

The relationship between a translational cognitive measure of negative bias and self-reported psychiatric symptoms in a large online sample

Background

This study builds on prior work developing a measure of negative affective bias as indexed by proportion of mid tones interpreted as high reward ('p(mid as high)') in A) a rat pharmacological model of mood and anxiety disorders (Hales et al., 2016) and B) humans with mood and anxiety disorders relative to healthy controls (Aylward et al., 2019).

Task details

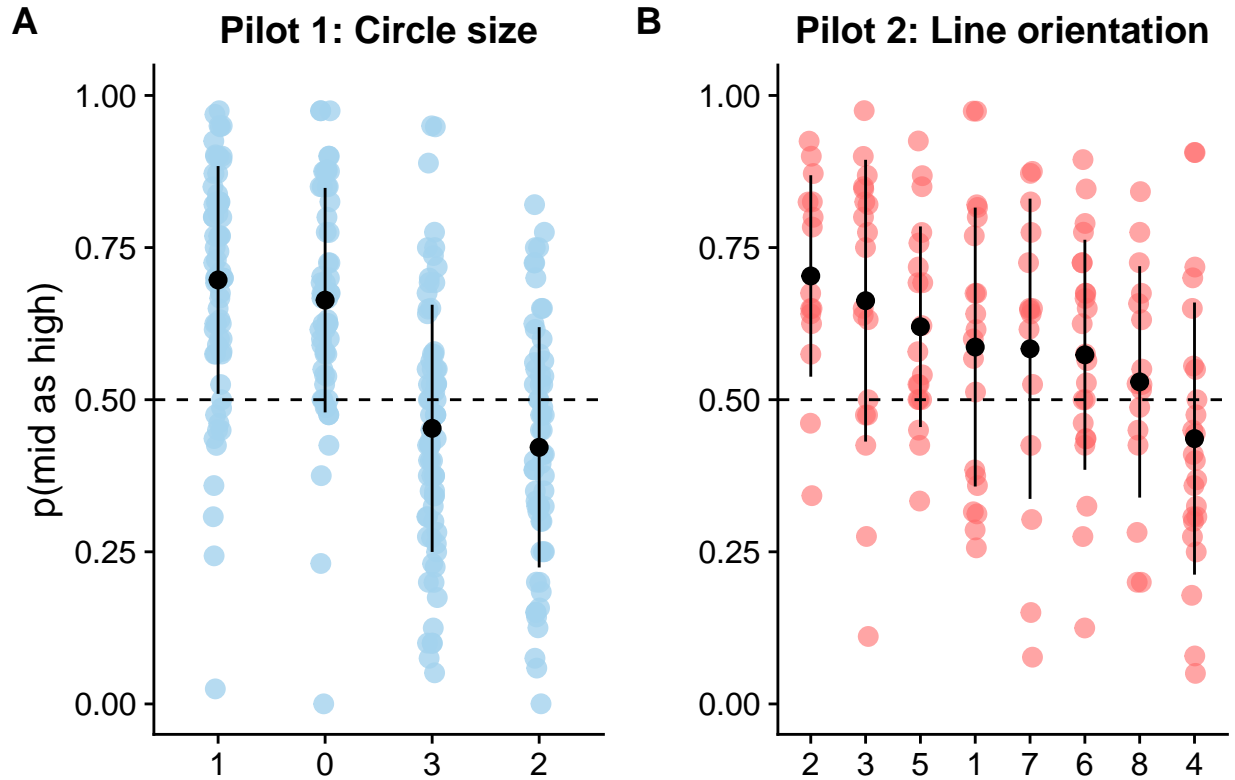
In both cases, the 2-alternative-forced-choice task involved training participants to press a button/lever (left or right) when they heard a tone (high or low) to receive a reward (1 or 3 £/rat pellets). The stimulus-response-outcome contingencies were 100% (but counterbalanced across individuals). Following training, participants were then also played tones of a frequency exactly equidistant between the high and low tones. The primary outcome of interest is the proportion of times the participant pressed the button/lever associated with the high reward outcome for the ambiguous mid tone (referred to as 'p(mid as high)'). Of note, the rat study is a within-subject anxiogenic manipulation, whereas the human study is a case control design. Both A) symptomatic ('Symptom') rats and B) humans both demonstrate significantly increased negative affective bias (i.e. reduced prediction that ambiguous outcomes will lead to higher rewards: 'p(mid as high)') relative to non-symptomatic controls ('HC').

Next steps

This prior work suggests that this cognitive measure is sensitive to pathological symptoms. We have three objectives for the present study. Firstly we wanted to explore and remove sources of between-subject bias within the task so as to maximise our chances of measuring individual differences in task performance. Secondly, we wanted to explore factors which contribute to individual differences in task performance in a large cross-sectional sample. Specifically, we are interested in which specific psychiatric-relevant symptoms/traits contribute to task performance. Finally, once we identify relevant traits, can we re-capitulate the effect of clinical screening in a large unscreened online sample?

1: Piloting to explore sources of between-subject bias

To speed up data collection and facilitate the collection of larger samples we adapted the task for online use. To this end, we decided to switch the task from the auditory domain (which would require us to check/trust that remote participants could hear the stimuli) to the visual domain. In the first pilot A) we tested N=264 participants in a version of the task which substituted high and low frequency tones of large and small area circles. This led to four counterbalancing versions (labelled 1-4 below; sorted by level of bias). Following discovery of clear between-subject bias we next tested B) N=158 individuals on a task that involved orientation of a line. Instead of high/low we had vertical/horizontal. The intermediate stimuli were either 45 or 135 degrees, which lead to 8 counterbalancing versions (labelled 1-8 below; sorted by level of bias).



```
##           Df Sum Sq Mean Sq F value Pr(>F)
## group      3  3.964  1.3215  35.28 <2e-16 ***
## Residuals 260  9.739  0.0375
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

##           eta.sq eta.sq.part
## group 0.2893019  0.2893019

##           Df Sum Sq Mean Sq F value Pr(>F)
## group      7  0.929  0.13267  3.077 0.00475 **
## Residuals 143  6.165  0.04311
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

##           eta.sq eta.sq.part
## group 0.1309089  0.1309089

## Tukey multiple comparisons of means
## 95% family-wise confidence level
##
## Fit: aov(formula = Pmid ~ group, data = pilot1cb)
##
## $group
##           diff           lwr           upr           p adj
```

```

## 1-0  0.03319086 -0.05510565  0.1214874 0.7655217
## 2-0 -0.24185068 -0.33400241 -0.1496990 0.0000000
## 3-0 -0.21067170 -0.29843425 -0.1229092 0.0000000
## 2-1 -0.27504154 -0.36251921 -0.1875639 0.0000000
## 3-1 -0.24386256 -0.32670376 -0.1610213 0.0000000
## 3-2  0.03117898 -0.05575969  0.1181177 0.7902342

## Tukey multiple comparisons of means
## 95% family-wise confidence level
##
## Fit: aov(formula = Pmid ~ group, data = pilot2cb)
##
## $group
##          diff          lwr          upr      p adj
## 2-1  0.116847213 -0.10133355  0.33502797 0.7205659
## 3-1  0.076216643 -0.12842007  0.28085336 0.9453463
## 4-1 -0.150419157 -0.34381573  0.04297742 0.2529895
## 5-1  0.033392280 -0.17124444  0.23802900 0.9996371
## 6-1 -0.012709407 -0.20800766  0.18258885 0.9999993
## 7-1 -0.002821500 -0.22100226  0.21535926 1.0000000
## 8-1 -0.057236747 -0.27148600  0.15701251 0.9916272
## 3-2 -0.040630570 -0.26125829  0.17999715 0.9991964
## 4-2 -0.267266370 -0.47751061 -0.05702213 0.0034682
## 5-2 -0.083454933 -0.30408266  0.13717279 0.9407917
## 6-2 -0.129556620 -0.34155147  0.08243823 0.5668175
## 7-2 -0.119668713 -0.35291376  0.11357633 0.7624254
## 8-2 -0.174083960 -0.40365562  0.05548770 0.2834033
## 4-3 -0.226635800 -0.42278876 -0.03048284 0.0117584
## 5-3 -0.042824363 -0.25006802  0.16441930 0.9983082
## 6-3 -0.088926050 -0.28695422  0.10910212 0.8642912
## 7-3 -0.079038143 -0.29966587  0.14158958 0.9554490
## 8-3 -0.133453390 -0.35019400  0.08328722 0.5571819
## 5-4  0.183811438 -0.01234152  0.37996440 0.0838114
## 6-4  0.137709750 -0.04868018  0.32409968 0.3158952
## 7-4  0.147597657 -0.06264658  0.35784190 0.3824994
## 8-4  0.093182411 -0.11297903  0.29934385 0.8602737
## 6-5 -0.046101687 -0.24412986  0.15192649 0.9964027
## 7-5 -0.036213780 -0.25684150  0.18441394 0.9996228
## 8-5 -0.090629027 -0.30736963  0.12611158 0.9025639
## 7-6  0.009887907 -0.20210694  0.22188275 0.9999999
## 8-6 -0.044527340 -0.25247376  0.16341908 0.9978766
## 8-7 -0.054415247 -0.28398691  0.17515642 0.9959758

```

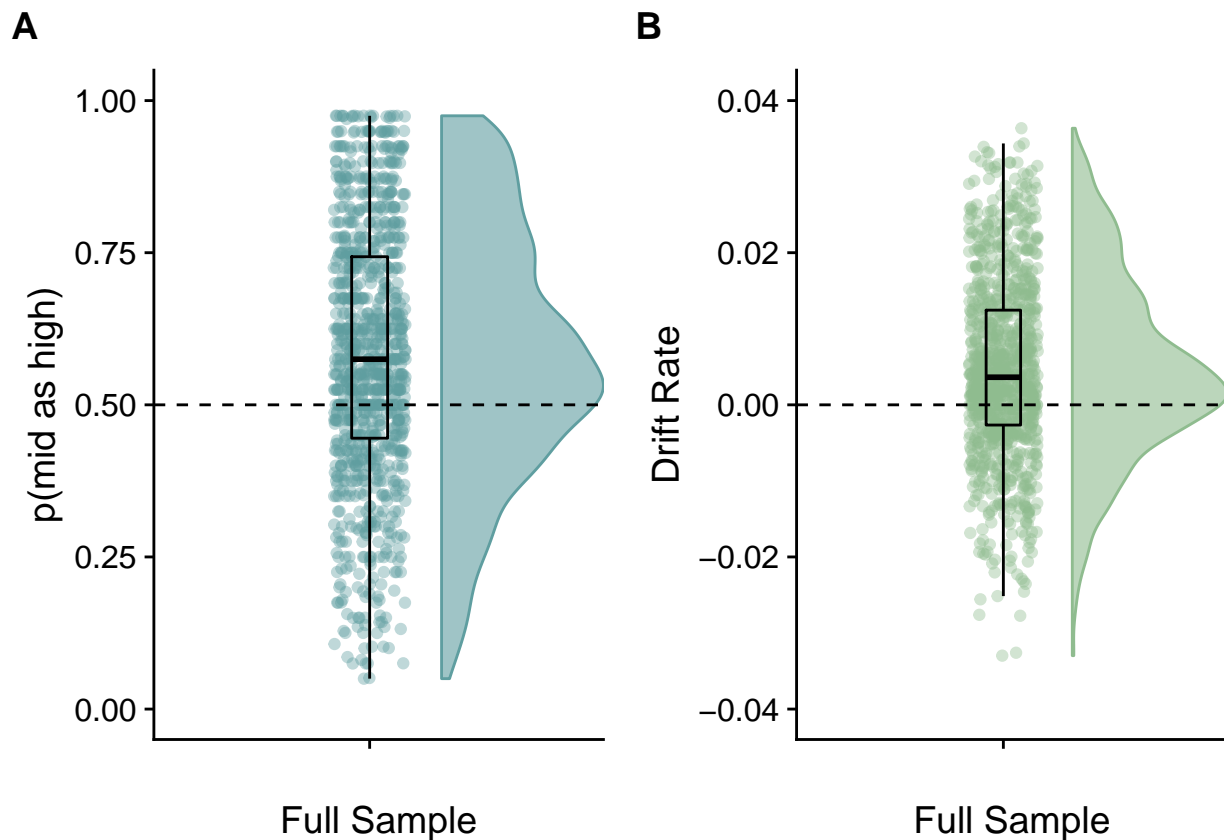
Interpretation

Both tasks demonstrate clear sources of between-subject bias. In short, individuals demonstrated ‘higher’ bias when large (or vertical) stimuli were paired with large rewards on the right hand side. These reflect pre-potent biases (e.g. bigger things usually cost more and in latin languages we read from left to right etc.). Smaller biases were observed when the stimulus-response-outcome contingencies were incongruent with these pre-potent biases. These biases add to the noise in within-subject or case-control designs, but effects can still be observed over and above these effects. Unfortunately if we care about within-subject differences in a cross-sectional design we have to remove this. We decided to restrict further testing to the intermediate bias scores on pilot 2 (counterbalancing 1 and 7). Thus we would need to control for counterbalancing but would only have two groups (rather than 8). Of note, we chose pilot 2 design rather than pilot 1 because a

circle has both area and diameter that a participant may attend to, whereas there is only one interpretation of line orientation.

2: Exploring contributors to bias in cross-sectional data

We next collected data from N=1066 using counterbalancing 1 and 7 from pilot 2. As in the pilot the full sample demonstrate a) affective bias ($p(\text{mid})$ as high) and d) drift rate that are significantly biased towards highest reward (see results of one sample t-tests below figure). Drift rate is a parameter from a ‘drift diffusion model’ of decision making that we discussed in Aylward et al. 2019. The effects are strongly correlated with $p(\text{mid})$ as high, but presented for completeness.



```
##
## One Sample t-test
##
## data: combineditemdata$propmedhigh
## t = 12.089, df = 993, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0.5
## 95 percent confidence interval:
## 0.5671525 0.5931778
## sample estimates:
## mean of x
## 0.5801652
##
```

```
## One Sample t-test
##
## data: combineditemdata$driftrate
## t = 12.113, df = 993, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
## 0.003843921 0.005330160
## sample estimates:
## mean of x
## 0.00458704
```

| | mean | std | lower range | upper range |
|--------|------|-----|-------------|-------------|
| Age | 34 | 10 | 18 | 76 |
| Ravens | 4 | 3 | 0 | 12 |
| OCIR | 42 | 18 | 18 | 90 |
| SZ | 16 | 9 | 0 | 51 |
| BDI | 15 | 12 | 0 | 56 |
| STAI | 45 | 12 | 20 | 78 |

Simple Linear Regression of measures

To explore the impact of trait/demographic measures on task performance we next ran a linear regression (using Robust ML estimator for consistency with SEM below) to predict p(mid as high)('propmedhigh' variable). The variables we included are:

- Spreadsheet (categorical): represents the counterbalancing condition
- Ravens (continuous): IQ measure (visual matrices)
- Age (continuous): years old
- BDI (continuous): Beck depression inventory (suicide question removed)
- STAI2 (continuous): Spielberger Trait Anxiety
- OCIR (continuous): Obsessive-Compulsive Inventory (Revised)
- SZ (continuous): Schizotypal short scale
- September1.April2 (categorical): Two batches of data
- TakeDrugs (categorical): Current use of psychoactive compounds
- GenderMF (categorical): Self-reported gender
- CurrentMH (categorical): Are you suffering from current mental health problems?

```
NegBiasmodel.1 <- 'propmedhigh ~ GenderMF + Age + Ravens + spreadsheet +BDI + STAI2 + SZ + OCIR'
NegBiasmodel.2 <- 'driftrate ~ GenderMF + Age + Ravens + spreadsheet +BDI + STAI2 + SZ + OCIR'
```

```
fit1 <- sem(NegBiasmodel.1, data=combineditemdata, meanstructure=TRUE, estimator = "MLR")
fit2 <- sem(NegBiasmodel.2, data=combineditemdata, meanstructure=TRUE, estimator = "MLR")
```

```
summary(fit1, standardized=TRUE, rsquare=T, fit.measures=F)
```

```
## lavaan 0.6-3 ended normally after 59 iterations
##
## Optimization method NLMINB
## Number of free parameters 10
```

```

##
##                               Used      Total
##   Number of observations          990      1066
##
##   Estimator                      ML      Robust
##   Model Fit Test Statistic        0.000      0.000
##   Degrees of freedom                0         0
##   Minimum Function Value          0.000000000000
##   Scaling correction factor                    NA
##   for the Yuan-Bentler correction (Mplus variant)
##
## Parameter Estimates:
##
##   Information                      Observed
##   Observed information based on      Hessian
##   Standard Errors                  Robust.huber.white
##
## Regressions:
##           Estimate  Std.Err  z-value  P(>|z|)  Std.lv  Std.all
##   propmedhigh ~
##     GenderMF        -0.005   0.013   -0.390   0.697   -0.005   -0.012
##     Age             -0.002   0.001   -3.822   0.000   -0.002   -0.120
##     Ravens           0.010   0.002    4.323   0.000    0.010    0.144
##     spreadsheet      0.006   0.002    2.744   0.006    0.006    0.085
##     BDI              -0.002   0.001   -2.373   0.018   -0.002   -0.121
##     STAI2            0.001   0.001    0.789   0.430    0.001    0.037
##     SZ               -0.001   0.001   -1.145   0.252   -0.001   -0.056
##     OCIR             0.000   0.001    0.087   0.931    0.000    0.004
##
## Intercepts:
##           Estimate  Std.Err  z-value  P(>|z|)  Std.lv  Std.all
##   .propmedhigh      0.663   0.042   15.791   0.000    0.663    3.166
##
## Variances:
##           Estimate  Std.Err  z-value  P(>|z|)  Std.lv  Std.all
##   .propmedhigh      0.041   0.002   24.796   0.000    0.041    0.943
##
## R-Square:
##           Estimate
##   propmedhigh      0.057

```

```
summary(fit2, standardized=TRUE, rsquare=T, fit.measures=F)
```

```

## lavaan 0.6-3 ended normally after 124 iterations
##
##   Optimization method          NLMINB
##   Number of free parameters          10
##
##                               Used      Total
##   Number of observations          990      1066
##
##   Estimator                      ML      Robust
##   Model Fit Test Statistic        0.000      0.000
##   Degrees of freedom                0         0

```

```

## Scaling correction factor NA
## for the Yuan-Bentler correction (Mplus variant)
##
## Parameter Estimates:
##
## Information Observed
## Observed information based on Hessian
## Standard Errors Robust.huber.white
##
## Regressions:
## Estimate Std.Err z-value P(>|z|) Std.lv Std.all
## driftrate ~
## GenderMF -0.000 0.001 -0.421 0.674 -0.000 -0.013
## Age -0.000 0.000 -3.611 0.000 -0.000 -0.113
## Ravens 0.001 0.000 4.348 0.000 0.001 0.146
## spreadsheet 0.000 0.000 2.766 0.006 0.000 0.086
## BDI -0.000 0.000 -2.533 0.011 -0.000 -0.127
## STAI2 0.000 0.000 0.876 0.381 0.000 0.040
## SZ -0.000 0.000 -1.355 0.175 -0.000 -0.066
## OCIR 0.000 0.000 0.392 0.695 0.000 0.018
##
## Intercepts:
## Estimate Std.Err z-value P(>|z|) Std.lv Std.all
## .driftrate 0.009 0.002 3.707 0.000 0.009 0.740
##
## Variances:
## Estimate Std.Err z-value P(>|z|) Std.lv Std.all
## .driftrate 0.000 0.000 21.371 0.000 0.000 0.943
##
## R-Square:
## Estimate
## driftrate 0.057

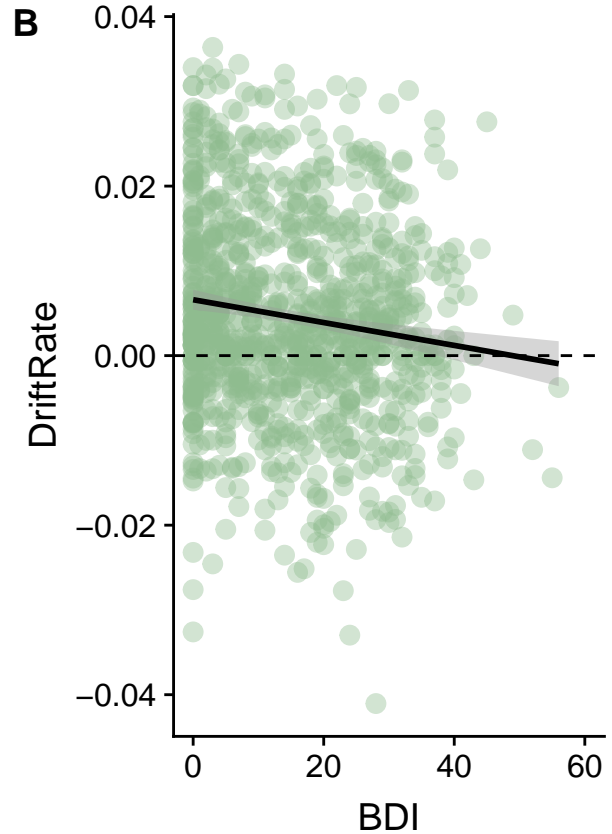
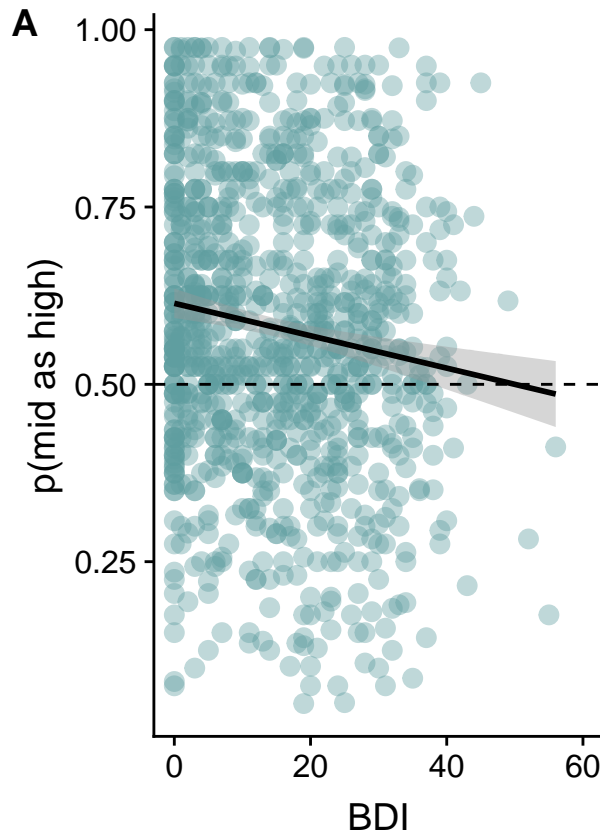
```

Interpretation

Affective bias and drift rate are both significantly influenced by IQ, Age, BDI and counterbalancing only. Thus of mental health relevant symptoms, task performance appears to be more driven by depression than anxiety, OCD, or psychosis related traits.

Correlation between task performance and depression symptoms

To illustrate the effect of depression in the regression we plot the correlation between BDI and pmidhigh/drift rate in raw scores. Consistent with our prior work, increased depression is associated with reduced p(mid as high)(i.e. increased negative bias).



```
##
## Pearson's product-moment correlation
##
## data: combineditemdata$BDI and combineditemdata$propmedhigh
## t = -4.1239, df = 992, p-value = 4.036e-05
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.19046936 -0.06819752
## sample estimates:
##      cor
## -0.129827
```

```
##
## Pearson's product-moment correlation
##
## data: combineditemdata$BDI and combineditemdata$driftrate
## t = -4.2639, df = 992, p-value = 2.2e-05
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.19471183 -0.07258157
## sample estimates:
##      cor
## -0.1341561
```


Exploring latent variable structure of the Questionnaires

The linear regression assumes that the summary scores of the questionnaires represent discrete categories. However, it is possible that effects are driven by a generic ‘mental ill health’ factor (sometimes referred to as a P factor model). Or, some questionnaires (e.g. BDI and trait anxiety, which are usually highly correlated) actually measure a single latent ‘negative affect’ factor. To test for these possibilities we explore four confirmatory factor analyses feeding the individual items from the questionnaires into 1-4 latent factors. The 4 latent factor CFA represents the items feeding into the original questionnaires.

```
###Testing different measurement models
```

```
pFactor1<-'#specifying measurement model
```

```
P    =~ BDI_Appetite_quantised  +
        BDI_Attractive_quantised +
        BDI_Blame_quantised    +
        BDI_Cry_quantised      +
        BDI_Decisions_quantised +
        BDI_Disappointment_quantised +
        BDI_Failure_quantised  +
        BDI_Future_quantised  +
        BDI_Guilty_quantised  +
        BDI_Health_quantised  +
        BDI_Interest_In_People_quantised +
        BDI_Irritated_quantised +
        BDI_Libido_quantised  +
        BDI_Punished_quantised +
        BDI_Sad_quantised    +
        BDI_Satisfaction_quantised +
        BDI_Sleep_quantised  +
        BDI_Tired_quantised  +
        BDI_weight_quantised +
        BDI_Work_quantised   +
        STAI2_Calm_quantised +
        STAI2_Content_quantised +
        STAI2_Desicions_quantised +
        STAI2_Difficulties_quantised +
        STAI2_DisappointmentsSelf_quantised +
        STAI2_Failure_quantised +
        STAI2_Happy_quantised +
        STAI2_HappyOthers_quantised +
        STAI2_Inadequate_quantised +
        STAI2_Nervous_quantised +
        STAI2_Pleasant_quantised +
        STAI2_Rested_quantised +
        STAI2_SatisfiedSelf_quantised +
        STAI2_Secure_quantised +
        STAI2_SelfConfidence_quantised +
        STAI2_Steady_quantised +
        STAI2_Tension_quantised +
        STAI2_Thoughts_quantised +
        STAI2_UnimportantThought_quantised +
        STAI2_Worry_quantised +
        OCIR_14_quantised    +
```

```

OCIR_15_quantised +
OCIR_16_quantised +
OCIR_17_quantised +
OCIR_18_quantised +
OCIR_2_quantised +
OCIR_3_quantised +
OCIR_4_quantised +
OCIR_5_quantised +
OCIR_6_quantised +
OCIR_7_quantised +
OCIR_8_quantised +
OCIR_9_quantised +
OCIR_1_quantised +
OCIR_10_quantised +
OCIR_11_quantised +
OCIR_12_quantised +
OCIR_13_quantised +
SZ_1_quantised +
SZ_10_quantised +
SZ_11_quantised +
SZ_12_quantised +
SZ_13_quantised +
SZ_14_quantised +
SZ_15_quantised +
SZ_16_quantised +
SZ_17_quantised +
SZ_18_quantised +
SZ_19_quantised +
SZ_2_quantised +
SZ_20_quantised +
SZ_21_quantised +
SZ_22_quantised +
SZ_23_quantised +
SZ_24_quantised +
SZ_25_quantised +
SZ_26_quantised +
SZ_27_quantised +
SZ_28_quantised +
SZ_29_quantised +
SZ_3_quantised +
SZ_30_quantised +
SZ_31_quantised +
SZ_32_quantised +
SZ_33_quantised +
SZ_34_quantised +
SZ_35_quantised +
SZ_36_quantised +
SZ_37_quantised +
SZ_38_quantised +
SZ_39_quantised +
SZ_4_quantised +
SZ_40_quantised +
SZ_41_quantised +

```

```

SZ_42_quantised +
SZ_5_quantised +
SZ_6_quantised +
SZ_7_quantised +
SZ_8_quantised +
SZ_9_quantised
,

BiFactor2<-'#specifying measurement model

ANXDEP =~ BDI_Appetite_quantised +
          BDI_Attractive_quantised +
          BDI_Blame_quantised +
          BDI_Cry_quantised +
          BDI_Decisions_quantised +
          BDI_Disappointment_quantised +
          BDI_Failure_quantised +
          BDI_Future_quantised +
          BDI_Guilty_quantised +
          BDI_Health_quantised +
          BDI_Interest_In_People_quantised +
          BDI_Irritated_quantised +
          BDI_Libido_quantised +
          BDI_Punished_quantised +
          BDI_Sad_quantised +
          BDI_Satisfaction_quantised +
          BDI_Sleep_quantised +
          BDI_Tired_quantised +
          BDI_weight_quantised +
          BDI_Work_quantised +
          STAI2_Calm_quantised +
          STAI2_Content_quantised +
          STAI2_Desicions_quantised +
          STAI2_Difficulties_quantised +
          STAI2_DisappointmentsSelf_quantised +
          STAI2_Failure_quantised +
          STAI2_Happy_quantised +
          STAI2_HappyOthers_quantised +
          STAI2_Inadequate_quantised +
          STAI2_Nervous_quantised +
          STAI2_Pleasant_quantised +
          STAI2_Rested_quantised +
          STAI2_SatisfiedSelf_quantised +
          STAI2_Secure_quantised +
          STAI2_SelfConfidence_quantised +
          STAI2_Steady_quantised +
          STAI2_Tension_quantised +
          STAI2_Thoughts_quantised +
          STAI2_UnimportantThought_quantised +
          STAI2_Worry_quantised

OTH =~ OCIR_14_quantised +
       OCIR_15_quantised +

```

```

OCIR_16_quantised +
OCIR_17_quantised +
OCIR_18_quantised +
OCIR_2_quantised +
OCIR_3_quantised +
OCIR_4_quantised +
OCIR_5_quantised +
OCIR_6_quantised +
OCIR_7_quantised +
OCIR_8_quantised +
OCIR_9_quantised +
OCIR_1_quantised +
OCIR_10_quantised +
OCIR_11_quantised +
OCIR_12_quantised +
OCIR_13_quantised +
SZ_1_quantised +
SZ_10_quantised +
SZ_11_quantised +
SZ_12_quantised +
SZ_13_quantised +
SZ_14_quantised +
SZ_15_quantised +
SZ_16_quantised +
SZ_17_quantised +
SZ_18_quantised +
SZ_19_quantised +
SZ_2_quantised +
SZ_20_quantised +
SZ_21_quantised +
SZ_22_quantised +
SZ_23_quantised +
SZ_24_quantised +
SZ_25_quantised +
SZ_26_quantised +
SZ_27_quantised +
SZ_28_quantised +
SZ_29_quantised +
SZ_3_quantised +
SZ_30_quantised +
SZ_31_quantised +
SZ_32_quantised +
SZ_33_quantised +
SZ_34_quantised +
SZ_35_quantised +
SZ_36_quantised +
SZ_37_quantised +
SZ_38_quantised +
SZ_39_quantised +
SZ_4_quantised +
SZ_40_quantised +
SZ_41_quantised +
SZ_42_quantised +

```

```

SZ_5_quantised +
SZ_6_quantised +
SZ_7_quantised +
SZ_8_quantised +
SZ_9_quantised
,

TriFactor3<-'#specifying measurement model

ANXDEP =~ BDI_Appetite_quantised      +
          BDI_Attractive_quantised +
          BDI_Blame_quantised   +
          BDI_Cry_quantised     +
          BDI_Decisions_quantised +
          BDI_Disappointment_quantised +
          BDI_Failure_quantised   +
          BDI_Future_quantised  +
          BDI_Guilty_quantised  +
          BDI_Health_quantised  +
          BDI_Interest_In_People_quantised +
          BDI_Irritated_quantised +
          BDI_Libido_quantised  +
          BDI_Punished_quantised +
          BDI_Sad_quantised     +
          BDI_Satisfaction_quantised +
          BDI_Sleep_quantised   +
          BDI_Tired_quantised   +
          BDI_weight_quantised  +
          BDI_Work_quantised    +
          STAI2_Calm_quantised  +
          STAI2_Content_quantised +
          STAI2_Desicions_quantised +
          STAI2_Difficulties_quantised +
          STAI2_DisappointmentsSelf_quantised +
          STAI2_Failure_quantised +
          STAI2_Happy_quantised  +
          STAI2_HappyOthers_quantised +
          STAI2_Inadequate_quantised +
          STAI2_Nervous_quantised +
          STAI2_Pleasant_quantised +
          STAI2_Rested_quantised +
          STAI2_SatisfiedSelf_quantised +
          STAI2_Secure_quantised +
          STAI2_SelfConfidence_quantised +
          STAI2_Steady_quantised +
          STAI2_Tension_quantised +
          STAI2_Thoughts_quantised +
          STAI2_UnimportantThought_quantised +
          STAI2_Worry_quantised

OCD =~ OCIR_14_quantised  +
       OCIR_15_quantised  +
       OCIR_16_quantised  +

```

```

OCIR_17_quantised +
OCIR_18_quantised +
OCIR_2_quantised +
OCIR_3_quantised +
OCIR_4_quantised +
OCIR_5_quantised +
OCIR_6_quantised +
OCIR_7_quantised +
OCIR_8_quantised +
OCIR_9_quantised +
OCIR_1_quantised +
OCIR_10_quantised +
OCIR_11_quantised +
OCIR_12_quantised +
OCIR_13_quantised

SZ =~ SZ_1_quantised +
SZ_10_quantised +
SZ_11_quantised +
SZ_12_quantised +
SZ_13_quantised +
SZ_14_quantised +
SZ_15_quantised +
SZ_16_quantised +
SZ_17_quantised +
SZ_18_quantised +
SZ_19_quantised +
SZ_2_quantised +
SZ_20_quantised +
SZ_21_quantised +
SZ_22_quantised +
SZ_23_quantised +
SZ_24_quantised +
SZ_25_quantised +
SZ_26_quantised +
SZ_27_quantised +
SZ_28_quantised +
SZ_29_quantised +
SZ_3_quantised +
SZ_30_quantised +
SZ_31_quantised +
SZ_32_quantised +
SZ_33_quantised +
SZ_34_quantised +
SZ_35_quantised +
SZ_36_quantised +
SZ_37_quantised +
SZ_38_quantised +
SZ_39_quantised +
SZ_4_quantised +
SZ_40_quantised +
SZ_41_quantised +
SZ_42_quantised +

```

```

SZ_5_quantised +
SZ_6_quantised +
SZ_7_quantised +
SZ_8_quantised +
SZ_9_quantised
,
Quaires4 <- '#specifying measurement model

BDI =~ BDI_Appetite_quantised +
        BDI_Attractive_quantised +
        BDI_Blame_quantised +
        BDI_Cry_quantised +
        BDI_Decisions_quantised +
        BDI_Disappointment_quantised +
        BDI_Failure_quantised +
        BDI_Future_quantised +
        BDI_Guilty_quantised +
        BDI_Health_quantised +
        BDI_Interest_In_People_quantised +
        BDI_Irritated_quantised +
        BDI_Libido_quantised +
        BDI_Punished_quantised +
        BDI_Sad_quantised +
        BDI_Satisfaction_quantised +
        BDI_Sleep_quantised +
        BDI_Tired_quantised +
        BDI_weight_quantised +
        BDI_Work_quantised

OCD =~ OCIR_14_quantised +
        OCIR_15_quantised +
        OCIR_16_quantised +
        OCIR_17_quantised +
        OCIR_18_quantised +
        OCIR_2_quantised +
        OCIR_3_quantised +
        OCIR_4_quantised +
        OCIR_5_quantised +
        OCIR_6_quantised +
        OCIR_7_quantised +
        OCIR_8_quantised +
        OCIR_9_quantised +
        OCIR_1_quantised +
        OCIR_10_quantised +
        OCIR_11_quantised +
        OCIR_12_quantised +
        OCIR_13_quantised

SZ =~ SZ_1_quantised +
        SZ_10_quantised +
        SZ_11_quantised +
        SZ_12_quantised +
        SZ_13_quantised +

```

```

SZ_14_quantised +
SZ_15_quantised +
SZ_16_quantised +
SZ_17_quantised +
SZ_18_quantised +
SZ_19_quantised +
SZ_2_quantised +
SZ_20_quantised +
SZ_21_quantised +
SZ_22_quantised +
SZ_23_quantised +
SZ_24_quantised +
SZ_25_quantised +
SZ_26_quantised +
SZ_27_quantised +
SZ_28_quantised +
SZ_29_quantised +
SZ_3_quantised +
SZ_30_quantised +
SZ_31_quantised +
SZ_32_quantised +
SZ_33_quantised +
SZ_34_quantised +
SZ_35_quantised +
SZ_36_quantised +
SZ_37_quantised +
SZ_38_quantised +
SZ_39_quantised +
SZ_4_quantised +
SZ_40_quantised +
SZ_41_quantised +
SZ_42_quantised +
SZ_5_quantised +
SZ_6_quantised +
SZ_7_quantised +
SZ_8_quantised +
SZ_9_quantised

STAI =~ STAI2_Calm_quantised +
        STAI2_Content_quantised +
        STAI2_Desicions_quantised +
        STAI2_Difficulties_quantised +
        STAI2_DisappointmentsSelf_quantised +
        STAI2_Failure_quantised +
        STAI2_Happy_quantised +
        STAI2_HappyOthers_quantised +
        STAI2_Inadequate_quantised +
        STAI2_Nervous_quantised +
        STAI2_Pleasant_quantised +
        STAI2_Rested_quantised +
        STAI2_SatisfiedSelf_quantised +
        STAI2_Secure_quantised +
        STAI2_SelfConfidence_quantised +

```



```

    STAI2_Steady_quantised +
    STAI2_Tension_quantised +
    STAI2_Thoughts_quantised +
    STAI2_UnimportantThought_quantised +
    STAI2_Worry_quantised
  ,

FitpFactor1<- cfa(pFactor1, data = combineditemdata, estimator = "MLR", se='robust.huber.white')
FitBiFactor2<- cfa(BiFactor2, data = combineditemdata, estimator = "MLR", se='robust.huber.white')
FitTriFactor3<- cfa(TriFactor3, data = combineditemdata, estimator = "MLR", se='robust.huber.white')
FitQuaires4<- cfa(Quaires4, data = combineditemdata, estimator = "MLR", se='robust.huber.white')

FitpFactor1vars <-data.frame(fitMeasures(FitpFactor1, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(FitpFactor1vars) <- "P Factor"
FitBiFactor2vars<- data.frame(fitMeasures(FitBiFactor2, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(FitBiFactor2vars) <- "Bi Factor (AnxDep vs. not)"
FitTriFactor3vars<- data.frame(fitMeasures(FitTriFactor3, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(FitTriFactor3vars) <- "Tri Factor (AnxDep vs. SZ or OCD)"
FitQuaires4vars<- data.frame(fitMeasures(FitQuaires4, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(FitQuaires4vars) <- "Four Factor (All questionnaires)"
Allfits <- cbind.data.frame(FitpFactor1vars, FitBiFactor2vars, FitTriFactor3vars, FitQuaires4vars)
rownames(Allfits) <- c("BIC", "AIC", "RMSEA", "RMSEA CI-", "RMSEA CI+")

kable(t(Allfits), digits = 3)

```

| | BIC | AIC | RMSEA | RMSEA CI- | RMSEA CI+ |
|-----------------------------------|----------|----------|-------|-----------|-----------|
| P Factor | 206756.6 | 205762.2 | 0.071 | 0.071 | 0.072 |
| Bi Factor (AnxDep vs. not) | 199828.5 | 198829.1 | 0.061 | 0.060 | 0.062 |
| Tri Factor (AnxDep vs. SZ or OCD) | 196936.3 | 195927.1 | 0.056 | 0.056 | 0.057 |
| Four Factor (All questionnaires) | 195624.0 | 194599.8 | 0.054 | 0.053 | 0.055 |

Interpretation

As demonstrated by the lowest BIC/AIC the 4 factor (original questionnaire structure) solution is the best description of the data. This also has the lowest RMSEA, which is in turn below 0.08 and hence a good fit to the data.

Structural Equation Model of the factor structure with regression

We can now feed this factor structure into a structural equation model with the original regression analysis in it. This is similar to the linear regression, although it allows the different items of the questionnaire to have varying influence over the summary questionnaire 'factors'.

```

####SEM

QuaireSEMPmid <- '#specifying measurement model

BDI =~ BDI_Appetite_quantised +
        BDI_Attractive_quantised +
        BDI_Blame_quantised +
        BDI_Cry_quantised +

```

```

BDI_Decisions_quantised +
BDI_Disappointment_quantised +
BDI_Failure_quantised +
BDI_Future_quantised +
BDI_Guilty_quantised +
BDI_Health_quantised +
BDI_Interest_In_People_quantised +
BDI_Irritated_quantised +
BDI_Libido_quantised +
BDI_Punished_quantised +
BDI_Sad_quantised +
BDI_Satisfaction_quantised +
BDI_Sleep_quantised +
BDI_Tired_quantised +
BDI_weight_quantised +
BDI_Work_quantised

OCD =~ OCIR_14_quantised +
OCIR_15_quantised +
OCIR_16_quantised +
OCIR_17_quantised +
OCIR_18_quantised +
OCIR_2_quantised +
OCIR_3_quantised +
OCIR_4_quantised +
OCIR_5_quantised +
OCIR_6_quantised +
OCIR_7_quantised +
OCIR_8_quantised +
OCIR_9_quantised +
OCIR_1_quantised +
OCIR_10_quantised +
OCIR_11_quantised +
OCIR_12_quantised +
OCIR_13_quantised

SZ =~ SZ_1_quantised +
SZ_10_quantised +
SZ_11_quantised +
SZ_12_quantised +
SZ_13_quantised +
SZ_14_quantised +
SZ_15_quantised +
SZ_16_quantised +
SZ_17_quantised +
SZ_18_quantised +
SZ_19_quantised +
SZ_2_quantised +
SZ_20_quantised +
SZ_21_quantised +
SZ_22_quantised +
SZ_23_quantised +
SZ_24_quantised +

```

```

SZ_25_quantised +
SZ_26_quantised +
SZ_27_quantised +
SZ_28_quantised +
SZ_29_quantised +
SZ_3_quantised +
SZ_30_quantised +
SZ_31_quantised +
SZ_32_quantised +
SZ_33_quantised +
SZ_34_quantised +
SZ_35_quantised +
SZ_36_quantised +
SZ_37_quantised +
SZ_38_quantised +
SZ_39_quantised +
SZ_4_quantised +
SZ_40_quantised +
SZ_41_quantised +
SZ_42_quantised +
SZ_5_quantised +
SZ_6_quantised +
SZ_7_quantised +
SZ_8_quantised +
SZ_9_quantised

STAI =~ STAI2_Calm_quantised +
        STAI2_Content_quantised +
        STAI2_Desicions_quantised +
        STAI2_Difficulties_quantised +
        STAI2_DisappointmentsSelf_quantised +
        STAI2_Failure_quantised +
        STAI2_Happy_quantised +
        STAI2_HappyOthers_quantised +
        STAI2_Inadequate_quantised +
        STAI2_Nervous_quantised +
        STAI2_Pleasant_quantised +
        STAI2_Rested_quantised +
        STAI2_SatisfiedSelf_quantised +
        STAI2_Secure_quantised +
        STAI2_SelfConfidence_quantised +
        STAI2_Steady_quantised +
        STAI2_Tension_quantised +
        STAI2_Thoughts_quantised +
        STAI2_UnimportantThought_quantised +
        STAI2_Worry_quantised

#Regressions
propmedhigh ~ spreadsheet + Ravens + Age + GenderMF + BDI + OCD + SZ + STAI

#residual correlations
spreadsheet ~~ Ravens + Age + GenderMF + BDI + OCD + SZ + STAI

```

```

Ravens ~~ Age + GenderMF + BDI + OCD + SZ + STAI
Age ~~ GenderMF + BDI + OCD + SZ + STAI
GenderMF ~~ BDI + OCD + SZ + STAI
BDI ~~ OCD + SZ + STAI
OCD ~~ SZ + STAI
SZ ~~ STAI

```

```

QuaireSEMdrift <- '#specifying measurement model

```

```

BDI =~ BDI_Appetite_quantised +
      BDI_Attractive_quantised +
      BDI_Blame_quantised +
      BDI_Cry_quantised +
      BDI_Decisions_quantised +
      BDI_Disappointment_quantised +
      BDI_Failure_quantised +
      BDI_Future_quantised +
      BDI_Guilty_quantised +
      BDI_Health_quantised +
      BDI_Interest_In_People_quantised +
      BDI_Irritated_quantised +
      BDI_Libido_quantised +
      BDI_Punished_quantised +
      BDI_Sad_quantised +
      BDI_Satisfaction_quantised +
      BDI_Sleep_quantised +
      BDI_Tired_quantised +
      BDI_weight_quantised +
      BDI_Work_quantised

OCD =~ OCIR_14_quantised +
      OCIR_15_quantised +
      OCIR_16_quantised +
      OCIR_17_quantised +
      OCIR_18_quantised +
      OCIR_2_quantised +
      OCIR_3_quantised +
      OCIR_4_quantised +
      OCIR_5_quantised +
      OCIR_6_quantised +
      OCIR_7_quantised +
      OCIR_8_quantised +
      OCIR_9_quantised +
      OCIR_1_quantised +
      OCIR_10_quantised +
      OCIR_11_quantised +
      OCIR_12_quantised +
      OCIR_13_quantised

SZ =~ SZ_1_quantised +
      SZ_10_quantised +
      SZ_11_quantised +

```

```

SZ_12_quantised +
SZ_13_quantised +
SZ_14_quantised +
SZ_15_quantised +
SZ_16_quantised +
SZ_17_quantised +
SZ_18_quantised +
SZ_19_quantised +
SZ_2_quantised +
SZ_20_quantised +
SZ_21_quantised +
SZ_22_quantised +
SZ_23_quantised +
SZ_24_quantised +
SZ_25_quantised +
SZ_26_quantised +
SZ_27_quantised +
SZ_28_quantised +
SZ_29_quantised +
SZ_3_quantised +
SZ_30_quantised +
SZ_31_quantised +
SZ_32_quantised +
SZ_33_quantised +
SZ_34_quantised +
SZ_35_quantised +
SZ_36_quantised +
SZ_37_quantised +
SZ_38_quantised +
SZ_39_quantised +
SZ_4_quantised +
SZ_40_quantised +
SZ_41_quantised +
SZ_42_quantised +
SZ_5_quantised +
SZ_6_quantised +
SZ_7_quantised +
SZ_8_quantised +
SZ_9_quantised

STAI =~ STAI2_Calm_quantised +
        STAI2_Content_quantised +
        STAI2_Desicions_quantised +
        STAI2_Difficulties_quantised +
        STAI2_DisappointmentsSelf_quantised +
        STAI2_Failure_quantised +
        STAI2_Happy_quantised +
        STAI2_HappyOthers_quantised +
        STAI2_Inadequate_quantised +
        STAI2_Nervous_quantised +
        STAI2_Pleasant_quantised +
        STAI2_Rested_quantised +
        STAI2_SatisfiedSelf_quantised +

```

```

    STAI2_Secure_quantised +
    STAI2_SelfConfidence_quantised +
    STAI2_Steady_quantised +
    STAI2_Tension_quantised +
    STAI2_Thoughts_quantised +
    STAI2_UnimportantThought_quantised +
    STAI2_Worry_quantised

#Regressions
driftrate ~ spreadsheet + Ravens + Age + GenderMF + BDI + OCD + SZ + STAI

#residual correlations
spreadsheet ~~ Ravens + Age + GenderMF + BDI + OCD + SZ + STAI
Ravens ~~ Age + GenderMF + BDI + OCD + SZ + STAI
Age ~~ GenderMF + BDI + OCD + SZ + STAI
GenderMF ~~ BDI + OCD + SZ + STAI
BDI ~~ OCD + SZ + STAI
OCD ~~ SZ + STAI
SZ ~~ STAI
'

FitQuaireSEMPmid <- sem(QuaireSEMPmid, data = combineditemdata, estimator = "MLR", se='robust.huber.white')
FitQuaireSEMdrift <- sem(QuaireSEMdrift, data = combineditemdata, estimator = "MLR", se='robust.huber.white')

summary(FitQuaireSEMPmid, standardized=TRUE, rsquare=T, fit.measures=F)

```

```

## lavaan 0.6-3 ended normally after 223 iterations
##
##      Optimization method          NLMINB
##      Number of free parameters      241
##
##                               Used      Total
##      Number of observations          990      1066
##
##      Estimator              ML      Robust
##      Model Fit Test Statistic    19683.727    17260.394
##      Degrees of freedom           5324      5324
##      P-value (Chi-square)         0.000      0.000
##      Scaling correction factor              1.140
##      for the Yuan-Bentler correction (Mplus variant)
##
## Parameter Estimates:
##
##      Information              Observed
##      Observed information based on      Hessian
##      Standard Errors              Robust.huber.white
##
## Latent Variables:
##      Estimate  Std.Err  z-value  P(>|z|)  Std.lv  Std.all
##      BDI =~
##      BDI_Apptt_qnts      1.000              0.584      0.651

```

| | | | | | | | |
|----|-----------------|-------|-------|--------|-------|-------|-------|
| ## | BDI_Attrctv_qn | 1.045 | 0.057 | 18.241 | 0.000 | 0.611 | 0.647 |
| ## | BDI_Blam_qntsd | 1.142 | 0.057 | 19.909 | 0.000 | 0.667 | 0.760 |
| ## | BDI_Cry_qntsd | 0.997 | 0.050 | 20.093 | 0.000 | 0.583 | 0.666 |
| ## | BDI_Dcsns_qnts | 1.109 | 0.056 | 19.787 | 0.000 | 0.648 | 0.731 |
| ## | BDI_Dsppntmnt_ | 1.126 | 0.062 | 18.274 | 0.000 | 0.658 | 0.745 |
| ## | BDI_Falr_qntsd | 1.142 | 0.061 | 18.655 | 0.000 | 0.667 | 0.730 |
| ## | BDI_Futr_qntsd | 1.131 | 0.059 | 19.162 | 0.000 | 0.661 | 0.741 |
| ## | BDI_Glty_qntsd | 1.004 | 0.053 | 18.944 | 0.000 | 0.587 | 0.690 |
| ## | BDI_Hlth_qntsd | 0.771 | 0.045 | 16.978 | 0.000 | 0.451 | 0.583 |
| ## | BDI_Intrs_I_P_ | 1.075 | 0.055 | 19.385 | 0.000 | 0.628 | 0.694 |
| ## | BDI_Irrtttd_qnt | 1.072 | 0.051 | 20.852 | 0.000 | 0.626 | 0.706 |
| ## | BDI_Libd_qntsd | 0.868 | 0.048 | 18.244 | 0.000 | 0.507 | 0.574 |
| ## | BDI_Pnshd_qnts | 1.060 | 0.055 | 19.294 | 0.000 | 0.620 | 0.665 |
| ## | BDI_Sad_qntsd | 0.945 | 0.048 | 19.683 | 0.000 | 0.552 | 0.714 |
| ## | BDI_Stsfctn_qn | 1.097 | 0.059 | 18.534 | 0.000 | 0.641 | 0.689 |
| ## | BDI_Slep_qntsd | 0.889 | 0.050 | 17.721 | 0.000 | 0.520 | 0.579 |
| ## | BDI_Tird_qntsd | 0.971 | 0.052 | 18.753 | 0.000 | 0.567 | 0.664 |
| ## | BDI_wght_qntsd | 0.558 | 0.043 | 12.882 | 0.000 | 0.326 | 0.456 |
| ## | BDI_Work_qntsd | 1.068 | 0.053 | 20.171 | 0.000 | 0.624 | 0.723 |
| ## | OCD =~ | | | | | | |
| ## | OCIR_14_qntsd | 1.000 | | | | 1.111 | 0.826 |
| ## | OCIR_15_qntsd | 0.833 | 0.029 | 29.075 | 0.000 | 0.925 | 0.713 |
| ## | OCIR_16_qntsd | 0.931 | 0.029 | 32.283 | 0.000 | 1.033 | 0.788 |
| ## | OCIR_17_qntsd | 1.013 | 0.028 | 36.734 | 0.000 | 1.125 | 0.840 |
| ## | OCIR_18_qntsd | 0.980 | 0.028 | 34.839 | 0.000 | 1.089 | 0.820 |
| ## | OCIR_2_quantisd | 0.834 | 0.028 | 30.262 | 0.000 | 0.926 | 0.714 |
| ## | OCIR_3_quantisd | 0.810 | 0.028 | 28.552 | 0.000 | 0.900 | 0.714 |
| ## | OCIR_4_quantisd | 0.934 | 0.027 | 35.234 | 0.000 | 1.037 | 0.805 |
| ## | OCIR_5_quantisd | 0.894 | 0.030 | 29.657 | 0.000 | 0.993 | 0.767 |
| ## | OCIR_6_quantisd | 0.849 | 0.030 | 28.000 | 0.000 | 0.942 | 0.735 |
| ## | OCIR_7_quantisd | 0.799 | 0.029 | 27.687 | 0.000 | 0.887 | 0.720 |
| ## | OCIR_8_quantisd | 0.982 | 0.025 | 39.513 | 0.000 | 1.090 | 0.816 |
| ## | OCIR_9_quantisd | 0.819 | 0.028 | 29.298 | 0.000 | 0.910 | 0.719 |
| ## | OCIR_1_quantisd | 0.856 | 0.027 | 32.152 | 0.000 | 0.950 | 0.743 |
| ## | OCIR_10_qntsd | 0.975 | 0.025 | 38.418 | 0.000 | 1.083 | 0.845 |
| ## | OCIR_11_qntsd | 0.972 | 0.027 | 35.748 | 0.000 | 1.079 | 0.829 |
| ## | OCIR_12_qntsd | 0.900 | 0.030 | 29.821 | 0.000 | 0.999 | 0.770 |
| ## | OCIR_13_qntsd | 0.780 | 0.028 | 27.801 | 0.000 | 0.866 | 0.687 |
| ## | SZ =~ | | | | | | |
| ## | SZ_1_quantised | 1.000 | | | | 0.304 | 0.624 |
| ## | SZ_10_quantisd | 0.832 | 0.042 | 19.768 | 0.000 | 0.253 | 0.598 |
| ## | SZ_11_quantisd | 0.813 | 0.044 | 18.281 | 0.000 | 0.247 | 0.500 |
| ## | SZ_12_quantisd | 0.789 | 0.045 | 17.483 | 0.000 | 0.240 | 0.501 |
| ## | SZ_13_quantisd | 0.904 | 0.048 | 18.685 | 0.000 | 0.274 | 0.557 |
| ## | SZ_14_quantisd | 0.872 | 0.053 | 16.390 | 0.000 | 0.265 | 0.530 |
| ## | SZ_15_quantisd | 0.923 | 0.051 | 17.936 | 0.000 | 0.280 | 0.562 |
| ## | SZ_16_quantisd | 0.716 | 0.051 | 13.956 | 0.000 | 0.217 | 0.435 |
| ## | SZ_17_quantisd | 0.840 | 0.049 | 17.252 | 0.000 | 0.255 | 0.514 |
| ## | SZ_18_quantisd | 0.972 | 0.050 | 19.599 | 0.000 | 0.295 | 0.599 |
| ## | SZ_19_quantisd | 0.842 | 0.049 | 17.290 | 0.000 | 0.256 | 0.514 |
| ## | SZ_2_quantised | 0.949 | 0.044 | 21.519 | 0.000 | 0.288 | 0.591 |
| ## | SZ_20_quantisd | 0.951 | 0.044 | 21.644 | 0.000 | 0.289 | 0.637 |
| ## | SZ_21_quantisd | 0.894 | 0.050 | 17.929 | 0.000 | 0.272 | 0.549 |
| ## | SZ_22_quantisd | 0.871 | 0.052 | 16.717 | 0.000 | 0.265 | 0.532 |

| | | | | | | | |
|----|----------------|----------|---------|---------|---------|--------|---------|
| ## | SZ_23_quantisd | 0.885 | 0.049 | 17.998 | 0.000 | 0.269 | 0.548 |
| ## | SZ_24_quantisd | 0.883 | 0.046 | 19.057 | 0.000 | 0.268 | 0.546 |
| ## | SZ_25_quantisd | 0.800 | 0.046 | 17.379 | 0.000 | 0.243 | 0.491 |
| ## | SZ_26_quantisd | -0.009 | 0.047 | -0.193 | 0.847 | -0.003 | -0.006 |
| ## | SZ_27_quantisd | 0.059 | 0.048 | 1.242 | 0.214 | 0.018 | 0.039 |
| ## | SZ_28_quantisd | -0.049 | 0.055 | -0.897 | 0.370 | -0.015 | -0.031 |
| ## | SZ_29_quantisd | 0.602 | 0.049 | 12.279 | 0.000 | 0.183 | 0.371 |
| ## | SZ_3_quantised | 0.792 | 0.043 | 18.237 | 0.000 | 0.240 | 0.548 |
| ## | SZ_30_quantisd | 0.115 | 0.055 | 2.100 | 0.036 | 0.035 | 0.071 |
| ## | SZ_31_quantisd | 0.038 | 0.046 | 0.829 | 0.407 | 0.012 | 0.026 |
| ## | SZ_32_quantisd | 0.697 | 0.050 | 13.975 | 0.000 | 0.212 | 0.429 |
| ## | SZ_33_quantisd | 0.459 | 0.050 | 9.104 | 0.000 | 0.139 | 0.289 |
| ## | SZ_34_quantisd | -0.052 | 0.047 | -1.122 | 0.262 | -0.016 | -0.035 |
| ## | SZ_35_quantisd | 0.784 | 0.042 | 18.515 | 0.000 | 0.238 | 0.569 |
| ## | SZ_36_quantisd | 0.846 | 0.048 | 17.786 | 0.000 | 0.257 | 0.516 |
| ## | SZ_37_quantisd | -0.206 | 0.050 | -4.076 | 0.000 | -0.062 | -0.136 |
| ## | SZ_38_quantisd | 0.907 | 0.043 | 21.043 | 0.000 | 0.275 | 0.597 |
| ## | SZ_39_quantisd | -0.010 | 0.048 | -0.201 | 0.841 | -0.003 | -0.006 |
| ## | SZ_4_quantised | 0.837 | 0.041 | 20.321 | 0.000 | 0.254 | 0.549 |
| ## | SZ_40_quantisd | 0.702 | 0.049 | 14.432 | 0.000 | 0.213 | 0.432 |
| ## | SZ_41_quantisd | 0.851 | 0.046 | 18.573 | 0.000 | 0.258 | 0.522 |
| ## | SZ_42_quantisd | 0.955 | 0.045 | 21.264 | 0.000 | 0.290 | 0.584 |
| ## | SZ_5_quantised | 0.878 | 0.044 | 20.165 | 0.000 | 0.267 | 0.597 |
| ## | SZ_6_quantised | 0.900 | 0.044 | 20.478 | 0.000 | 0.273 | 0.606 |
| ## | SZ_7_quantised | 0.870 | 0.045 | 19.529 | 0.000 | 0.264 | 0.535 |
| ## | SZ_8_quantised | 0.842 | 0.042 | 20.206 | 0.000 | 0.256 | 0.566 |
| ## | SZ_9_quantised | 0.902 | 0.046 | 19.716 | 0.000 | 0.274 | 0.565 |
| ## | STAI =~ | | | | | | |
| ## | STAI2_Clm_qnts | 1.000 | | | | 0.541 | 0.589 |
| ## | STAI2_Cntnt_qn | 0.928 | 0.042 | 22.300 | 0.000 | 0.502 | 0.548 |
| ## | STAI2_Dscns_qn | 0.844 | 0.044 | 18.994 | 0.000 | 0.456 | 0.502 |
| ## | STAI2_Dffclts_ | -1.273 | 0.169 | -7.551 | 0.000 | -0.688 | -0.715 |
| ## | STAI2_DsppntS_ | -1.134 | 0.172 | -6.582 | 0.000 | -0.613 | -0.649 |
| ## | STAI2_Flr_qnts | -1.340 | 0.158 | -8.459 | 0.000 | -0.724 | -0.756 |
| ## | STAI2_Hppy_qnt | 0.975 | 0.044 | 22.183 | 0.000 | 0.527 | 0.570 |
| ## | STAI2_Hppy0th_ | -1.062 | 0.155 | -6.841 | 0.000 | -0.574 | -0.574 |
| ## | STAI2_Indqt_qn | -1.329 | 0.170 | -7.808 | 0.000 | -0.719 | -0.735 |
| ## | STAI2_Nrvs_qnt | -1.244 | 0.164 | -7.595 | 0.000 | -0.672 | -0.719 |
| ## | STAI2_Plsnt_qn | 0.926 | 0.039 | 23.904 | 0.000 | 0.501 | 0.586 |
| ## | STAI2_Rstd_qnt | 0.683 | 0.052 | 13.229 | 0.000 | 0.369 | 0.413 |
| ## | STAI2_StsfdSl_ | 1.054 | 0.043 | 24.243 | 0.000 | 0.569 | 0.588 |
| ## | STAI2_Scr_qnts | 1.000 | 0.045 | 22.181 | 0.000 | 0.541 | 0.567 |
| ## | STAI2_SlfCnfd_ | -1.142 | 0.159 | -7.157 | 0.000 | -0.617 | -0.600 |
| ## | STAI2_Stdy_qnt | 1.065 | 0.044 | 24.470 | 0.000 | 0.576 | 0.641 |
| ## | STAI2_Tnsn_qnt | -1.214 | 0.191 | -6.357 | 0.000 | -0.656 | -0.683 |
| ## | STAI2_Thghts_q | -1.018 | 0.170 | -5.989 | 0.000 | -0.550 | -0.610 |
| ## | STAI2_UnmprtT_ | -1.134 | 0.179 | -6.352 | 0.000 | -0.613 | -0.643 |
| ## | STAI2_Wrry_qnt | -1.183 | 0.173 | -6.819 | 0.000 | -0.639 | -0.653 |
| ## | | | | | | | |
| ## | Regressions: | | | | | | |
| ## | | Estimate | Std.Err | z-value | P(> z) | Std.lv | Std.all |
| ## | propmedhigh ~ | | | | | | |
| ## | spreadsheet | 0.006 | 0.002 | 2.731 | 0.006 | 0.006 | 0.085 |
| ## | Ravens | 0.010 | 0.002 | 4.254 | 0.000 | 0.010 | 0.143 |

| | | | | | | | |
|----|----------------|----------|---------|---------|---------|--------|---------|
| ## | Age | -0.002 | 0.001 | -3.757 | 0.000 | -0.002 | -0.118 |
| ## | GenderMF | -0.005 | 0.013 | -0.411 | 0.681 | -0.005 | -0.013 |
| ## | BDI | -0.057 | 0.024 | -2.358 | 0.018 | -0.033 | -0.159 |
| ## | OCD | -0.001 | 0.010 | -0.085 | 0.932 | -0.001 | -0.004 |
| ## | SZ | 0.026 | 0.041 | 0.624 | 0.533 | 0.008 | 0.037 |
| ## | STAI | -0.026 | 0.025 | -1.032 | 0.302 | -0.014 | -0.067 |
| ## | | | | | | | |
| ## | Covariances: | | | | | | |
| ## | | Estimate | Std.Err | z-value | P(> z) | Std.lv | Std.all |
| ## | spreadsheet ~~ | | | | | | |
| ## | Ravens | -0.395 | 0.280 | -1.408 | 0.159 | -0.395 | -0.045 |
| ## | Age | 1.278 | 0.974 | 1.312 | 0.190 | 1.278 | 0.042 |
| ## | GenderMF | 0.059 | 0.047 | 1.264 | 0.206 | 0.059 | 0.040 |
| ## | BDI ~~ | | | | | | |
| ## | spreadsheet | -0.006 | 0.057 | -0.113 | 0.910 | -0.011 | -0.004 |
| ## | OCD ~~ | | | | | | |
| ## | spreadsheet | 0.125 | 0.108 | 1.162 | 0.245 | 0.113 | 0.038 |
| ## | SZ ~~ | | | | | | |
| ## | spreadsheet | -0.022 | 0.030 | -0.736 | 0.462 | -0.073 | -0.024 |
| ## | STAI ~~ | | | | | | |
| ## | spreadsheet | -0.006 | 0.054 | -0.111 | 0.911 | -0.011 | -0.004 |
| ## | Ravens ~~ | | | | | | |
| ## | Age | 2.696 | 0.986 | 2.734 | 0.006 | 2.696 | 0.090 |
| ## | GenderMF | -0.070 | 0.046 | -1.529 | 0.126 | -0.070 | -0.048 |
| ## | BDI ~~ | | | | | | |
| ## | Ravens | -0.323 | 0.059 | -5.457 | 0.000 | -0.552 | -0.188 |
| ## | OCD ~~ | | | | | | |
| ## | Ravens | -1.108 | 0.100 | -11.101 | 0.000 | -0.998 | -0.339 |
| ## | SZ ~~ | | | | | | |
| ## | Ravens | 0.200 | 0.030 | 6.737 | 0.000 | 0.657 | 0.223 |
| ## | STAI ~~ | | | | | | |
| ## | Ravens | 0.209 | 0.053 | 3.920 | 0.000 | 0.387 | 0.131 |
| ## | Age ~~ | | | | | | |
| ## | GenderMF | -0.061 | 0.160 | -0.379 | 0.705 | -0.061 | -0.012 |
| ## | BDI ~~ | | | | | | |
| ## | Age | -1.316 | 0.202 | -6.531 | 0.000 | -2.253 | -0.220 |
| ## | OCD ~~ | | | | | | |
| ## | Age | -3.814 | 0.341 | -11.173 | 0.000 | -3.434 | -0.336 |
| ## | SZ ~~ | | | | | | |
| ## | Age | 0.838 | 0.107 | 7.824 | 0.000 | 2.760 | 0.270 |
| ## | STAI ~~ | | | | | | |
| ## | Age | 1.300 | 0.208 | 6.262 | 0.000 | 2.405 | 0.235 |
| ## | BDI ~~ | | | | | | |
| ## | GenderMF | 0.010 | 0.009 | 1.049 | 0.294 | 0.017 | 0.035 |
| ## | OCD ~~ | | | | | | |
| ## | GenderMF | 0.042 | 0.017 | 2.426 | 0.015 | 0.038 | 0.077 |
| ## | SZ ~~ | | | | | | |
| ## | GenderMF | -0.008 | 0.005 | -1.560 | 0.119 | -0.025 | -0.051 |
| ## | STAI ~~ | | | | | | |
| ## | GenderMF | -0.009 | 0.009 | -0.968 | 0.333 | -0.016 | -0.032 |
| ## | BDI ~~ | | | | | | |
| ## | OCD | 0.340 | 0.027 | 12.653 | 0.000 | 0.525 | 0.525 |
| ## | SZ | -0.116 | 0.008 | -14.095 | 0.000 | -0.654 | -0.654 |
| ## | STAI | -0.260 | 0.027 | -9.522 | 0.000 | -0.822 | -0.822 |

```

##   OCD ~~
##   SZ      -0.247    0.015  -16.995    0.000   -0.733   -0.733
##   STAI     -0.281    0.023  -11.999    0.000   -0.468   -0.468
##   SZ ~~
##   STAI      0.104    0.007   14.084    0.000    0.632    0.632
##
## Variances:
##           Estimate Std.Err z-value P(>|z|) Std.lv Std.all
##   .BDI_Apptt_qnts  0.464   0.028  16.534   0.000   0.464   0.576
##   .BDI_Attrctv_qn  0.518   0.028  18.727   0.000   0.518   0.581
##   .BDI_Blam_qntsd  0.325   0.019  16.993   0.000   0.325   0.422
##   .BDI_Cry_qntsd   0.426   0.029  14.932   0.000   0.426   0.556
##   .BDI_Dcsns_qnts  0.367   0.022  16.762   0.000   0.367   0.466
##   .BDI_Dsppntmnt_  0.347   0.022  16.017   0.000   0.347   0.445
##   .BDI_Falr_qntsd  0.389   0.023  17.136   0.000   0.389   0.466
##   .BDI_Futr_qntsd  0.357   0.022  16.558   0.000   0.357   0.450
##   .BDI_Glty_qntsd  0.379   0.023  16.479   0.000   0.379   0.524
##   .BDI_Hlth_qntsd  0.394   0.021  18.344   0.000   0.394   0.660
##   .BDI_Intrs_I_P_  0.425   0.024  17.828   0.000   0.425   0.519
##   .BDI_Irrtttd_qnt 0.394   0.021  18.359   0.000   0.394   0.501
##   .BDI_Libd_qntsd  0.525   0.031  17.082   0.000   0.525   0.671
##   .BDI_Pnshd_qnts  0.485   0.031  15.829   0.000   0.485   0.558
##   .BDI_Sad_qntsd   0.294   0.020  14.599   0.000   0.294   0.491
##   .BDI_Stsfctn_qn  0.455   0.027  17.158   0.000   0.455   0.525
##   .BDI_Slep_qntsd  0.536   0.027  19.826   0.000   0.536   0.665
##   .BDI_Tird_qntsd  0.409   0.022  18.625   0.000   0.409   0.560
##   .BDI_wght_qntsd  0.404   0.029  13.738   0.000   0.404   0.792
##   .BDI_Work_qntsd  0.356   0.020  17.788   0.000   0.356   0.477
##   .OCIR_14_qntsd   0.573   0.038  14.887   0.000   0.573   0.317
##   .OCIR_15_qntsd   0.830   0.048  17.266   0.000   0.830   0.492
##   .OCIR_16_qntsd   0.651   0.043  15.273   0.000   0.651   0.379
##   .OCIR_17_qntsd   0.528   0.036  14.758   0.000   0.528   0.294
##   .OCIR_18_qntsd   0.577   0.041  13.927   0.000   0.577   0.327
##   .OCIR_2_quantstd 0.825   0.040  20.713   0.000   0.825   0.490
##   .OCIR_3_quantstd 0.779   0.044  17.654   0.000   0.779   0.490
##   .OCIR_4_quantstd 0.585   0.036  16.313   0.000   0.585   0.352
##   .OCIR_5_quantstd 0.692   0.045  15.355   0.000   0.692   0.412
##   .OCIR_6_quantstd 0.758   0.043  17.759   0.000   0.758   0.460
##   .OCIR_7_quantstd 0.732   0.041  17.761   0.000   0.732   0.482
##   .OCIR_8_quantstd 0.596   0.039  15.269   0.000   0.596   0.334
##   .OCIR_9_quantstd 0.773   0.043  18.192   0.000   0.773   0.483
##   .OCIR_1_quantstd 0.731   0.040  18.186   0.000   0.731   0.447
##   .OCIR_10_quantstd 0.469   0.030  15.742   0.000   0.469   0.285
##   .OCIR_11_quantstd 0.532   0.033  16.121   0.000   0.532   0.313
##   .OCIR_12_quantstd 0.685   0.042  16.420   0.000   0.685   0.407
##   .OCIR_13_quantstd 0.838   0.044  18.923   0.000   0.838   0.528
##   .SZ_1_quantised  0.144   0.006  22.369   0.000   0.144   0.610
##   .SZ_10_quantisd  0.114   0.005  21.692   0.000   0.114   0.642
##   .SZ_11_quantisd  0.183   0.006  29.281   0.000   0.183   0.750
##   .SZ_12_quantisd  0.171   0.006  26.849   0.000   0.171   0.749
##   .SZ_13_quantisd  0.168   0.006  26.425   0.000   0.168   0.690
##   .SZ_14_quantisd  0.179   0.007  26.901   0.000   0.179   0.719
##   .SZ_15_quantisd  0.170   0.006  26.215   0.000   0.170   0.684
##   .SZ_16_quantisd  0.203   0.006  34.131   0.000   0.203   0.811

```

| | | | | | | | |
|----|-----------------|-------|-------|--------|-------|-------|-------|
| ## | .SZ_17_quantisd | 0.181 | 0.006 | 28.689 | 0.000 | 0.181 | 0.736 |
| ## | .SZ_18_quantisd | 0.156 | 0.006 | 24.312 | 0.000 | 0.156 | 0.641 |
| ## | .SZ_19_quantisd | 0.182 | 0.006 | 28.686 | 0.000 | 0.182 | 0.736 |
| ## | .SZ_2_quantised | 0.154 | 0.006 | 24.189 | 0.000 | 0.154 | 0.650 |
| ## | .SZ_20_quantisd | 0.122 | 0.006 | 22.159 | 0.000 | 0.122 | 0.595 |
| ## | .SZ_21_quantisd | 0.171 | 0.007 | 26.247 | 0.000 | 0.171 | 0.699 |
| ## | .SZ_22_quantisd | 0.177 | 0.007 | 26.748 | 0.000 | 0.177 | 0.717 |
| ## | .SZ_23_quantisd | 0.168 | 0.006 | 26.158 | 0.000 | 0.168 | 0.699 |
| ## | .SZ_24_quantisd | 0.169 | 0.006 | 26.538 | 0.000 | 0.169 | 0.701 |
| ## | .SZ_25_quantisd | 0.186 | 0.006 | 29.895 | 0.000 | 0.186 | 0.759 |
| ## | .SZ_26_quantisd | 0.212 | 0.006 | 37.150 | 0.000 | 0.212 | 1.000 |
| ## | .SZ_27_quantisd | 0.208 | 0.006 | 35.154 | 0.000 | 0.208 | 0.998 |
| ## | .SZ_28_quantisd | 0.237 | 0.004 | 66.525 | 0.000 | 0.237 | 0.999 |
| ## | .SZ_29_quantisd | 0.209 | 0.006 | 36.886 | 0.000 | 0.209 | 0.862 |
| ## | .SZ_3_quantised | 0.134 | 0.006 | 21.758 | 0.000 | 0.134 | 0.699 |
| ## | .SZ_30_quantisd | 0.242 | 0.003 | 87.996 | 0.000 | 0.242 | 0.995 |
| ## | .SZ_31_quantisd | 0.205 | 0.006 | 33.773 | 0.000 | 0.205 | 0.999 |
| ## | .SZ_32_quantisd | 0.199 | 0.006 | 32.917 | 0.000 | 0.199 | 0.816 |
| ## | .SZ_33_quantisd | 0.213 | 0.005 | 41.178 | 0.000 | 0.213 | 0.916 |
| ## | .SZ_34_quantisd | 0.206 | 0.006 | 33.906 | 0.000 | 0.206 | 0.999 |
| ## | .SZ_35_quantisd | 0.118 | 0.006 | 21.176 | 0.000 | 0.118 | 0.676 |
| ## | .SZ_36_quantisd | 0.181 | 0.006 | 28.550 | 0.000 | 0.181 | 0.733 |
| ## | .SZ_37_quantisd | 0.207 | 0.006 | 35.313 | 0.000 | 0.207 | 0.981 |
| ## | .SZ_38_quantisd | 0.137 | 0.006 | 23.224 | 0.000 | 0.137 | 0.643 |
| ## | .SZ_39_quantisd | 0.206 | 0.006 | 33.964 | 0.000 | 0.206 | 1.000 |
| ## | .SZ_4_quantised | 0.149 | 0.006 | 23.952 | 0.000 | 0.149 | 0.698 |
| ## | .SZ_40_quantisd | 0.199 | 0.006 | 33.029 | 0.000 | 0.199 | 0.814 |
| ## | .SZ_41_quantisd | 0.178 | 0.006 | 28.089 | 0.000 | 0.178 | 0.728 |
| ## | .SZ_42_quantisd | 0.162 | 0.006 | 25.102 | 0.000 | 0.162 | 0.659 |
| ## | .SZ_5_quantised | 0.128 | 0.006 | 21.713 | 0.000 | 0.128 | 0.643 |
| ## | .SZ_6_quantised | 0.129 | 0.006 | 22.847 | 0.000 | 0.129 | 0.633 |
| ## | .SZ_7_quantised | 0.174 | 0.006 | 26.838 | 0.000 | 0.174 | 0.714 |
| ## | .SZ_8_quantised | 0.139 | 0.006 | 22.293 | 0.000 | 0.139 | 0.680 |
| ## | .SZ_9_quantised | 0.160 | 0.006 | 26.000 | 0.000 | 0.160 | 0.681 |
| ## | .STAI2_Clm_qnts | 0.549 | 0.055 | 9.977 | 0.000 | 0.549 | 0.653 |
| ## | .STAI2_Cntnt_qn | 0.587 | 0.055 | 10.616 | 0.000 | 0.587 | 0.700 |
| ## | .STAI2_Dscns_qn | 0.618 | 0.047 | 13.167 | 0.000 | 0.618 | 0.748 |
| ## | .STAI2_Dffclts_ | 0.453 | 0.036 | 12.650 | 0.000 | 0.453 | 0.489 |
| ## | .STAI2_DsppntS_ | 0.516 | 0.043 | 12.006 | 0.000 | 0.516 | 0.579 |
| ## | .STAI2_Flr_qnts | 0.394 | 0.027 | 14.735 | 0.000 | 0.394 | 0.429 |
| ## | .STAI2_Hppy_qnt | 0.578 | 0.059 | 9.826 | 0.000 | 0.578 | 0.675 |
| ## | .STAI2_Hppy0th_ | 0.670 | 0.044 | 15.382 | 0.000 | 0.670 | 0.670 |
| ## | .STAI2_Indqt_qn | 0.440 | 0.039 | 11.350 | 0.000 | 0.440 | 0.460 |
| ## | .STAI2_Nrvs_qnt | 0.423 | 0.032 | 13.274 | 0.000 | 0.423 | 0.483 |
| ## | .STAI2_Plsnt_qn | 0.479 | 0.051 | 9.369 | 0.000 | 0.479 | 0.657 |
| ## | .STAI2_Rstd_qnt | 0.662 | 0.045 | 14.675 | 0.000 | 0.662 | 0.829 |
| ## | .STAI2_StsfdsI_ | 0.615 | 0.065 | 9.464 | 0.000 | 0.615 | 0.655 |
| ## | .STAI2_Scr_qnts | 0.618 | 0.062 | 10.010 | 0.000 | 0.618 | 0.679 |
| ## | .STAI2_SlfCnfd_ | 0.678 | 0.045 | 15.093 | 0.000 | 0.678 | 0.641 |
| ## | .STAI2_Stdy_qnt | 0.476 | 0.052 | 9.185 | 0.000 | 0.476 | 0.589 |
| ## | .STAI2_Tnsn_qnt | 0.494 | 0.050 | 9.931 | 0.000 | 0.494 | 0.534 |
| ## | .STAI2_Thghts_q | 0.512 | 0.041 | 12.385 | 0.000 | 0.512 | 0.628 |
| ## | .STAI2_UnmprtT_ | 0.533 | 0.044 | 12.107 | 0.000 | 0.533 | 0.587 |
| ## | .STAI2_Wrry_qnt | 0.550 | 0.043 | 12.931 | 0.000 | 0.550 | 0.574 |

```

##      .propmedhigh      0.041      0.002      24.690      0.000      0.041      0.942
##      spreadsheet      9.000      0.003 2595.756      0.000      9.000      1.000
##      Ravens           8.672      0.335      25.891      0.000      8.672      1.000
##      Age              104.591      6.150      17.008      0.000     104.591      1.000
##      GenderMF         0.242      0.003      86.073      0.000      0.242      1.000
##      BDI              0.341      0.030      11.258      0.000      1.000      1.000
##      OCD              1.233      0.060      20.613      0.000      1.000      1.000
##      SZ               0.092      0.007      14.003      0.000      1.000      1.000
##      STAI             0.292      0.061       4.811      0.000      1.000      1.000
##
## R-Square:
##      Estimate
##      BDI_Apptt_qnts    0.424
##      BDI_Attrctv_qn    0.419
##      BDI_Blam_qntsd    0.578
##      BDI_Cry_qntsd     0.444
##      BDI_Dcsns_qnts    0.534
##      BDI_Dspntmnt_     0.555
##      BDI_Falr_qntsd    0.534
##      BDI_Futr_qntsd    0.550
##      BDI_Glty_qntsd    0.476
##      BDI_Hlth_qntsd    0.340
##      BDI_Intrs_I_P_    0.481
##      BDI_Irrtttd_qnt   0.499
##      BDI_Libd_qntsd    0.329
##      BDI_Pnshd_qnts     0.442
##      BDI_Sad_qntsd     0.509
##      BDI_Stsfctn_qn    0.475
##      BDI_Slep_qntsd    0.335
##      BDI_Tird_qntsd    0.440
##      BDI_wght_qntsd    0.208
##      BDI_Work_qntsd    0.523
##      OCIR_14_qntsd     0.683
##      OCIR_15_qntsd     0.508
##      OCIR_16_qntsd     0.621
##      OCIR_17_qntsd     0.706
##      OCIR_18_qntsd     0.673
##      OCIR_2_quantisd    0.510
##      OCIR_3_quantisd    0.510
##      OCIR_4_quantisd    0.648
##      OCIR_5_quantisd    0.588
##      OCIR_6_quantisd    0.540
##      OCIR_7_quantisd    0.518
##      OCIR_8_quantisd    0.666
##      OCIR_9_quantisd    0.517
##      OCIR_1_quantisd    0.553
##      OCIR_10_quantisd   0.715
##      OCIR_11_quantisd   0.687
##      OCIR_12_quantisd   0.593
##      OCIR_13_quantisd   0.472
##      SZ_1_quantised     0.390
##      SZ_10_quantisd     0.358
##      SZ_11_quantisd     0.250
##      SZ_12_quantisd     0.251

```

| | | |
|----|----------------|-------|
| ## | SZ_13_quantisd | 0.310 |
| ## | SZ_14_quantisd | 0.281 |
| ## | SZ_15_quantisd | 0.316 |
| ## | SZ_16_quantisd | 0.189 |
| ## | SZ_17_quantisd | 0.264 |
| ## | SZ_18_quantisd | 0.359 |
| ## | SZ_19_quantisd | 0.264 |
| ## | SZ_2_quantised | 0.350 |
| ## | SZ_20_quantisd | 0.405 |
| ## | SZ_21_quantisd | 0.301 |
| ## | SZ_22_quantisd | 0.283 |
| ## | SZ_23_quantisd | 0.301 |
| ## | SZ_24_quantisd | 0.299 |
| ## | SZ_25_quantisd | 0.241 |
| ## | SZ_26_quantisd | 0.000 |
| ## | SZ_27_quantisd | 0.002 |
| ## | SZ_28_quantisd | 0.001 |
| ## | SZ_29_quantisd | 0.138 |
| ## | SZ_3_quantised | 0.301 |
| ## | SZ_30_quantisd | 0.005 |
| ## | SZ_31_quantisd | 0.001 |
| ## | SZ_32_quantisd | 0.184 |
| ## | SZ_33_quantisd | 0.084 |
| ## | SZ_34_quantisd | 0.001 |
| ## | SZ_35_quantisd | 0.324 |
| ## | SZ_36_quantisd | 0.267 |
| ## | SZ_37_quantisd | 0.019 |
| ## | SZ_38_quantisd | 0.357 |
| ## | SZ_39_quantisd | 0.000 |
| ## | SZ_4_quantised | 0.302 |
| ## | SZ_40_quantisd | 0.186 |
| ## | SZ_41_quantisd | 0.272 |
| ## | SZ_42_quantisd | 0.341 |
| ## | SZ_5_quantised | 0.357 |
| ## | SZ_6_quantised | 0.367 |
| ## | SZ_7_quantised | 0.286 |
| ## | SZ_8_quantised | 0.320 |
| ## | SZ_9_quantised | 0.319 |
| ## | STAI2_Clm_qnts | 0.347 |
| ## | STAI2_Cntnt_qn | 0.300 |
| ## | STAI2_Dscns_qn | 0.252 |
| ## | STAI2_Dffclts_ | 0.511 |
| ## | STAI2_DsppntS_ | 0.421 |
| ## | STAI2_Flr_qnts | 0.571 |
| ## | STAI2_Hppy_qnt | 0.325 |
| ## | STAI2_Hppy0th_ | 0.330 |
| ## | STAI2_Indqt_qn | 0.540 |
| ## | STAI2_Nrvs_qnt | 0.517 |
| ## | STAI2_Plsnt_qn | 0.343 |
| ## | STAI2_Rstd_qnt | 0.171 |
| ## | STAI2_StsfdSl_ | 0.345 |
| ## | STAI2_Scr_qnts | 0.321 |
| ## | STAI2_SlfCnfd_ | 0.359 |
| ## | STAI2_Stdy_qnt | 0.411 |

```
##      STAI2_Tnsn_qnt      0.466
##      STAI2_Thghts_q      0.372
##      STAI2_UnmprtT_      0.413
##      STAI2_Wrry_qnt      0.426
##      propmedhigh         0.058
```

```
summary(FitQuaireSEMdrift, standardized=TRUE, rsquare=T, fit.measures=F)
```

```
## lavaan 0.6-3 ended normally after 320 iterations
```

```
##
##      Optimization method      NLMINB
##      Number of free parameters      241
##
##                               Used      Total
##      Number of observations      990      1066
##
##      Estimator      ML      Robust
##      Model Fit Test Statistic      19684.334      17263.958
##      Degrees of freedom      5324      5324
##      P-value (Chi-square)      0.000      0.000
##      Scaling correction factor      1.140
##      for the Yuan-Bentler correction (Mplus variant)
```

```
## Parameter Estimates:
```

```
##
##      Information      Observed
##      Observed information based on      Hessian
##      Standard Errors      Robust.huber.white
```

```
## Latent Variables:
```

```
##      Estimate Std.Err z-value P(>|z|) Std.lv Std.all
##      BDI =~
##      BDI_Apptt_qnts      1.000      0.584      0.651
##      BDI_Attrctv_qn      1.045      0.057      18.240      0.000      0.611      0.647
##      BDI_Blam_qntsd      1.142      0.057      19.908      0.000      0.667      0.760
##      BDI_Cry_qntsd      0.997      0.050      20.090      0.000      0.583      0.666
##      BDI_Dcsns_qnts      1.109      0.056      19.787      0.000      0.648      0.731
##      BDI_Dsppntmnt_      1.126      0.062      18.273      0.000      0.658      0.745
##      BDI_Falr_qntsd      1.142      0.061      18.655      0.000      0.667      0.730
##      BDI_Futr_qntsd      1.130      0.059      19.161      0.000      0.661      0.741
##      BDI_Glty_qntsd      1.004      0.053      18.943      0.000      0.586      0.690
##      BDI_Hlth_qntsd      0.771      0.045      16.978      0.000      0.451      0.583
##      BDI_Intrs_I_P_      1.075      0.055      19.385      0.000      0.628      0.694
##      BDI_Irrtttd_qnt      1.072      0.051      20.853      0.000      0.626      0.706
##      BDI_Libd_qntsd      0.868      0.048      18.241      0.000      0.507      0.574
##      BDI_Pnshtd_qnts      1.061      0.055      19.296      0.000      0.620      0.665
##      BDI_Sad_qntsd      0.945      0.048      19.684      0.000      0.552      0.714
##      BDI_Stsfctn_qn      1.097      0.059      18.535      0.000      0.641      0.689
##      BDI_Slep_qntsd      0.889      0.050      17.721      0.000      0.520      0.579
##      BDI_Tird_qntsd      0.971      0.052      18.752      0.000      0.567      0.664
##      BDI_wght_qntsd      0.558      0.043      12.884      0.000      0.326      0.456
##      BDI_Work_qntsd      1.068      0.053      20.171      0.000      0.624      0.723
##      OCD =~
##      OCIR_14_qntsd      1.000      1.111      0.826
```

| | | | | | | | |
|----|-----------------|--------|-------|--------|-------|--------|--------|
| ## | OCIR_15_quntsd | 0.833 | 0.029 | 29.075 | 0.000 | 0.925 | 0.713 |
| ## | OCIR_16_quntsd | 0.931 | 0.029 | 32.284 | 0.000 | 1.033 | 0.788 |
| ## | OCIR_17_quntsd | 1.013 | 0.028 | 36.734 | 0.000 | 1.125 | 0.840 |
| ## | OCIR_18_quntsd | 0.980 | 0.028 | 34.839 | 0.000 | 1.089 | 0.820 |
| ## | OCIR_2_quantstd | 0.834 | 0.028 | 30.262 | 0.000 | 0.926 | 0.714 |
| ## | OCIR_3_quantstd | 0.810 | 0.028 | 28.552 | 0.000 | 0.900 | 0.714 |
| ## | OCIR_4_quantstd | 0.934 | 0.027 | 35.234 | 0.000 | 1.037 | 0.805 |
| ## | OCIR_5_quantstd | 0.894 | 0.030 | 29.658 | 0.000 | 0.993 | 0.767 |
| ## | OCIR_6_quantstd | 0.849 | 0.030 | 28.000 | 0.000 | 0.942 | 0.735 |
| ## | OCIR_7_quantstd | 0.799 | 0.029 | 27.687 | 0.000 | 0.887 | 0.720 |
| ## | OCIR_8_quantstd | 0.982 | 0.025 | 39.514 | 0.000 | 1.090 | 0.816 |
| ## | OCIR_9_quantstd | 0.819 | 0.028 | 29.299 | 0.000 | 0.910 | 0.719 |
| ## | OCIR_1_quantstd | 0.856 | 0.027 | 32.154 | 0.000 | 0.950 | 0.743 |
| ## | OCIR_10_quntsd | 0.975 | 0.025 | 38.418 | 0.000 | 1.083 | 0.845 |
| ## | OCIR_11_quntsd | 0.972 | 0.027 | 35.748 | 0.000 | 1.079 | 0.829 |
| ## | OCIR_12_quntsd | 0.900 | 0.030 | 29.821 | 0.000 | 0.999 | 0.770 |
| ## | OCIR_13_quntsd | 0.780 | 0.028 | 27.802 | 0.000 | 0.866 | 0.687 |
| ## | SZ =~ | | | | | | |
| ## | SZ_1_quantised | 1.000 | | | | 0.304 | 0.624 |
| ## | SZ_10_quantisd | 0.832 | 0.042 | 19.767 | 0.000 | 0.253 | 0.598 |
| ## | SZ_11_quantisd | 0.813 | 0.044 | 18.281 | 0.000 | 0.247 | 0.500 |
| ## | SZ_12_quantisd | 0.789 | 0.045 | 17.482 | 0.000 | 0.240 | 0.501 |
| ## | SZ_13_quantisd | 0.904 | 0.048 | 18.685 | 0.000 | 0.274 | 0.557 |
| ## | SZ_14_quantisd | 0.872 | 0.053 | 16.391 | 0.000 | 0.265 | 0.530 |
| ## | SZ_15_quantisd | 0.923 | 0.051 | 17.934 | 0.000 | 0.280 | 0.562 |
| ## | SZ_16_quantisd | 0.716 | 0.051 | 13.955 | 0.000 | 0.217 | 0.435 |
| ## | SZ_17_quantisd | 0.840 | 0.049 | 17.251 | 0.000 | 0.255 | 0.514 |
| ## | SZ_18_quantisd | 0.972 | 0.050 | 19.598 | 0.000 | 0.295 | 0.599 |
| ## | SZ_19_quantisd | 0.842 | 0.049 | 17.289 | 0.000 | 0.256 | 0.514 |
| ## | SZ_2_quantised | 0.949 | 0.044 | 21.519 | 0.000 | 0.288 | 0.591 |
| ## | SZ_20_quantisd | 0.951 | 0.044 | 21.643 | 0.000 | 0.289 | 0.637 |
| ## | SZ_21_quantisd | 0.894 | 0.050 | 17.927 | 0.000 | 0.272 | 0.549 |
| ## | SZ_22_quantisd | 0.871 | 0.052 | 16.716 | 0.000 | 0.265 | 0.532 |
| ## | SZ_23_quantisd | 0.885 | 0.049 | 17.998 | 0.000 | 0.269 | 0.548 |
| ## | SZ_24_quantisd | 0.883 | 0.046 | 19.056 | 0.000 | 0.268 | 0.546 |
| ## | SZ_25_quantisd | 0.800 | 0.046 | 17.378 | 0.000 | 0.243 | 0.491 |
| ## | SZ_26_quantisd | -0.009 | 0.047 | -0.193 | 0.847 | -0.003 | -0.006 |
| ## | SZ_27_quantisd | 0.059 | 0.048 | 1.241 | 0.215 | 0.018 | 0.039 |
| ## | SZ_28_quantisd | -0.049 | 0.055 | -0.897 | 0.370 | -0.015 | -0.031 |
| ## | SZ_29_quantisd | 0.602 | 0.049 | 12.280 | 0.000 | 0.183 | 0.371 |
| ## | SZ_3_quantised | 0.792 | 0.043 | 18.237 | 0.000 | 0.240 | 0.548 |
| ## | SZ_30_quantisd | 0.115 | 0.055 | 2.100 | 0.036 | 0.035 | 0.071 |
| ## | SZ_31_quantisd | 0.038 | 0.046 | 0.828 | 0.408 | 0.012 | 0.025 |
| ## | SZ_32_quantisd | 0.697 | 0.050 | 13.975 | 0.000 | 0.212 | 0.429 |
| ## | SZ_33_quantisd | 0.459 | 0.050 | 9.104 | 0.000 | 0.139 | 0.289 |
| ## | SZ_34_quantisd | -0.052 | 0.047 | -1.123 | 0.262 | -0.016 | -0.035 |
| ## | SZ_35_quantisd | 0.784 | 0.042 | 18.514 | 0.000 | 0.238 | 0.569 |
| ## | SZ_36_quantisd | 0.846 | 0.048 | 17.785 | 0.000 | 0.257 | 0.516 |
| ## | SZ_37_quantisd | -0.206 | 0.050 | -4.076 | 0.000 | -0.062 | -0.136 |
| ## | SZ_38_quantisd | 0.907 | 0.043 | 21.042 | 0.000 | 0.275 | 0.597 |
| ## | SZ_39_quantisd | -0.010 | 0.048 | -0.201 | 0.840 | -0.003 | -0.006 |
| ## | SZ_4_quantised | 0.837 | 0.041 | 20.321 | 0.000 | 0.254 | 0.549 |
| ## | SZ_40_quantisd | 0.702 | 0.049 | 14.431 | 0.000 | 0.213 | 0.432 |
| ## | SZ_41_quantisd | 0.851 | 0.046 | 18.572 | 0.000 | 0.258 | 0.522 |

```

##      SZ_42_quantisd      0.955      0.045      21.264      0.000      0.290      0.584
##      SZ_5_quantised      0.878      0.044      20.164      0.000      0.267      0.597
##      SZ_6_quantised      0.900      0.044      20.478      0.000      0.273      0.606
##      SZ_7_quantised      0.870      0.045      19.528      0.000      0.264      0.535
##      SZ_8_quantised      0.842      0.042      20.203      0.000      0.256      0.566
##      SZ_9_quantised      0.902      0.046      19.715      0.000      0.274      0.565
##      STAI =~
##      STAI2_Clm_qnts      1.000                                0.540      0.589
##      STAI2_Cntnt_qn      0.928      0.042      22.297      0.000      0.502      0.548
##      STAI2_Dscns_qn      0.844      0.044      18.993      0.000      0.456      0.502
##      STAI2_Dffclts_     -1.273      0.169      -7.551      0.000     -0.688     -0.715
##      STAI2_DsppntS_     -1.134      0.172      -6.583      0.000     -0.613     -0.649
##      STAI2_Flr_qnts     -1.340      0.158      -8.460      0.000     -0.724     -0.756
##      STAI2_Hppy_qnt      0.975      0.044      22.181      0.000      0.527      0.570
##      STAI2_Hppy0th_     -1.062      0.155      -6.842      0.000     -0.574     -0.574
##      STAI2_Indqt_qn     -1.330      0.170      -7.809      0.000     -0.719     -0.735
##      STAI2_Nrvs_qnt     -1.244      0.164      -7.596      0.000     -0.672     -0.719
##      STAI2_Plsnt_qn      0.926      0.039      23.902      0.000      0.500      0.586
##      STAI2_Rstd_qnt      0.683      0.052      13.227      0.000      0.369      0.413
##      STAI2_StsfdSl_      1.054      0.043      24.243      0.000      0.569      0.588
##      STAI2_Scr_qnts      1.000      0.045      22.179      0.000      0.541      0.567
##      STAI2_SlfCnfd_     -1.142      0.160      -7.158      0.000     -0.617     -0.600
##      STAI2_Stdy_qnt      1.065      0.044      24.468      0.000      0.576      0.641
##      STAI2_Tnsn_qnt     -1.214      0.191      -6.358      0.000     -0.656     -0.683
##      STAI2_Thghts_q     -1.019      0.170      -5.990      0.000     -0.550     -0.610
##      STAI2_UnmprtT_     -1.134      0.179      -6.353      0.000     -0.613     -0.643
##      STAI2_Wrry_qnt     -1.183      0.173      -6.819      0.000     -0.639     -0.653
##
## Regressions:
##      Estimate      Std.Err      z-value      P(>|z|)      Std.lv      Std.all
##      driftrate ~
##      spreadsheet      0.000      0.000      2.751      0.006      0.000      0.086
##      Ravens          0.001      0.000      4.281      0.000      0.001      0.145
##      Age             -0.000      0.000     -3.530      0.000     -0.000     -0.111
##      GenderMF        -0.000      0.001     -0.445      0.656     -0.000     -0.014
##      BDI             -0.003      0.001     -2.557      0.011     -0.002     -0.171
##      OCD             0.000      0.001      0.086      0.931      0.000      0.005
##      SZ              0.001      0.002      0.614      0.539      0.000      0.036
##      STAI            -0.002      0.001     -1.103      0.270     -0.001     -0.072
##
## Covariances:
##      Estimate      Std.Err      z-value      P(>|z|)      Std.lv      Std.all
##      spreadsheet ~~
##      Ravens         -0.395      0.280     -1.407      0.159     -0.395     -0.045
##      Age            1.283      0.974      1.317      0.188      1.283      0.042
##      GenderMF        0.059      0.047      1.264      0.206      0.059      0.040
##      BDI ~~
##      spreadsheet     -0.007      0.057     -0.114      0.909     -0.011     -0.004
##      OCD ~~
##      spreadsheet      0.125      0.108      1.160      0.246      0.113      0.038
##      SZ ~~
##      spreadsheet     -0.022      0.030     -0.735      0.463     -0.073     -0.024
##      STAI ~~
##      spreadsheet     -0.006      0.054     -0.110      0.912     -0.011     -0.004

```



```

## Ravens ~~
##   Age          2.698    0.986    2.735    0.006    2.698    0.090
##   GenderMF     -0.070    0.046   -1.529    0.126   -0.070   -0.048
## BDI ~~
##   Ravens      -0.323    0.059   -5.457    0.000   -0.552   -0.188
## OCD ~~
##   Ravens      -1.108    0.100  -11.102    0.000   -0.998   -0.339
## SZ ~~
##   Ravens       0.200    0.030    6.737    0.000    0.657    0.223
## STAI ~~
##   Ravens       0.209    0.053    3.921    0.000    0.387    0.131
## Age ~~
##   GenderMF     -0.061    0.160   -0.379    0.705   -0.061   -0.012
## BDI ~~
##   Age         -1.316    0.202   -6.531    0.000   -2.253   -0.220
## OCD ~~
##   Age         -3.814    0.341  -11.174    0.000   -3.434   -0.336
## SZ ~~
##   Age          0.838    0.107    7.824    0.000    2.760    0.270
## STAI ~~
##   Age          1.300    0.208    6.262    0.000    2.405    0.235
## BDI ~~
##   GenderMF      0.010    0.009    1.049    0.294    0.017    0.035
## OCD ~~
##   GenderMF      0.042    0.017    2.426    0.015    0.038    0.077
## SZ ~~
##   GenderMF     -0.008    0.005   -1.560    0.119   -0.025   -0.051
## STAI ~~
##   GenderMF     -0.009    0.009   -0.968    0.333   -0.016   -0.032
## BDI ~~
##   OCD           0.340    0.027   12.654    0.000    0.525    0.525
##   SZ           -0.116    0.008  -14.096    0.000   -0.654   -0.654
##   STAI          -0.260    0.027   -9.521    0.000   -0.822   -0.822
## OCD ~~
##   SZ           -0.247    0.015  -16.994    0.000   -0.733   -0.733
##   STAI          -0.281    0.023  -12.006    0.000   -0.468   -0.468
## SZ ~~
##   STAI          0.104    0.007   14.080    0.000    0.632    0.632
##
## Variances:
##           Estimate Std.Err z-value P(>|z|) Std.lv Std.all
## .BDI_Apptt_qnts    0.464   0.028  16.535   0.000   0.464   0.576
## .BDI_Attrctv_qn    0.518   0.028  18.728   0.000   0.518   0.581
## .BDI_Blam_qntsd    0.325   0.019  16.991   0.000   0.325   0.422
## .BDI_Cry_qntsd     0.426   0.029  14.930   0.000   0.426   0.556
## .BDI_Dcsns_qnts    0.367   0.022  16.761   0.000   0.367   0.466
## .BDI_Dsppntmnt_    0.347   0.022  16.018   0.000   0.347   0.445
## .BDI_Falr_qntsd    0.389   0.023  17.135   0.000   0.389   0.466
## .BDI_Futr_qntsd    0.357   0.022  16.559   0.000   0.357   0.450
## .BDI_Glty_qntsd    0.379   0.023  16.480   0.000   0.379   0.524
## .BDI_Hlth_qntsd    0.394   0.021  18.344   0.000   0.394   0.660
## .BDI_Intrs_I_P_    0.425   0.024  17.829   0.000   0.425   0.519
## .BDI_Irrtttd_qnt   0.394   0.021  18.357   0.000   0.394   0.501
## .BDI_Libd_qntsd    0.525   0.031  17.081   0.000   0.525   0.671

```

| | | | | | | | |
|----|-------------------|-------|-------|--------|-------|-------|-------|
| ## | .BDI_Pnshd_qnts | 0.485 | 0.031 | 15.831 | 0.000 | 0.485 | 0.558 |
| ## | .BDI_Sad_quntsd | 0.294 | 0.020 | 14.599 | 0.000 | 0.294 | 0.491 |
| ## | .BDI_Stsfctn_qn | 0.455 | 0.027 | 17.159 | 0.000 | 0.455 | 0.526 |
| ## | .BDI_Slep_quntsd | 0.536 | 0.027 | 19.827 | 0.000 | 0.536 | 0.665 |
| ## | .BDI_Tird_quntsd | 0.409 | 0.022 | 18.626 | 0.000 | 0.409 | 0.560 |
| ## | .BDI_wght_quntsd | 0.404 | 0.029 | 13.738 | 0.000 | 0.404 | 0.792 |
| ## | .BDI_Work_quntsd | 0.356 | 0.020 | 17.787 | 0.000 | 0.356 | 0.477 |
| ## | .OCIR_14_quntsd | 0.573 | 0.038 | 14.887 | 0.000 | 0.573 | 0.317 |
| ## | .OCIR_15_quntsd | 0.830 | 0.048 | 17.267 | 0.000 | 0.830 | 0.492 |
| ## | .OCIR_16_quntsd | 0.651 | 0.043 | 15.273 | 0.000 | 0.651 | 0.379 |
| ## | .OCIR_17_quntsd | 0.528 | 0.036 | 14.759 | 0.000 | 0.528 | 0.294 |
| ## | .OCIR_18_quntsd | 0.577 | 0.041 | 13.927 | 0.000 | 0.577 | 0.327 |
| ## | .OCIR_2_quantisd | 0.825 | 0.040 | 20.714 | 0.000 | 0.825 | 0.490 |
| ## | .OCIR_3_quantisd | 0.779 | 0.044 | 17.654 | 0.000 | 0.779 | 0.490 |
| ## | .OCIR_4_quantisd | 0.585 | 0.036 | 16.313 | 0.000 | 0.585 | 0.352 |
| ## | .OCIR_5_quantisd | 0.692 | 0.045 | 15.356 | 0.000 | 0.692 | 0.412 |
| ## | .OCIR_6_quantisd | 0.758 | 0.043 | 17.759 | 0.000 | 0.758 | 0.460 |
| ## | .OCIR_7_quantisd | 0.732 | 0.041 | 17.761 | 0.000 | 0.732 | 0.482 |
| ## | .OCIR_8_quantisd | 0.596 | 0.039 | 15.269 | 0.000 | 0.596 | 0.334 |
| ## | .OCIR_9_quantisd | 0.773 | 0.043 | 18.192 | 0.000 | 0.773 | 0.483 |
| ## | .OCIR_1_quantisd | 0.731 | 0.040 | 18.186 | 0.000 | 0.731 | 0.447 |
| ## | .OCIR_10_quantisd | 0.469 | 0.030 | 15.743 | 0.000 | 0.469 | 0.286 |
| ## | .OCIR_11_quantisd | 0.532 | 0.033 | 16.121 | 0.000 | 0.532 | 0.313 |
| ## | .OCIR_12_quantisd | 0.685 | 0.042 | 16.421 | 0.000 | 0.685 | 0.407 |
| ## | .OCIR_13_quantisd | 0.838 | 0.044 | 18.924 | 0.000 | 0.838 | 0.528 |
| ## | .SZ_1_quantised | 0.144 | 0.006 | 22.367 | 0.000 | 0.144 | 0.610 |
| ## | .SZ_10_quantisd | 0.114 | 0.005 | 21.692 | 0.000 | 0.114 | 0.642 |
| ## | .SZ_11_quantisd | 0.183 | 0.006 | 29.280 | 0.000 | 0.183 | 0.750 |
| ## | .SZ_12_quantisd | 0.171 | 0.006 | 26.848 | 0.000 | 0.171 | 0.749 |
| ## | .SZ_13_quantisd | 0.168 | 0.006 | 26.425 | 0.000 | 0.168 | 0.690 |
| ## | .SZ_14_quantisd | 0.179 | 0.007 | 26.900 | 0.000 | 0.179 | 0.719 |
| ## | .SZ_15_quantisd | 0.170 | 0.006 | 26.216 | 0.000 | 0.170 | 0.684 |
| ## | .SZ_16_quantisd | 0.203 | 0.006 | 34.129 | 0.000 | 0.203 | 0.811 |
| ## | .SZ_17_quantisd | 0.181 | 0.006 | 28.689 | 0.000 | 0.181 | 0.736 |
| ## | .SZ_18_quantisd | 0.156 | 0.006 | 24.312 | 0.000 | 0.156 | 0.641 |
| ## | .SZ_19_quantisd | 0.182 | 0.006 | 28.684 | 0.000 | 0.182 | 0.736 |
| ## | .SZ_2_quantised | 0.154 | 0.006 | 24.188 | 0.000 | 0.154 | 0.650 |
| ## | .SZ_20_quantisd | 0.122 | 0.006 | 22.160 | 0.000 | 0.122 | 0.595 |
| ## | .SZ_21_quantisd | 0.171 | 0.007 | 26.245 | 0.000 | 0.171 | 0.699 |
| ## | .SZ_22_quantisd | 0.177 | 0.007 | 26.748 | 0.000 | 0.177 | 0.717 |
| ## | .SZ_23_quantisd | 0.168 | 0.006 | 26.159 | 0.000 | 0.168 | 0.699 |
| ## | .SZ_24_quantisd | 0.169 | 0.006 | 26.538 | 0.000 | 0.169 | 0.701 |
| ## | .SZ_25_quantisd | 0.186 | 0.006 | 29.892 | 0.000 | 0.186 | 0.759 |
| ## | .SZ_26_quantisd | 0.212 | 0.006 | 37.150 | 0.000 | 0.212 | 1.000 |
| ## | .SZ_27_quantisd | 0.208 | 0.006 | 35.155 | 0.000 | 0.208 | 0.998 |
| ## | .SZ_28_quantisd | 0.237 | 0.004 | 66.525 | 0.000 | 0.237 | 0.999 |
| ## | .SZ_29_quantisd | 0.209 | 0.006 | 36.886 | 0.000 | 0.209 | 0.862 |
| ## | .SZ_3_quantised | 0.134 | 0.006 | 21.758 | 0.000 | 0.134 | 0.699 |
| ## | .SZ_30_quantisd | 0.242 | 0.003 | 87.997 | 0.000 | 0.242 | 0.995 |
| ## | .SZ_31_quantisd | 0.205 | 0.006 | 33.773 | 0.000 | 0.205 | 0.999 |
| ## | .SZ_32_quantisd | 0.199 | 0.006 | 32.916 | 0.000 | 0.199 | 0.816 |
| ## | .SZ_33_quantisd | 0.213 | 0.005 | 41.179 | 0.000 | 0.213 | 0.916 |
| ## | .SZ_34_quantisd | 0.206 | 0.006 | 33.905 | 0.000 | 0.206 | 0.999 |
| ## | .SZ_35_quantisd | 0.118 | 0.006 | 21.176 | 0.000 | 0.118 | 0.676 |

| | | | | | | | |
|----|-----------------|----------|-------|----------|-------|---------|-------|
| ## | .SZ_36_quantisd | 0.181 | 0.006 | 28.549 | 0.000 | 0.181 | 0.733 |
| ## | .SZ_37_quantisd | 0.207 | 0.006 | 35.311 | 0.000 | 0.207 | 0.981 |
| ## | .SZ_38_quantisd | 0.137 | 0.006 | 23.224 | 0.000 | 0.137 | 0.643 |
| ## | .SZ_39_quantisd | 0.206 | 0.006 | 33.964 | 0.000 | 0.206 | 1.000 |
| ## | .SZ_4_quantised | 0.149 | 0.006 | 23.951 | 0.000 | 0.149 | 0.698 |
| ## | .SZ_40_quantisd | 0.199 | 0.006 | 33.029 | 0.000 | 0.199 | 0.814 |
| ## | .SZ_41_quantisd | 0.178 | 0.006 | 28.089 | 0.000 | 0.178 | 0.728 |
| ## | .SZ_42_quantisd | 0.162 | 0.006 | 25.100 | 0.000 | 0.162 | 0.659 |
| ## | .SZ_5_quantised | 0.128 | 0.006 | 21.712 | 0.000 | 0.128 | 0.643 |
| ## | .SZ_6_quantised | 0.129 | 0.006 | 22.848 | 0.000 | 0.129 | 0.633 |
| ## | .SZ_7_quantised | 0.174 | 0.006 | 26.834 | 0.000 | 0.174 | 0.714 |
| ## | .SZ_8_quantised | 0.139 | 0.006 | 22.292 | 0.000 | 0.139 | 0.680 |
| ## | .SZ_9_quantised | 0.160 | 0.006 | 26.000 | 0.000 | 0.160 | 0.681 |
| ## | .STAI2_Clm_qnts | 0.549 | 0.055 | 9.980 | 0.000 | 0.549 | 0.653 |
| ## | .STAI2_Cntnt_qn | 0.587 | 0.055 | 10.619 | 0.000 | 0.587 | 0.700 |
| ## | .STAI2_Dscns_qn | 0.618 | 0.047 | 13.170 | 0.000 | 0.618 | 0.748 |
| ## | .STAI2_Dffclts_ | 0.452 | 0.036 | 12.651 | 0.000 | 0.452 | 0.489 |
| ## | .STAI2_DsppntS_ | 0.516 | 0.043 | 12.010 | 0.000 | 0.516 | 0.579 |
| ## | .STAI2_Flr_qnts | 0.394 | 0.027 | 14.739 | 0.000 | 0.394 | 0.429 |
| ## | .STAI2_Hppy_qnt | 0.578 | 0.059 | 9.828 | 0.000 | 0.578 | 0.675 |
| ## | .STAI2_HppyOth_ | 0.670 | 0.044 | 15.384 | 0.000 | 0.670 | 0.670 |
| ## | .STAI2_Indqt_qn | 0.440 | 0.039 | 11.353 | 0.000 | 0.440 | 0.460 |
| ## | .STAI2_Nrvs_qnt | 0.423 | 0.032 | 13.277 | 0.000 | 0.423 | 0.483 |
| ## | .STAI2_Plsnt_qn | 0.479 | 0.051 | 9.372 | 0.000 | 0.479 | 0.657 |
| ## | .STAI2_Rstd_qnt | 0.662 | 0.045 | 14.678 | 0.000 | 0.662 | 0.829 |
| ## | .STAI2_StsfdSl_ | 0.615 | 0.065 | 9.467 | 0.000 | 0.615 | 0.655 |
| ## | .STAI2_Scr_qnts | 0.618 | 0.062 | 10.014 | 0.000 | 0.618 | 0.679 |
| ## | .STAI2_SlfCnfd_ | 0.678 | 0.045 | 15.095 | 0.000 | 0.678 | 0.641 |
| ## | .STAI2_Stdy_qnt | 0.476 | 0.052 | 9.187 | 0.000 | 0.476 | 0.589 |
| ## | .STAI2_Tnsn_qnt | 0.494 | 0.050 | 9.932 | 0.000 | 0.494 | 0.534 |
| ## | .STAI2_Thghts_q | 0.512 | 0.041 | 12.388 | 0.000 | 0.512 | 0.628 |
| ## | .STAI2_UnmprtT_ | 0.533 | 0.044 | 12.111 | 0.000 | 0.533 | 0.587 |
| ## | .STAI2_Wrry_qnt | 0.550 | 0.043 | 12.934 | 0.000 | 0.550 | 0.574 |
| ## | .driftrate | 0.000 | 0.000 | 21.330 | 0.000 | 0.000 | 0.942 |
| ## | spreadsheet | 9.000 | 0.003 | 2594.686 | 0.000 | 9.000 | 1.000 |
| ## | Ravens | 8.673 | 0.335 | 25.891 | 0.000 | 8.673 | 1.000 |
| ## | Age | 104.594 | 6.150 | 17.007 | 0.000 | 104.594 | 1.000 |
| ## | GenderMF | 0.242 | 0.003 | 86.073 | 0.000 | 0.242 | 1.000 |
| ## | BDI | 0.341 | 0.030 | 11.259 | 0.000 | 1.000 | 1.000 |
| ## | OCD | 1.233 | 0.060 | 20.614 | 0.000 | 1.000 | 1.000 |
| ## | SZ | 0.092 | 0.007 | 14.002 | 0.000 | 1.000 | 1.000 |
| ## | STAI | 0.292 | 0.061 | 4.811 | 0.000 | 1.000 | 1.000 |
| ## | | | | | | | |
| ## | R-Square: | | | | | | |
| ## | | Estimate | | | | | |
| ## | BDI_Apptt_qnts | 0.424 | | | | | |
| ## | BDI_Attrctv_qn | 0.419 | | | | | |
| ## | BDI_Blam_qntsd | 0.578 | | | | | |
| ## | BDI_Cry_qntsd | 0.444 | | | | | |
| ## | BDI_Dcsns_qnts | 0.534 | | | | | |
| ## | BDI_Dsppntmnt_ | 0.555 | | | | | |
| ## | BDI_Falr_qntsd | 0.534 | | | | | |
| ## | BDI_Futr_qntsd | 0.550 | | | | | |
| ## | BDI_Glty_qntsd | 0.476 | | | | | |

| | | |
|----|------------------|-------|
| ## | BDI_Hlth_qntsd | 0.340 |
| ## | BDI_Intrs_I_P_ | 0.481 |
| ## | BDI_Irrtttd_qnt | 0.499 |
| ## | BDI_Libd_qntsd | 0.329 |
| ## | BDI_Pnshd_qnts | 0.442 |
| ## | BDI_Sad_qntsd | 0.509 |
| ## | BDI_Stsfctn_qn | 0.474 |
| ## | BDI_Slep_qntsd | 0.335 |
| ## | BDI_Tird_qntsd | 0.440 |
| ## | BDI_wght_qntsd | 0.208 |
| ## | BDI_Work_qntsd | 0.523 |
| ## | OCIR_14_qntsd | 0.683 |
| ## | OCIR_15_qntsd | 0.508 |
| ## | OCIR_16_qntsd | 0.621 |
| ## | OCIR_17_qntsd | 0.706 |
| ## | OCIR_18_qntsd | 0.673 |
| ## | OCIR_2_quantisd | 0.510 |
| ## | OCIR_3_quantisd | 0.510 |
| ## | OCIR_4_quantisd | 0.648 |
| ## | OCIR_5_quantisd | 0.588 |
| ## | OCIR_6_quantisd | 0.540 |
| ## | OCIR_7_quantisd | 0.518 |
| ## | OCIR_8_quantisd | 0.666 |
| ## | OCIR_9_quantisd | 0.517 |
| ## | OCIR_1_quantisd | 0.553 |
| ## | OCIR_10_quantisd | 0.714 |
| ## | OCIR_11_quantisd | 0.687 |
| ## | OCIR_12_quantisd | 0.593 |
| ## | OCIR_13_quantisd | 0.472 |
| ## | SZ_1_quantised | 0.390 |
| ## | SZ_10_quantisd | 0.358 |
| ## | SZ_11_quantisd | 0.250 |
| ## | SZ_12_quantisd | 0.251 |
| ## | SZ_13_quantisd | 0.310 |
| ## | SZ_14_quantisd | 0.281 |
| ## | SZ_15_quantisd | 0.316 |
| ## | SZ_16_quantisd | 0.189 |
| ## | SZ_17_quantisd | 0.264 |
| ## | SZ_18_quantisd | 0.359 |
| ## | SZ_19_quantisd | 0.264 |
| ## | SZ_2_quantised | 0.350 |
| ## | SZ_20_quantisd | 0.405 |
| ## | SZ_21_quantisd | 0.301 |
| ## | SZ_22_quantisd | 0.283 |
| ## | SZ_23_quantisd | 0.301 |
| ## | SZ_24_quantisd | 0.299 |
| ## | SZ_25_quantisd | 0.241 |
| ## | SZ_26_quantisd | 0.000 |
| ## | SZ_27_quantisd | 0.002 |
| ## | SZ_28_quantisd | 0.001 |
| ## | SZ_29_quantisd | 0.138 |
| ## | SZ_3_quantised | 0.301 |
| ## | SZ_30_quantisd | 0.005 |
| ## | SZ_31_quantised | 0.001 |

```
##      SZ_32_quantisd      0.184
##      SZ_33_quantisd      0.084
##      SZ_34_quantisd      0.001
##      SZ_35_quantisd      0.324
##      SZ_36_quantisd      0.267
##      SZ_37_quantisd      0.019
##      SZ_38_quantisd      0.357
##      SZ_39_quantisd      0.000
##      SZ_4_quantised      0.302
##      SZ_40_quantisd      0.186
##      SZ_41_quantisd      0.272
##      SZ_42_quantisd      0.341
##      SZ_5_quantised      0.357
##      SZ_6_quantised      0.367
##      SZ_7_quantised      0.286
##      SZ_8_quantised      0.320
##      SZ_9_quantised      0.319
##      STAI2_Clm_qnts      0.347
##      STAI2_Cntnt_qn      0.300
##      STAI2_Dscns_qn      0.252
##      STAI2_Dffclts_      0.511
##      STAI2_DspntS_      0.421
##      STAI2_Flr_qnts      0.571
##      STAI2_Hppy_qnt      0.325
##      STAI2_HppyOth_      0.330
##      STAI2_Indqt_qn      0.540
##      STAI2_Nrvs_qnt      0.517
##      STAI2_Plsnt_qn      0.343
##      STAI2_Rstd_qnt      0.171
##      STAI2_StsfdSl_      0.345
##      STAI2_Scr_qnts      0.321
##      STAI2_SlfCnfd_      0.359
##      STAI2_Stdy_qnt      0.411
##      STAI2_Tnsn_qnt      0.466
##      STAI2_Thghts_q      0.372
##      STAI2_UnmprtT_      0.413
##      STAI2_Wrry_qnt      0.426
##      driftrate           0.058
```

```
Fitpmidvars <-data.frame(fitMeasures(FitQuaireSEMpmid, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(Fitpmidvars) <- "p(mid as high)"
Fitdriftvars<- data.frame(fitMeasures(FitQuaireSEMdrift, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(Fitdriftvars) <- "Drift Rate"
SEMfits <- cbind.data.frame(Fitpmidvars, Fitdriftvars)
rownames(SEMfits) <- c("BIC", "AIC", "RMSEA", "RMSEA CI-", "RMSEA CI+")

kable(t(SEMfits), digits = 3)
```

| | BIC | AIC | RMSEA | RMSEA CI- | RMSEA CI+ |
|----------------|----------|----------|-------|-----------|-----------|
| p(mid as high) | 199600.0 | 198419.6 | 0.052 | 0.051 | 0.053 |
| Drift Rate | 193931.5 | 192751.1 | 0.052 | 0.051 | 0.053 |

Interpretation

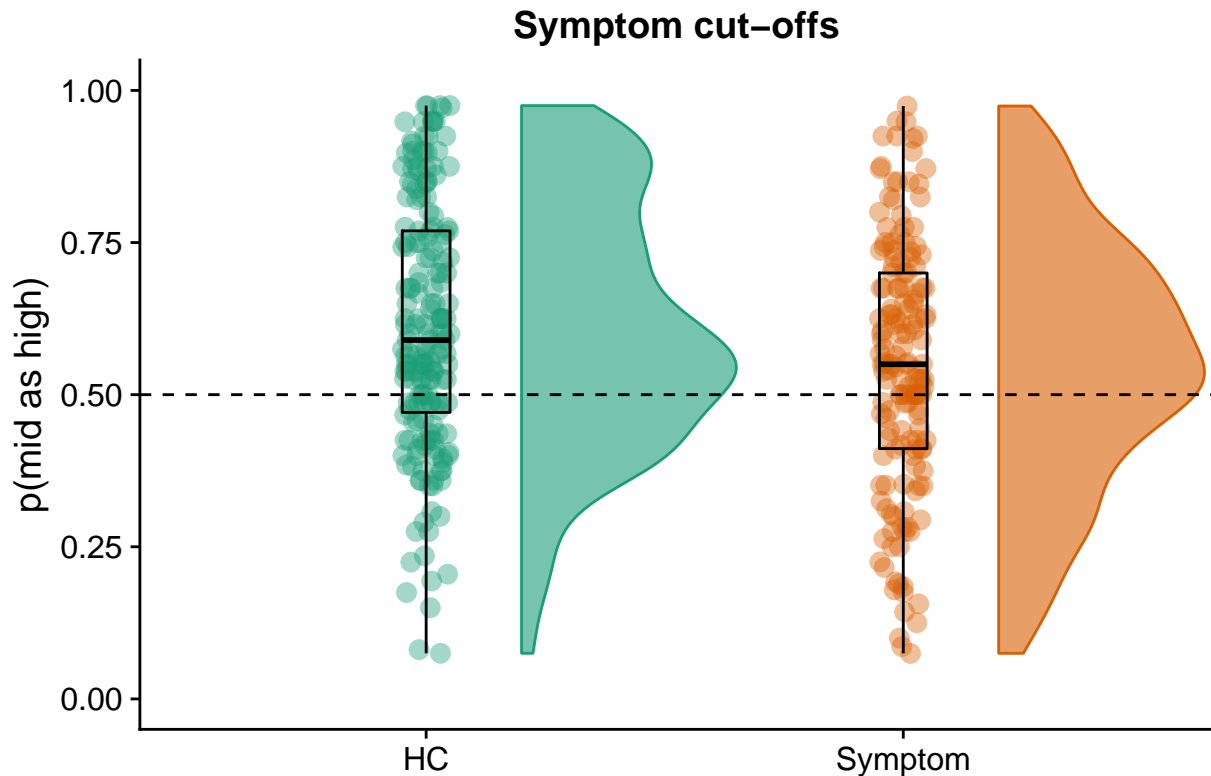
We replicate the basic linear regression, demonstrating the BDI depression symptoms and no other scales significantly influence task performance.

3: ‘Replication’ of prior group effects

Finally, as a sanity check, we should be able to ‘replicate’ the case control study in our original paper by selecting ‘symptomatic’ and ‘healthy control’ individuals from this large cross-sectional sample. We attempted to do this in two ways. I) A very simple BDI symptom scale cut-off (theory-based grouping) and then II) a more data-driven way using latent mixture modelling to identifying latent classes.

I) Symptom cut-offs (theory-based)

We defined control individuals as those with BDI less than 3 and symptomatic as those with BDI greater than 28 (this cut off is based on Beck’s original cut off for severe depression of 29)



```
## [1] "The number of patients is N = 170"
```

```
## [1] "The number of controls is N = 198"
```

```
##
```

```
## Two Sample t-test
```

```
##
```

```

## data: Pmid by group
## t = 2.766, df = 349, p-value = 0.005976
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## 0.01762747 0.10438403
## sample estimates:
##      mean in group HC mean in group Symptom
##      0.6087543      0.5477486

## [1] "The effect size of the Human group difference on p(mid as high) is d= 0.3"

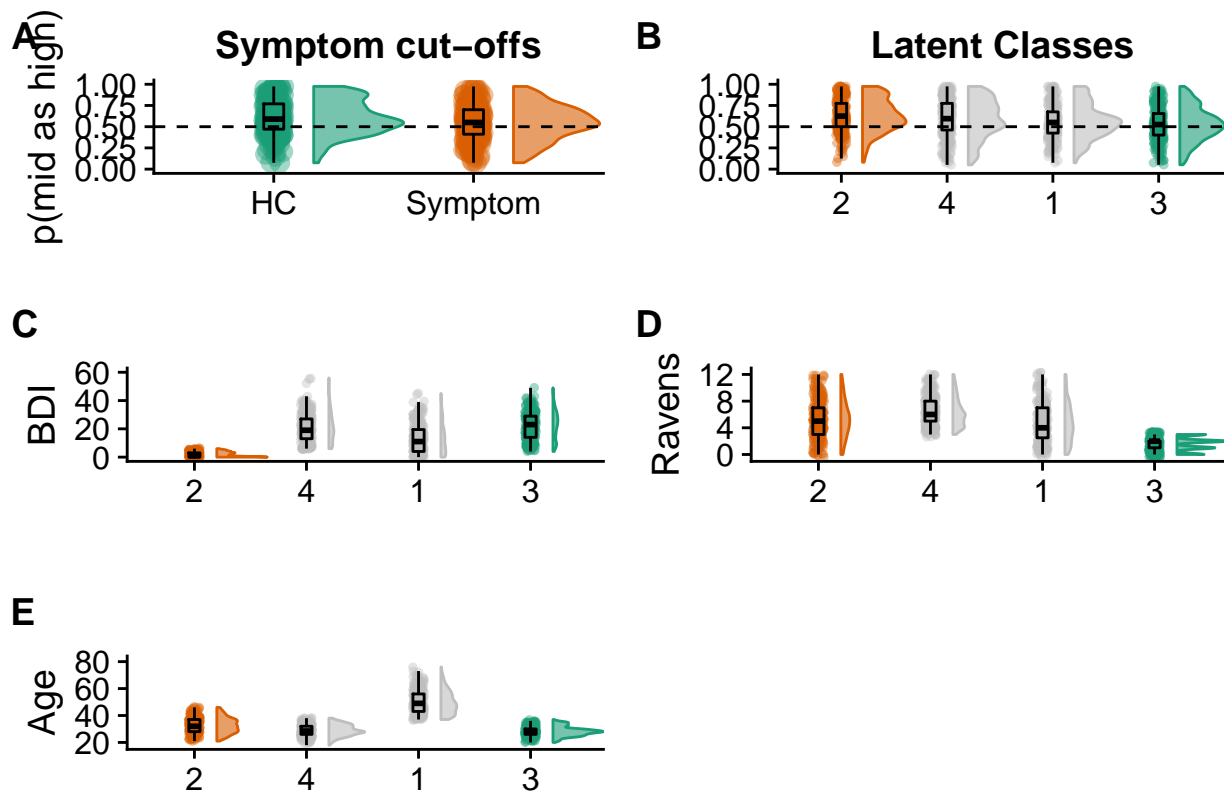
##
## Two Sample t-test
##
## data: driftrate by group
## t = 2.78, df = 349, p-value = 0.005731
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## 0.001015933 0.005930341
## sample estimates:
##      mean in group HC mean in group Symptom
##      0.006236747      0.002763610

## [1] "The effect size of the Human group difference on driftrate is d= 0.3"

```

II) Latent mixture modelling (data-driven)

In a more data driven approach we ran an exploratory latent class analysis based on the symptoms/traits (BDI, Age, IQ) that are predict task performance in the regression. Notably we do not include task performance in our class analysis so that classes are defined orthogonal to task performance. Optimal class breakdown (N=5 classes) is plotted below, but ordered by those with the highest postive bias based on the symptom defined latent classes. We then defined the ‘symptomatic group’ as those with the lowest p(mid)as high score, whilst the control group is those with the highest p(mid as high) score. The distributions of the other latent classes are plotted in gray.



```
## -----
## Gaussian finite mixture model fitted by EM algorithm
## -----
##
## Mclust VVI (diagonal, varying volume and shape) model with 4 components:
##
## log-likelihood    n df      BIC      ICL
##      -9629.49 994 27 -19445.33 -19841.74
##
## Clustering table:
##   1  2  3  4
## 219 233 266 276
##
##
## Two Sample t-test
##
## data:  Pmid by group
## t = -5.8731, df = 497, p-value = 7.836e-09
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.13813301 -0.06887991
## sample estimates:
##      mean in group HC mean in group Symptom
##      0.5310236      0.6345301
##
## [1] "The effect size of the Human group difference on driftrate is d= 0.53"
```



```

##
## Two Sample t-test
##
## data: BDI by group
## t = 32.016, df = 497, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## 19.31422 21.83977
## sample estimates:
## mean in group HC mean in group Symptom
## 22.259398 1.682403

## [1] "The effect size of the Human group difference is d= 2.87"

##
## Two Sample t-test
##
## data: Age by group
## t = -10.506, df = 497, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -5.246439 -3.593246
## sample estimates:
## mean in group HC mean in group Symptom
## 28.20677 32.62661

##
## Two Sample t-test
##
## data: Ravens by group
## t = -20.409, df = 497, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -4.137983 -3.411244
## sample estimates:
## mean in group HC mean in group Symptom
## 1.560150 5.334764

```

Interpretation

This approach identified 5 latent classes. Confirming our initial study, the group with the highest mean depression scores are those with the greatest negative bias, while those with the highest bias have very low depression scores. Interestingly, the 'symptomatic' latent class is also particularly low IQ relative to the other classes. These results are (highly!) exploratory and should be approached with caution, but they perhaps suggest that IQ can protect against negative bias in depressed individuals (which has been speculated in therapy research before). They also provide predictions about the distributions of relevant variables within those who may be currently or at risk of developing clinically-relevant behavioural symptoms.

Supplementary Analysis

Exploratory Factor Analysis of questionnaires

The simple regression above, however, collapses across the individual responses to the different items on the questionnaires and just uses summary scores. However, it may be that there is a simpler underlying

structure to the data. For instance BDI and STAI are often highly correlated - so may actually be measuring the same latent construct. In this next section (inspired by Gillan et al 2016) we first run an exploratory factor analysis on the individual items from the questionnaires in an attempt to reduce the amount of latent variables.

```
###EFA

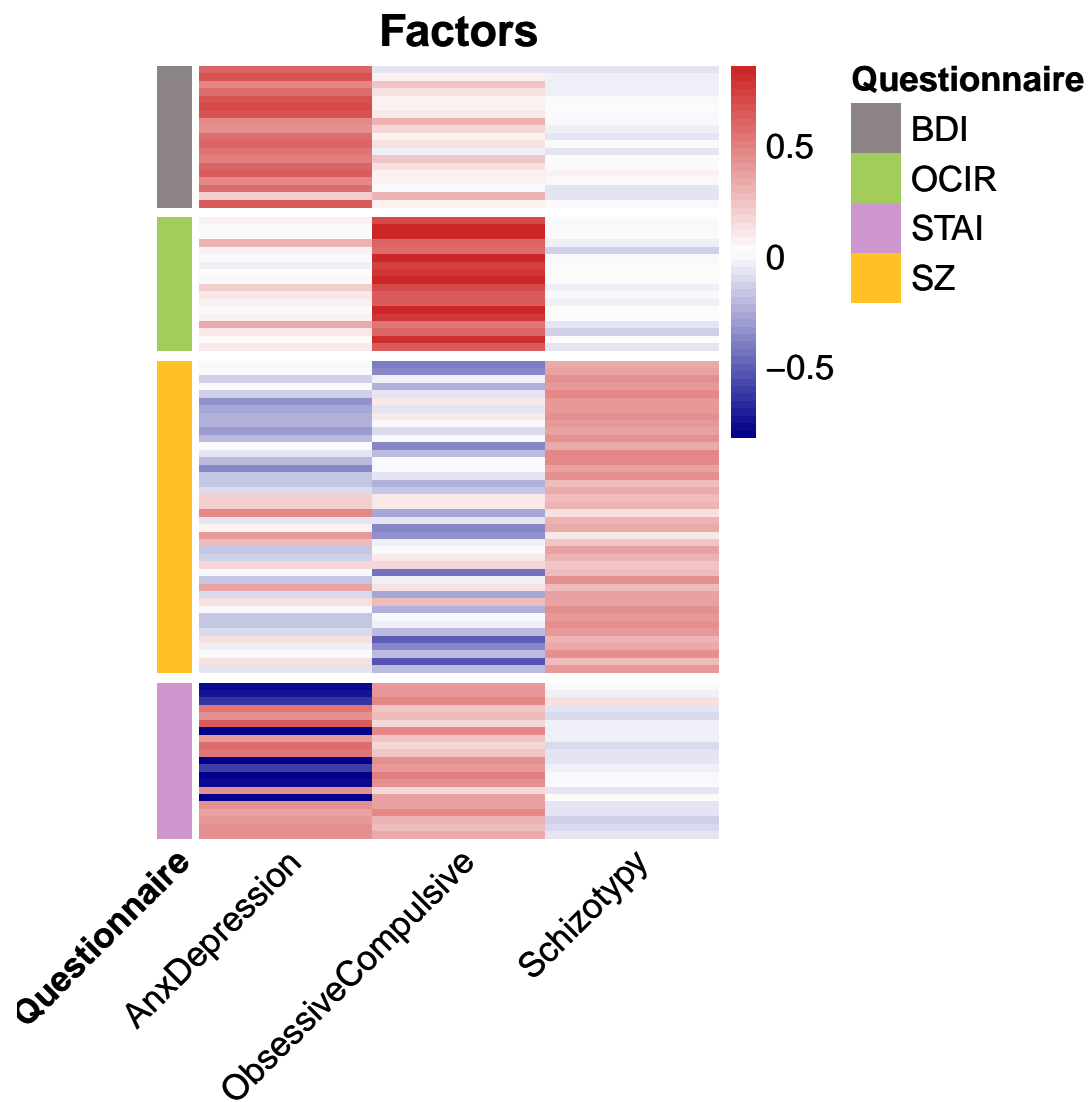
#Determine facrors using Cattell-Nelson-Gorsuch CNG Indices (claire's approach)
determinefactors <- nCng(combineditemdata[44:143], cor=TRUE, model="factors")
#Do an EFA using N factors from CNG
efaQaires <- fa(combineditemdata[44:143], nfact = determinefactors$nFactors, rotate = "geominQ", fm = "1")

efaQaires.loadmat <- zapsmall(matrix(round(efaQaires$loadings, 2), nrow = 100, ncol = 3))
rownames(efaQaires.loadmat) <- names(combineditemdata[44:143])

#heatmap
efaQairesdataf <- data.frame(efaQaires.loadmat)
row.names(efaQairesdataf) <- gsub("_quantised", "", row.names(efaQairesdataf))
names(efaQairesdataf) <- c("AnxDepression", "ObsessiveCompulsive", "Schizotypy")
annotation <- substr(row.names(efaQairesdataf), start=1, stop=3)
annotationdf <- data.frame(Questionnaire = annotation)
levels(annotationdf$Questionnaire) <- c('BDI', 'OCIR', 'STAI', 'SZ')
rownames(annotationdf) <- rownames(efaQairesdataf)
countqs <- summary(annotationdf$Questionnaire)
qbreaks <- c(countqs[1], (countqs[1]+countqs[2]), (countqs[1]+countqs[2]+countqs[4]))
ancol = list(Questionnaire =c(BDI ="lavenderblush4", OCIR ="darkolivegreen3", STAI ="plum3",SZ ="goldenrod4"))

heatmapplot <- pheatmap(
  mat
    = efaQairesdataf,
  border_color
    = NA,
  color
    = colorRampPalette(c("darkblue", "white", "firebrick3"))(50),
  cellwidth
    = 70,
  cellheight
    = 3,
  show_colnames
    = TRUE,
  show_rownames
    = FALSE,
  drop_levels
    = TRUE,
  fontsize
    = 14,
  main
    = "Factors",
  treeheight_row
    = 0,
  treeheight_col
    = 0,
  cluster_rows
    = FALSE,
  annotation_row
    = annotationdf,
  annotation_colors
    = ancol,
  angle_col
    = 45,
  gaps_row
    = qbreaks,
  gaps_col
    = c(1,2),
  width
    = 20,
  height
    = 20
)

heatmapplot
```



Interpretation

We Identify 3 latent factors using Cattell-Nelson-Gorsuch Indices (as in Gillan et al.). One factor we name “AnxDepression” as it maps closely onto the BDI and STAI , “ObsessiveCompulsive” which is a mix of the OCIR and STAI (and not Schizotypy), and “Schizotypy” which loads positively almost exclusively on the Schizotypy questionnaire.

Exploratory Structural Equation Model using latent factors

We can now use these factor loadings in an Exploratory Structural Equation Model (ESEM) and run the same regression as above but instead of feeding in the summary questionnaire scores, we can create a latent variable that represents each factor. Of note we use the 'Robust maximum likelihood' (MLR) estimator as it is robust to non-normality and the individual items for the questionnaires are not continuous.

```
##ESEM which mimics regression - this takes the loadings from the EFA and uses them to weight the relat.
terms <- vector()
for (i in 1:3) {
  terms[i] <-
    paste0("F",i,"=~ ", paste0(c(efaQaires.loadmat[,i]), "*"), names(efaQaires.loadmat[,1]), collapse = " + ")
}

efaQaires.esem <- paste(terms, collapse = "\n")
##adding the regression and covariances to match the original regression analysis
terms[4] <- "propmedhigh ~ spreadsheet + Ravens + Age + GenderMF + F1 + F2 + F3"
##adding residual correlations
terms[5] <- "spreadsheet ~~ Ravens + Age + GenderMF + F1 + F2 + F3"
terms[6] <- "Ravens ~~ Age + GenderMF + F1 + F2 + F3"
terms[7] <- "Age ~~ GenderMF + F1 + F2 + F3"
terms[8] <- "GenderMF ~~ F1 + F2 + F3"
terms[9] <- "F1 ~~ F2 + F3"
terms[10] <- "F2 ~~ F3"

semFactorsMatch <- paste(terms, collapse = "\n")

#Fit the model (this takes a while!)
fititem.factors <- sem(semFactorsMatch, data=combineditemdata, meanstructure=TRUE, estimator = "MLR")

#This plots loads of fit indices, but we are mostly intersted in the regression
summary(fititem.factors, standardized=TRUE, rsquare=F, fit.measures=F)
```



```
## lavaan 0.6-3 ended normally after 267 iterations
##
##      Optimization method          NLMINB
##      Number of free parameters      241
##
##                                     Used      Total
##      Number of observations          990      1066
##
##      Estimator                      ML      Robust
##      Model Fit Test Statistic      19555.630  17207.926
##      Degrees of freedom             5429      5429
##      P-value (Chi-square)           0.000      0.000
##      Scaling correction factor              1.136
##      for the Yuan-Bentler correction (Mplus variant)
##
## Parameter Estimates:
##
##      Information                      Observed
##      Observed information based on      Hessian
##      Standard Errors                  Robust.huber.white
##
```

```

## Latent Variables:
##           Estimate Std.Err  z-value  P(>|z|)  Std.lv  Std.all
##   F1 =~
##   BDI_Attrctv_qn    0.620                0.540    0.595
##   BDI_Blam_qntsd    0.680                0.592    0.677
##   BDI_Cry_qntsd     0.470                0.409    0.465
##   BDI_Dcsns_qnts    0.590                0.513    0.587
##   BDI_Dspntmnt_     0.690                0.600    0.682
##   BDI_Falr_qntsd    0.710                0.618    0.684
##   BDI_Futr_qntsd    0.670                0.583    0.658
##   BDI_Glty_qntsd    0.490                0.426    0.481
##   BDI_Hlth_qntsd    0.430                0.374    0.463
##   BDI_Intrs_I_P_    0.590                0.513    0.584
##   BDI_Irrtttd_qnt   0.600                0.522    0.588
##   BDI_Libd_qntsd    0.540                0.470    0.540
##   BDI_Pnshd_qnts    0.500                0.435    0.467
##   BDI_Sad_qntsd     0.620                0.540    0.647
##   BDI_Stsfctn_qn    0.640                0.557    0.606
##   BDI_Slep_qntsd    0.480                0.418    0.469
##   BDI_Tird_qntsd    0.570                0.496    0.586
##   BDI_wght_qntsd    0.220                0.191    0.253
##   BDI_Work_qntsd    0.650                0.566    0.645
##   OCIR_1_quantisd    0.070                0.061    0.053
##   OCIR_10_quantisd   0.000                0.000    0.000
##   OCIR_11_quantisd   0.020                0.017    0.015
##   OCIR_12_quantisd   0.300                0.261    0.231
##   OCIR_13_quantisd   0.070                0.061    0.054
##   OCIR_14_quantisd   0.010                0.009    0.007
##   OCIR_15_quantisd  -0.040               -0.035   -0.029
##   OCIR_16_quantisd   0.050                0.044    0.038
##   OCIR_17_quantisd  -0.010               -0.009   -0.008
##   OCIR_18_quantisd   0.210                0.183    0.162
##   OCIR_2_quantisd    0.120                0.104    0.088
##   OCIR_3_quantisd    0.060                0.052    0.045
##   OCIR_4_quantisd    0.020                0.017    0.015
##   OCIR_5_quantisd    0.060                0.052    0.045
##   OCIR_6_quantisd    0.350                0.305    0.273
##   OCIR_7_quantisd    0.110                0.096    0.087
##   OCIR_8_quantisd    0.040                0.035    0.029
##   OCIR_9_quantisd    0.110                0.096    0.083
##   SZ_1_quantised     0.000                0.000    0.000
##   SZ_10_quantisd     0.020                0.017    0.035
##   SZ_11_quantisd    -0.140               -0.122   -0.249
##   SZ_12_quantisd     0.050                0.044    0.090
##   SZ_13_quantisd    -0.130               -0.113   -0.234
##   SZ_14_quantisd    -0.340               -0.296   -0.556
##   SZ_15_quantisd    -0.280               -0.244   -0.463
##   SZ_16_quantisd    -0.220               -0.191   -0.374
##   SZ_17_quantisd    -0.230               -0.200   -0.393
##   SZ_18_quantisd    -0.290               -0.252   -0.472
##   SZ_19_quantisd    -0.190               -0.165   -0.332
##   SZ_2_quantised     0.040                0.035    0.065
##   SZ_20_quantisd    -0.070               -0.061   -0.130
##   SZ_21_quantisd    -0.190               -0.165   -0.335

```

| | | | | |
|----|----------------|--------|--------|--------|
| ## | SZ_22_quantisd | -0.370 | -0.322 | -0.583 |
| ## | SZ_23_quantisd | -0.160 | -0.139 | -0.283 |
| ## | SZ_24_quantisd | -0.160 | -0.139 | -0.254 |
| ## | SZ_25_quantisd | -0.090 | -0.078 | -0.156 |
| ## | SZ_26_quantisd | 0.210 | 0.183 | 0.336 |
| ## | SZ_27_quantisd | 0.220 | 0.191 | 0.359 |
| ## | SZ_28_quantisd | 0.490 | 0.426 | 0.727 |
| ## | SZ_29_quantisd | -0.070 | -0.061 | -0.124 |
| ## | SZ_3_quantised | 0.080 | 0.070 | 0.137 |
| ## | SZ_30_quantisd | 0.390 | 0.339 | 0.600 |
| ## | SZ_31_quantisd | 0.270 | 0.235 | 0.463 |
| ## | SZ_32_quantisd | -0.150 | -0.131 | -0.264 |
| ## | SZ_33_quantisd | -0.130 | -0.113 | -0.232 |
| ## | SZ_34_quantisd | 0.170 | 0.148 | 0.274 |
| ## | SZ_35_quantisd | 0.000 | 0.000 | 0.000 |
| ## | SZ_36_quantisd | -0.150 | -0.131 | -0.266 |
| ## | SZ_37_quantisd | 0.380 | 0.331 | 0.524 |
| ## | SZ_38_quantisd | -0.090 | -0.078 | -0.152 |
| ## | SZ_39_quantisd | 0.140 | 0.122 | 0.202 |
| ## | SZ_4_quantised | 0.020 | 0.017 | 0.037 |
| ## | SZ_40_quantisd | -0.160 | -0.139 | -0.280 |
| ## | SZ_41_quantisd | -0.160 | -0.139 | -0.283 |
| ## | SZ_42_quantisd | -0.100 | -0.087 | -0.170 |
| ## | SZ_5_quantised | 0.140 | 0.122 | 0.208 |
| ## | SZ_6_quantised | -0.020 | -0.017 | -0.033 |
| ## | SZ_7_quantised | 0.020 | 0.017 | 0.036 |
| ## | SZ_8_quantised | 0.130 | 0.113 | 0.186 |
| ## | SZ_9_quantised | -0.070 | -0.061 | -0.123 |
| ## | STAI2_Clm_qnts | -0.770 | -0.670 | -0.769 |
| ## | STAI2_Cntnt_qn | -0.740 | -0.644 | -0.737 |
| ## | STAI2_Dscns_qn | -0.640 | -0.557 | -0.643 |
| ## | STAI2_Dffclts_ | 0.540 | 0.470 | 0.508 |
| ## | STAI2_DsppntS_ | 0.440 | 0.383 | 0.420 |
| ## | STAI2_Flr_qnts | 0.640 | 0.557 | 0.605 |
| ## | STAI2_Hppy_qnt | -0.810 | -0.705 | -0.807 |
| ## | STAI2_Hppy0th_ | 0.420 | 0.365 | 0.376 |
| ## | STAI2_Indqt_qn | 0.580 | 0.505 | 0.542 |
| ## | STAI2_Nrvs_qnt | 0.540 | 0.470 | 0.519 |
| ## | STAI2_Plsnt_qn | -0.820 | -0.714 | -0.847 |
| ## | STAI2_Rstd_qnt | -0.610 | -0.531 | -0.607 |
| ## | STAI2_StsfdSl_ | -0.800 | -0.696 | -0.789 |
| ## | STAI2_Scr_qnts | -0.770 | -0.670 | -0.756 |
| ## | STAI2_SlfCnfd_ | 0.440 | 0.383 | 0.387 |
| ## | STAI2_Stdy_qnt | -0.790 | -0.687 | -0.800 |
| ## | STAI2_Tnsn_qnt | 0.450 | 0.392 | 0.422 |
| ## | STAI2_Thghts_q | 0.380 | 0.331 | 0.366 |
| ## | STAI2_UnmprtT_ | 0.400 | 0.348 | 0.384 |
| ## | STAI2_Wrry_qnt | 0.450 | 0.392 | 0.417 |
| ## | STAI_Anxs_qnts | 0.450 | 0.392 | 0.407 |
| ## | F2 =~ | | | |
| ## | BDI_Attrctv_qn | -0.070 | -0.067 | -0.074 |
| ## | BDI_Blam_qntsd | 0.070 | 0.067 | 0.076 |
| ## | BDI_Cry_qntsd | 0.240 | 0.229 | 0.260 |
| ## | BDI_Dcsns_qnts | 0.140 | 0.134 | 0.153 |

| | | | | |
|----|------------------|--------|--------|--------|
| ## | BDI_Dspntmnt_ | 0.060 | 0.057 | 0.065 |
| ## | BDI_Falr_qntsd | 0.060 | 0.057 | 0.063 |
| ## | BDI_Futr_qntsd | 0.090 | 0.086 | 0.097 |
| ## | BDI_Glty_qntsd | 0.300 | 0.287 | 0.323 |
| ## | BDI_Hlth_qntsd | 0.170 | 0.162 | 0.201 |
| ## | BDI_Intrs_I_P_ | 0.070 | 0.067 | 0.076 |
| ## | BDI_Irrtttd_qnt | 0.130 | 0.124 | 0.140 |
| ## | BDI_Libd_qntsd | -0.030 | -0.029 | -0.033 |
| ## | BDI_Pnshd_qnts | 0.240 | 0.229 | 0.246 |
| ## | BDI_Sad_qntsd | 0.140 | 0.134 | 0.160 |
| ## | BDI_Stsfctn_qn | 0.070 | 0.067 | 0.073 |
| ## | BDI_Slep_qntsd | 0.060 | 0.057 | 0.064 |
| ## | BDI_Tird_qntsd | 0.010 | 0.010 | 0.011 |
| ## | BDI_wght_qntsd | 0.290 | 0.277 | 0.367 |
| ## | BDI_Work_qntsd | 0.080 | 0.076 | 0.087 |
| ## | OCIR_1_quantisd | 0.710 | 0.678 | 0.593 |
| ## | OCIR_10_quantisd | 0.860 | 0.821 | 0.740 |
| ## | OCIR_11_quantisd | 0.840 | 0.802 | 0.699 |
| ## | OCIR_12_quantisd | 0.620 | 0.592 | 0.525 |
| ## | OCIR_13_quantisd | 0.580 | 0.554 | 0.487 |
| ## | OCIR_14_quantisd | 0.830 | 0.793 | 0.677 |
| ## | OCIR_15_quantisd | 0.740 | 0.707 | 0.592 |
| ## | OCIR_16_quantisd | 0.790 | 0.755 | 0.654 |
| ## | OCIR_17_quantisd | 0.860 | 0.821 | 0.713 |
| ## | OCIR_18_quantisd | 0.710 | 0.678 | 0.601 |
| ## | OCIR_2_quantisd | 0.640 | 0.611 | 0.516 |
| ## | OCIR_3_quantisd | 0.650 | 0.621 | 0.540 |
| ## | OCIR_4_quantisd | 0.830 | 0.793 | 0.692 |
| ## | OCIR_5_quantisd | 0.770 | 0.735 | 0.635 |
| ## | OCIR_6_quantisd | 0.550 | 0.525 | 0.471 |
| ## | OCIR_7_quantisd | 0.610 | 0.583 | 0.531 |
| ## | OCIR_8_quantisd | 0.800 | 0.764 | 0.645 |
| ## | OCIR_9_quantisd | 0.630 | 0.602 | 0.522 |
| ## | SZ_1_quantised | -0.390 | -0.373 | -0.668 |
| ## | SZ_10_quantisd | -0.350 | -0.334 | -0.667 |
| ## | SZ_11_quantisd | -0.040 | -0.038 | -0.078 |
| ## | SZ_12_quantisd | -0.230 | -0.220 | -0.454 |
| ## | SZ_13_quantisd | -0.050 | -0.048 | -0.099 |
| ## | SZ_14_quantisd | 0.090 | 0.086 | 0.161 |
| ## | SZ_15_quantisd | -0.050 | -0.048 | -0.091 |
| ## | SZ_16_quantisd | 0.110 | 0.105 | 0.205 |
| ## | SZ_17_quantisd | -0.010 | -0.010 | -0.019 |
| ## | SZ_18_quantisd | -0.090 | -0.086 | -0.161 |
| ## | SZ_19_quantisd | 0.020 | 0.019 | 0.038 |
| ## | SZ_2_quantised | -0.370 | -0.353 | -0.657 |
| ## | SZ_20_quantisd | -0.210 | -0.201 | -0.428 |
| ## | SZ_21_quantisd | 0.000 | 0.000 | 0.000 |
| ## | SZ_22_quantisd | 0.010 | 0.010 | 0.017 |
| ## | SZ_23_quantisd | -0.080 | -0.076 | -0.155 |
| ## | SZ_24_quantisd | -0.240 | -0.229 | -0.418 |
| ## | SZ_25_quantisd | -0.160 | -0.153 | -0.304 |
| ## | SZ_26_quantisd | 0.120 | 0.115 | 0.211 |
| ## | SZ_27_quantisd | 0.090 | 0.086 | 0.161 |
| ## | SZ_28_quantisd | -0.250 | -0.239 | -0.407 |

| | | | | |
|----|-----------------|--------|--------|--------|
| ## | SZ_29_quantisd | -0.080 | -0.076 | -0.156 |
| ## | SZ_3_quantised | -0.370 | -0.353 | -0.694 |
| ## | SZ_30_quantisd | -0.330 | -0.315 | -0.557 |
| ## | SZ_31_quantisd | -0.020 | -0.019 | -0.038 |
| ## | SZ_32_quantisd | -0.010 | -0.010 | -0.019 |
| ## | SZ_33_quantisd | 0.090 | 0.086 | 0.176 |
| ## | SZ_34_quantisd | 0.160 | 0.153 | 0.283 |
| ## | SZ_35_quantisd | -0.450 | -0.430 | -0.731 |
| ## | SZ_36_quantisd | -0.030 | -0.029 | -0.058 |
| ## | SZ_37_quantisd | 0.140 | 0.134 | 0.212 |
| ## | SZ_38_quantisd | -0.270 | -0.258 | -0.500 |
| ## | SZ_39_quantisd | 0.280 | 0.267 | 0.443 |
| ## | SZ_4_quantised | -0.230 | -0.220 | -0.465 |
| ## | SZ_40_quantisd | 0.010 | 0.010 | 0.019 |
| ## | SZ_41_quantisd | -0.040 | -0.038 | -0.078 |
| ## | SZ_42_quantisd | -0.200 | -0.191 | -0.374 |
| ## | SZ_5_quantised | -0.510 | -0.487 | -0.830 |
| ## | SZ_6_quantised | -0.350 | -0.334 | -0.634 |
| ## | SZ_7_quantised | -0.190 | -0.181 | -0.374 |
| ## | SZ_8_quantised | -0.530 | -0.506 | -0.833 |
| ## | SZ_9_quantised | -0.200 | -0.191 | -0.385 |
| ## | STAI2_Clm_qnts | 0.410 | 0.392 | 0.449 |
| ## | STAI2_Cntnt_qn | 0.410 | 0.392 | 0.448 |
| ## | STAI2_Dscns_qn | 0.480 | 0.458 | 0.530 |
| ## | STAI2_Dffclts_ | 0.250 | 0.239 | 0.258 |
| ## | STAI2_DspntS_ | 0.260 | 0.248 | 0.272 |
| ## | STAI2_Flr_qnts | 0.180 | 0.172 | 0.187 |
| ## | STAI2_Hppy_qnt | 0.460 | 0.439 | 0.503 |
| ## | STAI2_Hppy0th_ | 0.230 | 0.220 | 0.226 |
| ## | STAI2_Indqt_qn | 0.160 | 0.153 | 0.164 |
| ## | STAI2_Nrvs_qnt | 0.240 | 0.229 | 0.253 |
| ## | STAI2_Plsnt_qn | 0.430 | 0.411 | 0.488 |
| ## | STAI2_Rstd_qnt | 0.400 | 0.382 | 0.437 |
| ## | STAI2_StsfdSl_ | 0.520 | 0.497 | 0.563 |
| ## | STAI2_Scr_qnts | 0.450 | 0.430 | 0.485 |
| ## | STAI2_SlfCnfd_ | 0.180 | 0.172 | 0.174 |
| ## | STAI2_Stdy_qnt | 0.360 | 0.344 | 0.400 |
| ## | STAI2_Tnsn_qnt | 0.370 | 0.353 | 0.381 |
| ## | STAI2_Thghts_q | 0.460 | 0.439 | 0.486 |
| ## | STAI2_UnmprtT_ | 0.320 | 0.306 | 0.337 |
| ## | STAI2_Wrry_qnt | 0.260 | 0.248 | 0.265 |
| ## | STAI_Anxs_qnts | 0.350 | 0.334 | 0.348 |
| ## | F3 =~ | | | |
| ## | BDI_Attrctv_qn | -0.050 | -0.021 | -0.023 |
| ## | BDI_Blam_qntsd | -0.020 | -0.008 | -0.009 |
| ## | BDI_Cry_qntsd | -0.020 | -0.008 | -0.009 |
| ## | BDI_Dcsns_qnts | -0.030 | -0.012 | -0.014 |
| ## | BDI_Dspntmnt_ | 0.020 | 0.008 | 0.009 |
| ## | BDI_Falr_qntsd | 0.050 | 0.021 | 0.023 |
| ## | BDI_Futr_qntsd | 0.010 | 0.004 | 0.005 |
| ## | BDI_Glty_qntsd | 0.010 | 0.004 | 0.005 |
| ## | BDI_Hlth_qntsd | -0.030 | -0.012 | -0.015 |
| ## | BDI_Intrs_I_P_ | -0.050 | -0.021 | -0.023 |
| ## | BDI_Irrtttd_qnt | -0.010 | -0.004 | -0.005 |

| | | | | |
|----|------------------|--------|--------|--------|
| ## | BDI_Libd_qntsd | -0.050 | -0.021 | -0.024 |
| ## | BDI_Pnshd_qnts | 0.030 | 0.012 | 0.013 |
| ## | BDI_Sad_qntsd | 0.010 | 0.004 | 0.005 |
| ## | BDI_Stsfctn_qn | 0.060 | 0.025 | 0.027 |
| ## | BDI_Slep_qntsd | -0.010 | -0.004 | -0.005 |
| ## | BDI_Tird_qntsd | -0.070 | -0.029 | -0.034 |
| ## | BDI_wght_qntsd | -0.050 | -0.021 | -0.027 |
| ## | BDI_Work_qntsd | 0.010 | 0.004 | 0.005 |
| ## | OCIR_1_quantisd | 0.010 | 0.004 | 0.004 |
| ## | OCIR_10_quantisd | 0.020 | 0.008 | 0.007 |
| ## | OCIR_11_quantisd | 0.040 | 0.017 | 0.014 |
| ## | OCIR_12_quantisd | -0.020 | -0.008 | -0.007 |
| ## | OCIR_13_quantisd | -0.140 | -0.058 | -0.051 |
| ## | OCIR_14_quantisd | 0.020 | 0.008 | 0.007 |
| ## | OCIR_15_quantisd | 0.040 | 0.017 | 0.014 |
| ## | OCIR_16_quantisd | 0.030 | 0.012 | 0.011 |
| ## | OCIR_17_quantisd | 0.030 | 0.012 | 0.011 |
| ## | OCIR_18_quantisd | -0.040 | -0.017 | -0.015 |
| ## | OCIR_2_quantisd | 0.010 | 0.004 | 0.003 |
| ## | OCIR_3_quantisd | -0.040 | -0.017 | -0.014 |
| ## | OCIR_4_quantisd | 0.050 | 0.021 | 0.018 |
| ## | OCIR_5_quantisd | 0.030 | 0.012 | 0.011 |
| ## | OCIR_6_quantisd | -0.070 | -0.029 | -0.026 |
| ## | OCIR_7_quantisd | -0.130 | -0.054 | -0.049 |
| ## | OCIR_8_quantisd | 0.050 | 0.021 | 0.017 |
| ## | OCIR_9_quantisd | -0.060 | -0.025 | -0.021 |
| ## | SZ_1_quantised | 0.350 | 0.144 | 0.259 |
| ## | SZ_10_quantised | 0.380 | 0.157 | 0.313 |
| ## | SZ_11_quantised | 0.430 | 0.177 | 0.363 |
| ## | SZ_12_quantised | 0.390 | 0.161 | 0.332 |
| ## | SZ_13_quantised | 0.480 | 0.198 | 0.410 |
| ## | SZ_14_quantised | 0.420 | 0.173 | 0.325 |
| ## | SZ_15_quantised | 0.390 | 0.161 | 0.306 |
| ## | SZ_16_quantised | 0.430 | 0.177 | 0.346 |
| ## | SZ_17_quantised | 0.400 | 0.165 | 0.324 |
| ## | SZ_18_quantised | 0.380 | 0.157 | 0.293 |
| ## | SZ_19_quantised | 0.450 | 0.186 | 0.373 |
| ## | SZ_2_quantised | 0.350 | 0.144 | 0.269 |
| ## | SZ_20_quantised | 0.460 | 0.190 | 0.405 |
| ## | SZ_21_quantised | 0.480 | 0.198 | 0.401 |
| ## | SZ_22_quantised | 0.360 | 0.149 | 0.269 |
| ## | SZ_23_quantised | 0.430 | 0.177 | 0.361 |
| ## | SZ_24_quantised | 0.280 | 0.116 | 0.211 |
| ## | SZ_25_quantised | 0.350 | 0.144 | 0.287 |
| ## | SZ_26_quantised | 0.270 | 0.111 | 0.205 |
| ## | SZ_27_quantised | 0.320 | 0.132 | 0.248 |
| ## | SZ_28_quantised | 0.130 | 0.054 | 0.091 |
| ## | SZ_29_quantised | 0.300 | 0.124 | 0.253 |
| ## | SZ_3_quantised | 0.340 | 0.140 | 0.276 |
| ## | SZ_30_quantised | 0.100 | 0.041 | 0.073 |
| ## | SZ_31_quantised | 0.230 | 0.095 | 0.187 |
| ## | SZ_32_quantised | 0.380 | 0.157 | 0.317 |
| ## | SZ_33_quantised | 0.320 | 0.132 | 0.271 |
| ## | SZ_34_quantised | 0.240 | 0.099 | 0.183 |

| | | | | | | |
|----|----------------|--------|--|--|--------|--------|
| ## | SZ_35_quantisd | 0.260 | | | 0.107 | 0.183 |
| ## | SZ_36_quantisd | 0.430 | | | 0.177 | 0.362 |
| ## | SZ_37_quantisd | 0.270 | | | 0.111 | 0.177 |
| ## | SZ_38_quantisd | 0.380 | | | 0.157 | 0.304 |
| ## | SZ_39_quantisd | 0.360 | | | 0.149 | 0.246 |
| ## | SZ_4_quantised | 0.430 | | | 0.177 | 0.376 |
| ## | SZ_40_quantisd | 0.400 | | | 0.165 | 0.332 |
| ## | SZ_41_quantisd | 0.430 | | | 0.177 | 0.360 |
| ## | SZ_42_quantisd | 0.420 | | | 0.173 | 0.339 |
| ## | SZ_5_quantised | 0.310 | | | 0.128 | 0.218 |
| ## | SZ_6_quantised | 0.350 | | | 0.144 | 0.274 |
| ## | SZ_7_quantised | 0.450 | | | 0.186 | 0.383 |
| ## | SZ_8_quantised | 0.270 | | | 0.111 | 0.183 |
| ## | SZ_9_quantised | 0.410 | | | 0.169 | 0.341 |
| ## | STAI2_Clm_qnts | -0.010 | | | -0.004 | -0.005 |
| ## | STAI2_Cntnt_qn | -0.020 | | | -0.008 | -0.009 |
| ## | STAI2_Dscns_qn | 0.140 | | | 0.058 | 0.067 |
| ## | STAI2_Dffclts_ | -0.070 | | | -0.029 | -0.031 |
| ## | STAI2_DsppntS_ | -0.090 | | | -0.037 | -0.041 |
| ## | STAI2_Flr_qnts | -0.030 | | | -0.012 | -0.013 |
| ## | STAI2_Hppy_qnt | -0.020 | | | -0.008 | -0.009 |
| ## | STAI2_HppyOth_ | -0.020 | | | -0.008 | -0.008 |
| ## | STAI2_Indqt_qn | -0.090 | | | -0.037 | -0.040 |
| ## | STAI2_Nrvs_qnt | -0.080 | | | -0.033 | -0.036 |
| ## | STAI2_Plsnt_qn | -0.060 | | | -0.025 | -0.029 |
| ## | STAI2_Rstd_qnt | -0.020 | | | -0.008 | -0.009 |
| ## | STAI2_StsfdSl_ | 0.020 | | | 0.008 | 0.009 |
| ## | STAI2_Scr_qnts | 0.000 | | | 0.000 | 0.000 |
| ## | STAI2_SlfCnfd_ | -0.060 | | | -0.025 | -0.025 |
| ## | STAI2_Stdy_qnt | 0.030 | | | 0.012 | 0.014 |
| ## | STAI2_Tnsn_qnt | -0.070 | | | -0.029 | -0.031 |
| ## | STAI2_Thghts_q | -0.060 | | | -0.025 | -0.027 |
| ## | STAI2_UnmprtT_ | -0.140 | | | -0.058 | -0.064 |
| ## | STAI2_Wrry_qnt | -0.090 | | | -0.037 | -0.040 |
| ## | STAI_Anxs_qnts | -0.050 | | | -0.021 | -0.021 |

##

Regressions:

| ## | | Estimate | Std.Err | z-value | P(> z) | Std.lv | Std.all |
|----|---------------|----------|---------|---------|---------|--------|---------|
| ## | propmedhigh ~ | | | | | | |
| ## | spreadsheet | 0.006 | 0.002 | 2.767 | 0.006 | 0.006 | 0.086 |
| ## | Ravens | 0.010 | 0.002 | 4.339 | 0.000 | 0.010 | 0.145 |
| ## | Age | -0.003 | 0.001 | -3.900 | 0.000 | -0.003 | -0.124 |
| ## | GenderMF | -0.005 | 0.013 | -0.388 | 0.698 | -0.005 | -0.012 |
| ## | F1 | -0.023 | 0.009 | -2.624 | 0.009 | -0.020 | -0.097 |
| ## | F2 | -0.009 | 0.009 | -1.011 | 0.312 | -0.008 | -0.040 |
| ## | F3 | 0.006 | 0.018 | 0.309 | 0.757 | 0.002 | 0.011 |

##

Covariances:

| ## | | Estimate | Std.Err | z-value | P(> z) | Std.lv | Std.all |
|----|----------------|----------|---------|---------|---------|--------|---------|
| ## | spreadsheet ~~ | | | | | | |
| ## | Ravens | -0.395 | 0.280 | -1.408 | 0.159 | -0.395 | -0.045 |
| ## | Age | 1.278 | 0.974 | 1.312 | 0.190 | 1.278 | 0.042 |
| ## | GenderMF | 0.059 | 0.047 | 1.264 | 0.206 | 0.059 | 0.040 |
| ## | F1 ~~ | | | | | | |

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##      spreadsheet      -0.012    0.084   -0.143    0.886   -0.014   -0.005
## F2 ~~
##      spreadsheet      0.090    0.093    0.968    0.333    0.094    0.031
## F3 ~~
##      spreadsheet     -0.021    0.043   -0.497    0.619   -0.052   -0.017
## Ravens ~~
##      Age              2.696    0.986    2.734    0.006    2.696    0.090
##      GenderMF         -0.070    0.046   -1.528    0.126   -0.070   -0.048
## F1 ~~
##      Ravens          -0.410    0.080   -5.142    0.000   -0.471   -0.160
## F2 ~~
##      Ravens          -0.983    0.086  -11.432    0.000   -1.029   -0.349
## F3 ~~
##      Ravens          -0.073    0.043   -1.702    0.089   -0.176   -0.060
## Age ~~
##      GenderMF        -0.061    0.160   -0.379    0.705   -0.061   -0.012
## F1 ~~
##      Age             -2.154    0.310   -6.941    0.000   -2.476   -0.242
## F2 ~~
##      Age             -3.192    0.281  -11.367    0.000   -3.341   -0.327
## F3 ~~
##      Age              0.024    0.131    0.184    0.854    0.058    0.006
## F1 ~~
##      GenderMF         0.014    0.014    0.992    0.321    0.016    0.032
## F2 ~~
##      GenderMF         0.040    0.015    2.645    0.008    0.041    0.084
## F3 ~~
##      GenderMF         0.004    0.007    0.627    0.531    0.011    0.022
## F1 ~~
##      F2               0.386    0.022   17.289    0.000    0.465    0.465
##      F3              -0.070    0.012   -6.097    0.000   -0.196   -0.196
## F2 ~~
##      F3              -0.007    0.016   -0.474    0.635   -0.019   -0.019
##
## Intercepts:
##      Estimate Std.Err z-value P(>|z|) Std.lv Std.all
## .BDI_Attrctv_qn  1.851  0.030  61.691  0.000  1.851  2.042
## .BDI_Blam_qntsd  1.880  0.028  67.386  0.000  1.880  2.149
## .BDI_Cry_qntsd   1.608  0.028  57.827  0.000  1.608  1.827
## .BDI_Dcsns_qnts  1.730  0.028  61.375  0.000  1.730  1.979
## .BDI_Dspntmnt_   1.838  0.028  65.497  0.000  1.838  2.087
## .BDI_Falr_qntsd  1.838  0.029  63.321  0.000  1.838  2.034
## .BDI_Futr_qntsd  1.865  0.028  65.850  0.000  1.865  2.103
## .BDI_Glty_qntsd  1.649  0.027  61.055  0.000  1.649  1.862
## .BDI_Hlth_qntsd  1.691  0.025  68.835  0.000  1.691  2.094
## .BDI_Intrs_I_P_  1.868  0.029  64.901  0.000  1.868  2.125
## .BDI_Irrtttd_qnt 1.867  0.028  66.237  0.000  1.867  2.103
## .BDI_Libd_qntsd  1.694  0.028  60.268  0.000  1.694  1.946
## .BDI_Pnshd_qnts  1.660  0.030  56.017  0.000  1.660  1.780
## .BDI_Sad_qntsd   1.682  0.025  68.386  0.000  1.682  2.017
## .BDI_Stsfctn_qn  1.836  0.030  62.084  0.000  1.836  1.998
## .BDI_Slep_qntsd  1.836  0.029  64.377  0.000  1.836  2.060
## .BDI_Tird_qntsd  1.914  0.027  70.442  0.000  1.914  2.263
## .BDI_wght_qntsd  1.374  0.023  60.476  0.000  1.374  1.819

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| | | | | | | | |
|----|-------------------|-------|-------|---------|-------|-------|-------|
| ## | .BDI_Work_qntsd | 1.788 | 0.027 | 65.179 | 0.000 | 1.788 | 2.040 |
| ## | .OCIR_1_quantstd | 2.392 | 0.041 | 58.871 | 0.000 | 2.392 | 2.090 |
| ## | .OCIR_10_quantstd | 1.991 | 0.041 | 48.896 | 0.000 | 1.991 | 1.793 |
| ## | .OCIR_11_quantstd | 2.203 | 0.041 | 53.208 | 0.000 | 2.203 | 1.918 |
| ## | .OCIR_12_quantstd | 2.316 | 0.041 | 56.177 | 0.000 | 2.316 | 2.052 |
| ## | .OCIR_13_quantstd | 2.424 | 0.040 | 60.536 | 0.000 | 2.424 | 2.130 |
| ## | .OCIR_14_quantstd | 2.186 | 0.043 | 51.180 | 0.000 | 2.186 | 1.865 |
| ## | .OCIR_15_quantstd | 2.398 | 0.041 | 58.107 | 0.000 | 2.398 | 2.010 |
| ## | .OCIR_16_quantstd | 2.127 | 0.042 | 51.049 | 0.000 | 2.127 | 1.844 |
| ## | .OCIR_17_quantstd | 2.178 | 0.043 | 51.149 | 0.000 | 2.178 | 1.890 |
| ## | .OCIR_18_quantstd | 2.231 | 0.042 | 52.896 | 0.000 | 2.231 | 1.977 |
| ## | .OCIR_2_quantstd | 2.642 | 0.041 | 64.103 | 0.000 | 2.642 | 2.229 |
| ## | .OCIR_3_quantstd | 2.466 | 0.040 | 61.560 | 0.000 | 2.466 | 2.143 |
| ## | .OCIR_4_quantstd | 2.220 | 0.041 | 54.210 | 0.000 | 2.220 | 1.938 |
| ## | .OCIR_5_quantstd | 2.155 | 0.041 | 52.331 | 0.000 | 2.155 | 1.859 |
| ## | .OCIR_6_quantstd | 2.380 | 0.041 | 58.370 | 0.000 | 2.380 | 2.132 |
| ## | .OCIR_7_quantstd | 2.189 | 0.039 | 55.883 | 0.000 | 2.189 | 1.995 |
| ## | .OCIR_8_quantstd | 2.266 | 0.042 | 53.357 | 0.000 | 2.266 | 1.912 |
| ## | .OCIR_9_quantstd | 2.520 | 0.040 | 62.668 | 0.000 | 2.520 | 2.185 |
| ## | .SZ_1_quantised | 1.615 | 0.015 | 104.447 | 0.000 | 1.615 | 2.896 |
| ## | .SZ_10_quantisd | 1.768 | 0.013 | 131.700 | 0.000 | 1.768 | 3.524 |
| ## | .SZ_11_quantisd | 1.579 | 0.016 | 100.608 | 0.000 | 1.579 | 3.231 |
| ## | .SZ_12_quantisd | 1.645 | 0.015 | 108.227 | 0.000 | 1.645 | 3.398 |
| ## | .SZ_13_quantisd | 1.583 | 0.016 | 101.001 | 0.000 | 1.583 | 3.279 |
| ## | .SZ_14_quantisd | 1.522 | 0.016 | 95.886 | 0.000 | 1.522 | 2.859 |
| ## | .SZ_15_quantisd | 1.537 | 0.016 | 97.016 | 0.000 | 1.537 | 2.924 |
| ## | .SZ_16_quantisd | 1.512 | 0.016 | 95.184 | 0.000 | 1.512 | 2.951 |
| ## | .SZ_17_quantisd | 1.561 | 0.016 | 98.936 | 0.000 | 1.561 | 3.063 |
| ## | .SZ_18_quantisd | 1.583 | 0.016 | 101.001 | 0.000 | 1.583 | 2.958 |
| ## | .SZ_19_quantisd | 1.555 | 0.016 | 98.413 | 0.000 | 1.555 | 3.120 |
| ## | .SZ_2_quantised | 1.612 | 0.015 | 104.099 | 0.000 | 1.612 | 2.998 |
| ## | .SZ_20_quantisd | 1.710 | 0.014 | 118.592 | 0.000 | 1.710 | 3.647 |
| ## | .SZ_21_quantisd | 1.572 | 0.016 | 99.939 | 0.000 | 1.572 | 3.186 |
| ## | .SZ_22_quantisd | 1.554 | 0.016 | 98.327 | 0.000 | 1.554 | 2.815 |
| ## | .SZ_23_quantisd | 1.598 | 0.016 | 102.547 | 0.000 | 1.598 | 3.250 |
| ## | .SZ_24_quantisd | 1.595 | 0.016 | 102.228 | 0.000 | 1.595 | 2.909 |
| ## | .SZ_25_quantisd | 1.571 | 0.016 | 99.846 | 0.000 | 1.571 | 3.120 |
| ## | .SZ_26_quantisd | 1.305 | 0.015 | 89.183 | 0.000 | 1.305 | 2.397 |
| ## | .SZ_27_quantisd | 1.296 | 0.015 | 89.329 | 0.000 | 1.296 | 2.431 |
| ## | .SZ_28_quantisd | 1.386 | 0.015 | 89.575 | 0.000 | 1.386 | 2.362 |
| ## | .SZ_29_quantisd | 1.585 | 0.016 | 101.200 | 0.000 | 1.585 | 3.236 |
| ## | .SZ_3_quantised | 1.740 | 0.014 | 124.906 | 0.000 | 1.740 | 3.418 |
| ## | .SZ_30_quantisd | 1.419 | 0.016 | 90.497 | 0.000 | 1.419 | 2.509 |
| ## | .SZ_31_quantisd | 1.289 | 0.014 | 89.474 | 0.000 | 1.289 | 2.541 |
| ## | .SZ_32_quantisd | 1.577 | 0.016 | 100.414 | 0.000 | 1.577 | 3.189 |
| ## | .SZ_33_quantisd | 1.368 | 0.015 | 89.248 | 0.000 | 1.368 | 2.804 |
| ## | .SZ_34_quantisd | 1.290 | 0.014 | 89.452 | 0.000 | 1.290 | 2.390 |
| ## | .SZ_35_quantisd | 1.774 | 0.013 | 133.384 | 0.000 | 1.774 | 3.018 |
| ## | .SZ_36_quantisd | 1.551 | 0.016 | 98.073 | 0.000 | 1.551 | 3.165 |
| ## | .SZ_37_quantisd | 1.302 | 0.015 | 89.227 | 0.000 | 1.302 | 2.064 |
| ## | .SZ_38_quantisd | 1.693 | 0.015 | 115.476 | 0.000 | 1.693 | 3.280 |
| ## | .SZ_39_quantisd | 1.290 | 0.014 | 89.452 | 0.000 | 1.290 | 2.135 |
| ## | .SZ_4_quantised | 1.690 | 0.015 | 114.957 | 0.000 | 1.690 | 3.577 |
| ## | .SZ_40_quantisd | 1.577 | 0.016 | 100.414 | 0.000 | 1.577 | 3.172 |

| | | | | | | | |
|----|-----------------|--------|-------|---------|-------|--------|-------|
| ## | .SZ_41_quantisd | 1.570 | 0.016 | 99.753 | 0.000 | 1.570 | 3.188 |
| ## | .SZ_42_quantisd | 1.559 | 0.016 | 98.760 | 0.000 | 1.559 | 3.049 |
| ## | .SZ_5_quantised | 1.725 | 0.014 | 121.607 | 0.000 | 1.725 | 2.940 |
| ## | .SZ_6_quantised | 1.715 | 0.014 | 119.568 | 0.000 | 1.715 | 3.252 |
| ## | .SZ_7_quantised | 1.580 | 0.016 | 100.705 | 0.000 | 1.580 | 3.260 |
| ## | .SZ_8_quantised | 1.714 | 0.014 | 119.370 | 0.000 | 1.714 | 2.820 |
| ## | .SZ_9_quantised | 1.620 | 0.015 | 105.037 | 0.000 | 1.620 | 3.269 |
| ## | .STAI2_Clm_qnts | 2.697 | 0.029 | 92.505 | 0.000 | 2.697 | 3.094 |
| ## | .STAI2_Cntnt_qn | 2.684 | 0.029 | 92.224 | 0.000 | 2.684 | 3.070 |
| ## | .STAI2_Dscns_qn | 2.654 | 0.029 | 91.842 | 0.000 | 2.654 | 3.065 |
| ## | .STAI2_Dffclts_ | 2.204 | 0.031 | 72.065 | 0.000 | 2.204 | 2.382 |
| ## | .STAI2_DsppntS_ | 2.194 | 0.030 | 73.103 | 0.000 | 2.194 | 2.404 |
| ## | .STAI2_Flr_qnts | 2.026 | 0.030 | 66.523 | 0.000 | 2.026 | 2.199 |
| ## | .STAI2_Hppy_qnt | 2.725 | 0.029 | 92.690 | 0.000 | 2.725 | 3.121 |
| ## | .STAI2_Hppy0th_ | 2.491 | 0.032 | 78.398 | 0.000 | 2.491 | 2.562 |
| ## | .STAI2_Indqt_qn | 2.172 | 0.031 | 69.873 | 0.000 | 2.172 | 2.332 |
| ## | .STAI2_Nrvs_qnt | 2.206 | 0.030 | 74.217 | 0.000 | 2.206 | 2.434 |
| ## | .STAI2_Plsnt_qn | 2.727 | 0.027 | 100.458 | 0.000 | 2.727 | 3.239 |
| ## | .STAI2_Rstd_qnt | 2.469 | 0.028 | 86.925 | 0.000 | 2.469 | 2.823 |
| ## | .STAI2_StsfdSl_ | 2.610 | 0.031 | 84.756 | 0.000 | 2.610 | 2.957 |
| ## | .STAI2_Scr_qnts | 2.716 | 0.030 | 89.572 | 0.000 | 2.716 | 3.063 |
| ## | .STAI2_SlfCnfd_ | 2.395 | 0.033 | 73.220 | 0.000 | 2.395 | 2.419 |
| ## | .STAI2_Stdy_qnt | 2.767 | 0.029 | 96.893 | 0.000 | 2.767 | 3.219 |
| ## | .STAI2_Tnsn_qnt | 2.218 | 0.031 | 72.603 | 0.000 | 2.218 | 2.389 |
| ## | .STAI2_Thghts_q | 1.960 | 0.029 | 68.317 | 0.000 | 1.960 | 2.167 |
| ## | .STAI2_UnmprtT_ | 2.199 | 0.030 | 72.575 | 0.000 | 2.199 | 2.424 |
| ## | .STAI2_Wrry_qnt | 2.266 | 0.031 | 72.806 | 0.000 | 2.266 | 2.415 |
| ## | .STAI_Anxs_qnts | 2.136 | 0.032 | 67.610 | 0.000 | 2.136 | 2.223 |
| ## | .propmedhigh | 0.601 | 0.027 | 21.984 | 0.000 | 0.601 | 2.870 |
| ## | spreadsheet | 3.982 | 0.095 | 41.762 | 0.000 | 3.982 | 1.327 |
| ## | Ravens | 4.458 | 0.094 | 47.626 | 0.000 | 4.458 | 1.514 |
| ## | Age | 34.293 | 0.325 | 105.506 | 0.000 | 34.293 | 3.353 |
| ## | GenderMF | 0.590 | 0.016 | 37.736 | 0.000 | 0.590 | 1.199 |
| ## | F1 | 0.000 | | | | 0.000 | 0.000 |
| ## | F2 | 0.000 | | | | 0.000 | 0.000 |
| ## | F3 | 0.000 | | | | 0.000 | 0.000 |

##

Variances:

| ## | | Estimate | Std.Err | z-value | P(> z) | Std.lv | Std.all |
|----|------------------|----------|---------|---------|---------|--------|---------|
| ## | .BDI_Attrctv_qn | 0.555 | 0.027 | 20.415 | 0.000 | 0.555 | 0.675 |
| ## | .BDI_Blam_qntsd | 0.372 | 0.020 | 18.704 | 0.000 | 0.372 | 0.486 |
| ## | .BDI_Cry_qntsd | 0.466 | 0.028 | 16.465 | 0.000 | 0.466 | 0.602 |
| ## | .BDI_Dcsns_qnts | 0.417 | 0.022 | 18.928 | 0.000 | 0.417 | 0.545 |
| ## | .BDI_Dsppntmnt_ | 0.382 | 0.021 | 18.076 | 0.000 | 0.382 | 0.492 |
| ## | .BDI_Falr_qntsd | 0.403 | 0.021 | 19.317 | 0.000 | 0.403 | 0.494 |
| ## | .BDI_Futr_qntsd | 0.393 | 0.021 | 18.722 | 0.000 | 0.393 | 0.500 |
| ## | .BDI_Glty_qntsd | 0.408 | 0.022 | 18.337 | 0.000 | 0.408 | 0.520 |
| ## | .BDI_Hlth_qntsd | 0.427 | 0.021 | 19.988 | 0.000 | 0.427 | 0.655 |
| ## | .BDI_Intrs_I_P_ | 0.468 | 0.024 | 19.789 | 0.000 | 0.468 | 0.606 |
| ## | .BDI_Irrtttd_qnt | 0.439 | 0.021 | 20.558 | 0.000 | 0.439 | 0.557 |
| ## | .BDI_Libd_qntsd | 0.545 | 0.029 | 18.813 | 0.000 | 0.545 | 0.719 |
| ## | .BDI_Pnshd_qnts | 0.537 | 0.031 | 17.148 | 0.000 | 0.537 | 0.617 |
| ## | .BDI_Sad_qntsd | 0.320 | 0.019 | 16.896 | 0.000 | 0.320 | 0.460 |
| ## | .BDI_Stsfctn_qn | 0.500 | 0.026 | 19.209 | 0.000 | 0.500 | 0.592 |

| | | | | | | | |
|----|-----------------|-------|-------|--------|-------|-------|-------|
| ## | .BDI_Slep_qntsd | 0.594 | 0.028 | 21.251 | 0.000 | 0.594 | 0.747 |
| ## | .BDI_Tird_qntsd | 0.459 | 0.023 | 20.059 | 0.000 | 0.459 | 0.641 |
| ## | .BDI_wght_qntsd | 0.405 | 0.029 | 14.015 | 0.000 | 0.405 | 0.711 |
| ## | .BDI_Work_qntsd | 0.403 | 0.020 | 20.155 | 0.000 | 0.403 | 0.525 |
| ## | .OCIR_1_quant | 0.807 | 0.037 | 22.069 | 0.000 | 0.807 | 0.617 |
| ## | .OCIR_10_quant | 0.558 | 0.034 | 16.194 | 0.000 | 0.558 | 0.453 |
| ## | .OCIR_11_quant | 0.662 | 0.037 | 17.861 | 0.000 | 0.662 | 0.502 |
| ## | .OCIR_12_quant | 0.710 | 0.032 | 21.876 | 0.000 | 0.710 | 0.557 |
| ## | .OCIR_13_quant | 0.947 | 0.043 | 22.104 | 0.000 | 0.947 | 0.731 |
| ## | .OCIR_14_quant | 0.738 | 0.043 | 17.077 | 0.000 | 0.738 | 0.538 |
| ## | .OCIR_15_quant | 0.946 | 0.048 | 19.654 | 0.000 | 0.946 | 0.664 |
| ## | .OCIR_16_quant | 0.730 | 0.041 | 17.883 | 0.000 | 0.730 | 0.548 |
| ## | .OCIR_17_quant | 0.660 | 0.038 | 17.356 | 0.000 | 0.660 | 0.497 |
| ## | .OCIR_18_quant | 0.664 | 0.034 | 19.238 | 0.000 | 0.664 | 0.521 |
| ## | .OCIR_2_quant | 0.961 | 0.039 | 24.461 | 0.000 | 0.961 | 0.684 |
| ## | .OCIR_3_quant | 0.905 | 0.043 | 20.819 | 0.000 | 0.905 | 0.683 |
| ## | .OCIR_4_quant | 0.671 | 0.037 | 18.375 | 0.000 | 0.671 | 0.511 |
| ## | .OCIR_5_quant | 0.764 | 0.044 | 17.253 | 0.000 | 0.764 | 0.569 |
| ## | .OCIR_6_quant | 0.723 | 0.032 | 22.511 | 0.000 | 0.723 | 0.581 |
| ## | .OCIR_7_quant | 0.797 | 0.038 | 21.000 | 0.000 | 0.797 | 0.662 |
| ## | .OCIR_8_quant | 0.795 | 0.042 | 18.805 | 0.000 | 0.795 | 0.566 |
| ## | .OCIR_9_quant | 0.904 | 0.042 | 21.668 | 0.000 | 0.904 | 0.679 |
| ## | .SZ_1_quant | 0.149 | 0.008 | 18.601 | 0.000 | 0.149 | 0.480 |
| ## | .SZ_10_quant | 0.119 | 0.006 | 18.757 | 0.000 | 0.119 | 0.475 |
| ## | .SZ_11_quant | 0.178 | 0.006 | 31.630 | 0.000 | 0.178 | 0.745 |
| ## | .SZ_12_quant | 0.169 | 0.007 | 25.862 | 0.000 | 0.169 | 0.720 |
| ## | .SZ_13_quant | 0.165 | 0.005 | 30.114 | 0.000 | 0.165 | 0.706 |
| ## | .SZ_14_quant | 0.163 | 0.007 | 22.702 | 0.000 | 0.163 | 0.574 |
| ## | .SZ_15_quant | 0.162 | 0.007 | 24.800 | 0.000 | 0.162 | 0.588 |
| ## | .SZ_16_quant | 0.190 | 0.006 | 29.799 | 0.000 | 0.190 | 0.722 |
| ## | .SZ_17_quant | 0.177 | 0.006 | 28.241 | 0.000 | 0.177 | 0.683 |
| ## | .SZ_18_quant | 0.154 | 0.007 | 23.008 | 0.000 | 0.154 | 0.539 |
| ## | .SZ_19_quant | 0.177 | 0.006 | 29.102 | 0.000 | 0.177 | 0.713 |
| ## | .SZ_2_quant | 0.154 | 0.008 | 20.034 | 0.000 | 0.154 | 0.531 |
| ## | .SZ_20_quant | 0.123 | 0.006 | 21.571 | 0.000 | 0.123 | 0.557 |
| ## | .SZ_21_quant | 0.164 | 0.006 | 27.710 | 0.000 | 0.164 | 0.674 |
| ## | .SZ_22_quant | 0.163 | 0.007 | 22.434 | 0.000 | 0.163 | 0.535 |
| ## | .SZ_23_quant | 0.165 | 0.006 | 27.641 | 0.000 | 0.165 | 0.682 |
| ## | .SZ_24_quant | 0.178 | 0.008 | 23.352 | 0.000 | 0.178 | 0.593 |
| ## | .SZ_25_quant | 0.187 | 0.006 | 30.150 | 0.000 | 0.187 | 0.737 |
| ## | .SZ_26_quant | 0.226 | 0.009 | 26.341 | 0.000 | 0.226 | 0.764 |
| ## | .SZ_27_quant | 0.218 | 0.009 | 24.766 | 0.000 | 0.218 | 0.766 |
| ## | .SZ_28_quant | 0.206 | 0.009 | 22.723 | 0.000 | 0.206 | 0.597 |
| ## | .SZ_29_quant | 0.207 | 0.005 | 40.205 | 0.000 | 0.207 | 0.864 |
| ## | .SZ_3_quant | 0.135 | 0.007 | 17.980 | 0.000 | 0.135 | 0.519 |
| ## | .SZ_30_quant | 0.208 | 0.008 | 24.841 | 0.000 | 0.208 | 0.651 |
| ## | .SZ_31_quant | 0.206 | 0.008 | 25.839 | 0.000 | 0.206 | 0.799 |
| ## | .SZ_32_quant | 0.193 | 0.006 | 33.945 | 0.000 | 0.193 | 0.791 |
| ## | .SZ_33_quant | 0.204 | 0.005 | 37.434 | 0.000 | 0.204 | 0.857 |
| ## | .SZ_34_quant | 0.222 | 0.009 | 25.307 | 0.000 | 0.222 | 0.761 |
| ## | .SZ_35_quant | 0.147 | 0.009 | 17.302 | 0.000 | 0.147 | 0.427 |
| ## | .SZ_36_quant | 0.178 | 0.006 | 31.427 | 0.000 | 0.178 | 0.741 |
| ## | .SZ_37_quant | 0.232 | 0.010 | 22.767 | 0.000 | 0.232 | 0.584 |
| ## | .SZ_38_quant | 0.144 | 0.007 | 21.426 | 0.000 | 0.144 | 0.541 |

```
## .SZ_39_quantisd 0.235 0.011 21.095 0.000 0.235 0.643
## .SZ_4_quantised 0.146 0.007 22.383 0.000 0.146 0.656
## .SZ_40_quantisd 0.193 0.006 32.916 0.000 0.193 0.780
## .SZ_41_quantisd 0.175 0.006 30.163 0.000 0.175 0.723
## .SZ_42_quantisd 0.165 0.007 25.171 0.000 0.165 0.630
## .SZ_5_quantised 0.135 0.008 16.056 0.000 0.135 0.391
## .SZ_6_quantised 0.137 0.007 19.494 0.000 0.137 0.493
## .SZ_7_quantised 0.170 0.006 30.022 0.000 0.170 0.724
## .SZ_8_quantised 0.144 0.009 16.425 0.000 0.144 0.390
## .SZ_9_quantised 0.161 0.006 25.920 0.000 0.161 0.654
## .STAI2_Clm_qnts 0.403 0.019 21.337 0.000 0.403 0.530
## .STAI2_Cntnt_qn 0.432 0.021 20.284 0.000 0.432 0.566
## .STAI2_Dscns_qn 0.451 0.020 22.621 0.000 0.451 0.602
## .STAI2_Dffclts_ 0.467 0.022 21.139 0.000 0.467 0.546
## .STAI2_DsppntS_ 0.529 0.025 21.370 0.000 0.529 0.635
## .STAI2_Flr_qnts 0.417 0.021 19.576 0.000 0.417 0.491
## .STAI2_Hppy_qnt 0.363 0.017 21.707 0.000 0.363 0.476
## .STAI2_Hppy0th_ 0.687 0.030 22.652 0.000 0.687 0.727
## .STAI2_Indqt_qn 0.509 0.027 19.094 0.000 0.509 0.586
## .STAI2_Nrvs_qnt 0.440 0.021 20.725 0.000 0.440 0.536
## .STAI2_Plsnt_qn 0.310 0.016 19.604 0.000 0.310 0.437
## .STAI2_Rstd_qnt 0.527 0.025 20.869 0.000 0.527 0.689
## .STAI2_StsfdSl_ 0.367 0.016 23.098 0.000 0.367 0.471
## .STAI2_Scr_qnts 0.420 0.020 20.737 0.000 0.420 0.535
## .STAI2_SlfCnfd_ 0.738 0.031 23.624 0.000 0.738 0.753
## .STAI2_Stdy_qnt 0.365 0.020 18.468 0.000 0.365 0.493
## .STAI2_Tnsn_qnt 0.450 0.022 20.459 0.000 0.450 0.522
## .STAI2_Thghts_q 0.376 0.019 20.080 0.000 0.376 0.460
## .STAI2_UnmprtT_ 0.498 0.022 22.233 0.000 0.498 0.605
## .STAI2_Wrry_qnt 0.568 0.025 23.055 0.000 0.568 0.645
## .STAI_Anxs_qnts 0.533 0.027 20.016 0.000 0.533 0.577
## .propmedhigh 0.041 0.002 24.811 0.000 0.041 0.947
## spreadsheet 9.000 0.003 2595.746 0.000 9.000 1.000
## Ravens 8.672 0.335 25.891 0.000 8.672 1.000
## Age 104.591 6.150 17.008 0.000 104.591 1.000
## GenderMF 0.242 0.003 86.073 0.000 0.242 1.000
## F1 0.757 0.029 26.127 0.000 1.000 1.000
## F2 0.912 0.036 25.590 0.000 1.000 1.000
## F3 0.170 0.012 14.421 0.000 1.000 1.000
```

```
ESEMfits <-data.frame(fitMeasures(fititem.factors, c("bic","aic","rmsea","rmsea.ci.lower", "rmsea.ci.upper"),
names(ESEMfits) <- "p(mid as high)"
rownames(ESEMfits) <- c("BIC", "AIC", "RMSEA", "RMSEA CI-", "RMSEA CI+")

kable(t(ESEMfits), digits = 3)
```

| | BIC | AIC | RMSEA | RMSEA CI- | RMSEA CI+ |
|----------------|----------|----------|-------|-----------|-----------|
| p(mid as high) | 199655.2 | 198474.8 | 0.051 | 0.05 | 0.052 |

Interpretation

In this ESEM we show that the AnxDepression factor (F1) alone significantly influences task performance.

Zooming out, both the simple regression and the ESEM agree that of mental health-relevant symptoms, task performance is driven by symptoms of mood and anxiety disorders and not OCD or Psychosis symptoms. This suggests that our original clinical study in mood and anxiety disorders did not reflect a generic pathology, but rather that effects may be selective to the mood and anxiety symptom group that we originally tested. This also suggests that we must also control for age and IQ if we ever want to use this to inform clinical decision-making.