051738
## SRBQ_11  7.328973  8.094745  4.447841  5.416638          NA  5.164240  4.659797
## SRBQ_14 11.005623  3.573506  3.566446  6.066792  4.975455          NA  4.029184
## SRBQ_19  9.927252  6.249100  3.521503  5.888742  3.656759  5.422039          NA
## SRBQ_21  8.365537  3.624453  5.648320  5.607366  3.515323  6.574493  6.057120
## SRBQ_22  6.827275  2.217523  4.228072  7.493928  2.415106  4.851974  2.124982
## SRBQ_25 10.670671  2.612839  3.036741  8.679033  5.169647  6.091616  5.168654
## SRBQ_26  9.264761  5.167307  3.297416  5.146722  3.914346  3.147091  4.110520
## SRBQ_27  5.853441  3.360661  2.048587  5.300878  2.360204  2.455162  3.568748
## SRBQ_28  6.463942  4.910710  3.164676  5.741978  5.994973  5.900343  5.065436
## SRBQ_31          NA          NA          NA          NA          NA          NA          NA
##          SRBQ_21  SRBQ_22  SRBQ_25  SRBQ_26  SRBQ_27  SRBQ_28  SRBQ_31
## SRBQ_5  6.394186  6.427644  7.474141  6.809930  8.609929  3.632436          NA
## SRBQ_6  4.604689  5.697869  3.948631 10.135018  9.371977  6.463138          NA
## SRBQ_7  7.730610  8.281855  3.899894  4.360431  8.573221  4.346533          NA
## SRBQ_9  3.670995  6.354414  4.480426  3.985729  7.107035  3.023677          NA
## SRBQ_11 8.877566  6.079693  6.099366  6.412480  8.886434  5.891341          NA
## SRBQ_14 5.151105  7.516570  5.484317  5.322311  8.502931  3.949514          NA
## SRBQ_19 6.150459  4.814883  4.355131  5.083793  9.829641  4.243412          NA
## SRBQ_21          NA  6.335553  4.216966  4.815648  6.470636  2.950650          NA
## SRBQ_22 4.120986          NA  5.226291  4.041862  5.914525  2.418815          NA
## SRBQ_25 7.172086  7.977993          NA  4.880443  8.747791  3.050171          NA
## SRBQ_26 5.281396  6.666279  4.110762          NA 11.952401  9.704865          NA
## SRBQ_27 5.868732  3.789380  4.942389  4.490981          NA  4.336009          NA
## SRBQ_28 5.485732  5.338903  3.678037 10.414199 11.066386          NA          NA
## SRBQ_31          NA          NA          NA          NA          NA          NA          NA
##
## [[2]]$W2
##          [,1]      [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]
## [1,] 149.8752 146.4982 150.2856 137.6875 157.805 141.2021 141.9188 144.6623
##          [,9]      [,10]     [,11]     [,12]     [,13]  [,14]

```



```

## [1,] 140.753 148.5824 143.819 131.791 142.1342      NA
##
## [[2]]$W3
##          SRBQ_5      SRBQ_6      SRBQ_7      SRBQ_9      SRBQ_11      SRBQ_14      SRBQ_19
## SRBQ_5          NA 11.263809 10.229743 10.746585 15.397965  9.981626  6.636704
## SRBQ_6 11.263809          NA  9.479115 12.988720  7.568562 13.853390 15.590926
## SRBQ_7 10.229743  9.479115          NA 10.591487 13.982367 10.747920 11.554152
## SRBQ_9 10.746585 12.988720 10.591487          NA 12.728816  7.603535 12.811461
## SRBQ_11 15.397965  7.568562 13.982367 12.728816          NA 16.480523 15.029131
## SRBQ_14  9.981626 13.853390 10.747920  7.603535 16.480523          NA  8.720356
## SRBQ_19  6.636704 15.590926 11.554152 12.811461 15.029131  8.720356          NA
## SRBQ_21 13.180381 15.606200 11.441847 13.159112 13.976568 10.121620  8.475521
## SRBQ_22 14.459014 14.534634 12.638743  5.948671 13.598122 10.227528 13.963032
## SRBQ_25 11.582300 16.412958 15.232263  9.995914 15.481538  9.270766 11.006882
## SRBQ_26 14.992241  8.620750 16.462059 14.677468 12.170497 16.525956 13.956708
## SRBQ_27 14.436578 10.356345 14.144629 11.471120 10.781314 14.247288 12.072491
## SRBQ_28 16.968226 10.222758 13.781312 14.964654 10.609623 13.421599 12.101427
## SRBQ_31          NA          NA          NA          NA          NA          NA          NA
##          SRBQ_21      SRBQ_22      SRBQ_25      SRBQ_26      SRBQ_27      SRBQ_28      SRBQ_31
## SRBQ_5 13.180381 14.459014 11.582300 14.992241 14.436578 16.968226          NA
## SRBQ_6 15.606200 14.534634 16.412958  8.620750 10.356345 10.222758          NA
## SRBQ_7 11.441847 12.638743 15.232263 16.462059 14.144629 13.781312          NA
## SRBQ_9 13.159112  5.948671  9.995914 14.677468 11.471120 14.964654          NA
## SRBQ_11 13.976568 13.598122 15.481538 12.170497 10.781314 10.609623          NA
## SRBQ_14 10.121620 10.227528  9.270766 16.525956 14.247288 13.421599          NA
## SRBQ_19  8.475521 13.963032 11.006882 13.956708 12.072491 12.101427          NA
## SRBQ_21          NA  9.936029  9.123728 13.433893 12.985228 13.222194          NA
## SRBQ_22  9.936029          NA  8.604059 11.663838 11.038780 14.140564          NA
## SRBQ_25  9.123728  8.604059          NA 14.001040 12.000212 15.870721          NA
## SRBQ_26 13.433893 11.663838 14.001040          NA  4.370258  2.944329          NA
## SRBQ_27 12.985228 11.038780 12.000212  4.370258          NA  3.886792          NA
## SRBQ_28 13.222194 14.140564 15.870721  2.944329  3.886792          NA          NA
## SRBQ_31          NA          NA          NA          NA          NA          NA          NA
##
##
## [[3]]
## [[3]]$W1
##          SRBQ_5      SRBQ_6      SRBQ_7      SRBQ_9      SRBQ_11      SRBQ_14      SRBQ_19
## SRBQ_5          NA 5.710035 4.576192 8.243755 3.156198 7.012614 6.719529
## SRBQ_6 10.230594          NA 5.613830 5.331519 7.475170 5.304595 7.264035
## SRBQ_7  8.302374 6.009881          NA 7.793636 2.038291 4.892589 4.909879
## SRBQ_9  9.439425 2.738504 5.020414          NA 3.802720 3.575064 2.724747
## SRBQ_11 6.895969 7.168587 4.382793 5.358311          NA 4.963300 4.415095
## SRBQ_14 9.362755 2.741768 3.135245 5.148498 4.094181          NA 3.352909
## SRBQ_19 9.374356 5.934714 3.413516 5.638611 3.531516 5.255254          NA
## SRBQ_21 7.076608 3.423579 5.136270 4.992007 3.369904 6.170033 5.747991
## SRBQ_22 6.417706 2.198408 3.964719 7.133641 2.384057 4.757781 2.095675
## SRBQ_25 8.647647 2.502227 2.409604 7.972654 4.786848 5.617546 4.789586
## SRBQ_26          NA          NA          NA          NA          NA          NA          NA
## SRBQ_27 5.786384 3.247487 2.011466 5.262817 2.339180 2.454388 3.566233
## SRBQ_28 6.458514 4.909678 3.163706 5.731891 5.978628 5.899919 5.064900
## SRBQ_31          NA          NA          NA          NA          NA          NA          NA
##          SRBQ_21      SRBQ_22      SRBQ_25      SRBQ_26      SRBQ_27      SRBQ_28      SRBQ_31
## SRBQ_5 5.900065 5.264585 6.564900          NA  6.944074 2.593383          NA

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```

## SRBQ_6 4.566191 5.508013 3.925318 NA 8.575086 6.079113 NA
## SRBQ_7 6.396527 7.479693 3.180468 NA 6.764828 2.508528 NA
## SRBQ_9 2.965786 5.433505 4.110318 NA 6.212035 2.208103 NA
## SRBQ_11 8.434880 5.946341 5.829173 NA 8.183050 5.374898 NA
## SRBQ_14 4.506173 6.244624 4.747155 NA 6.973646 2.367347 NA
## SRBQ_19 5.534024 4.504883 3.802268 NA 8.077250 2.736994 NA
## SRBQ_21 NA 5.719422 3.869799 NA 5.657284 2.273650 NA
## SRBQ_22 4.004589 NA 5.046107 NA 5.534066 2.123289 NA
## SRBQ_25 6.283067 6.737343 NA NA 7.201736 2.027982 NA
## SRBQ_26 NA NA NA NA NA NA NA
## SRBQ_27 5.868724 3.771561 4.941364 NA NA 4.307543 NA
## SRBQ_28 5.485724 5.338507 3.677959 NA 11.005051 NA NA
## SRBQ_31 NA NA NA NA NA NA NA NA
##
## [[3]]$W2
##      [,1]      [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]
## [1,] 126.4823 128.8561 129.8473 122.9793 137.1913 120.3899 120.8379 122.2745
##      [,9]     [,10] [,11]     [,12]     [,13] [,14]
## [1,] 121.3837 123.2171 NA 119.7248 126.949 NA
##
## [[3]]$W3
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19
## SRBQ_5 NA 11.181842 9.966425 9.690325 15.216431 10.075101 5.696910
## SRBQ_6 11.181842 NA 9.852957 12.794274 8.369167 13.523515 12.789331
## SRBQ_7 9.966425 9.852957 NA 11.038132 13.097943 10.800855 11.288568
## SRBQ_9 9.690325 12.794274 11.038132 NA 13.478721 8.485805 13.177724
## SRBQ_11 15.216431 8.369167 13.097943 13.478721 NA 15.718833 13.176618
## SRBQ_14 10.075101 13.523515 10.800855 8.485805 15.718833 NA 9.232797
## SRBQ_19 5.696910 12.789331 11.288568 13.177724 13.176618 9.232797 NA
## SRBQ_21 12.758263 13.899743 10.439518 12.188662 13.221253 9.967465 7.644802
## SRBQ_22 11.998892 13.120658 12.408739 6.527903 12.895370 10.418220 14.650340
## SRBQ_25 10.635338 15.762391 13.569249 9.192521 13.815167 8.037408 9.698716
## SRBQ_26 NA NA NA NA NA NA NA
## SRBQ_27 13.927139 8.729778 13.480642 11.823991 9.721931 11.759200 11.964571
## SRBQ_28 15.335669 8.832441 13.904320 14.581226 8.479916 12.370743 11.517506
## SRBQ_31 NA NA NA NA NA NA NA NA
##      SRBQ_21 SRBQ_22 SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5 12.758263 11.998892 10.635338 NA 13.927139 15.335669 NA
## SRBQ_6 13.899743 13.120658 15.762391 NA 8.729778 8.832441 NA
## SRBQ_7 10.439518 12.408739 13.569249 NA 13.480642 13.904320 NA
## SRBQ_9 12.188662 6.527903 9.192521 NA 11.823991 14.581226 NA
## SRBQ_11 13.221253 12.895370 13.815167 NA 9.721931 8.479916 NA
## SRBQ_14 9.967465 10.418220 8.037408 NA 11.759200 12.370743 NA
## SRBQ_19 7.644802 14.650340 9.698716 NA 11.964571 11.517506 NA
## SRBQ_21 NA 9.049055 8.980622 NA 12.047757 12.077383 NA
## SRBQ_22 9.049055 NA 7.361238 NA 10.140427 12.812847 NA
## SRBQ_25 8.980622 7.361238 NA NA 12.628437 13.536014 NA
## SRBQ_26 NA NA NA NA NA NA NA
## SRBQ_27 12.047757 10.140427 12.628437 NA NA 3.500939 NA
## SRBQ_28 12.077383 12.812847 13.536014 NA 3.500939 NA NA
## SRBQ_31 NA NA NA NA NA NA NA NA
##
##
## [[4]]

```

```

## [[4]]$W1
##      SRBQ_5  SRBQ_6  SRBQ_7  SRBQ_9  SRBQ_11  SRBQ_14  SRBQ_19  SRBQ_21
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA  5.265948  4.536416  7.252615  4.724109  6.538137  3.923314
## SRBQ_7      NA  5.156812      NA  7.561280  2.001437  4.720438  4.454169  6.123512
## SRBQ_9      NA  2.322289  4.735531      NA  3.246358  3.216995  2.308095  2.885057
## SRBQ_11     NA  5.869398  3.354986  4.596589      NA  4.062149  3.471090  6.841473
## SRBQ_14     NA  2.711950  2.888678  4.874631  3.529523      NA  3.115949  4.234717
## SRBQ_19     NA  5.713937  3.371482  4.968191  3.519834  4.747164      NA  5.058418
## SRBQ_21     NA  2.975433  4.469841  3.942534  3.338387  5.096546  4.600162      NA
## SRBQ_22     NA  1.791216  3.260729  5.971708  2.227768  4.109370  1.694761  3.868787
## SRBQ_25     NA  2.353092  2.376169  6.937544  4.271350  4.847639  4.516403  6.065573
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA  2.849406  1.630930  4.149721  2.226393  1.885225  2.959293  4.771864
## SRBQ_28     NA  3.421264  2.321075  4.581218  5.030633  4.468218  3.553461  4.372906
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA
##      SRBQ_22  SRBQ_25  SRBQ_26  SRBQ_27  SRBQ_28  SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA      NA
## SRBQ_6  5.288427  3.513291      NA  7.785436  5.639317      NA
## SRBQ_7  7.011611  3.052398      NA  6.653984  2.190131      NA
## SRBQ_9  4.949500  3.235551      NA  5.375288  1.945137      NA
## SRBQ_11  4.967108  4.385369      NA  7.745302  4.747833      NA
## SRBQ_14  5.263235  4.130248      NA  6.039349  2.331536      NA
## SRBQ_19  4.491259  3.770366      NA  7.992179  2.735772      NA
## SRBQ_21  5.107005  3.690572      NA  5.008046  2.179552      NA
## SRBQ_22      NA  4.356966      NA  5.166896  1.880190      NA
## SRBQ_25  6.468935      NA      NA  6.348834  1.972591      NA
## SRBQ_26      NA      NA      NA      NA      NA      NA
## SRBQ_27  3.376899  4.011907      NA      NA  3.792006      NA
## SRBQ_28  4.495328  2.418359      NA  9.124645      NA      NA
## SRBQ_31      NA      NA      NA      NA      NA      NA
##
## [[4]]$W2
##      [,1]      [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]
## [1,]  NA 110.8291 109.0786 100.2719 111.9182 99.54118 102.3989 106.394
##      [,9]      [,10] [,11]      [,12]      [,13] [,14]
## [1,] 101.7033 103.5076      NA 99.56985 104.1965      NA
##
## [[4]]$W3
##      SRBQ_5  SRBQ_6  SRBQ_7  SRBQ_9  SRBQ_11  SRBQ_14  SRBQ_19
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA  9.119966 11.551212  8.043219 12.225301 11.816670
## SRBQ_7      NA  9.119966      NA 10.290774 11.341056  9.656995  9.710594
## SRBQ_9      NA 11.551212 10.290774      NA 11.568848  5.971127 10.654110
## SRBQ_11     NA  8.043219 11.341056 11.568848      NA 14.990087 12.116003
## SRBQ_14     NA 12.225301  9.656995  5.971127 14.990087      NA  8.601928
## SRBQ_19     NA 11.816670  9.710594 10.654110 12.116003  8.601928      NA
## SRBQ_21     NA 14.482876 10.183132 11.874097 11.248150  8.895043  7.618383
## SRBQ_22     NA 13.805733 11.016199  4.980932 11.819885  9.132591 11.831926
## SRBQ_25     NA 14.045758 12.774817  8.506064 12.111502  6.995729  9.337803
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA  6.687549 12.364622 11.406916  9.816512 11.617420 11.313062
## SRBQ_28     NA  9.050865 12.620486 13.467802  8.862943 11.454955  9.398456
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA

```

```

##          SRBQ_21  SRBQ_22  SRBQ_25 SRBQ_26  SRBQ_27  SRBQ_28 SRBQ_31
## SRBQ_5          NA          NA          NA          NA          NA          NA
## SRBQ_6  14.482876 13.805733 14.045758          NA  6.687549  9.050865          NA
## SRBQ_7  10.183132 11.016199 12.774817          NA 12.364622 12.620486          NA
## SRBQ_9  11.874097  4.980932  8.506064          NA 11.406916 13.467802          NA
## SRBQ_11 11.248150 11.819885 12.111502          NA  9.816512  8.862943          NA
## SRBQ_14  8.895043  9.132591  6.995729          NA 11.617420 11.454955          NA
## SRBQ_19  7.618383 11.831926  9.337803          NA 11.313062  9.398456          NA
## SRBQ_21          NA  8.932426  9.718854          NA 12.192843 11.248228          NA
## SRBQ_22  8.932426          NA  7.484274          NA 10.293637 12.405673          NA
## SRBQ_25  9.718854  7.484274          NA          NA 10.361531 12.171311          NA
## SRBQ_26          NA          NA          NA          NA          NA          NA
## SRBQ_27 12.192843 10.293637 10.361531          NA          NA  3.515762          NA
## SRBQ_28 11.248228 12.405673 12.171311          NA  3.515762          NA          NA
## SRBQ_31          NA          NA          NA          NA          NA          NA
##
##
## [[5]]
## [[5]]$W1
##          SRBQ_5  SRBQ_6  SRBQ_7  SRBQ_9  SRBQ_11  SRBQ_14  SRBQ_19  SRBQ_21
## SRBQ_5          NA          NA          NA          NA          NA          NA          NA
## SRBQ_6          NA          NA 5.080653 4.275632 6.828908 4.425304 5.755558 3.869507
## SRBQ_7          NA 4.696387          NA 6.223950 1.808628 4.419188 4.009940 4.619523
## SRBQ_9          NA 2.159990 4.279151          NA 3.083531 3.031341 2.151382 2.339509
## SRBQ_11         NA 4.884641 3.273390 4.250015          NA 3.654669 3.431977 6.102448
## SRBQ_14         NA 2.628494 2.624103 4.377777 3.230466          NA 2.542244 3.947310
## SRBQ_19         NA 4.962915 3.228413 4.491009 3.362970 4.343318          NA 4.498896
## SRBQ_21         NA 2.819028 4.099244 3.534109 3.287932 4.941558 4.261233          NA
## SRBQ_22         NA 1.764682 3.189311 5.436641 2.167211 4.045117 1.553827 3.561529
## SRBQ_25         NA 2.138988 2.319109 6.656471 3.511484 4.780451 4.034527 5.290388
## SRBQ_26         NA          NA          NA          NA          NA          NA          NA
## SRBQ_27         NA          NA          NA          NA          NA          NA          NA
## SRBQ_28         NA 3.410862 2.320137 4.574786 4.910384 4.466457 3.552248 4.372781
## SRBQ_31         NA          NA          NA          NA          NA          NA          NA
##          SRBQ_22  SRBQ_25  SRBQ_26  SRBQ_27  SRBQ_28  SRBQ_31
## SRBQ_5          NA          NA          NA          NA          NA
## SRBQ_6  5.255009 3.356189          NA          NA 5.437963          NA
## SRBQ_7  6.482582 2.302489          NA          NA 1.676071          NA
## SRBQ_9  4.547754 2.668928          NA          NA 1.768692          NA
## SRBQ_11 4.767757 3.718449          NA          NA 3.700238          NA
## SRBQ_14 4.800895 3.717344          NA          NA 2.061226          NA
## SRBQ_19 4.086202 3.330265          NA          NA 2.150437          NA
## SRBQ_21 4.522518 2.974875          NA          NA 1.453289          NA
## SRBQ_22          NA 4.055154          NA          NA 1.789356          NA
## SRBQ_25 5.774617          NA          NA          NA 1.792783          NA
## SRBQ_26          NA          NA          NA          NA          NA
## SRBQ_27          NA          NA          NA          NA          NA
## SRBQ_28 4.428175 2.417522          NA          NA          NA
## SRBQ_31          NA          NA          NA          NA          NA
##
## [[5]]$W2
##          [,1]      [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]
## [1,]  NA 95.59604 86.91103 86.25398 93.37117 84.17379 83.75211 79.85971
##          [,9]      [,10] [,11] [,12]      [,13] [,14]

```

```

## [1,] 80.87376 85.80896      NA      NA 88.02591      NA
##
## [[5]]$W3
##      SRBQ_5      SRBQ_6      SRBQ_7      SRBQ_9      SRBQ_11      SRBQ_14      SRBQ_19
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA      8.406008 11.249619 7.703992 11.921929 10.457536
## SRBQ_7      NA      8.406008      NA      8.937838 9.693459 9.062412 8.741882
## SRBQ_9      NA 11.249619 8.937838      NA 11.472315 6.603945 10.918464
## SRBQ_11     NA 7.703992 9.693459 11.472315      NA 12.721827 12.520823
## SRBQ_14     NA 11.921929 9.062412 6.603945 12.721827      NA 7.539639
## SRBQ_19     NA 10.457536 8.741882 10.918464 12.520823 7.539639      NA
## SRBQ_21     NA 12.981831 8.395932 10.859196 9.309487 8.510164 5.712396
## SRBQ_22     NA 12.993968 9.209705 5.973735 10.715964 8.899310 10.354614
## SRBQ_25     NA 13.905354 13.108539 7.732316 12.156624 7.441344 8.452445
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA      NA      NA
## SRBQ_28     NA 5.975801 11.355259 12.506557 7.076676 11.473222 9.054313
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA
##      SRBQ_21      SRBQ_22      SRBQ_25      SRBQ_26      SRBQ_27      SRBQ_28      SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6 12.981831 12.993968 13.905354      NA      NA 5.975801      NA
## SRBQ_7 8.395932 9.209705 13.108539      NA      NA 11.355259      NA
## SRBQ_9 10.859196 5.973735 7.732316      NA      NA 12.506557      NA
## SRBQ_11 9.309487 10.715964 12.156624      NA      NA 7.076676      NA
## SRBQ_14 8.510164 8.899310 7.441344      NA      NA 11.473222      NA
## SRBQ_19 5.712396 10.354614 8.452445      NA      NA 9.054313      NA
## SRBQ_21      NA 7.425135 6.873846      NA      NA 9.791719      NA
## SRBQ_22 7.425135      NA 5.323734      NA      NA 9.977597      NA
## SRBQ_25 6.873846 5.323734      NA      NA      NA 10.814761      NA
## SRBQ_26      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27      NA      NA      NA      NA      NA      NA      NA
## SRBQ_28 9.791719 9.977597 10.814761      NA      NA      NA      NA
## SRBQ_31      NA      NA      NA      NA      NA      NA      NA
##
##
## [[6]]
## [[6]]$W1
##      SRBQ_5      SRBQ_6      SRBQ_7      SRBQ_9      SRBQ_11      SRBQ_14      SRBQ_19      SRBQ_21
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_7      NA      NA      NA 5.767904 1.417502 4.157200 3.3991248 4.242064
## SRBQ_9      NA      NA 3.606139      NA 2.598612 2.431864 1.7844077 2.063275
## SRBQ_11     NA      NA 3.161558 4.248421      NA 3.604444 2.9105544 5.889053
## SRBQ_14     NA      NA 2.263957 3.815465 2.737427      NA 1.6788627 3.270676
## SRBQ_19     NA      NA 2.315414 3.964608 2.141866 3.746479      NA 4.182038
## SRBQ_21     NA      NA 2.859241 3.071965 2.207848 3.734930 2.9450427      NA
## SRBQ_22     NA      NA 2.327851 4.930144 1.239829 3.673258 0.9295316 2.734459
## SRBQ_25     NA      NA 1.540347 5.095938 2.307421 3.724360 2.9708417 4.172988
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_28     NA      NA 2.177698 4.374679 3.883192 4.184262 3.1634539 4.308326
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA
##      SRBQ_22      SRBQ_25      SRBQ_26      SRBQ_27      SRBQ_28      SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA      NA

```

```

## SRBQ_6      NA      NA      NA      NA      NA      NA
## SRBQ_7  5.805743  2.130700      NA      NA  1.0929129      NA
## SRBQ_9  4.052114  2.169930      NA      NA  1.1740595      NA
## SRBQ_11  4.589669  3.663735      NA      NA  3.2913795      NA
## SRBQ_14  4.378993  2.755691      NA      NA  1.3906886      NA
## SRBQ_19  3.149290  2.829887      NA      NA  1.0410681      NA
## SRBQ_21  3.499062  2.554093      NA      NA  0.7736804      NA
## SRBQ_22      NA  3.404082      NA      NA  1.0213443      NA
## SRBQ_25  4.624635      NA      NA      NA  1.1689939      NA
## SRBQ_26      NA      NA      NA      NA      NA      NA
## SRBQ_27      NA      NA      NA      NA      NA      NA
## SRBQ_28  4.055985  2.320718      NA      NA      NA      NA
## SRBQ_31      NA      NA      NA      NA      NA      NA
##
## [[6]]$W2
##      [,1] [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]      [,9]
## [1,]   NA   NA  71.60817  67.46774  72.1103  60.31412  68.30238  61.84945  64.35975
##      [,10] [,11] [,12]      [,13] [,14]
## [1,] 63.42821   NA   NA  69.17777   NA
##
## [[6]]$W3
##      SRBQ_5 SRBQ_6      SRBQ_7      SRBQ_9      SRBQ_11 SRBQ_14      SRBQ_19
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA      NA      NA      NA      NA      NA
## SRBQ_7      NA      NA      NA  8.167094  8.388244  8.519827  7.878153
## SRBQ_9      NA      NA  8.167094      NA  10.706612  5.260989  10.390398
## SRBQ_11     NA      NA  8.388244  10.706612      NA  9.599894  9.742947
## SRBQ_14     NA      NA  8.519827  5.260989  9.599894      NA  7.251414
## SRBQ_19     NA      NA  7.878153  10.390398  9.742947  7.251414      NA
## SRBQ_21     NA      NA  7.770457  10.498476  8.811541  7.777558  5.136960
## SRBQ_22     NA      NA  9.296509  4.491894  9.103969  8.568156  11.118422
## SRBQ_25     NA      NA  11.303869  6.954278  11.102907  4.925311  8.331678
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA      NA      NA
## SRBQ_28     NA      NA  10.284013  10.998000  4.654190  8.410971  8.452409
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA
##      SRBQ_21 SRBQ_22 SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA      NA      NA      NA      NA      NA
## SRBQ_7  7.770457  9.296509  11.303869      NA      NA  10.284013      NA
## SRBQ_9  10.498476  4.491894  6.954278      NA      NA  10.998000      NA
## SRBQ_11  8.811541  9.103969  11.102907      NA      NA  4.654190      NA
## SRBQ_14  7.777558  8.568156  4.925311      NA      NA  8.410971      NA
## SRBQ_19  5.136960  11.118422  8.331678      NA      NA  8.452409      NA
## SRBQ_21      NA  7.441822  6.069303      NA      NA  8.343334      NA
## SRBQ_22  7.441822      NA  5.522497      NA      NA  8.816483      NA
## SRBQ_25  6.069303  5.522497      NA      NA      NA  9.218369      NA
## SRBQ_26      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27      NA      NA      NA      NA      NA      NA      NA
## SRBQ_28  8.343334  8.816483  9.218369      NA      NA      NA      NA
## SRBQ_31      NA      NA      NA      NA      NA      NA      NA

```

CA.def.sub1\$Flagged

```

## [[1]]
## [[1]]$F1
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      0      0      0      0      0      0      0      0      0
## SRBQ_6      0      0      0      0      0      0      0      0      0
## SRBQ_7      0      0      0      0      0      0      0      0      0
## SRBQ_9      0      0      0      0      0      0      0      0      0
## SRBQ_11     0      0      0      0      0      0      0      0      0
## SRBQ_14     0      0      0      0      0      0      0      0      0
## SRBQ_19     0      0      0      0      0      0      0      0      0
## SRBQ_21     0      0      0      0      0      0      0      0      0
## SRBQ_22     0      0      0      0      0      0      0      0      0
## SRBQ_25     0      0      0      0      0      0      0      0      0
## SRBQ_26     0      0      0      0      0      0      0      0      0
## SRBQ_27     0      0      0      0      0      0      0      0      0
## SRBQ_28     0      0      0      0      0      0      0      0      0
## SRBQ_31     0      0      0      0      0      0      0      0      0
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      0      0      0      0      0
## SRBQ_6      0      0      0      0      0
## SRBQ_7      0      0      0      0      0
## SRBQ_9      0      0      0      0      0
## SRBQ_11     0      0      0      0      0
## SRBQ_14     0      0      0      0      0
## SRBQ_19     0      0      0      0      0
## SRBQ_21     0      0      0      0      0
## SRBQ_22     0      0      0      0      0
## SRBQ_25     0      0      0      0      0
## SRBQ_26     0      0      0      0      0
## SRBQ_27     0      0      0      0      0
## SRBQ_28     0      0      0      0      0
## SRBQ_31     0      0      0      1      0
##
## [[1]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14]
## [1,]    0    0    0    0    0    0    0    0    0    0    0    0    0    0
##
## [[1]]$F3
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      0      0      0      0      0      0      0      0      0
## SRBQ_6      0      0      0      0      0      0      0      0      0
## SRBQ_7      0      0      0      0      0      0      0      0      0
## SRBQ_9      0      0      0      0      0      0      0      0      0
## SRBQ_11     0      0      0      0      0      0      0      0      0
## SRBQ_14     0      0      0      0      0      0      0      0      0
## SRBQ_19     0      0      0      0      0      0      0      0      0
## SRBQ_21     0      0      0      0      0      0      0      0      0
## SRBQ_22     0      0      0      0      0      0      0      0      0
## SRBQ_25     0      0      0      0      0      0      0      0      0
## SRBQ_26     0      0      0      0      0      0      0      0      0
## SRBQ_27     0      0      0      0      0      0      0      0      0
## SRBQ_28     0      0      0      0      0      0      0      0      0
## SRBQ_31     0      0      0      0      0      0      0      0      0
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31

```

```

## SRBQ_5      0      0      0      0      0
## SRBQ_6      0      0      0      0      0
## SRBQ_7      0      0      0      0      0
## SRBQ_9      0      0      0      0      0
## SRBQ_11     0      0      0      0      0
## SRBQ_14     0      0      0      0      0
## SRBQ_19     0      0      0      0      0
## SRBQ_21     0      0      0      0      0
## SRBQ_22     0      0      0      0      0
## SRBQ_25     0      0      0      0      0
## SRBQ_26     0      0      0      0      0
## SRBQ_27     0      0      0      0      0
## SRBQ_28     0      0      0      0      0
## SRBQ_31     0      0      0      0      0
##
##
## [[2]]
## [[2]]$F1
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      0      0      0      0      0      0      0      0      0
## SRBQ_6      0      0      0      0      0      0      0      0      0
## SRBQ_7      0      0      0      0      0      0      0      0      0
## SRBQ_9      0      0      0      0      0      0      0      0      0
## SRBQ_11     0      0      0      0      0      0      0      0      0
## SRBQ_14     0      0      0      0      0      0      0      0      0
## SRBQ_19     0      0      0      0      0      0      0      0      0
## SRBQ_21     0      0      0      0      0      0      0      0      0
## SRBQ_22     0      0      0      0      0      0      0      0      0
## SRBQ_25     0      0      0      0      0      0      0      0      0
## SRBQ_26     0      0      0      0      0      0      0      0      0
## SRBQ_27     0      0      0      0      0      0      0      0      0
## SRBQ_28     0      0      0      0      0      0      0      0      0
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA      NA
##
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      0      0      0      0      NA
## SRBQ_6      0      0      0      0      NA
## SRBQ_7      0      0      0      0      NA
## SRBQ_9      0      0      0      0      NA
## SRBQ_11     0      0      0      0      NA
## SRBQ_14     0      0      0      0      NA
## SRBQ_19     0      0      0      0      NA
## SRBQ_21     0      0      0      0      NA
## SRBQ_22     0      0      0      0      NA
## SRBQ_25     0      0      0      0      NA
## SRBQ_26     0      0      1      0      NA
## SRBQ_27     0      0      0      0      NA
## SRBQ_28     0      0      0      0      NA
## SRBQ_31     NA      NA      NA      NA      NA
##
##
## [[2]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14]
## [1,]    0    0    0    0    0    0    0    0    0    0    0    0    0    NA
##
##
## [[2]]$F3

```



```

##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      0      0      0      0      0      0      0      0      0
## SRBQ_6      0      0      0      0      0      0      0      0      0
## SRBQ_7      0      0      0      0      0      0      0      0      0
## SRBQ_9      0      0      0      0      0      0      0      0      0
## SRBQ_11     0      0      0      0      0      0      0      0      0
## SRBQ_14     0      0      0      0      0      0      0      0      0
## SRBQ_19     0      0      0      0      0      0      0      0      0
## SRBQ_21     0      0      0      0      0      0      0      0      0
## SRBQ_22     0      0      0      0      0      0      0      0      0
## SRBQ_25     0      0      0      0      0      0      0      0      0
## SRBQ_26     0      0      0      0      0      0      0      0      0
## SRBQ_27     0      0      0      0      0      0      0      0      0
## SRBQ_28     0      0      0      0      0      0      0      0      0
## SRBQ_31      NA      NA      NA      NA      NA      NA      NA      NA      NA
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      0      0      0      0      NA
## SRBQ_6      0      0      0      0      NA
## SRBQ_7      0      0      0      0      NA
## SRBQ_9      0      0      0      0      NA
## SRBQ_11     0      0      0      0      NA
## SRBQ_14     0      0      0      0      NA
## SRBQ_19     0      0      0      0      NA
## SRBQ_21     0      0      0      0      NA
## SRBQ_22     0      0      0      0      NA
## SRBQ_25     0      0      0      0      NA
## SRBQ_26     0      0      0      0      NA
## SRBQ_27     0      0      0      0      NA
## SRBQ_28     0      0      0      0      NA
## SRBQ_31      NA      NA      NA      NA      NA
##
##
## [[3]]
## [[3]]$F1
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      0      0      0      0      0      0      0      0      0
## SRBQ_6      1      0      0      0      0      0      0      0      0
## SRBQ_7      0      0      0      0      0      0      0      0      0
## SRBQ_9      1      0      0      0      0      0      0      0      0
## SRBQ_11     0      0      0      0      0      0      0      0      0
## SRBQ_14     1      0      0      0      0      0      0      0      0
## SRBQ_19     1      0      0      0      0      0      0      0      0
## SRBQ_21     0      0      0      0      0      0      0      0      0
## SRBQ_22     0      0      0      0      0      0      0      0      0
## SRBQ_25     0      0      0      0      0      0      0      0      0
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     0      0      0      0      0      0      0      0      0
## SRBQ_28     0      0      0      0      0      0      0      0      0
## SRBQ_31      NA      NA      NA      NA      NA      NA      NA      NA      NA
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      0      NA      0      0      NA
## SRBQ_6      0      NA      0      0      NA
## SRBQ_7      0      NA      0      0      NA
## SRBQ_9      0      NA      0      0      NA

```

```

## SRBQ_11      0      NA      0      0      NA
## SRBQ_14      0      NA      0      0      NA
## SRBQ_19      0      NA      0      0      NA
## SRBQ_21      0      NA      0      0      NA
## SRBQ_22      0      NA      0      0      NA
## SRBQ_25      0      NA      0      0      NA
## SRBQ_26      NA     NA     NA     NA     NA
## SRBQ_27      0      NA      0      0      NA
## SRBQ_28      0      NA      1      0      NA
## SRBQ_31      NA     NA     NA     NA     NA
##
## [[3]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14]
## [1,]    0    0    0    0    0    0    0    0    0    0    NA    0    0    NA
##
## [[3]]$F3
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      0      0      0      0      0      0      0      0      0
## SRBQ_6      0      0      0      0      0      0      0      0      0
## SRBQ_7      0      0      0      0      0      0      0      0      0
## SRBQ_9      0      0      0      0      0      0      0      0      0
## SRBQ_11     0      0      0      0      0      0      0      0      0
## SRBQ_14     0      0      0      0      0      0      0      0      0
## SRBQ_19     0      0      0      0      0      0      0      0      0
## SRBQ_21     0      0      0      0      0      0      0      0      0
## SRBQ_22     0      0      0      0      0      0      0      0      0
## SRBQ_25     0      0      0      0      0      0      0      0      0
## SRBQ_26     NA     NA     NA     NA     NA     NA     NA     NA     NA
## SRBQ_27     0      0      0      0      0      0      0      0      0
## SRBQ_28     0      0      0      0      0      0      0      0      0
## SRBQ_31     NA     NA     NA     NA     NA     NA     NA     NA     NA
##
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      0      NA      0      0      NA
## SRBQ_6      0      NA      0      0      NA
## SRBQ_7      0      NA      0      0      NA
## SRBQ_9      0      NA      0      0      NA
## SRBQ_11     0      NA      0      0      NA
## SRBQ_14     0      NA      0      0      NA
## SRBQ_19     0      NA      0      0      NA
## SRBQ_21     0      NA      0      0      NA
## SRBQ_22     0      NA      0      0      NA
## SRBQ_25     0      NA      0      0      NA
## SRBQ_26     NA     NA     NA     NA     NA
## SRBQ_27     0      NA      0      0      NA
## SRBQ_28     0      NA      0      0      NA
## SRBQ_31     NA     NA     NA     NA     NA
##
##
## [[4]]
## [[4]]$F1
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      NA     NA     NA     NA     NA     NA     NA     NA     NA
## SRBQ_6      NA      0      0      0      0      0      0      0      0
## SRBQ_7      NA      0      0      1      0      0      0      0      0

```

```

## SRBQ_9      NA      0      0      0      0      0      0      0      0
## SRBQ_11     NA      0      0      0      0      0      0      0      0
## SRBQ_14     NA      0      0      0      0      0      0      0      0
## SRBQ_19     NA      0      0      0      0      0      0      0      0
## SRBQ_21     NA      0      0      0      0      0      0      0      0
## SRBQ_22     NA      0      0      0      0      0      0      0      0
## SRBQ_25     NA      0      0      0      0      0      0      0      0
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      0      0      0      0      0      0      0      0
## SRBQ_28     NA      0      0      0      0      0      0      0      0
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA
## SRBQ_6      0      NA      1      0      NA
## SRBQ_7      0      NA      0      0      NA
## SRBQ_9      0      NA      0      0      NA
## SRBQ_11     0      NA      1      0      NA
## SRBQ_14     0      NA      0      0      NA
## SRBQ_19     0      NA      1      0      NA
## SRBQ_21     0      NA      0      0      NA
## SRBQ_22     0      NA      0      0      NA
## SRBQ_25     0      NA      0      0      NA
## SRBQ_26     NA      NA      NA      NA      NA
## SRBQ_27     0      NA      0      0      NA
## SRBQ_28     0      NA      1      0      NA
## SRBQ_31     NA      NA      NA      NA      NA
##
## [[4]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14]
## [1,]   NA    0    0    0    0    0    0    0    0    0    NA    0    0    NA
##
## [[4]]$F3
## SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      0      0      0      0      0      0      0      0
## SRBQ_7      NA      0      0      0      0      0      0      0      0
## SRBQ_9      NA      0      0      0      0      0      0      0      0
## SRBQ_11     NA      0      0      0      0      0      0      0      0
## SRBQ_14     NA      0      0      0      0      0      0      0      0
## SRBQ_19     NA      0      0      0      0      0      0      0      0
## SRBQ_21     NA      0      0      0      0      0      0      0      0
## SRBQ_22     NA      0      0      0      0      0      0      0      0
## SRBQ_25     NA      0      0      0      0      0      0      0      0
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      0      0      0      0      0      0      0      0
## SRBQ_28     NA      0      0      0      0      0      0      0      0
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA
## SRBQ_6      0      NA      0      0      NA
## SRBQ_7      0      NA      0      0      NA
## SRBQ_9      0      NA      0      0      NA
## SRBQ_11     0      NA      0      0      NA
## SRBQ_14     0      NA      0      0      NA

```

```

## SRBQ_19      0      NA      0      0      NA
## SRBQ_21      0      NA      0      0      NA
## SRBQ_22      0      NA      0      0      NA
## SRBQ_25      0      NA      0      0      NA
## SRBQ_26      NA      NA      NA      NA      NA
## SRBQ_27      0      NA      0      0      NA
## SRBQ_28      0      NA      0      0      NA
## SRBQ_31      NA      NA      NA      NA      NA
##
##
## [[5]]
## [[5]]$F1
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      0      0      0      1      0      0      0      0
## SRBQ_7      NA      0      0      0      0      0      0      0      0
## SRBQ_9      NA      0      0      0      0      0      0      0      0
## SRBQ_11     NA      0      0      0      0      0      0      0      0
## SRBQ_14     NA      0      0      0      0      0      0      0      0
## SRBQ_19     NA      0      0      0      0      0      0      0      0
## SRBQ_21     NA      0      0      0      0      0      0      0      0
## SRBQ_22     NA      0      0      0      0      0      0      0      0
## SRBQ_25     NA      0      0      0      0      0      0      0      0
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_28     NA      0      0      0      0      0      0      0      0
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA      NA
##
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA
## SRBQ_6      0      NA      NA      0      NA
## SRBQ_7      0      NA      NA      0      NA
## SRBQ_9      0      NA      NA      0      NA
## SRBQ_11     0      NA      NA      0      NA
## SRBQ_14     0      NA      NA      0      NA
## SRBQ_19     0      NA      NA      0      NA
## SRBQ_21     0      NA      NA      0      NA
## SRBQ_22     0      NA      NA      0      NA
## SRBQ_25     0      NA      NA      0      NA
## SRBQ_26     NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA
## SRBQ_28     0      NA      NA      0      NA
## SRBQ_31     NA      NA      NA      NA      NA
##
## [[5]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14]
## [1,]   NA    1    0    0    1    0    0    0    0    0    NA    NA    0    NA
##
## [[5]]$F3
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      0      0      0      0      0      0      0      0
## SRBQ_7      NA      0      0      0      0      0      0      0      0
## SRBQ_9      NA      0      0      0      0      0      0      0      0
## SRBQ_11     NA      0      0      0      0      0      0      0      0

```

##	SRBQ_14	NA	0	0	0	0	0	0	0	0
##	SRBQ_19	NA	0	0	0	0	0	0	0	0
##	SRBQ_21	NA	0	0	0	0	0	0	0	0
##	SRBQ_22	NA	0	0	0	0	0	0	0	0
##	SRBQ_25	NA	0	0	0	0	0	0	0	0
##	SRBQ_26	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_27	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_28	NA	0	0	0	0	0	0	0	0
##	SRBQ_31	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31									
##	SRBQ_5	NA	NA	NA	NA	NA				
##	SRBQ_6	0	NA	NA	0	NA				
##	SRBQ_7	0	NA	NA	0	NA				
##	SRBQ_9	0	NA	NA	0	NA				
##	SRBQ_11	0	NA	NA	0	NA				
##	SRBQ_14	0	NA	NA	0	NA				
##	SRBQ_19	0	NA	NA	0	NA				
##	SRBQ_21	0	NA	NA	0	NA				
##	SRBQ_22	0	NA	NA	0	NA				
##	SRBQ_25	0	NA	NA	0	NA				
##	SRBQ_26	NA	NA	NA	NA	NA				
##	SRBQ_27	NA	NA	NA	NA	NA				
##	SRBQ_28	0	NA	NA	0	NA				
##	SRBQ_31	NA	NA	NA	NA	NA				
##										
##										
##	[[6]]									
##	[[6]]\$F1									
##	SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22									
##	SRBQ_5	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_6	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_7	NA	NA	0	0	0	0	0	0	0
##	SRBQ_9	NA	NA	0	0	0	0	0	0	0
##	SRBQ_11	NA	NA	0	0	0	0	0	0	0
##	SRBQ_14	NA	NA	0	0	0	0	0	0	0
##	SRBQ_19	NA	NA	0	0	0	0	0	0	0
##	SRBQ_21	NA	NA	0	0	0	0	0	0	0
##	SRBQ_22	NA	NA	0	0	0	0	0	0	0
##	SRBQ_25	NA	NA	0	0	0	0	0	0	0
##	SRBQ_26	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_27	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_28	NA	NA	0	0	0	0	0	0	0
##	SRBQ_31	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31									
##	SRBQ_5	NA	NA	NA	NA	NA				
##	SRBQ_6	NA	NA	NA	NA	NA				
##	SRBQ_7	0	NA	NA	0	NA				
##	SRBQ_9	0	NA	NA	0	NA				
##	SRBQ_11	0	NA	NA	0	NA				
##	SRBQ_14	0	NA	NA	0	NA				
##	SRBQ_19	0	NA	NA	0	NA				
##	SRBQ_21	0	NA	NA	0	NA				
##	SRBQ_22	0	NA	NA	0	NA				
##	SRBQ_25	0	NA	NA	0	NA				

```

## SRBQ_26      NA      NA      NA      NA      NA
## SRBQ_27      NA      NA      NA      NA      NA
## SRBQ_28       0      NA      NA      0      NA
## SRBQ_31      NA      NA      NA      NA      NA
##
## [[6]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14]
## [1,]   NA   NA    0    0    0    0    0    0    0    0    NA   NA    0   NA
##
## [[6]]$F3
##      SRBQ_5 SRBQ_6 SRBQ_7 SRBQ_9 SRBQ_11 SRBQ_14 SRBQ_19 SRBQ_21 SRBQ_22
## SRBQ_5      NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_7      NA      NA      0      0      0      0      0      0      0
## SRBQ_9      NA      NA      0      0      0      0      0      0      0
## SRBQ_11     NA      NA      0      0      0      0      0      0      0
## SRBQ_14     NA      NA      0      0      0      0      0      0      0
## SRBQ_19     NA      NA      0      0      0      0      0      0      0
## SRBQ_21     NA      NA      0      0      0      0      0      0      0
## SRBQ_22     NA      NA      0      0      0      0      0      0      0
## SRBQ_25     NA      NA      0      0      0      0      0      0      0
## SRBQ_26     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA      NA      NA      NA      NA
## SRBQ_28     NA      NA      0      0      0      0      0      0      0
## SRBQ_31     NA      NA      NA      NA      NA      NA      NA      NA      NA
##
##      SRBQ_25 SRBQ_26 SRBQ_27 SRBQ_28 SRBQ_31
## SRBQ_5      NA      NA      NA      NA      NA
## SRBQ_6      NA      NA      NA      NA      NA
## SRBQ_7       0      NA      NA      0      NA
## SRBQ_9       0      NA      NA      0      NA
## SRBQ_11      0      NA      NA      0      NA
## SRBQ_14      0      NA      NA      0      NA
## SRBQ_19      0      NA      NA      0      NA
## SRBQ_21      0      NA      NA      0      NA
## SRBQ_22      0      NA      NA      0      NA
## SRBQ_25      0      NA      NA      0      NA
## SRBQ_26     NA      NA      NA      NA      NA
## SRBQ_27     NA      NA      NA      NA      NA
## SRBQ_28      0      NA      NA      0      NA
## SRBQ_31     NA      NA      NA      NA      NA

```

```

CA.def.sub2 <- check.ca(new_sub2, TRUE)
CA.def.sub2$InScale[[1]]

```

```

## [1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE

```

```

CA.def.sub2$Index

```

```

## [[1]]
## [[1]]$W1
##      SRBQ_1  SRBQ_8  SRBQ_10  SRBQ_12  SRBQ_18  SRBQ_24  SRBQ_30
## SRBQ_1      NA 5.787960 2.534743 3.435937 4.812180 2.296625 2.981798
## SRBQ_8  3.803281      NA 2.372290 3.308364 4.806699 3.231012 3.201705

```

```

## SRBQ_10 2.599533 4.179350      NA 1.710366 5.331307 4.792123 7.095735
## SRBQ_12 4.182412 5.149812 3.127567      NA 7.280827 5.510795 3.864768
## SRBQ_18 2.557085 3.678329 2.307719 1.984697      NA 4.231422 3.227489
## SRBQ_24 5.111059 5.883490 5.755078 6.537021 9.187448      NA 3.981601
## SRBQ_30 3.570770 3.755769 5.535948 3.540385 6.919599 2.592506      NA
## SRBQ_3 5.038614 6.147079 6.797630 3.029816 5.677353 5.386515 11.240388
## SRBQ_13 3.217254 5.605183 6.359135 5.513273 7.510347 3.604142 2.973359
##
##      SRBQ_3  SRBQ_13
## SRBQ_1 2.6302523 2.685013
## SRBQ_8 2.1263346 2.933761
## SRBQ_10 2.7043686 3.565871
## SRBQ_12 1.6586835 3.280398
## SRBQ_18 0.6172187 2.196960
## SRBQ_24 3.5966127 3.438495
## SRBQ_30 4.7178986 2.076241
## SRBQ_3      NA 4.922247
## SRBQ_13 3.6463603      NA
##
## [[1]]$W2
##      [,1]      [,2]      [,3]      [,4]      [,5]      [,6]      [,7]      [,8]
## [1,] 68.18229 66.98068 67.78986 67.7282 67.21791 70.1669 65.51328 75.69559
##      [,9]
## [1,] 74.5093
##
## [[1]]$W3
##      SRBQ_1  SRBQ_8  SRBQ_10  SRBQ_12  SRBQ_18  SRBQ_24  SRBQ_30
## SRBQ_1      NA 3.264395 9.074324 7.492504 7.742690 8.073689 8.808281
## SRBQ_8 3.264395      NA 10.834458 7.094512 8.174421 11.522478 10.490703
## SRBQ_10 9.074324 10.834458      NA 12.364618 9.255627 9.108663 2.614509
## SRBQ_12 7.492504 7.094512 12.364618      NA 6.639498 3.819987 11.130197
## SRBQ_18 7.742690 8.174421 9.255627 6.639498      NA 4.990449 8.072808
## SRBQ_24 8.073689 11.522478 9.108663 3.819987 4.990449      NA 11.315166
## SRBQ_30 8.808281 10.490703 2.614509 11.130197 8.072808 11.315166      NA
## SRBQ_3 11.296168 10.242506 4.853945 12.811265 12.795557 11.413918 2.085365
## SRBQ_13 12.430239 5.357204 9.683713 6.375619 9.546858 9.922551 10.996255
##
##      SRBQ_3  SRBQ_13
## SRBQ_1 11.296168 12.430239
## SRBQ_8 10.242506 5.357204
## SRBQ_10 4.853945 9.683713
## SRBQ_12 12.811265 6.375619
## SRBQ_18 12.795557 9.546858
## SRBQ_24 11.413918 9.922551
## SRBQ_30 2.085365 10.996255
## SRBQ_3      NA 10.196867
## SRBQ_13 10.196867      NA
##
##
## [[2]]
## [[2]]$W1
##      SRBQ_1  SRBQ_8  SRBQ_10  SRBQ_12  SRBQ_18  SRBQ_24  SRBQ_30  SRBQ_3
## SRBQ_1      NA 4.799987 1.784013 2.824948 4.073175 1.879890 1.7657476      NA
## SRBQ_8 3.247655      NA 1.657784 2.994215 4.372227 2.486719 2.0333315      NA
## SRBQ_10 2.559232 3.920137      NA 1.649877 5.288404 4.628502 5.3531335      NA
## SRBQ_12 2.570782 3.740604 1.866596      NA 5.384704 3.743732 1.7639594      NA

```

```

## SRBQ_18 1.279051 2.502177 1.017206 1.210397 NA 2.975009 0.9111884 NA
## SRBQ_24 4.048769 4.536971 4.273238 5.623890 7.650906 NA 2.5338359 NA
## SRBQ_30 3.567147 3.740268 5.268432 3.540376 6.919572 2.590730 NA NA
## SRBQ_3 NA NA NA NA NA NA NA NA
## SRBQ_13 2.730144 4.652669 5.327583 5.156525 6.482066 2.567527 1.7248707 NA
## SRBQ_13
## SRBQ_1 2.074093
## SRBQ_8 2.108989
## SRBQ_10 3.249268
## SRBQ_12 1.995615
## SRBQ_18 1.095296
## SRBQ_24 2.699801
## SRBQ_30 2.031431
## SRBQ_3 NA
## SRBQ_13 NA
##
## [[2]]$W2
## [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9]
## [1,] 47.09444 50.16007 53.59243 50.49115 47.0402 52.68755 56.5067 NA 58.21875
##
## [[2]]$W3
## SRBQ_1 SRBQ_8 SRBQ_10 SRBQ_12 SRBQ_18 SRBQ_24 SRBQ_30
## SRBQ_1 NA 4.129251 7.597726 5.593847 5.821263 6.131992 6.039056
## SRBQ_8 4.129251 NA 9.276331 5.879389 6.906010 10.138946 9.532723
## SRBQ_10 7.597726 9.276331 NA 11.436490 7.516417 8.109788 2.030299
## SRBQ_12 5.593847 5.879389 11.436490 NA 6.355926 3.666529 10.529639
## SRBQ_18 5.821263 6.906010 7.516417 6.355926 NA 4.722889 7.712328
## SRBQ_24 6.131992 10.138946 8.109788 3.666529 4.722889 NA 10.550059
## SRBQ_30 6.039056 9.532723 2.030299 10.529639 7.712328 10.550059 NA
## SRBQ_3 NA NA NA NA NA NA NA
## SRBQ_13 11.781302 4.297425 7.625383 7.029331 8.005366 9.367345 10.112600
## SRBQ_3 SRBQ_13
## SRBQ_1 NA 11.781302
## SRBQ_8 NA 4.297425
## SRBQ_10 NA 7.625383
## SRBQ_12 NA 7.029331
## SRBQ_18 NA 8.005366
## SRBQ_24 NA 9.367345
## SRBQ_30 NA 10.112600
## SRBQ_3 NA NA
## SRBQ_13 NA NA

```

```
CA.def.sub2$Flagged
```

```

## [[1]]
## [[1]]$F1
## SRBQ_1 SRBQ_8 SRBQ_10 SRBQ_12 SRBQ_18 SRBQ_24 SRBQ_30 SRBQ_3 SRBQ_13
## SRBQ_1 0 0 0 0 0 0 0 0 0
## SRBQ_8 0 0 0 0 0 0 0 0 0
## SRBQ_10 0 0 0 0 0 0 0 0 0
## SRBQ_12 0 0 0 0 0 0 0 0 0
## SRBQ_18 0 0 0 0 0 0 0 0 0
## SRBQ_24 0 0 0 0 0 0 0 0 0
## SRBQ_30 0 0 0 0 0 0 0 0 0

```



```

## SRBQ_3      0      0      0      0      0      0      0      1      0      0
## SRBQ_13     0      0      0      0      0      0      0      0      0      0
##
## [[1]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9]
## [1,]    0    0    0    0    0    0    0    0    0
##
## [[1]]$F3
##      SRBQ_1 SRBQ_8 SRBQ_10 SRBQ_12 SRBQ_18 SRBQ_24 SRBQ_30 SRBQ_3 SRBQ_13
## SRBQ_1      0      0      0      0      0      0      0      0      0
## SRBQ_8      0      0      0      0      0      0      0      0      0
## SRBQ_10     0      0      0      0      0      0      0      0      0
## SRBQ_12     0      0      0      0      0      0      0      0      0
## SRBQ_18     0      0      0      0      0      0      0      0      0
## SRBQ_24     0      0      0      0      0      0      0      0      0
## SRBQ_30     0      0      0      0      0      0      0      0      0
## SRBQ_3      0      0      0      0      0      0      0      0      0
## SRBQ_13     0      0      0      0      0      0      0      0      0
##
##
## [[2]]
## [[2]]$F1
##      SRBQ_1 SRBQ_8 SRBQ_10 SRBQ_12 SRBQ_18 SRBQ_24 SRBQ_30 SRBQ_3 SRBQ_13
## SRBQ_1      0      0      0      0      0      0      0      0      NA      0
## SRBQ_8      0      0      0      0      0      0      0      0      NA      0
## SRBQ_10     0      0      0      0      0      0      0      0      NA      0
## SRBQ_12     0      0      0      0      0      0      0      0      NA      0
## SRBQ_18     0      0      0      0      0      0      0      0      NA      0
## SRBQ_24     0      0      0      0      0      0      0      0      NA      0
## SRBQ_30     0      0      0      0      0      0      0      0      NA      0
## SRBQ_3      NA     NA     NA     NA     NA     NA     NA     NA     NA     NA
## SRBQ_13     0      0      0      0      0      0      0      0      NA      0
##
## [[2]]$F2
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9]
## [1,]    0    0    0    0    0    0    0    NA    0
##
## [[2]]$F3
##      SRBQ_1 SRBQ_8 SRBQ_10 SRBQ_12 SRBQ_18 SRBQ_24 SRBQ_30 SRBQ_3 SRBQ_13
## SRBQ_1      0      0      0      0      0      0      0      0      NA      0
## SRBQ_8      0      0      0      0      0      0      0      0      NA      0
## SRBQ_10     0      0      0      0      0      0      0      0      NA      0
## SRBQ_12     0      0      0      0      0      0      0      0      NA      0
## SRBQ_18     0      0      0      0      0      0      0      0      NA      0
## SRBQ_24     0      0      0      0      0      0      0      0      NA      0
## SRBQ_30     0      0      0      0      0      0      0      0      NA      0
## SRBQ_3      NA     NA     NA     NA     NA     NA     NA     NA     NA     NA
## SRBQ_13     0      0      0      0      0      0      0      0      NA      0

```

```
# check monotonicity assumption
```

```
monotonicity.sub1 <- check.monotonicity(new_sub1, minvi = .03)
summary(monotonicity.sub1)
```

```
##      ItemH #ac #vi #vi/#ac maxvi  sum sum/#ac zmax #zsig crit
```

```
## SRBQ_5 0.30 78 1 0.01 0.05 0.05 0.0007 0.57 0 13
## SRBQ_6 0.29 110 5 0.05 0.11 0.26 0.0024 1.35 0 32
## SRBQ_7 0.29 94 3 0.03 0.07 0.15 0.0016 0.94 0 23
## SRBQ_9 0.33 74 1 0.01 0.07 0.07 0.0009 0.80 0 14
## SRBQ_11 0.29 96 5 0.05 0.07 0.23 0.0024 0.98 0 26
## SRBQ_14 0.32 100 4 0.04 0.06 0.19 0.0019 0.80 0 20
## SRBQ_19 0.32 97 4 0.04 0.05 0.17 0.0018 1.22 0 22
## SRBQ_21 0.33 105 5 0.05 0.09 0.27 0.0025 1.19 0 27
## SRBQ_22 0.35 109 0 0.00 0.00 0.00 0.0000 0.00 0 0
## SRBQ_25 0.31 136 2 0.01 0.07 0.11 0.0008 0.85 0 17
## SRBQ_26 0.35 120 4 0.03 0.05 0.17 0.0014 0.64 0 16
## SRBQ_27 0.38 111 2 0.02 0.04 0.08 0.0007 0.54 0 10
## SRBQ_28 0.33 122 13 0.11 0.08 0.68 0.0056 0.89 0 38
## SRBQ_31 0.29 141 12 0.09 0.09 0.70 0.0050 1.75 1 54
```

```
monotonicity.sub2 <- check.monotonicity(new_sub2, minvi = .03)
summary(monotonicity.sub2)
```

```
## ItemH #ac #vi #vi/#ac maxvi sum sum/#ac zmax #zsig crit
## SRBQ_1 0.30 77 3 0.04 0.08 0.22 0.0028 1.78 1 40
## SRBQ_8 0.30 75 3 0.04 0.09 0.16 0.0022 0.86 0 24
## SRBQ_10 0.30 80 3 0.04 0.05 0.13 0.0016 1.21 0 21
## SRBQ_12 0.29 106 3 0.03 0.08 0.15 0.0014 0.98 0 22
## SRBQ_18 0.32 80 2 0.03 0.05 0.09 0.0011 0.72 0 15
## SRBQ_24 0.27 84 1 0.01 0.04 0.04 0.0004 0.56 0 12
## SRBQ_30 0.30 74 3 0.04 0.05 0.12 0.0016 1.11 0 21
## SRBQ_3 0.24 78 6 0.08 0.10 0.45 0.0058 1.74 1 56
## SRBQ_13 0.24 99 6 0.06 0.09 0.29 0.0030 1.58 0 37
```

```
# check reliability with MS statistic
reliability.sub1 <- check.reliability(new_sub1,irc=TRUE)
reliability.sub2 <- check.reliability(new_sub2,irc=TRUE)
reliability.sub1
```

```
## $MS
## [1] 0.8534472
##
## $alpha
## [1] 0.8526136
##
## $lambda.2
## [1] 0.8549987
##
## $irc
## [1] 0.4645440 0.4531878 0.4415315 0.5172500 0.4484880 0.4910424 0.5096952
## [8] 0.5073201 0.5515880 0.4780540 0.5453792 0.5811200 0.5213598 0.4568837
```

```
reliability.sub2
```

```
## $MS
## [1] 0.753835
##
```

```

## $alpha
## [1] 0.7605814
##
## $lambda.2
## [1] 0.767014
##
## $irc
## [1] 0.4601961 0.4502048 0.4585471 0.4562235 0.5137559 0.4141169 0.4749402
## [8] 0.3688494 0.3655387

#=====
## Calculate Reliability indices of SRBQ-REA and SRBQ-PS
SRBQ_REA<-combined_536[,c("SRBQ_5", "SRBQ_6", "SRBQ_7", "SRBQ_9", "SRBQ_11",
                          "SRBQ_14", "SRBQ_19", "SRBQ_21", "SRBQ_22", "SRBQ_25",
                          "SRBQ_26", "SRBQ_27", "SRBQ_28", "SRBQ_31")]
SRBQ_PS<-combined_536[,c("SRBQ_1", "SRBQ_8", "SRBQ_10", "SRBQ_12", "SRBQ_18",
                          "SRBQ_24", "SRBQ_30", "SRBQ_3", "SRBQ_13")]
omega(na.omit(SRBQ_REA),nfactors=1,plot=FALSE)

## Omega_h for 1 factor is not meaningful, just omega_t

## Warning in schmid(m, nfactors, fm, digits, rotate = rotate, n.obs = n.obs, :
## Omega_h and Omega_asymptotic are not meaningful with one factor

## Omega
## Call: omegah(m = m, nfactors = nfactors, fm = fm, key = key, flip = flip,
##      digits = digits, title = title, sl = sl, labels = labels,
##      plot = plot, n.obs = n.obs, rotate = rotate, Phi = Phi, option = option,
##      covar = covar)
## Alpha:          0.84
## G.6:            0.85
## Omega Hierarchical: 0.84
## Omega H asymptotic: 1
## Omega Total      0.85
##
## Schmid Leiman Factor loadings greater than 0.2
##      g  F1*   h2   u2 p2
## SRBQ_5 0.51    0.26 0.74 1
## SRBQ_6 0.45    0.20 0.80 1
## SRBQ_7 0.48    0.23 0.77 1
## SRBQ_9 0.55    0.30 0.70 1
## SRBQ_11 0.47    0.22 0.78 1
## SRBQ_14 0.53    0.28 0.72 1
## SRBQ_19 0.56    0.31 0.69 1
## SRBQ_21 0.57    0.32 0.68 1
## SRBQ_22 0.59    0.35 0.65 1
## SRBQ_25 0.54    0.29 0.71 1
## SRBQ_26 0.57    0.33 0.67 1
## SRBQ_27 0.61    0.38 0.62 1
## SRBQ_28 0.56    0.31 0.69 1
## SRBQ_31 0.42    0.18 0.82 1
##
## With Sums of squares of:

```

```

##      g F1*
##      4      0
##
## general/max 1.582452e+16 max/min = 1
## mean percent general = 1 with sd = 0 and cv of 0
## Explained Common Variance of the general factor = 1
##
## The degrees of freedom are 77 and the fit is 0.89
## The number of observations was 536 with Chi Square = 472.31 with prob < 3.8e-58
## The root mean square of the residuals is 0.08
## The df corrected root mean square of the residuals is 0.09
## RMSEA index = 0.098 and the 10 % confidence intervals are 0.09 0.107
## BIC = -11.56
##
## Compare this with the adequacy of just a general factor and no group factors
## The degrees of freedom for just the general factor are 77 and the fit is 0.89
## The number of observations was 536 with Chi Square = 472.31 with prob < 3.8e-58
## The root mean square of the residuals is 0.08
## The df corrected root mean square of the residuals is 0.09
##
## RMSEA index = 0.098 and the 10 % confidence intervals are 0.09 0.107
## BIC = -11.56
##
## Measures of factor score adequacy
##
##                                     g F1*
## Correlation of scores with factors      0.92  0
## Multiple R square of scores with factors 0.85  0
## Minimum correlation of factor score estimates 0.70 -1
##
## Total, General and Subset omega for each subset
##
##                                     g F1*
## Omega total for total scores and subscales 0.85 0.84
## Omega general for total scores and subscales 0.84 0.84
## Omega group for total scores and subscales 0.00 0.00

omega(na.omit(SRBQ_PS),nfactors=1,plot=FALSE)

## Omega_h for 1 factor is not meaningful, just omega_t

## Warning in schmid(m, nfactors, fm, digits, rotate = rotate, n.obs = n.obs, :
## Omega_h and Omega_asymptotic are not meaningful with one factor

## Omega
## Call: omegah(m = m, nfactors = nfactors, fm = fm, key = key, flip = flip,
##      digits = digits, title = title, sl = sl, labels = labels,
##      plot = plot, n.obs = n.obs, rotate = rotate, Phi = Phi, option = option,
##      covar = covar)
## Alpha: 0.75
## G.6: 0.76
## Omega Hierarchical: 0.75
## Omega H asymptotic: 1
## Omega Total 0.75
##

```

```

## Schmid Leiman Factor loadings greater than 0.2
##      g  F1*   h2   u2 p2
## SRBQ_1 0.51    0.26 0.74 1
## SRBQ_8 0.51    0.27 0.73 1
## SRBQ_10 0.53    0.28 0.72 1
## SRBQ_12 0.53    0.28 0.72 1
## SRBQ_18 0.58    0.34 0.66 1
## SRBQ_24 0.46    0.21 0.79 1
## SRBQ_30 0.54    0.29 0.71 1
## SRBQ_3  0.42    0.18 0.82 1
## SRBQ_13 0.42    0.18 0.82 1
##
## With Sums of squares of:
##      g  F1*
## 2.3 0.0
##
## general/max 1.64443e+16  max/min = 1
## mean percent general = 1 with sd = 0 and cv of 0
## Explained Common Variance of the general factor = 1
##
## The degrees of freedom are 27 and the fit is 0.49
## The number of observations was 536 with Chi Square = 258.01 with prob < 1.5e-39
## The root mean square of the residuals is 0.09
## The df corrected root mean square of the residuals is 0.11
## RMSEA index = 0.126 and the 10 % confidence intervals are 0.113 0.141
## BIC = 88.34
##
## Compare this with the adequacy of just a general factor and no group factors
## The degrees of freedom for just the general factor are 27 and the fit is 0.49
## The number of observations was 536 with Chi Square = 258.01 with prob < 1.5e-39
## The root mean square of the residuals is 0.09
## The df corrected root mean square of the residuals is 0.11
##
## RMSEA index = 0.126 and the 10 % confidence intervals are 0.113 0.141
## BIC = 88.34
##
## Measures of factor score adequacy
##
##      g  F1*
## Correlation of scores with factors      0.87 0
## Multiple R square of scores with factors 0.76 0
## Minimum correlation of factor score estimates 0.51 -1
##
## Total, General and Subset omega for each subset
##
##      g  F1*
## Omega total for total scores and subscales 0.75 0.75
## Omega general for total scores and subscales 0.75 0.75
## Omega group for total scores and subscales 0.00 0.00

# Calculate Spearman correlation between SRBQ-32, SRBQ-REA, and SRBQ-PS
SRBQ_cor_matrix <- cor(x = cbind(combined_536$SRBQ32, combined_536$SRBQREA, combined_536$SRBQPS), method="s")
colnames(SRBQ_cor_matrix) <- c("combined_536$SRBQ32", "combined_536$SRBQREA", "combined_536$SRBQPS")
rownames(SRBQ_cor_matrix) <- c("combined_536$SRBQ32", "combined_536$SRBQREA", "combined_536$SRBQPS")
print(SRBQ_cor_matrix)

```

```
##               combined_536$SRBQ32 combined_536$SRBQREA
## combined_536$SRBQ32             1.0000000             0.8564940
## combined_536$SRBQREA             0.8564940             1.0000000
## combined_536$SRBQPS             0.6953544             0.3319968
##               combined_536$SRBQPS
## combined_536$SRBQ32             0.6953544
## combined_536$SRBQREA             0.3319968
## combined_536$SRBQPS             1.0000000
```

```
#=====
#Concurrent and discriminant validity
# Compute correlation matrix with p-values
cor_matrix <- rcorr(as.matrix(combined_536[, c("SRBQREA", "SRBQPS", "Age", "Sex", "Educational_level",
                                             "ESS_total", "DBAS_total", "PSAS_S_total", "PSAS_C_total",
                                             "DASS_dep_total", "DASS_anx_total", "DASS_str_total", "SWLS_total")],
                    type = "spearman"))
# Extract trimmed matrix with p-values
trimmed_matrix <- cor_matrix$r[3:ncol(cor_matrix$r),1:2]
# Extract matrix with p-values
p_matrix <- cor_matrix$p[3:ncol(cor_matrix$p), 1:2]
# Add row and column names to p_matrix
col_names <- c("SRBQREA_Pvalue", "SRBQPS_Pvalue")
row_names <- rownames(trimmed_matrix)
dimnames(p_matrix) <- list(row_names, col_names)
# Combine matrices by column
corr_p_matrix <- cbind(trimmed_matrix, p_matrix)
# Round values in corr_p_matrix to 2 decimal places
corr_p_matrix <- round(corr_p_matrix, 2)
# Print combined matrix
print(corr_p_matrix)
```

```
##               SRBQREA SRBQPS SRBQREA_Pvalue SRBQPS_Pvalue
## Age             -0.07  -0.13             0.12             0.00
## Sex             -0.05   0.01             0.23             0.79
## Educational_level 0.00   0.05             0.94             0.23
## ISI_total        0.20   0.29             0.00             0.00
## PSQI_Global      0.15   0.15             0.00             0.00
## ESS_total        0.28   0.07             0.00             0.17
## DBAS_total       0.38   0.36             0.00             0.00
## PSAS_S_total     0.46   0.14             0.00             0.01
## PSAS_C_total     0.27   0.42             0.00             0.00
## DASS_dep_total   0.32   0.11             0.00             0.05
## DASS_anx_total   0.40   0.17             0.00             0.00
## DASS_str_total   0.31   0.23             0.00             0.00
## SWLS_total      -0.15  -0.01             0.01             0.91
```