Primary Parent Qualtrics Codebook

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Contents

1 Affective Reactivity Index

Citation:
Stringaris, A. , Goodman, R. , Ferdinando, S. , Razdan, V. , Muhrer, E. , Leibenluft, E. and Brotman, M. A. (2012), The Affective Reactivity Index: a concise irritability scale for clinical and research settings. *Journal of Child Psychology and Psychiatry, 53*, 1109-1117. doi:10.1111/j.1469-7610.2012.02561.x

Measure Description:
The measure was originally desgined to measure children's emotional irritability. In the parent report version of the scale, parents are asked to respond to a series of statements related to their children's emotional responses over the past *six months.* Six statements tap general emotional irritability and a seventh item assesses impairment due to irritability.

[*MB Note - 06/11/18* - Determined that the Qualtrics questionnaires did indeed ask about the past 6 months at all three time points. This presents a potential problem as the intervention did not take 6 months to complete. Certainly, this questionnaire seems perfectly apporpriate, given the wording, for the one year follow-up.]

Additional Reference(s):

Response Options:
0 = Not True
1 = Somewhat True
2 = Certainly True

Item Information:
1. ARI_1: Easily annoyed by others
2. ARI_2: Often loses temper
3. ARI_3: Stays amgry for a long time
4. ARI_4: Angry most of the time
5. ARI_5: Gets angry frequently
6. ARI_6: Loses temper easily
7. ARI_7: Overall, irritability causes him/her problems

Subscale Information:
Irritability: 1-6
Impairment: 7

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

1.1 TIME 1: COMPLETE SCALE

1.1.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(ARI.all_T1[,c(3:9)], trim=F, quant=c(.25,.75), ranges=F)
```

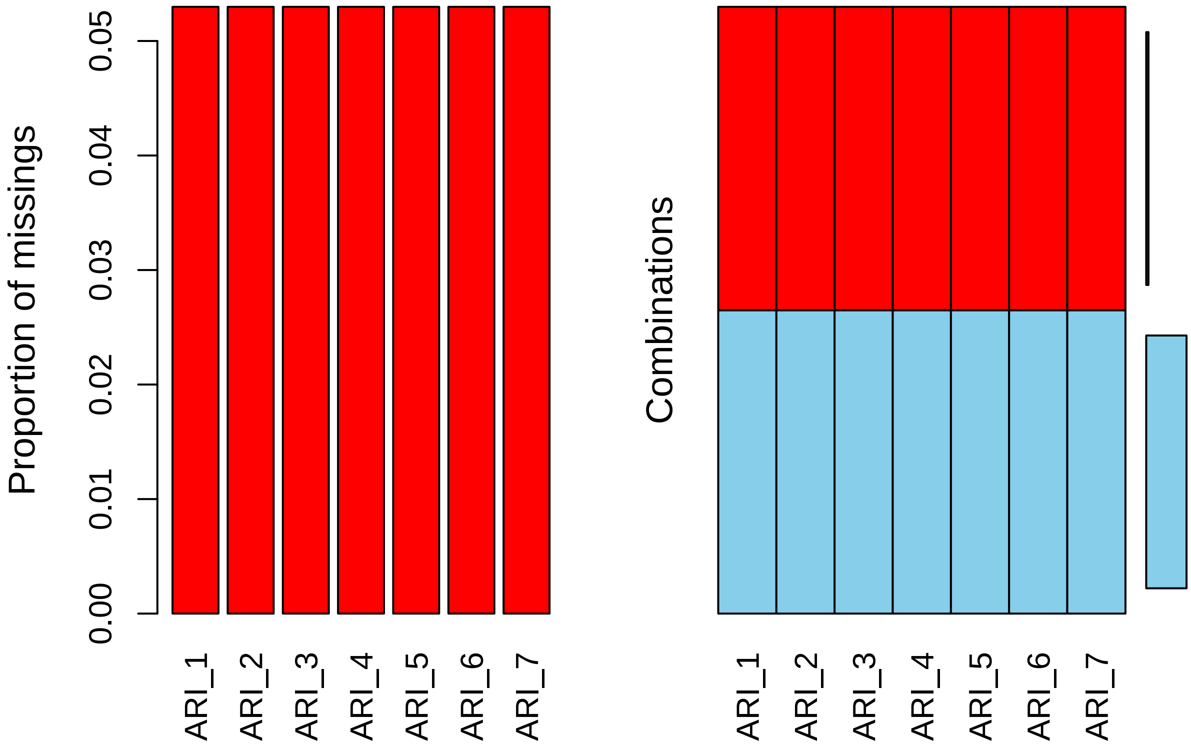
```
##       vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1    1 143 0.44 0.58 0.89    -0.24 0.05     0   1.0
## ARI_2    2 143 0.45 0.65 1.10     0.03 0.05     0   1.0
## ARI_3    3 143 0.21 0.47 2.17     4.00 0.04     0   0.0
## ARI_4    4 143 0.03 0.22 6.82    50.01 0.02     0   0.0
## ARI_5    5 143 0.30 0.56 1.67     1.80 0.05     0   0.5
## ARI_6    6 143 0.41 0.61 1.20     0.36 0.05     0   1.0
## ARI_7    7 143 0.27 0.55 1.86     2.49 0.05     0   0.0
```

```
#Calculating Summary Scores:
ARI.all_T1$ARI_tot<-rowSums(ARI.all_T1[,3:9])  #inclunding na.rm=T results in 0's

ARI.all_T1$Miss_tot<-rep(NA, nrow(ARI.all_T1))
for(n in 1:nrow(ARI.all_T1)){
  ARI.all_T1$Miss_tot[n]<-sum(is.na(ARI.all_T1[n,3:9])==TRUE)
}

ARI.all_T1$Miss_per<-rep(NA, nrow(ARI.all_T1))
for(n in 1:nrow(ARI.all_T1)){
  ARI.all_T1$Miss_per[n]<-round(sum(is.na(ARI.all_T1[n,3:9])==TRUE)/ncol(ARI.all_T1[3:9])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
ARI.all_T1$ARI_avg<-rowMeans(ARI.all_T1[,3:9])

#Creating variable with individual mean replacement if respondent completed >85% of items
ARI.all_T1$ARI_avg_MR85<-ifelse(ARI.all_T1$Miss_per<15, rowMeans(ARI.all_T1[,3:9],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(ARI.all_T1[,c(10,13,14)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 143 2.12 2.85 1.74     2.85 0.24     0  3.00
## ARI_avg         2 143 0.30 0.41 1.74     2.85 0.03     0  0.43
## ARI_avg_MR85    3 143 0.30 0.41 1.74     2.85 0.03     0  0.43
```

1.1.2 MISSING DATA

```
VIM::aggr(ARI.all_T1[,3:9])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right. *Missing Data Notes:*

1. Missing pattern 1: Subjects 005, 028, 038, 096, 099, 116, 125, and 147 failed to respond to any of the ARI items; $N = 8$; 4.64% 4.

2. Missing pattern 2: All items completed; $N = 143$; 94.7%

The variable `ARI_tot` is the vector of individual summed ARI scores - 005, 028, 038, 096, 099, 116, 125, and 147 are dropped from this summary variable (see above).

The varaible `ARI_avg` is the vector of individual mean ARI scores - 005, 028, 038, 096, 099, 116, 125, and 147 are dropped from this summary variable (see above).

The variable `ARI_avg_MR85` is a vector of individual mean ARI scores that includes estimated averages when at least 85% of the necessary data is available - note that the only missing pattern was complete missingness, which means `ARI_avg` is the equivalent of `ARI_avg_MR85`. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T1 to report.

1.1.3 CRONBACH'S ALPHA

```
psych::alpha(ARI.all_T1[,3:9], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = ARI.all_T1[, 3:9], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.88    0.89      0.51 7.3 0.013  0.3 0.41     0.46
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.88 0.91
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## ARI_1      0.89      0.88    0.89      0.56 7.6    0.011 0.031  0.60
```

```
## ARI_2      0.85      0.85    0.85      0.49 5.7    0.017 0.027  0.45
## ARI_3      0.86      0.86    0.87      0.51 6.2    0.015 0.034  0.46
## ARI_4      0.89      0.89    0.89      0.58 8.3    0.013 0.021  0.60
## ARI_5      0.84      0.84    0.84      0.47 5.3    0.018 0.024  0.45
## ARI_6      0.85      0.85    0.85      0.49 5.8    0.017 0.024  0.46
## ARI_7      0.85      0.85    0.85      0.49 5.7    0.016 0.031  0.46
##
##  Item statistics
##         n raw.r std.r r.cor r.drop  mean   sd
## ARI_1 143  0.63  0.63  0.52   0.48 0.441 0.58
## ARI_2 143  0.87  0.84  0.82   0.79 0.455 0.65
## ARI_3 143  0.76  0.77  0.72   0.68 0.210 0.47
## ARI_4 143  0.48  0.57  0.45   0.41 0.035 0.22
## ARI_5 143  0.89  0.88  0.89   0.84 0.301 0.56
## ARI_6 143  0.85  0.82  0.81   0.77 0.406 0.61
## ARI_7 143  0.82  0.83  0.81   0.74 0.273 0.55
##
## Non missing response frequency for each item
##          0    1    2 miss
## ARI_1 0.60 0.36 0.04 0.05
## ARI_2 0.63 0.29 0.08 0.05
## ARI_3 0.82 0.15 0.03 0.05
## ARI_4 0.97 0.02 0.01 0.05
## ARI_5 0.75 0.20 0.05 0.05
## ARI_6 0.66 0.28 0.06 0.05
## ARI_7 0.78 0.17 0.05 0.05
```

1.1.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
ARI.all_T1$Group.R<-ifelse(ARI.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(ARI.all_T1[,c(3:9,15)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1       1 71 0.41 0.55 0.87    -0.36 0.07     0     1
## ARI_2       2 71 0.35 0.59 1.41     0.92 0.07     0     1
## ARI_3       3 71 0.13 0.38 2.96     8.64 0.04     0     0
## ARI_4       4 71 0.04 0.20 4.46    18.10 0.02     0     0
## ARI_5       5 71 0.23 0.48 2.00     3.24 0.06     0     0
## ARI_6       6 71 0.37 0.57 1.22     0.48 0.07     0     1
## ARI_7       7 71 0.21 0.50 2.30     4.45 0.06     0     0
## Group.R*    8 76  NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1       1 72 0.47 0.60 0.86    -0.31 0.07     0  1.00
## ARI_2       2 72 0.56 0.69 0.82    -0.57 0.08     0  1.00
## ARI_3       3 72 0.29 0.54 1.65     1.77 0.06     0  0.25
## ARI_4       4 72 0.03 0.24 8.14    65.08 0.03     0  0.00
## ARI_5       5 72 0.38 0.62 1.37     0.73 0.07     0  1.00
## ARI_6       6 72 0.44 0.65 1.12     0.07 0.08     0  1.00
## ARI_7       7 72 0.33 0.58 1.51     1.21 0.07     0  1.00
## Group.R*    8 75  NaN   NA   NA       NA   NA    NA    NA
```

```
psych::describeBy(ARI.all_T1[,c(10, 13:15)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

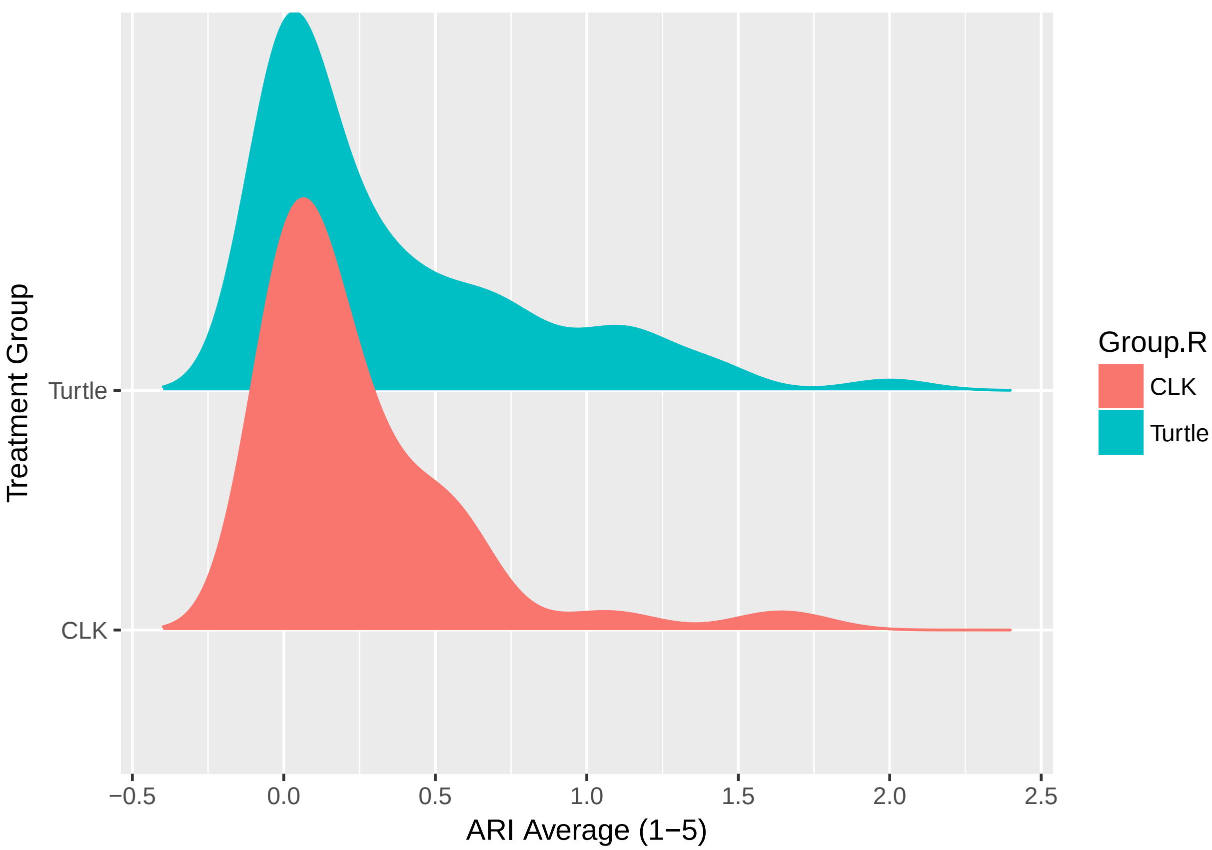
```
##
##  Descriptive statistics by group
## group: CLK
```

```
##               vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot          1 71 1.73 2.43 2.23      5.7 0.29     0  2.50
## ARI_avg          2 71 0.25 0.35 2.23      5.7 0.04     0  0.36
## ARI_avg_MR85     3 71 0.25 0.35 2.23      5.7 0.04     0  0.36
## Group.R*         4 76  NaN   NA   NA       NA   NA    NA    NA
## ----------------------------------------------------------
## group: Turtle
##               vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot          1 72 2.50 3.19 1.35     1.25 0.38     0  4.00
## ARI_avg          2 72 0.36 0.46 1.35     1.25 0.05     0  0.57
## ARI_avg_MR85     3 72 0.36 0.46 1.35     1.25 0.05     0  0.57
## Group.R*         4 75  NaN   NA   NA       NA   NA    NA    NA
```

1.1.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
#Groups do not differ on average ARI scores
t.test(ARI.all_T1$ARI_avg_MR85~ARI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  ARI.all_T1$ARI_avg_MR85 by ARI.all_T1$Group
## t = -1.62, df = 132.42, p-value = 0.1076
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.24354948  0.02423359
## sample estimates:
## mean in group 0 mean in group 1
##       0.2474849       0.3571429
```



1.1.6 TIME 1: SUBSCALES

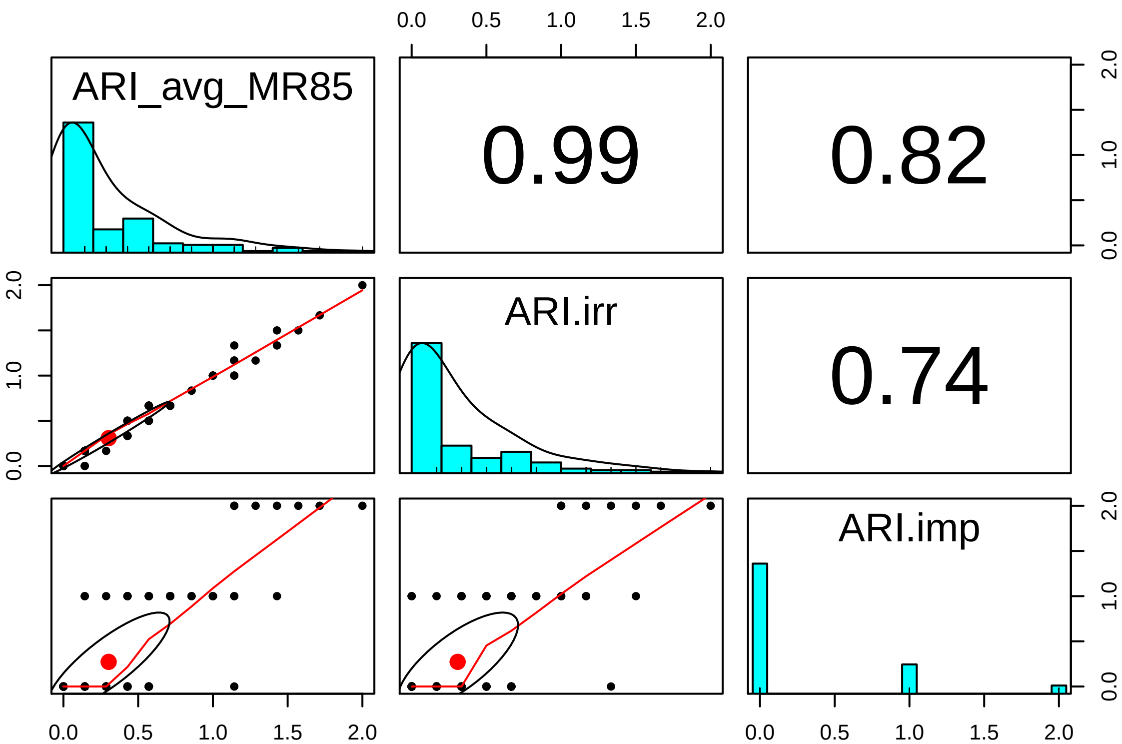
Note that this code is being used in the this format to remain consistent with the data processing approach used for other scales in the study. That being said the variable `ARI_7` will be entirely collinear with `ARI.irr`. More succintly, they are the same.

1.1.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(ARI.all_T1[,c(16:17)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##         vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI.irr    1 143 0.31 0.40 1.66     2.67 0.03     0   0.5
## ARI.imp    2 143 0.27 0.55 1.86     2.49 0.05     0   0.0
```

```
psych::pairs.panels(ARI.all_T1[,c(14,16,17)])
```



1.1.6.2 CRONBACH'S ALPHA: IRRITABILITY SUBSCALE

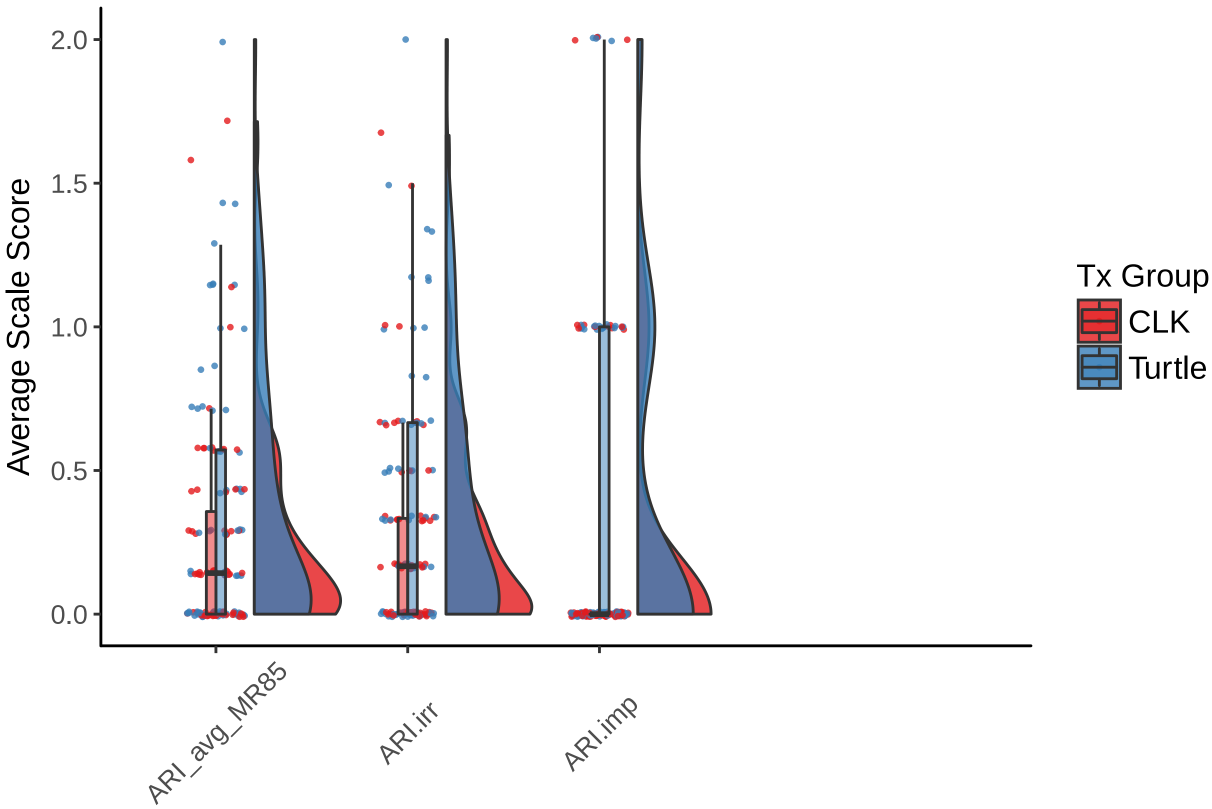
```
psych::alpha(ARI.all_T1[ARI.irr], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = ARI.all_T1[ARI.irr], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.85      0.85    0.85      0.49 5.7 0.016 0.31 0.4     0.46
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.85 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.79 0.85 0.89
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## ARI_1      0.86      0.85    0.85      0.53 5.7    0.014 0.040  0.58
## ARI_2      0.80      0.80    0.80      0.45 4.1    0.022 0.027  0.38
## ARI_3      0.83      0.82    0.83      0.48 4.6    0.019 0.039  0.43
## ARI_4      0.87      0.87    0.86      0.57 6.7    0.016 0.023  0.58
```

```
## ARI_5      0.79      0.79    0.79      0.43 3.8    0.023 0.026  0.37
## ARI_6      0.80      0.81    0.79      0.45 4.1    0.022 0.022  0.42
##
##  Item statistics
##          n raw.r std.r r.cor r.drop  mean   sd
## ARI_1 143  0.66  0.66  0.54   0.49 0.441 0.58
## ARI_2 143  0.87  0.84  0.82   0.78 0.455 0.65
## ARI_3 143  0.76  0.77  0.71   0.66 0.210 0.47
## ARI_4 143  0.46  0.57  0.42   0.38 0.035 0.22
## ARI_5 143  0.88  0.87  0.87   0.81 0.301 0.56
## ARI_6 143  0.86  0.83  0.83   0.77 0.406 0.61
##
## Non missing response frequency for each item
##          0    1    2 miss
## ARI_1 0.60 0.36 0.04 0.05
## ARI_2 0.63 0.29 0.08 0.05
## ARI_3 0.82 0.15 0.03 0.05
## ARI_4 0.97 0.02 0.01 0.05
## ARI_5 0.75 0.20 0.05 0.05
## ARI_6 0.66 0.28 0.06 0.05
```

1.1.6.3 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(ARI.all_T1[,14:17], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T1 Folder:

`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:

- `/ARI_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/ARI_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/ARI_T1_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

1.2 TIME 2: COMPLETE SCALE

1.2.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(ARI.all_T2[,c(3:9)], trim=F, quant=c(.25,.75), ranges=F)
```

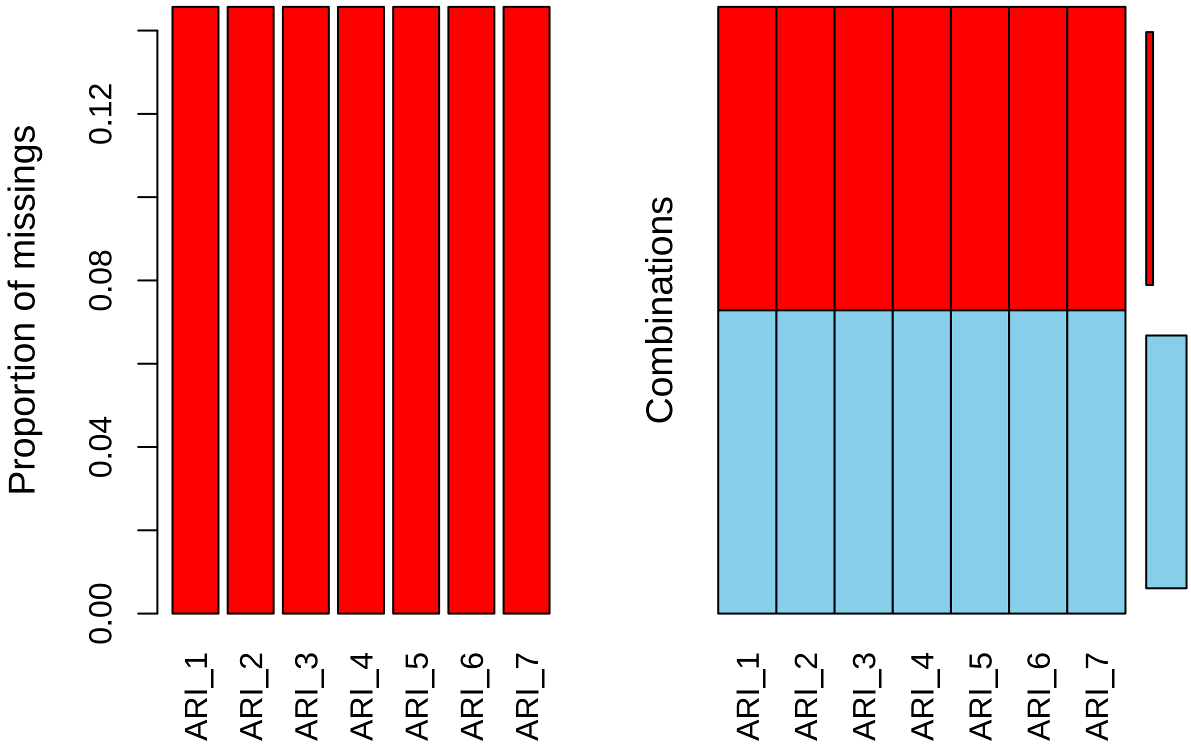
```
##       vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1    1 129 0.42 0.54 0.76    -0.58 0.05     0     1
## ARI_2    2 129 0.47 0.65 1.06    -0.05 0.06     0     1
## ARI_3    3 129 0.22 0.50 2.23     4.17 0.04     0     0
## ARI_4    4 129 0.05 0.21 4.26    16.25 0.02     0     0
## ARI_5    5 129 0.28 0.57 1.90     2.50 0.05     0     0
## ARI_6    6 129 0.41 0.63 1.25     0.40 0.06     0     1
## ARI_7    7 129 0.28 0.57 1.90     2.50 0.05     0     0
```

```
#Calculating Summary Scores:
ARI.all_T2$ARI_tot<-rowSums(ARI.all_T2[,3:9])  #inclunding na.rm=T results in 0's

ARI.all_T2$Miss_tot<-rep(NA, nrow(ARI.all_T2))
for(n in 1:nrow(ARI.all_T2)){
  ARI.all_T2$Miss_tot[n]<-sum(is.na(ARI.all_T2[n,3:9])==TRUE)
}

ARI.all_T2$Miss_per<-rep(NA, nrow(ARI.all_T2))
for(n in 1:nrow(ARI.all_T2)){
  ARI.all_T2$Miss_per[n]<-round(sum(is.na(ARI.all_T2[n,3:9])==TRUE)/ncol(ARI.all_T2[3:9])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
ARI.all_T2$ARI_avg<-rowMeans(ARI.all_T2[,3:9])

#Creating variable with individual mean replacement if respondent completed >85% of items
ARI.all_T2$ARI_avg_MR85<-ifelse(ARI.all_T2$Miss_per<15, rowMeans(ARI.all_T2[,3:9],
                                                              na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(ARI.all_T2[,c(10,13,14)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 129 2.12 2.99 1.73     2.61 0.26     0  3.00
## ARI_avg         2 129 0.30 0.43 1.73     2.61 0.04     0  0.43
## ARI_avg_MR85    3 129 0.30 0.43 1.73     2.61 0.04     0  0.43
```

1.2.2 MISSING DATA

```
VIM::aggr(ARI.all_T2[,3:9])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right. *Missing Data Notes:*

1. Missing pattern 1: Subjects 011, 017, 019, 027, 028, 029, 030, 031, 038, 039, 041, 045, 047, 037, 096, 113, 114, 116, 125, 132, 142, 154, and 155 failed to respond to any of the ARI items; $N = 23$; 15.23%

2. Missing pattern 2: All items completed; $N =$; 84.77%

The variable `ARI_tot` is the vector of individual summed ARI scores

The varaible `ARI_avg` is the vector of individual mean ARI scores

The variable `ARI_avg_MR85` is a vector of individual mean ARI scores that includes estimated averages when at least 85% of the necessary data is available - note that the only missing pattern was complete missingness, which means `ARI_avg` is the equivalent of `ARI_avg_MR85`. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T2 to report.

1.2.3 CRONBACH'S ALPHA

```
psych::alpha(ARI.all_T2[,3:9], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = ARI.all_T2[, 3:9], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.9       0.9    0.91      0.57 9.3 0.011  0.3 0.43     0.54
##
##  lower alpha upper     95% confidence boundaries
## 0.88 0.9 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.85 0.9 0.93
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## ARI_1      0.90      0.91    0.90      0.62 9.6    0.011 0.012  0.61
## ARI_2      0.87      0.88    0.87      0.54 7.1    0.015 0.015  0.52
## ARI_3      0.89      0.89    0.89      0.58 8.5    0.012 0.017  0.54
```

```
## ARI_4      0.90      0.90    0.90      0.60 9.2    0.012 0.018  0.61
## ARI_5      0.86      0.87    0.88      0.54 6.9    0.015 0.015  0.52
## ARI_6      0.86      0.88    0.87      0.54 7.1    0.015 0.014  0.54
## ARI_7      0.88      0.89    0.89      0.57 7.9    0.012 0.022  0.54
##
##  Item statistics
##         n raw.r std.r r.cor r.drop  mean   sd
## ARI_1 129  0.68  0.67  0.60   0.56 0.419 0.54
## ARI_2 129  0.89  0.87  0.87   0.83 0.465 0.65
## ARI_3 129  0.75  0.76  0.70   0.66 0.217 0.50
## ARI_4 129  0.63  0.70  0.62   0.59 0.047 0.21
## ARI_5 129  0.89  0.89  0.88   0.84 0.279 0.57
## ARI_6 129  0.89  0.87  0.87   0.83 0.411 0.63
## ARI_7 129  0.80  0.80  0.76   0.71 0.279 0.57
##
## Non missing response frequency for each item
##          0    1    2 miss
## ARI_1 0.60 0.37 0.02 0.15
## ARI_2 0.62 0.29 0.09 0.15
## ARI_3 0.82 0.14 0.04 0.15
## ARI_4 0.95 0.05 0.00 0.15
## ARI_5 0.78 0.16 0.06 0.15
## ARI_6 0.67 0.26 0.08 0.15
## ARI_7 0.78 0.16 0.06 0.15
```

1.2.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
ARI.all_T2$Group.R<-ifelse(ARI.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(ARI.all_T2[,c(3:9,15)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1       1 63 0.37 0.52 0.89    -0.50 0.07     0     1
## ARI_2       2 63 0.40 0.64 1.31     0.50 0.08     0     1
## ARI_3       3 63 0.11 0.36 3.34    11.31 0.05     0     0
## ARI_4       4 63 0.05 0.21 4.15    15.45 0.03     0     0
## ARI_5       5 63 0.22 0.55 2.33     4.23 0.07     0     0
## ARI_6       6 63 0.40 0.64 1.31     0.50 0.08     0     1
## ARI_7       7 63 0.21 0.51 2.39     4.77 0.06     0     0
## Group.R*    8 76  NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1       1 66 0.47 0.56 0.63    -0.72 0.07     0  1.00
## ARI_2       2 66 0.53 0.66 0.83    -0.46 0.08     0  1.00
## ARI_3       3 66 0.32 0.59 1.62     1.54 0.07     0  0.75
## ARI_4       4 66 0.05 0.21 4.27    16.44 0.03     0  0.00
## ARI_5       5 66 0.33 0.59 1.54     1.26 0.07     0  1.00
## ARI_6       6 66 0.42 0.63 1.17     0.21 0.08     0  1.00
## ARI_7       7 66 0.35 0.62 1.53     1.13 0.08     0  1.00
## Group.R*    8 75  NaN   NA   NA       NA   NA    NA    NA
```

```
psych::describeBy(ARI.all_T2[,c(10, 13:15)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

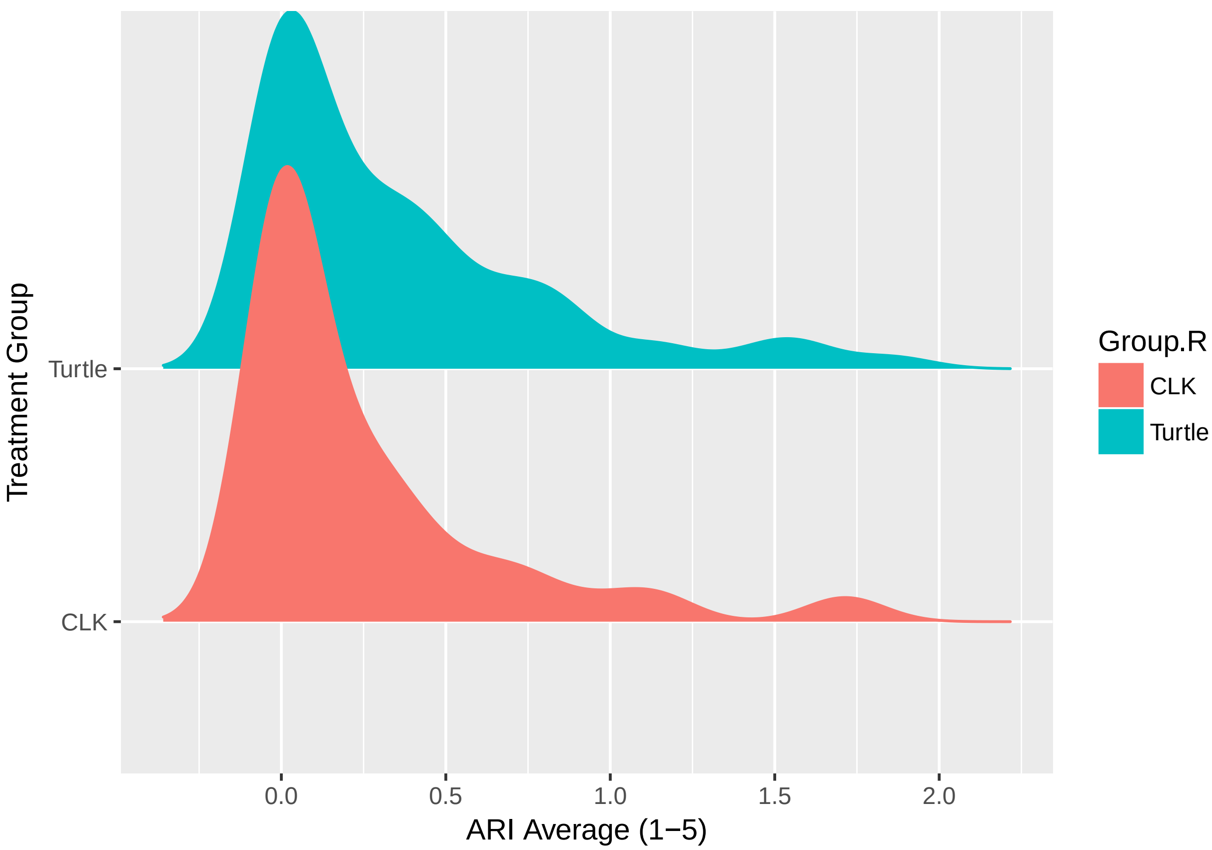
```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 63 1.75 2.81 2.01     3.86 0.35     0  2.00
```

```
## ARI_avg          2 63 0.25 0.40 2.01      3.86 0.05     0  0.29
## ARI_avg_MR85     3 63 0.25 0.40 2.01      3.86 0.05     0  0.29
## Group.R*         4 76  NaN   NA   NA        NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##              vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 66 2.47 3.13 1.49     1.71 0.39     0  3.75
## ARI_avg         2 66 0.35 0.45 1.49     1.71 0.06     0  0.54
## ARI_avg_MR85    3 66 0.35 0.45 1.49     1.71 0.06     0  0.54
## Group.R*        4 75  NaN   NA   NA       NA   NA    NA    NA
```

1.2.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average ARI scores
t.test(ARI.all_T2$ARI_avg_MR85~ARI.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  ARI.all_T2$ARI_avg_MR85 by ARI.all_T2$Group
## t = -1.383, df = 126.54, p-value = 0.1691
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.25130140  0.04453991
## sample estimates:
## mean in group 0 mean in group 1
##       0.2494331       0.3528139
```



1.2.6 Time 2: SUBSCALES

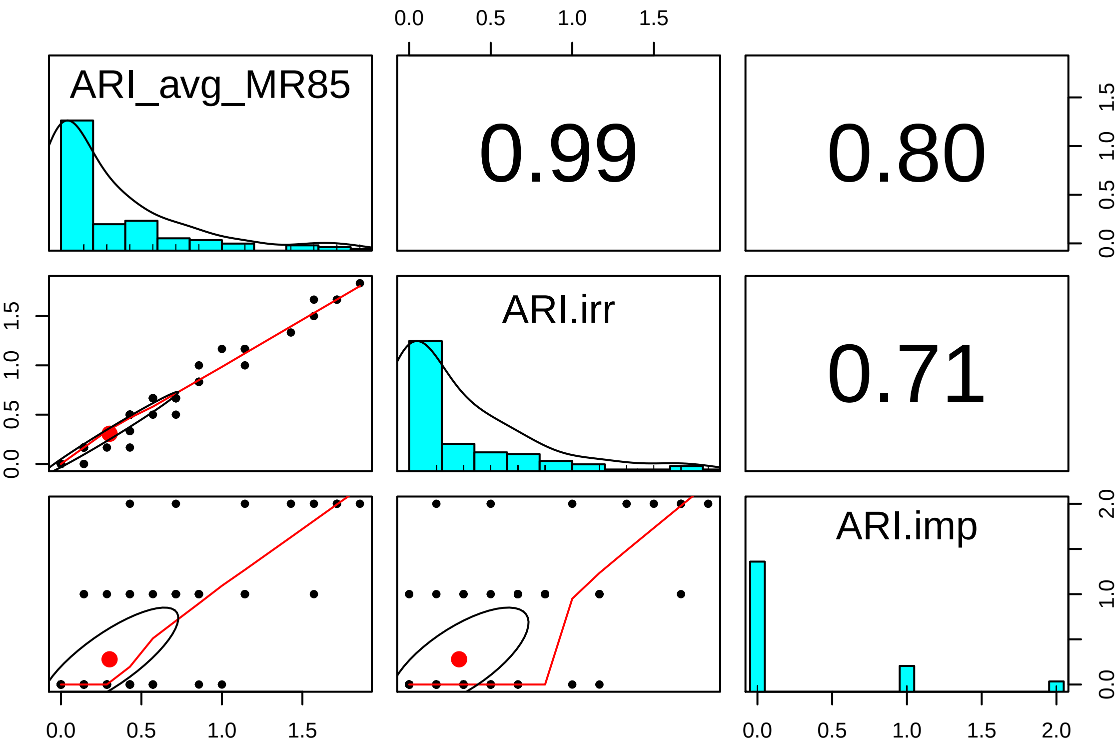
Note that this code is being used in the this format to remain consistent with the data processing approach used for other scales in the study. That being said the variable `ARI_7` will be entirely collinear with `ARI.irr`. More succintly, they are the same.

1.2.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(ARI.all_T2[,c(16:17)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##          vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI.irr     1 129 0.31 0.43 1.65     2.32 0.04     0   0.5
## ARI.imp     2 129 0.28 0.57 1.90     2.50 0.05     0   0.0
```

```
psych::pairs.panels(ARI.all_T2[,c(14,16,17)])
```



1.2.6.2 CRONBACH'S ALPHA: IRRITABILITY SUBSCALE

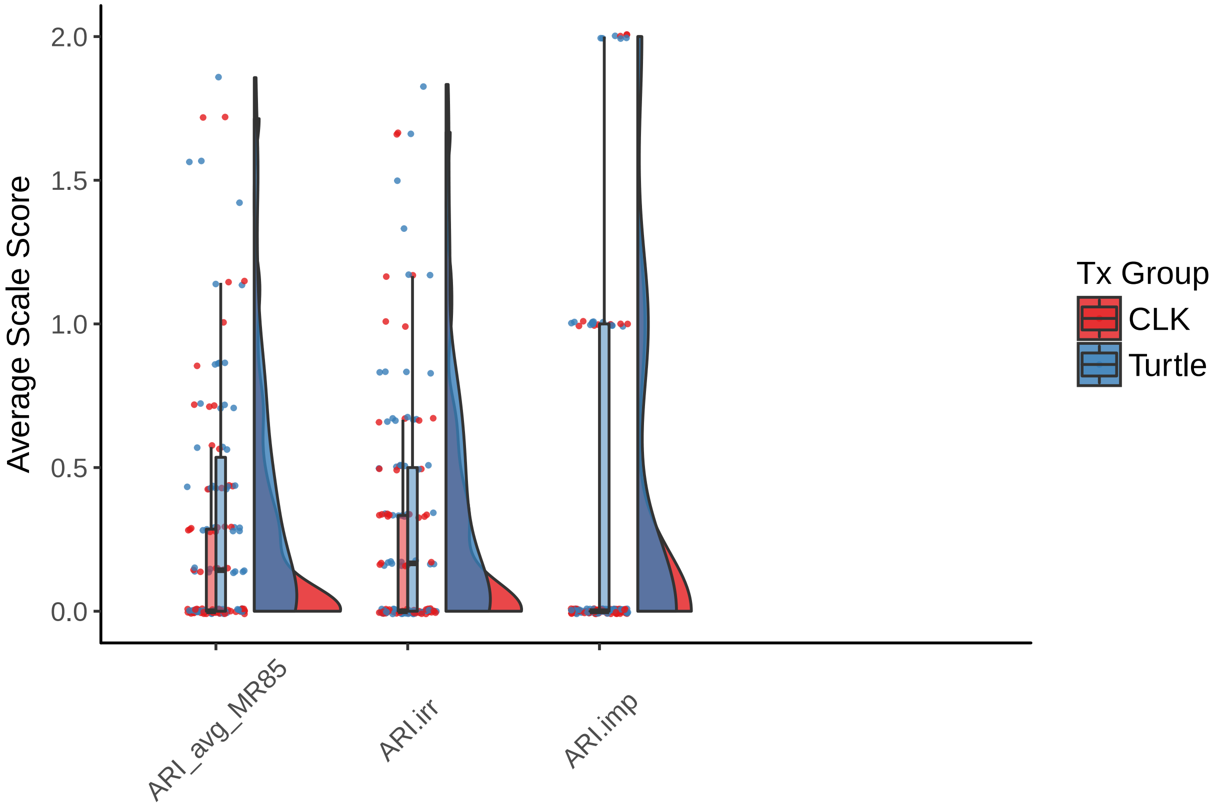
```
psych::alpha(ARI.all_T2[ARI.irr], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = ARI.all_T2[ARI.irr], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.89    0.89      0.57 7.9 0.012 0.31 0.43     0.54
##
##  lower alpha upper     95% confidence boundaries
## 0.86 0.88 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.88 0.91
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## ARI_1      0.88      0.89    0.89      0.63 8.4    0.011 0.017  0.62
## ARI_2      0.83      0.85    0.84      0.53 5.5    0.019 0.019  0.50
## ARI_3      0.87      0.88    0.87      0.58 7.0    0.013 0.023  0.52
## ARI_4      0.89      0.89    0.89      0.62 8.0    0.013 0.025  0.62
```

```
## ARI_5      0.84      0.85    0.85      0.53 5.6    0.017 0.021  0.50
## ARI_6      0.84      0.85    0.85      0.53 5.7    0.018 0.019  0.52
##
##  Item statistics
##          n raw.r std.r r.cor r.drop  mean   sd
## ARI_1 129  0.69  0.68  0.59   0.55 0.419 0.54
## ARI_2 129  0.92  0.89  0.89   0.86 0.465 0.65
## ARI_3 129  0.76  0.77  0.71   0.65 0.217 0.50
## ARI_4 129  0.62  0.70  0.60   0.57 0.047 0.21
## ARI_5 129  0.89  0.88  0.87   0.83 0.279 0.57
## ARI_6 129  0.90  0.88  0.87   0.83 0.411 0.63
##
## Non missing response frequency for each item
##          0    1    2 miss
## ARI_1 0.60 0.37 0.02 0.15
## ARI_2 0.62 0.29 0.09 0.15
## ARI_3 0.82 0.14 0.04 0.15
## ARI_4 0.95 0.05 0.00 0.15
## ARI_5 0.78 0.16 0.06 0.15
## ARI_6 0.67 0.26 0.08 0.15
```

1.2.6.3 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(ARI.all_T2[,14:17], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T2 Folder:

`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:

- `/ARI_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/ARI_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/ARI_T2_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

1.3 TIME 3: COMPLETE SCALE

1.3.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(ARI.all_T3[,c(3:9)], trim=F, quant=c(.25,.75), ranges=F)
```

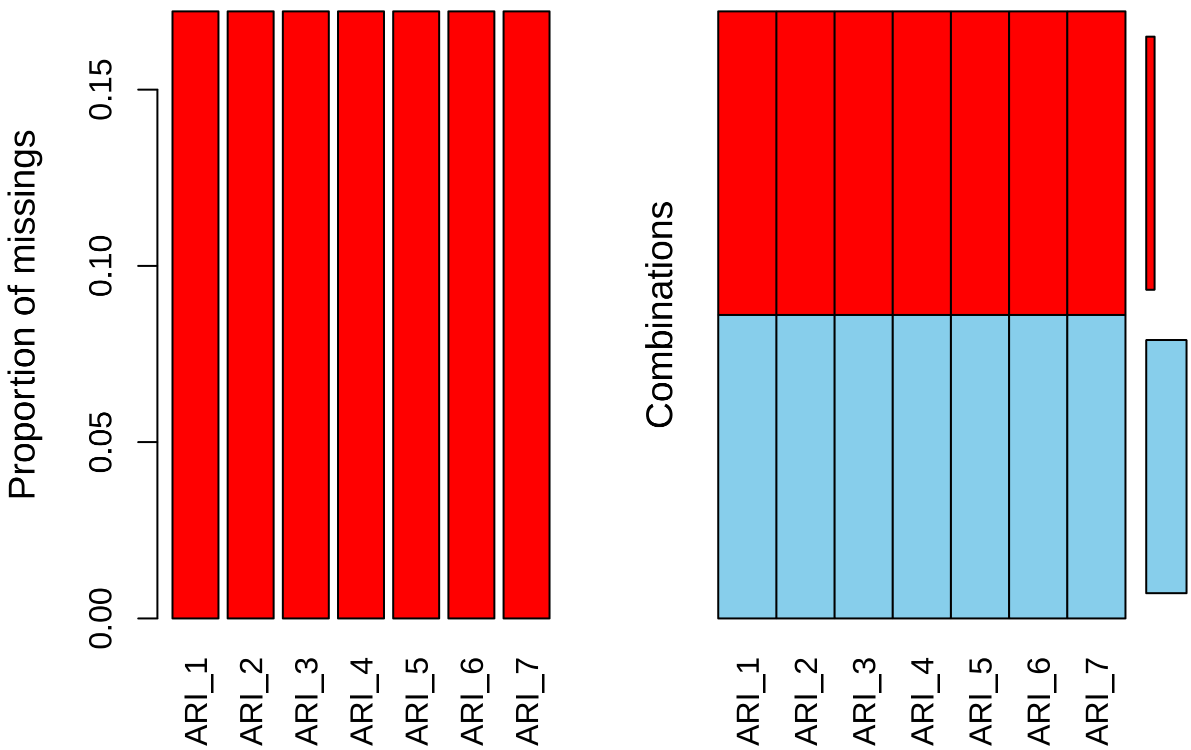
```
##       vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1    1 125 0.31 0.50 1.18     0.22 0.04     0     1
## ARI_2    2 125 0.36 0.56 1.25     0.55 0.05     0     1
## ARI_3    3 125 0.17 0.42 2.40     5.21 0.04     0     0
## ARI_4    4 125 0.02 0.15 6.15    36.06 0.01     0     0
## ARI_5    5 125 0.19 0.43 2.11     3.75 0.04     0     0
## ARI_6    6 125 0.34 0.54 1.29     0.67 0.05     0     1
## ARI_7    7 125 0.19 0.42 1.87     2.43 0.04     0     0
```

```
#Calculating Summary Scores:
ARI.all_T3$ARI_tot<-rowSums(ARI.all_T3[,3:9])  #inclunding na.rm=T results in 0's

ARI.all_T3$Miss_tot<-rep(NA, nrow(ARI.all_T3))
for(n in 1:nrow(ARI.all_T3)){
  ARI.all_T3$Miss_tot[n]<-sum(is.na(ARI.all_T3[n,3:9])==TRUE)
}

ARI.all_T3$Miss_per<-rep(NA, nrow(ARI.all_T3))
for(n in 1:nrow(ARI.all_T3)){
  ARI.all_T3$Miss_per[n]<-round(sum(is.na(ARI.all_T3[n,3:9])==TRUE)/ncol(ARI.all_T3[3:9])*100,
                               digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
ARI.all_T3$ARI_avg<-rowMeans(ARI.all_T3[,3:9])

#Creating variable with individual mean replacement if respondent completed >85% of items
ARI.all_T3$ARI_avg_MR85<-ifelse(ARI.all_T3$Miss_per<15, rowMeans(ARI.all_T3[,3:9],
                                                                  na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(ARI.all_T3[,c(10,13,14)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 125 1.58 2.33 1.73     2.58 0.21     0  2.00
## ARI_avg         2 125 0.23 0.33 1.73     2.58 0.03     0  0.29
## ARI_avg_MR85    3 125 0.23 0.33 1.73     2.58 0.03     0  0.29
```

1.3.2 MISSING DATA

```
VIM::aggr(ARI.all_T3[,3:9])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right. *Missing Data Notes:*

1. Missing pattern 1: Subjects 017, 019, 028, 029, 030, 031, 038, 039, 041, 045, 063, 070, 089, 096, 097, 099, 108, 113, 114, 125, 126, 132, 142, 154, and 155 failed to respond to any of the ARI items; $N = 25$; 16.56%

2. Missing pattern 2: All items completed; $N = 126$; 83.44%

The variable `ARI_tot` is the vector of individual summed ARI scores

The varaible `ARI_avg` is the vector of individual mean ARI scores

The variable `ARI_avg_MR85` is a vector of individual mean ARI scores that includes estimated averages when at least 85% of the necessary data is available - note that the only missing pattern was complete missingness, which means `ARI_avg` is the equivalent of `ARI_avg_MR85`. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T3 to report.

1.3.3 CRONBACH'S ALPHA

```
psych::alpha(ARI.all_T3[,3:9], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = ARI.all_T3[, 3:9], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.85    0.86      0.46 5.9 0.014 0.23 0.33     0.48
##
##  lower alpha upper     95% confidence boundaries
## 0.83 0.86 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.86 0.9
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## ARI_1      0.86      0.85    0.86      0.49 5.7    0.013 0.042  0.57
## ARI_2      0.82      0.81    0.81      0.42 4.3    0.019 0.036  0.45
## ARI_3      0.84      0.82    0.83      0.44 4.7    0.016 0.048  0.45
```

```
## ARI_4      0.88      0.88    0.88      0.56 7.5    0.015 0.014  0.57
## ARI_5      0.83      0.82    0.83      0.43 4.6    0.018 0.037  0.46
## ARI_6      0.82      0.81    0.81      0.42 4.3    0.020 0.030  0.46
## ARI_7      0.84      0.83    0.84      0.44 4.8    0.017 0.041  0.46
##
##  Item statistics
##         n raw.r std.r r.cor r.drop  mean   sd
## ARI_1 125  0.66  0.64  0.54   0.51 0.312 0.50
## ARI_2 125  0.87  0.84  0.84   0.78 0.360 0.56
## ARI_3 125  0.76  0.78  0.73   0.67 0.168 0.42
## ARI_4 125  0.32  0.44  0.29   0.26 0.024 0.15
## ARI_5 125  0.81  0.80  0.77   0.72 0.192 0.43
## ARI_6 125  0.88  0.85  0.86   0.81 0.336 0.54
## ARI_7 125  0.77  0.77  0.72   0.68 0.192 0.42
##
## Non missing response frequency for each item
##          0    1    2 miss
## ARI_1 0.70 0.28 0.02 0.17
## ARI_2 0.68 0.28 0.04 0.17
## ARI_3 0.85 0.14 0.02 0.17
## ARI_4 0.98 0.02 0.00 0.17
## ARI_5 0.82 0.16 0.02 0.17
## ARI_6 0.70 0.27 0.03 0.17
## ARI_7 0.82 0.18 0.01 0.17
```

1.3.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
ARI.all_T3$Group.R<-ifelse(ARI.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(ARI.all_T3[,c(3:9,15)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1       1 59 0.34 0.54 1.28     0.62 0.07     0     1
## ARI_2       2 59 0.37 0.58 1.26     0.53 0.08     0     1
## ARI_3       3 59 0.12 0.38 3.20    10.29 0.05     0     0
## ARI_4       4 59 0.02 0.13 7.29    52.10 0.02     0     0
## ARI_5       5 59 0.24 0.47 1.69     1.92 0.06     0     0
## ARI_6       6 59 0.37 0.55 1.10     0.16 0.07     0     1
## ARI_7       7 59 0.17 0.42 2.37     5.09 0.05     0     0
## Group.R*    8 76  NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_1       1 66 0.29 0.46 0.92    -1.18 0.06     0     1
## ARI_2       2 66 0.35 0.54 1.19     0.37 0.07     0     1
## ARI_3       3 66 0.21 0.45 1.87     2.64 0.06     0     0
## ARI_4       4 66 0.03 0.17 5.36    27.10 0.02     0     0
## ARI_5       5 66 0.15 0.40 2.57     6.23 0.05     0     0
## ARI_6       6 66 0.30 0.53 1.45     1.13 0.06     0     1
## ARI_7       7 66 0.21 0.41 1.38    -0.11 0.05     0     0
## Group.R*    8 75  NaN   NA   NA       NA   NA    NA    NA
```

```
psych::describeBy(ARI.all_T3[,c(10, 13:15)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

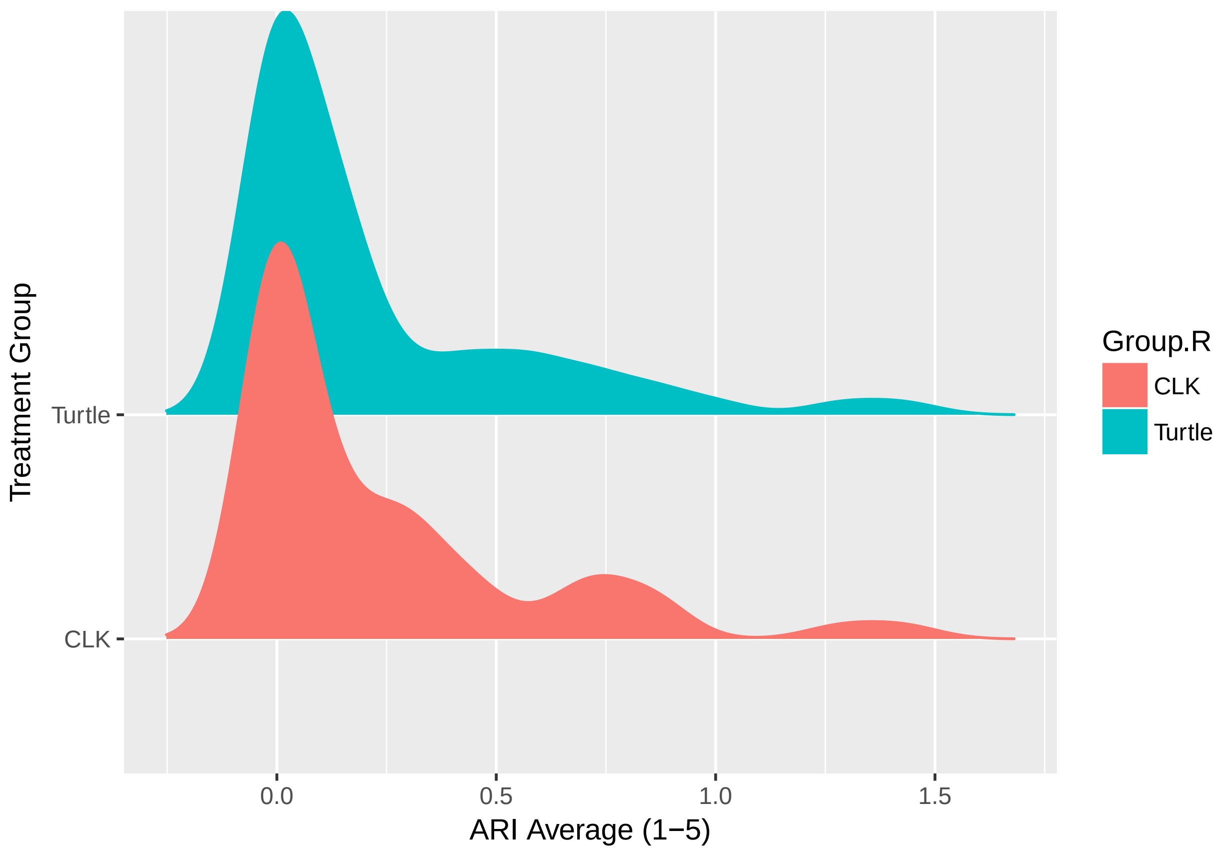
```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 59 1.63 2.36 1.65      2.3 0.31     0  2.00
```

```
## ARI_avg         2 59 0.23 0.34 1.65      2.3 0.04     0  0.29
## ARI_avg_MR85    3 59 0.23 0.34 1.65      2.3 0.04     0  0.29
## Group.R*        4 76  NaN   NA   NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##              vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI_tot         1 66 1.55 2.31 1.76     2.68 0.28     0  2.00
## ARI_avg         2 66 0.22 0.33 1.76     2.68 0.04     0  0.29
## ARI_avg_MR85    3 66 0.22 0.33 1.76     2.68 0.04     0  0.29
## Group.R*        4 75  NaN   NA   NA       NA   NA    NA    NA
```

1.3.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average ARI scores
t.test(ARI.all_T3$ARI_avg_MR85~ARI.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  ARI.all_T3$ARI_avg_MR85 by ARI.all_T3$Group
## t = 0.19501, df = 120.76, p-value = 0.8457
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1067711  0.1301037
## sample estimates:
## mean in group 0 mean in group 1
##       0.2324455       0.2207792
```



1.3.6 Time 3: SUBSCALES

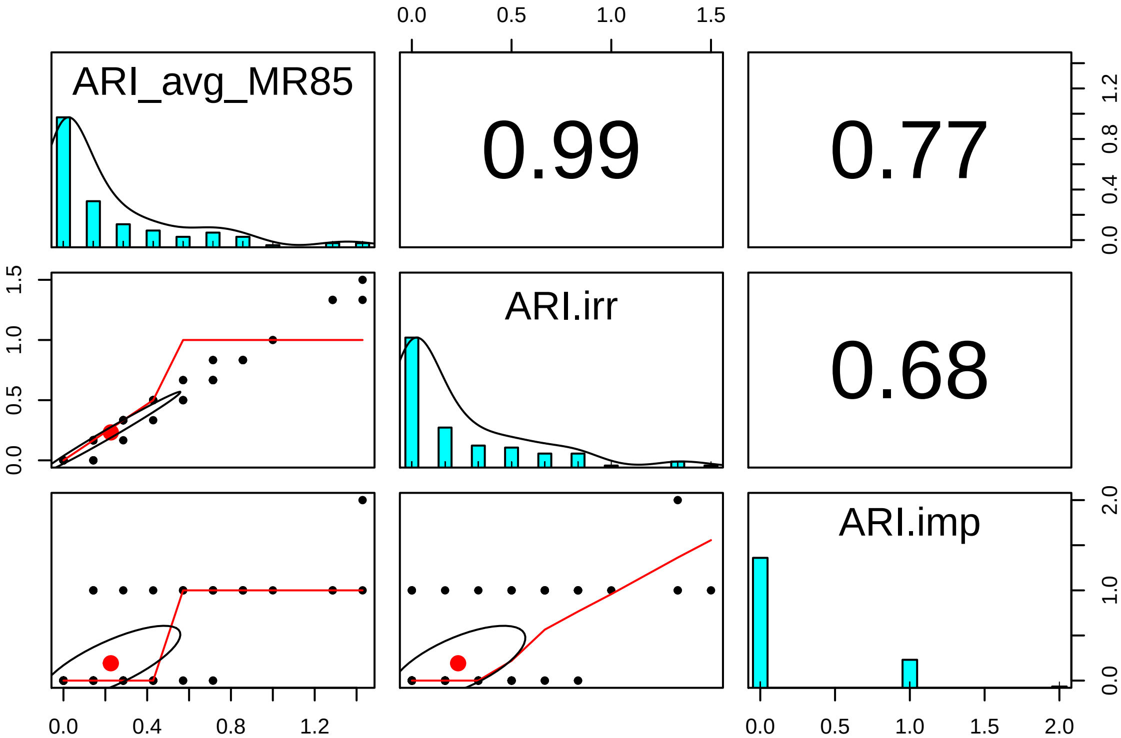
Note that this code is being used in the this format to remain consistent with the data processing approach used for other scales in the study. That being said the variable `ARI_7` will be entirely collinear with `ARI.irr`. More succintly, they are the same.

1.3.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(ARI.all_T3[,c(16:17)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##          vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## ARI.irr     1 125 0.23 0.34 1.66     2.41 0.03     0  0.33
## ARI.imp     2 125 0.19 0.42 1.87     2.43 0.04     0  0.00
```

```
psych::pairs.panels(ARI.all_T3[,c(14,16,17)])
```



1.3.6.2 CRONBACH'S ALPHA: IRRITABILITY SUBSCALE

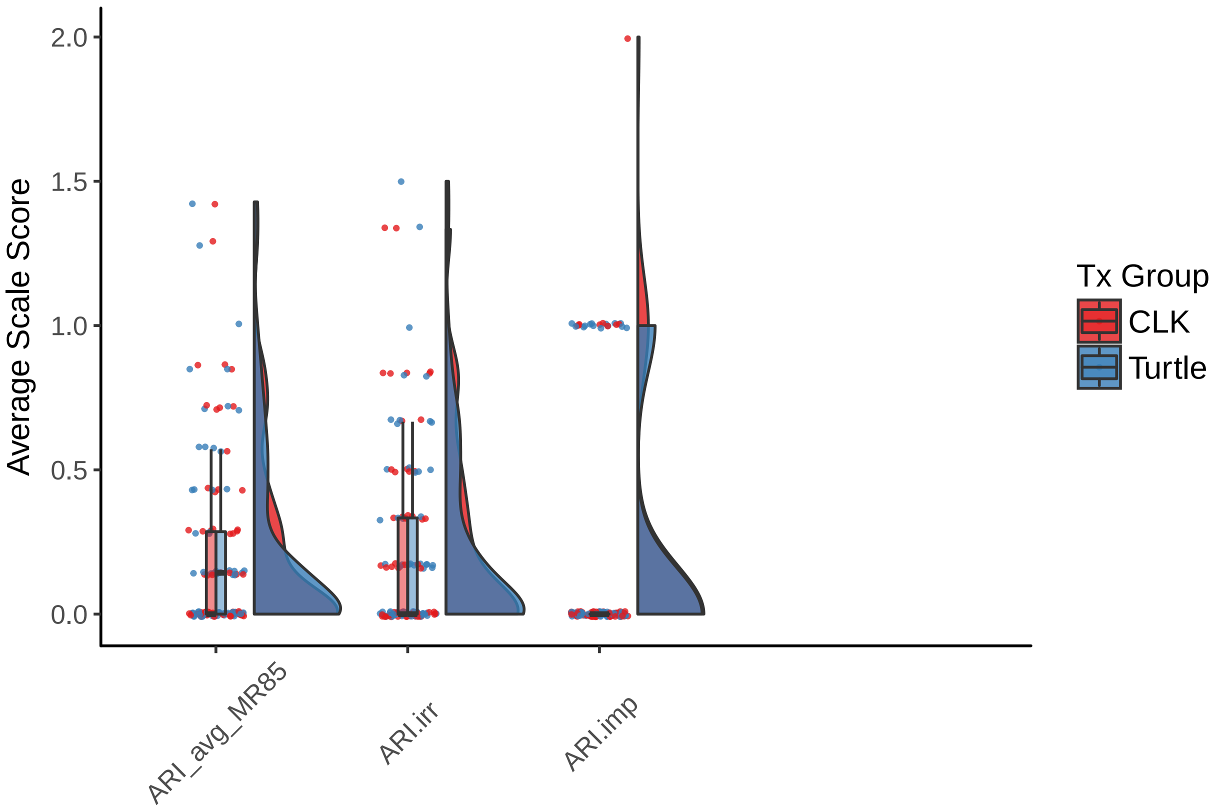
```
psych::alpha(ARI.all_T3[ARI.irr], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = ARI.all_T3[ARI.irr], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.84      0.83    0.84      0.44 4.8 0.017 0.23 0.34     0.46
##
##  lower alpha upper     95% confidence boundaries
## 0.8 0.84 0.87
##
##  lower median upper bootstrapped confidence intervals
##  0.77 0.84 0.88
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## ARI_1      0.83      0.82    0.83      0.48 4.6    0.016 0.049  0.55
## ARI_2      0.78      0.77    0.76      0.39 3.3    0.024 0.038  0.42
## ARI_3      0.80      0.78    0.79      0.42 3.6    0.020 0.056  0.42
## ARI_4      0.86      0.86    0.86      0.56 6.4    0.017 0.016  0.55
```

```
## ARI_5      0.80      0.79    0.79      0.42 3.7    0.021 0.042  0.45
## ARI_6      0.77      0.76    0.75      0.39 3.2    0.025 0.029  0.43
##
##  Item statistics
##          n raw.r std.r r.cor r.drop  mean   sd
## ARI_1 125  0.69  0.66  0.55   0.52 0.312 0.50
## ARI_2 125  0.87  0.85  0.84   0.77 0.360 0.56
## ARI_3 125  0.77  0.79  0.73   0.67 0.168 0.42
## ARI_4 125  0.33  0.47  0.30   0.26 0.024 0.15
## ARI_5 125  0.79  0.78  0.74   0.69 0.192 0.43
## ARI_6 125  0.89  0.85  0.86   0.80 0.336 0.54
##
## Non missing response frequency for each item
##          0    1    2 miss
## ARI_1 0.70 0.28 0.02 0.17
## ARI_2 0.68 0.28 0.04 0.17
## ARI_3 0.85 0.14 0.02 0.17
## ARI_4 0.98 0.02 0.00 0.17
## ARI_5 0.82 0.16 0.02 0.17
## ARI_6 0.70 0.27 0.03 0.17
```

1.3.6.3 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(ARI.all_T3[,14:17], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T3 Folder:

`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:

- `/ARI_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/ARI_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/ARI_T3_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

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1.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

1.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(ARI.wide)
```

```
##                vars   n  mean    sd median trimmed   mad min    max  range
## ID                1 151 86.11 49.12  88.00   86.21 62.27   1 170.00 169.00
## Group             2 151  0.50  0.50   0.00    0.50  0.00   0   1.00   1.00
## Group.R*          3 151  1.50  0.50   1.00    1.50  0.00   1   2.00   1.00
## ARI_avg_MR85.0    4 143  0.30  0.41   0.14    0.22  0.21   0   2.00   2.00
## ARI.irr.0         5 143  0.31  0.40   0.17    0.23  0.25   0   2.00   2.00
## ARI.imp.0         6 143  0.27  0.55   0.00    0.16  0.00   0   2.00   2.00
## ARI_avg_MR85.1    7 129  0.30  0.43   0.14    0.22  0.21   0   1.86   1.86
## ARI.irr.1         8 129  0.31  0.43   0.17    0.22  0.25   0   1.83   1.83
## ARI.imp.1         9 129  0.28  0.57   0.00    0.15  0.00   0   2.00   2.00
## ARI_avg_MR85.2   10 125  0.23  0.33   0.14    0.16  0.21   0   1.43   1.43
## ARI.irr.2        11 125  0.23  0.34   0.00    0.17  0.00   0   1.50   1.50
## ARI.imp.2        12 125  0.19  0.42   0.00    0.11  0.00   0   2.00   2.00
##                 skew kurtosis   se
## ID             -0.02    -1.21 4.00
## Group           0.01    -2.01 0.04
## Group.R*        0.01    -2.01 0.04
## ARI_avg_MR85.0  1.74     2.85 0.03
## ARI.irr.0       1.66     2.67 0.03
## ARI.imp.0       1.86     2.49 0.05
## ARI_avg_MR85.1  1.73     2.61 0.04
## ARI.irr.1       1.65     2.32 0.04
## ARI.imp.1       1.90     2.50 0.05
## ARI_avg_MR85.2  1.73     2.58 0.03
## ARI.irr.2       1.66     2.41 0.03
## ARI.imp.2       1.87     2.43 0.04
```

LONG DATA SET

```
psych::describe(ARI.long)
```

```
##              vars   n  mean    sd median trimmed   mad min max range  skew
## ID              1 453 86.11 49.01  88.00   86.21 62.27   1 170   169 -0.02
## Group           2 453  0.50  0.50   0.00    0.50  0.00   0   1     1  0.01
## ARI_avg_MR85    3 397  0.28  0.39   0.14    0.20  0.21   0   2     2  1.80
## Group.R*        4 453  1.50  0.50   1.00    1.50  0.00   1   2     1  0.01
## ARI.irr         5 397  0.28  0.39   0.17    0.20  0.25   0   2     2  1.72
## ARI.imp         6 397  0.25  0.52   0.00    0.14  0.00   0   2     2  1.98
## Time            7 453  1.00  0.82   1.00    1.00  1.48   0   2     2  0.00
##              kurtosis   se
## ID              -1.20 2.30
## Group           -2.00 0.02
## ARI_avg_MR85     3.10 0.02
## Group.R*        -2.00 0.02
## ARI.irr          2.81 0.02
## ARI.imp          3.04 0.03
## Time            -1.51 0.04
```

1.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```
psych::describeBy(ARI.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##               vars  n  mean    sd median trimmed   mad min    max  range
## ID               1 76 86.59 48.90  87.00   86.65 62.27   2 168.00 166.00
## Group            2 76  0.00  0.00   0.00    0.00  0.00   0   0.00   0.00
## Group.R*         3 76  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## ARI_avg_MR85.0   4 71  0.25  0.35   0.14    0.18  0.21   0   1.71   1.71
## ARI.irr.0        5 71  0.25  0.34   0.17    0.19  0.25   0   1.67   1.67
## ARI.imp.0        6 71  0.21  0.50   0.00    0.09  0.00   0   2.00   2.00
## ARI_avg_MR85.1   7 63  0.25  0.40   0.00    0.16  0.00   0   1.71   1.71
## ARI.irr.1        8 63  0.26  0.40   0.00    0.17  0.00   0   1.67   1.67
## ARI.imp.1        9 63  0.21  0.51   0.00    0.08  0.00   0   2.00   2.00
## ARI_avg_MR85.2  10 59  0.23  0.34   0.00    0.17  0.00   0   1.43   1.43
## ARI.irr.2       11 59  0.24  0.34   0.00    0.19  0.00   0   1.33   1.33
## ARI.imp.2       12 59  0.17  0.42   0.00    0.08  0.00   0   2.00   2.00
##               skew kurtosis   se
## ID            0.00    -1.28 5.61
## Group          NaN      NaN 0.00
## Group.R*       NaN      NaN 0.00
## ARI_avg_MR85.0 2.23     5.70 0.04
## ARI.irr.0      1.98     4.53 0.04
## ARI.imp.0      2.30     4.45 0.06
## ARI_avg_MR85.1 2.01     3.86 0.05
## ARI.irr.1      1.87     3.15 0.05
## ARI.imp.1      2.39     4.77 0.06
## ARI_avg_MR85.2 1.65     2.30 0.04
## ARI.irr.2      1.49     1.63 0.04
## ARI.imp.2      2.37     5.09 0.05
## --------------------------------------------------------
## group: Turtle
##               vars  n  mean    sd median trimmed   mad min    max  range
## ID               1 75 85.63 49.66  88.00   85.70 62.27   1 170.00 169.00
## Group            2 75  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## Group.R*         3 75  2.00  0.00   2.00    2.00  0.00   2   2.00   0.00
## ARI_avg_MR85.0   4 72  0.36  0.46   0.14    0.28  0.21   0   2.00   2.00
## ARI.irr.0        5 72  0.36  0.45   0.17    0.28  0.25   0   2.00   2.00
## ARI.imp.0        6 72  0.33  0.58   0.00    0.22  0.00   0   2.00   2.00
## ARI_avg_MR85.1   7 66  0.35  0.45   0.14    0.27  0.21   0   1.86   1.86
## ARI.irr.1        8 66  0.35  0.44   0.17    0.27  0.25   0   1.83   1.83
## ARI.imp.1        9 66  0.35  0.62   0.00    0.22  0.00   0   2.00   2.00
## ARI_avg_MR85.2  10 66  0.22  0.33   0.14    0.16  0.21   0   1.43   1.43
## ARI.irr.2       11 66  0.22  0.34   0.00    0.16  0.00   0   1.50   1.50
## ARI.imp.2       12 66  0.21  0.41   0.00    0.15  0.00   0   1.00   1.00
##                 skew kurtosis   se
## ID             -0.04    -1.21 5.73
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## ARI_avg_MR85.0  1.35     1.25 0.05
## ARI.irr.0       1.35     1.34 0.05
## ARI.imp.0       1.51     1.21 0.07
## ARI_avg_MR85.1  1.49     1.71 0.06
## ARI.irr.1       1.45     1.64 0.05
## ARI.imp.1       1.53     1.13 0.08
## ARI_avg_MR85.2  1.76     2.68 0.04
## ARI.irr.2       1.79     3.00 0.04
```

```
## ARI.imp.2       1.38    -0.11 0.05
```

LONG DATA SET

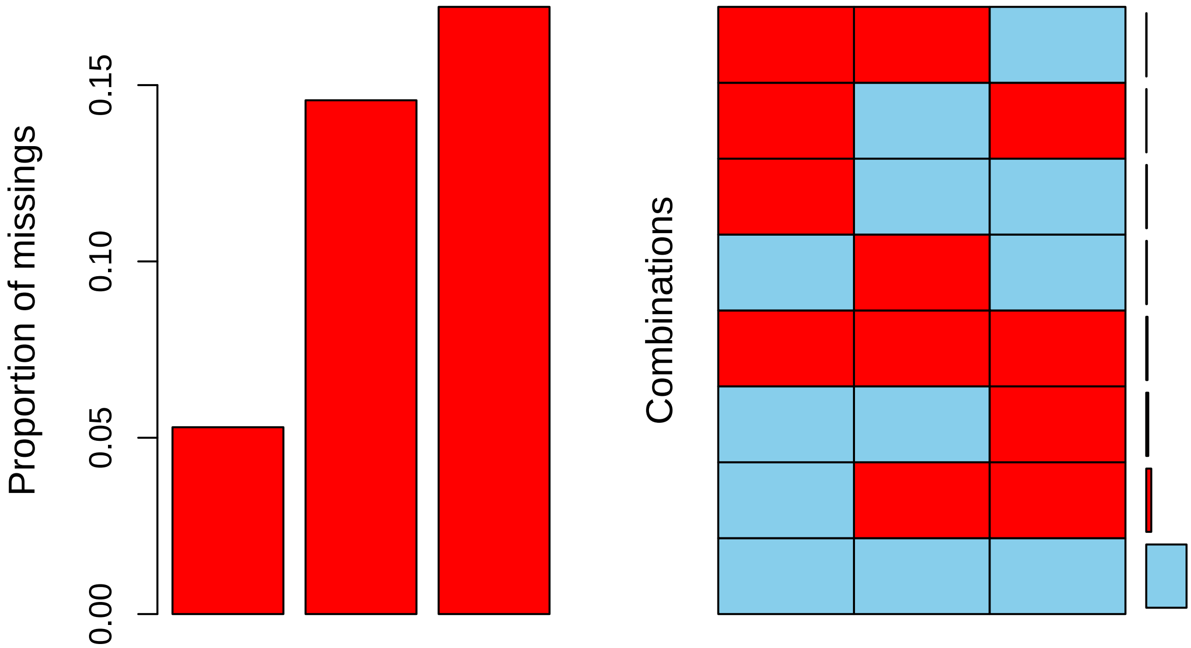
```
psych::describeBy(ARI.long, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars   n  mean    sd median trimmed   mad min    max  range
## ID              1 228 86.59 48.69  87.00   86.63 62.27   2 168.00 166.00
## Group           2 228  0.00  0.00   0.00    0.00  0.00   0   0.00   0.00
## ARI_avg_MR85    3 193  0.24  0.36   0.14    0.17  0.21   0   1.71   1.71
## Group.R*        4 228  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## ARI.irr         5 193  0.25  0.36   0.17    0.18  0.25   0   1.67   1.67
## ARI.imp         6 193  0.20  0.48   0.00    0.08  0.00   0   2.00   2.00
## Time            7 228  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##              skew kurtosis   se
## ID           0.00    -1.25 3.22
## Group         NaN      NaN 0.00
## ARI_avg_MR85 2.05     4.43 0.03
## Group.R*      NaN      NaN 0.00
## ARI.irr      1.86     3.52 0.03
## ARI.imp      2.42     5.12 0.03
## Time         0.00    -1.51 0.05
## --------------------------------------------------------
## group: Turtle
##              vars   n  mean    sd median trimmed   mad min max range  skew
## ID              1 225 85.63 49.44  88.00   85.72 62.27   1 170   169 -0.04
## Group           2 225  1.00  0.00   1.00    1.00  0.00   1   1     0   NaN
## ARI_avg_MR85    3 204  0.31  0.42   0.14    0.23  0.21   0   2     2  1.59
## Group.R*        4 225  2.00  0.00   2.00    2.00  0.00   2   2     0   NaN
## ARI.irr         5 204  0.31  0.42   0.17    0.23  0.25   0   2     2  1.57
## ARI.imp         6 204  0.30  0.55   0.00    0.20  0.00   0   2     2  1.65
## Time            7 225  1.00  0.82   1.00    1.00  1.48   0   2     2  0.00
##              kurtosis   se
## ID              -1.17 3.30
## Group             NaN 0.00
## ARI_avg_MR85     2.15 0.03
## Group.R*          NaN 0.00
## ARI.irr          2.14 0.03
## ARI.imp          1.76 0.04
## Time            -1.51 0.05
```

1.4.3 EXPLORATORY PLOTS

1.4.3.1 MISSING PATTERNS OVERALL SCALE

```
VIM::aggr(ARI.wide[,c(4,7,10)])
```

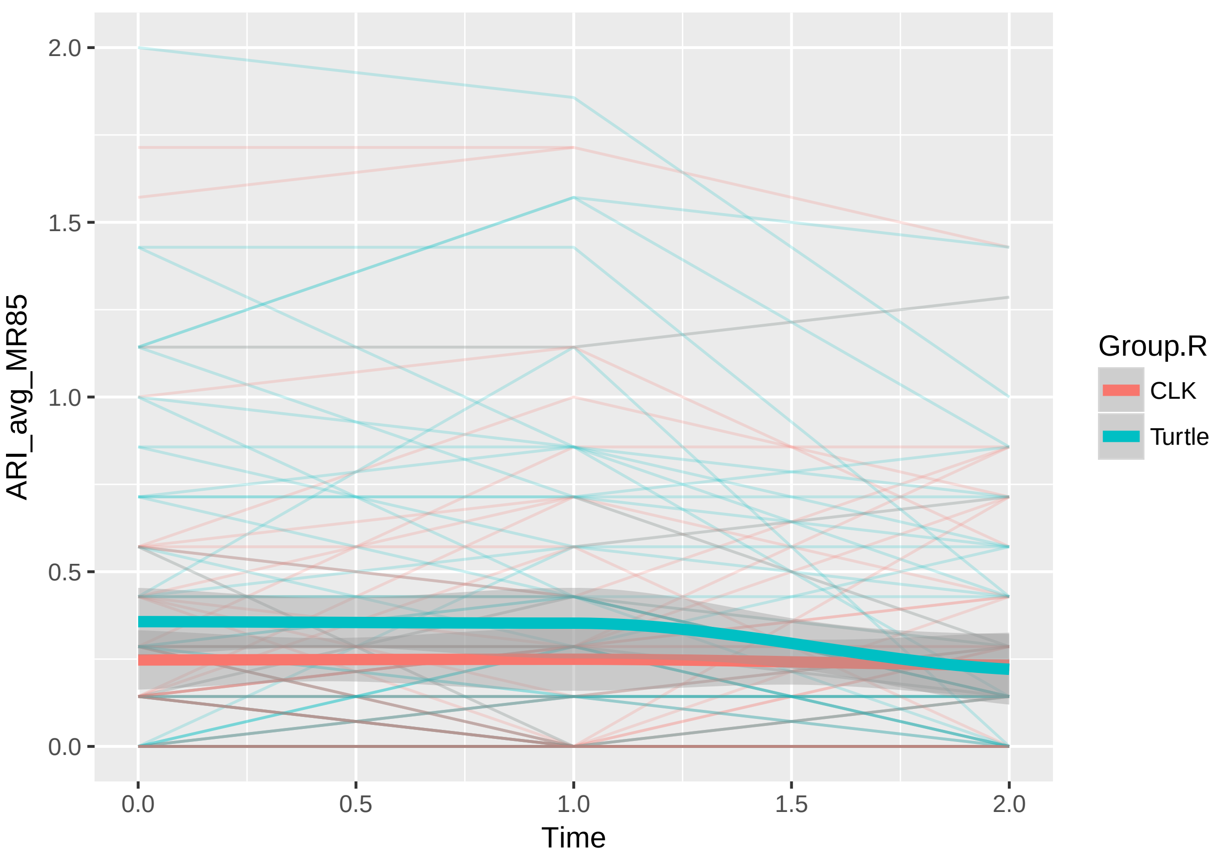


Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

1.4.3.2 SPAGHETTI PLOTS

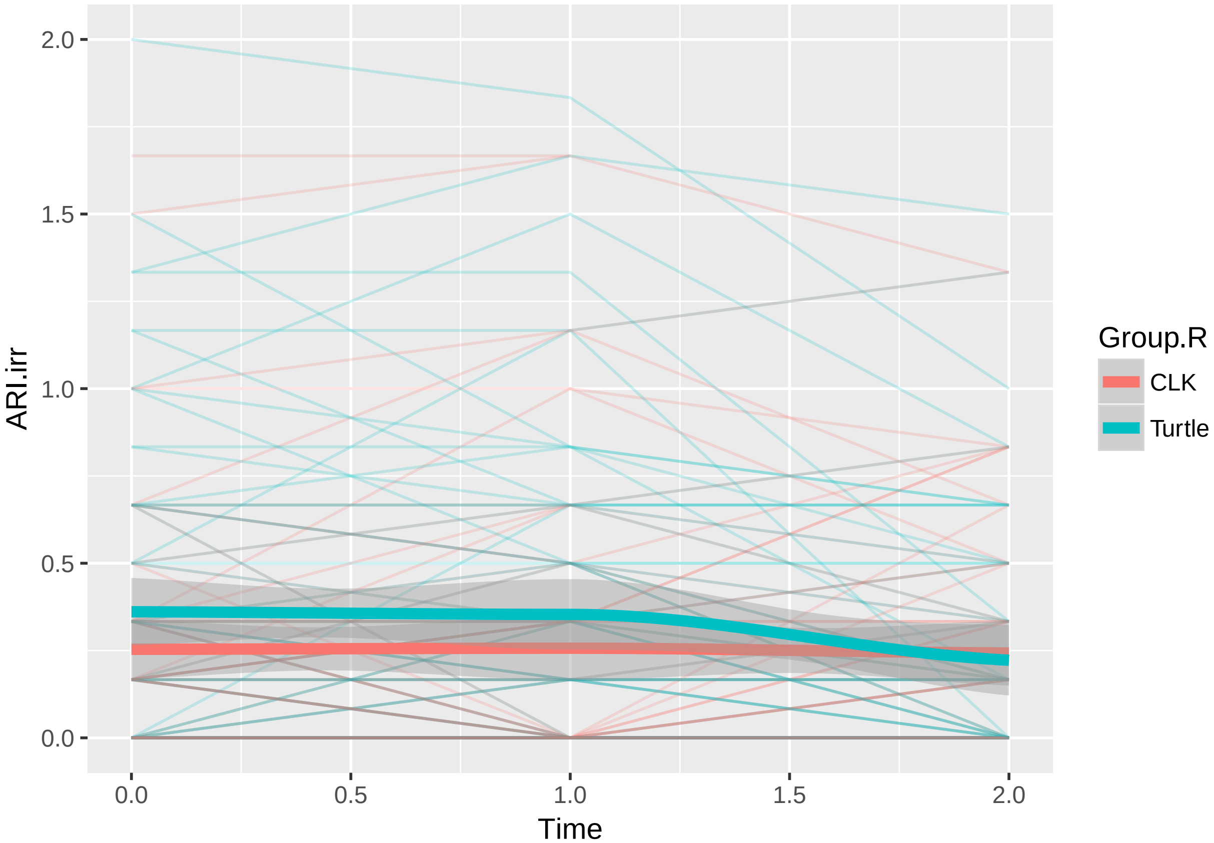
1.4.3.2.1 OVERALL SCALE

```
g1<-ggplot(data=ARI.long, aes(x=Time, y=ARI_avg_MR85))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



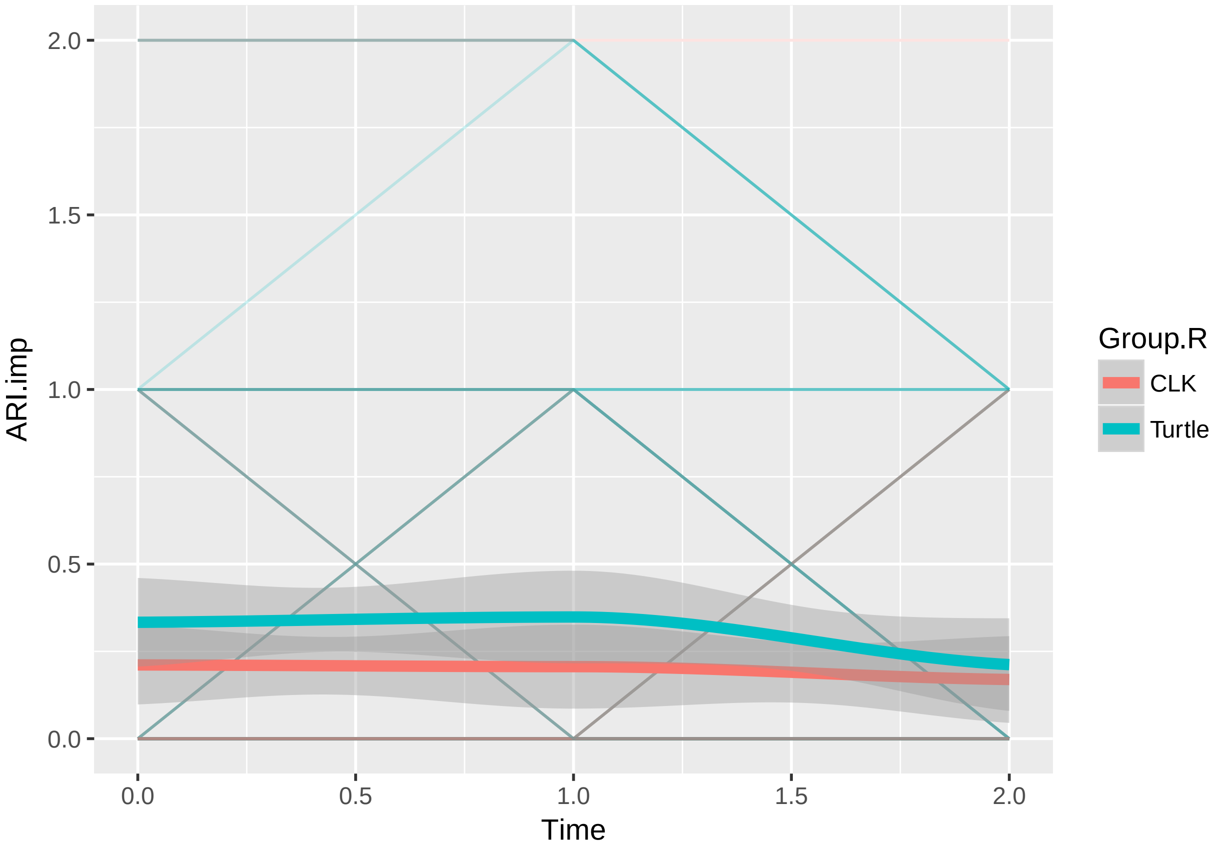
1.4.3.2.2 IRRITABILITY

```r
g1<-ggplot(data=ARI.long, aes(x=Time, y=ARI.irr))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



1.4.3.2.3 IMPAIRMENT

```r
g1<-ggplot(data=ARI.long, aes(x=Time, y=ARI.imp))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



ARI.imp
2.0
1.5
1.0
0.5
0.0
0.0
0.5
1.0
1.5
2.0
Time
Group.R
CLK
Turtle

2 Behavioral Inhibition Questionnaire (BIQ)

Citation:
Bishop, G., Spence, S.H., & McDonald, C. (2003). Can parents and teachers provide a reliable and valid report of behavioral inhibition? *Child Development, 74*, 1899-1917. doi: 10.1046/j.1467-8624.2003.00645.x

Measure Description:
The Behavioral Inhibition Questionnaire (BIQ; Bishop, Spence, & McDonald, 2003) is a 30-item assessment that taps parent (or teacher) perceptions of a target child's behavioral inhibtion. The questionnaire comprises a total of six subscales designed to measure behavioral inhibtion in response to adults, peers, performance demands, novel settings, physical challenges, and parental separation. These six subscales can be combined to provide an overall measure of social inhibition (adults, peers, performance demands) and inhibition in response to the unfamiliar (novel settings, physical challenges, parental separation). Internal consistency for the parent-report version subscales range from $\alpha = .72$ to $\alpha = .97$ (Bishop et al., 2003; Kim et al., 2011) when used to assess behavioral inhibition in preschool-aged children.

Additional Reference:
Kim, J., Klein, D.N., Olino, T.M., Dyson, M.W., Dougherty, L.R., & Durbin, C.E. (2011). Psychometric properties of the Behavioral Inhibition Questionnaire in preschool children. *Journal of Personality Assessment, 93*, 545-555. doi: 10.1080/00223891.2011.608756

Response Options:
1 = Hardly Ever
2 = Infrequently
3 = Once in a While
4 = Sometimes
5 = Often
6 = Very Often
7 = Almost Always

Item Information:
1. BIQ_1: Approaches new situations or activities very hesitantly
2. BIQ_2: *Will happily approach a group of unfamaliiar children to join in their play*
3. BIQ_3: Is very quiet around new (adult) guests to our home
4. BIQ_4: Is cautious in activities that involve physical challenge (e.g., climbing, jumping from heights)
5. BIQ_5: *Settles in quickly when we visit the homes of people we don't know well*
6. BIQ_6: *Enjoys being the center of attention*
7. BIQ_7: *Is comfortable asking other children to play*
8. BIQ_8: Is shy when first meeting new children
9. BIQ_9: *Happily separates from parent(s) when left in new situations for the first time (e.g., kindergarten, preschool, childcare)*
10. BIQ_10: *Is happy to perform in front of others (e.g., singing, dancing)*
11. BIQ_11: *Quickly adjusts to new situations (e.g., kindergarten, preschool, childcare)*
12. BIQ_12: Is reluctant to approach a group of unfamiliar children to ask to join in
13. BIQ_13: *Is confident in activities that involve physical challenge (e.g., climbing, jumping from heights)*
14. BIQ_14: *Is independent*
15. BIQ_15: *Seems comfortable in new situations*
16. BIQ_16: *Is very talkative to adult strangers*
17. BIQ_17: Is hesitant to explore new play equipment
18. BIQ_18: Gets upset at being left in new situations for the first time (e.g., kindergarten, preschool, childcare)
19. BIQ_19: *Is very friendly with children he or she has just met*
20. BIQ_20: Tends to watch other children, rather than join in their games
21. BIQ_21: Dislikes being the center of attention
22. BIQ_22: Is clingy when we visit the homes of people we don't know well
23. BIQ_23: *Happily approaches new situations or activities*
24. BIQ_24: *Is outgoing*
25. BIQ_25: Seems nervous or uncomfortable in new situations
26. BIQ_26: *Happily chats to new (adult) visitors to our home*
27. BIQ_27: Takes many days to adjust to new situations (e.g., kindergarten, preschool, childcare)
28. BIQ_28: Is reluctant to perform in front of others (e.g., singing, dancing)
29. BIQ_29: *Happily explores new play equipment*
30. BIQ_30: Is very quiet with adult strangers

italics indicates items are reverse-scored

Subscale Information:

Adults Subscale: 3, 16, 26, 30
Peers Subscale: 2, 7, 8, 12, 19, 20
Performance Subscale: 6, 10, 21, 28
Separation Subscale: 9, 11, 18, 27
New Settings Subscale: 1, 5, 14, 15, 22, 23, 24, 25
Physical Challenge Subscale: 4, 13, 17, 29
Social Subscale: adults + peers + performance
Novelty Subscale: separation + new + physical

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

2.1 TIME 1: COMPLETE SCALE

2.1.1 OVERALL SCALE

```r
#Item-Level Statistics:
psych::describe(BIQ.all_T1[,c(3:32)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1     1 147 5.41 1.15 -0.59    -0.08 0.09   5.0     6
## BIQ_2     2 147 6.27 1.06 -1.97     4.75 0.09   6.0     7
## BIQ_3     3 147 5.39 1.55 -0.80    -0.08 0.13   4.0     7
## BIQ_4     4 147 3.63 1.75  0.24    -0.89 0.14   2.0     5
## BIQ_5     5 147 5.40 1.29 -0.75     0.32 0.11   5.0     6
## BIQ_6     6 147 5.61 1.34 -0.68    -0.24 0.11   5.0     7
## BIQ_7     7 147 5.70 1.23 -0.78    -0.14 0.10   5.0     7
## BIQ_8     8 147 5.87 1.42 -1.59     2.28 0.12   5.0     7
## BIQ_9     9 147 5.46 1.79 -1.00    -0.08 0.15   4.0     7
## BIQ_10   10 147 5.68 1.27 -0.70     0.00 0.10   5.0     7
## BIQ_11   11 147 5.16 1.54 -0.66    -0.30 0.13   4.0     6
## BIQ_12   12 147 5.95 1.40 -1.61     2.33 0.12   5.0     7
## BIQ_13   13 147 3.42 1.70  0.35    -0.67 0.14   2.0     4
## BIQ_14   14 147 3.46 1.43  0.37     0.03 0.12   2.0     4
## BIQ_15   15 147 5.28 1.23 -0.21    -0.62 0.10   4.0     6
## BIQ_16   16 147 5.97 1.32 -1.18     0.39 0.11   5.0     7
## BIQ_17   17 147 3.23 1.70  0.45    -0.67 0.14   2.0     4
## BIQ_18   18 147 4.86 1.81 -0.57    -0.63 0.15   4.0     6
## BIQ_19   19 147 5.37 1.35 -0.81     0.09 0.11   4.5     6
## BIQ_20   20 147 5.40 1.23 -0.48     0.03 0.10   5.0     6
## BIQ_21   21 147 5.14 1.42 -0.48    -0.11 0.12   4.0     6
## BIQ_22   22 146 5.68 1.31 -0.94     0.62 0.11   5.0     7
## BIQ_23   23 147 5.05 1.35 -0.51    -0.03 0.11   4.0     6
## BIQ_24   24 147 5.38 1.34 -0.35    -0.87 0.11   4.0     7
## BIQ_25   25 147 5.30 1.21 -0.49    -0.05 0.10   5.0     6
## BIQ_26   26 147 5.58 1.56 -1.02     0.34 0.13   5.0     7
## BIQ_27   27 147 5.20 1.56 -0.72    -0.32 0.13   4.0     6
## BIQ_28   28 147 5.39 1.39 -0.45    -0.73 0.11   4.0     7
## BIQ_29   29 147 3.16 1.59  0.34    -0.59 0.13   2.0     4
## BIQ_30   30 147 5.65 1.47 -0.88    -0.35 0.12   5.0     7
```

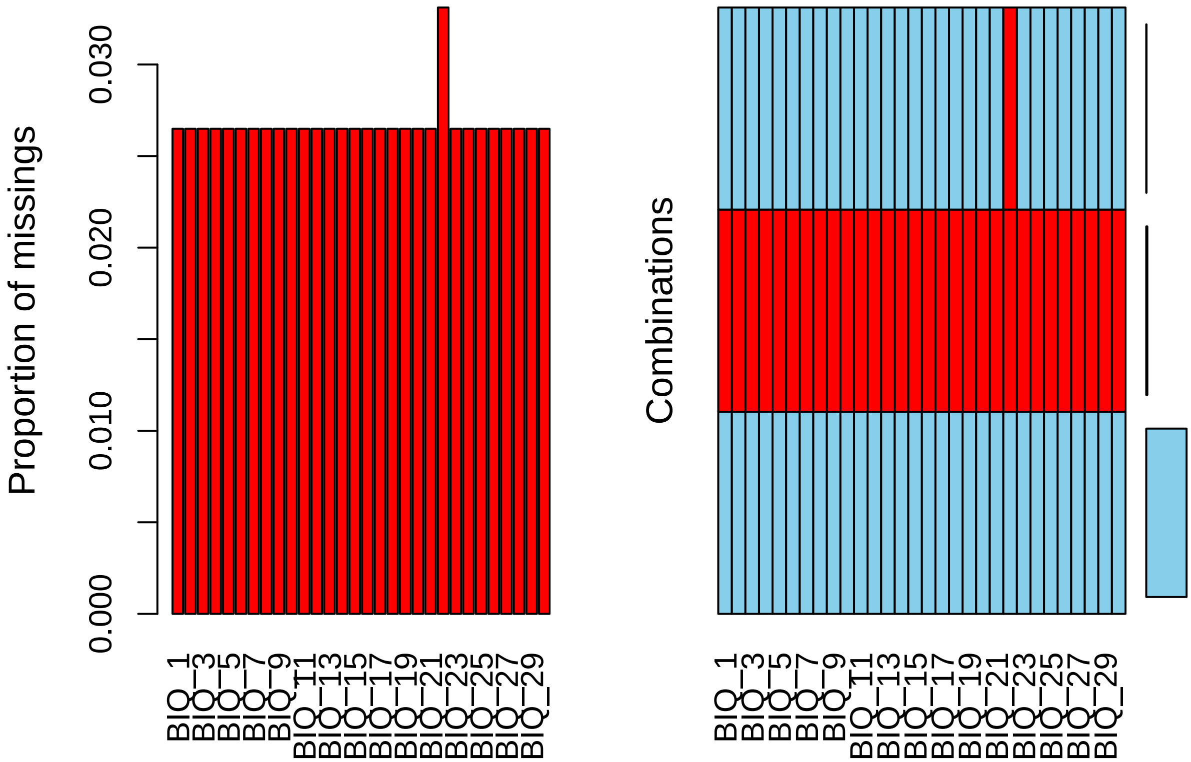
```r
#Calculating Summary Scores:
BIQ.all_T1$BIQ_tot<-rowSums(BIQ.all_T1[,3:32])  #inclunding na.rm=T results in 0's

BIQ.all_T1$Miss_tot<-rep(NA, nrow(BIQ.all_T1))
for(n in 1:nrow(BIQ.all_T1)){
  BIQ.all_T1$Miss_tot[n]<-sum(is.na(BIQ.all_T1[n,3:32])==TRUE)
}

BIQ.all_T1$Miss_per<-rep(NA, nrow(BIQ.all_T1))
for(n in 1:nrow(BIQ.all_T1)){
  BIQ.all_T1$Miss_per[n]<-round(sum(is.na(BIQ.all_T1[n,3:32])==TRUE)/ncol(BIQ.all_T1[3:32])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
BIQ.all_T1$BIQ_avg<-rowMeans(BIQ.all_T1[,3:32])

#Creating variable with individual mean replacement if respondent completed >85% of items
BIQ.all_T1$BIQ_avg_MR85<-ifelse(BIQ.all_T1$Miss_per<15, rowMeans(BIQ.all_T1[,3:32],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
```

```r
psych::describe(BIQ.all_T1[,c(33,36,37)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n   mean    sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_tot         1 146 153.91 19.88 -0.02     0.02 1.64 142.00 168.0
## BIQ_avg         2 146   5.13  0.66 -0.02     0.02 0.05   4.73   5.6
## BIQ_avg_MR85    3 147   5.14  0.66 -0.03     0.00 0.05   4.73   5.6
```

2.1.2 MISSING DATA

```r
VIM::aggr(BIQ.all_T1[,3:32])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 064 failed to resond to `BIQ_22`; $N = 1$; 0.66%
2. Missing pattern 2: Subjects 005, 038, 096, and 125 failed to respond to any items; $N = 4$; 2.65%
3. Missing pattern 3: All items completed; $N = 146$; 96.69%

The variable `BIQ_tot` is the vector of individual summed BIQ scores - 064 is dropped from this summary variable (see above).

The varaible `BIQ_avg` is the vector of individual mean BIQ scores - 064 is dropped from this summary variable (see above).

The variable `BIQ_avg_MR85` is a vector of individual mean BIQ scores that includes estimated averages when at least 85% of the necessary data is available - note 064 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T1 to report.

2.1.3 CRONBACH'S ALPHA

```r
psych::alpha(BIQ.all_T1[,3:32], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = BIQ.all_T1[, 3:32], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.87      0.88    0.95       0.2 7.3 0.015  5.1 0.66     0.17
##
##  lower alpha upper     95% confidence boundaries
## 0.84 0.87 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.87 0.9
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_1       0.87      0.87    0.94      0.19 6.8    0.016 0.042  0.16
## BIQ_2       0.87      0.88    0.95      0.20 7.2    0.015 0.042  0.17
## BIQ_3       0.87      0.88    0.95      0.20 7.1    0.015 0.041  0.17
## BIQ_4       0.88      0.88    0.95      0.20 7.4    0.015 0.039  0.18
## BIQ_5       0.87      0.87    0.94      0.19 6.9    0.016 0.043  0.16
## BIQ_6       0.87      0.88    0.94      0.19 7.0    0.016 0.041  0.17
## BIQ_7       0.87      0.88    0.95      0.20 7.1    0.015 0.042  0.17
## BIQ_8       0.87      0.88    0.95      0.20 7.2    0.015 0.043  0.17
## BIQ_9       0.87      0.87    0.94      0.19 7.0    0.016 0.040  0.17
## BIQ_10      0.86      0.87    0.94      0.19 6.8    0.016 0.041  0.17
## BIQ_11      0.86      0.87    0.94      0.19 6.8    0.016 0.040  0.17
## BIQ_12      0.87      0.88    0.95      0.20 7.2    0.015 0.041  0.17
## BIQ_13      0.88      0.88    0.94      0.20 7.4    0.015 0.039  0.17
## BIQ_14      0.87      0.88    0.95      0.20 7.4    0.015 0.041  0.17
## BIQ_15      0.86      0.87    0.94      0.19 6.7    0.016 0.041  0.16
## BIQ_16      0.87      0.88    0.94      0.20 7.1    0.015 0.040  0.17
## BIQ_17      0.87      0.88    0.95      0.20 7.3    0.015 0.041  0.17
## BIQ_18      0.87      0.87    0.94      0.19 6.9    0.016 0.040  0.17
## BIQ_19      0.87      0.88    0.95      0.20 7.1    0.015 0.042  0.17
## BIQ_20      0.87      0.88    0.95      0.20 7.2    0.015 0.042  0.17
## BIQ_21      0.87      0.87    0.94      0.19 6.9    0.016 0.042  0.16
## BIQ_22      0.87      0.87    0.94      0.19 6.9    0.016 0.042  0.16
## BIQ_23      0.86      0.87    0.94      0.19 6.7    0.016 0.041  0.16
## BIQ_24      0.87      0.88    0.95      0.19 7.0    0.015 0.042  0.17
## BIQ_25      0.86      0.87    0.94      0.19 6.7    0.016 0.040  0.16
## BIQ_26      0.87      0.88    0.94      0.20 7.0    0.015 0.040  0.17
## BIQ_27      0.87      0.87    0.94      0.19 6.9    0.016 0.040  0.17
## BIQ_28      0.86      0.87    0.94      0.19 6.8    0.016 0.041  0.16
## BIQ_29      0.87      0.88    0.95      0.20 7.3    0.015 0.040  0.17
## BIQ_30      0.87      0.88    0.94      0.19 7.0    0.015 0.039  0.17
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_1  147  0.59  0.60  0.58   0.55  5.4 1.2
## BIQ_2  147  0.33  0.36  0.35   0.28  6.3 1.1
## BIQ_3  147  0.41  0.41  0.39   0.34  5.4 1.6
## BIQ_4  147  0.26  0.22  0.21   0.18  3.6 1.8
## BIQ_5  147  0.56  0.57  0.56   0.52  5.4 1.3
## BIQ_6  147  0.46  0.48  0.47   0.41  5.6 1.3
## BIQ_7  147  0.36  0.40  0.38   0.31  5.7 1.2
## BIQ_8  147  0.37  0.39  0.36   0.31  5.9 1.4
## BIQ_9  147  0.51  0.49  0.48   0.44  5.5 1.8
## BIQ_10 147  0.63  0.63  0.64   0.59  5.7 1.3
## BIQ_11 147  0.65  0.63  0.63   0.60  5.2 1.5
## BIQ_12 147  0.36  0.39  0.37   0.30  6.0 1.4
## BIQ_13 147  0.26  0.21  0.20   0.17  3.4 1.7
## BIQ_14 147  0.24  0.23  0.19   0.18  3.5 1.4
## BIQ_15 147  0.67  0.67  0.66   0.63  5.3 1.2
## BIQ_16 147  0.42  0.43  0.42   0.36  6.0 1.3
```

```
## BIQ_17 147  0.32  0.29  0.27   0.24  3.2 1.7
## BIQ_18 147  0.57  0.55  0.55   0.51  4.9 1.8
## BIQ_19 147  0.43  0.45  0.43   0.37  5.4 1.3
## BIQ_20 147  0.31  0.34  0.30   0.25  5.4 1.2
## BIQ_21 147  0.51  0.53  0.52   0.46  5.1 1.4
## BIQ_22 146  0.55  0.56  0.54   0.50  5.7 1.3
## BIQ_23 147  0.69  0.68  0.68   0.65  5.1 1.4
## BIQ_24 147  0.45  0.48  0.45   0.39  5.4 1.3
## BIQ_25 147  0.70  0.70  0.70   0.67  5.3 1.2
## BIQ_26 147  0.45  0.46  0.46   0.39  5.6 1.6
## BIQ_27 147  0.57  0.56  0.55   0.52  5.2 1.6
## BIQ_28 147  0.62  0.62  0.62   0.57  5.4 1.4
## BIQ_29 147  0.36  0.33  0.32   0.29  3.2 1.6
## BIQ_30 147  0.46  0.48  0.48   0.40  5.6 1.5
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_1  0.00 0.01 0.05 0.15 0.26 0.37 0.16 0.03
## BIQ_2  0.01 0.00 0.03 0.03 0.09 0.30 0.54 0.03
## BIQ_3  0.02 0.03 0.06 0.16 0.18 0.22 0.32 0.03
## BIQ_4  0.12 0.22 0.13 0.23 0.15 0.08 0.07 0.03
## BIQ_5  0.01 0.03 0.03 0.18 0.22 0.33 0.21 0.03
## BIQ_6  0.01 0.01 0.05 0.17 0.20 0.22 0.35 0.03
## BIQ_7  0.00 0.01 0.03 0.15 0.16 0.33 0.31 0.03
## BIQ_8  0.02 0.03 0.03 0.04 0.16 0.29 0.43 0.03
## BIQ_9  0.05 0.04 0.07 0.13 0.10 0.20 0.41 0.03
## BIQ_10 0.01 0.01 0.01 0.19 0.19 0.24 0.35 0.03
## BIQ_11 0.02 0.04 0.08 0.19 0.16 0.29 0.22 0.03
## BIQ_12 0.02 0.01 0.04 0.06 0.12 0.27 0.48 0.03
## BIQ_13 0.15 0.20 0.16 0.27 0.10 0.07 0.06 0.03
## BIQ_14 0.08 0.18 0.22 0.35 0.07 0.05 0.04 0.03
## BIQ_15 0.00 0.02 0.02 0.27 0.25 0.24 0.20 0.03
## BIQ_16 0.00 0.01 0.07 0.07 0.14 0.22 0.50 0.03
## BIQ_17 0.18 0.20 0.20 0.20 0.08 0.09 0.04 0.03
## BIQ_18 0.07 0.06 0.09 0.16 0.20 0.18 0.24 0.03
## BIQ_19 0.01 0.03 0.07 0.15 0.18 0.37 0.20 0.03
## BIQ_20 0.01 0.01 0.03 0.19 0.28 0.26 0.22 0.03
## BIQ_21 0.02 0.01 0.06 0.26 0.21 0.22 0.21 0.03
## BIQ_22 0.01 0.00 0.03 0.18 0.13 0.31 0.34 0.03
## BIQ_23 0.01 0.03 0.04 0.28 0.20 0.29 0.14 0.03
## BIQ_24 0.00 0.02 0.04 0.26 0.16 0.25 0.27 0.03
## BIQ_25 0.00 0.03 0.04 0.16 0.32 0.27 0.18 0.03
## BIQ_26 0.03 0.01 0.07 0.14 0.14 0.22 0.39 0.03
## BIQ_27 0.01 0.07 0.06 0.16 0.18 0.29 0.23 0.03
## BIQ_28 0.01 0.01 0.07 0.24 0.14 0.25 0.29 0.03
## BIQ_29 0.20 0.18 0.18 0.27 0.08 0.06 0.03 0.03
## BIQ_30 0.00 0.03 0.08 0.12 0.11 0.27 0.38 0.03
```

2.1.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```r
BIQ.all_T1$Group.R<-ifelse(BIQ.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(BIQ.all_T1[,c(3:32,38)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##         vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1      1 73 5.45 1.14 -0.43    -0.75 0.13     5     6
## BIQ_2      2 73 6.21 1.15 -2.06     5.06 0.14     6     7
## BIQ_3      3 73 5.21 1.54 -0.61    -0.52 0.18     4     6
```

```
## BIQ_4       4 73 3.53 1.76  0.25    -0.90 0.21     2     5
## BIQ_5       5 73 5.30 1.28 -0.84     0.89 0.15     5     6
## BIQ_6       6 73 5.48 1.25 -0.36    -0.73 0.15     5     7
## BIQ_7       7 73 5.62 1.27 -0.64    -0.45 0.15     5     7
## BIQ_8       8 73 5.95 1.28 -1.55     2.61 0.15     5     7
## BIQ_9       9 73 5.62 1.77 -1.13     0.15 0.21     4     7
## BIQ_10     10 73 5.68 1.26 -0.56    -0.64 0.15     5     7
## BIQ_11     11 73 5.19 1.61 -0.68    -0.36 0.19     4     7
## BIQ_12     12 73 5.99 1.30 -1.33     1.14 0.15     5     7
## BIQ_13     13 73 3.32 1.59  0.26    -0.51 0.19     2     4
## BIQ_14     14 73 3.62 1.34  0.13     0.06 0.16     3     4
## BIQ_15     15 73 5.32 1.28 -0.32    -0.63 0.15     4     6
## BIQ_16     16 73 5.89 1.39 -1.06    -0.08 0.16     5     7
## BIQ_17     17 73 3.16 1.71  0.52    -0.77 0.20     2     4
## BIQ_18     18 73 4.86 1.87 -0.67    -0.53 0.22     4     6
## BIQ_19     19 73 5.40 1.31 -0.60    -0.41 0.15     4     6
## BIQ_20     20 73 5.30 1.34 -0.62     0.17 0.16     4     6
## BIQ_21     21 73 5.11 1.28  0.04    -1.20 0.15     4     6
## BIQ_22     22 72 5.57 1.32 -0.67     0.12 0.16     4     7
## BIQ_23     23 73 5.05 1.37 -0.51    -0.05 0.16     4     6
## BIQ_24     24 73 5.42 1.38 -0.44    -0.81 0.16     4     7
## BIQ_25     25 73 5.29 1.29 -0.54    -0.02 0.15     5     6
## BIQ_26     26 73 5.53 1.50 -0.79    -0.26 0.18     4     7
## BIQ_27     27 73 5.14 1.61 -0.59    -0.52 0.19     4     7
## BIQ_28     28 73 5.30 1.37 -0.16    -1.20 0.16     4     7
## BIQ_29     29 73 3.08 1.64  0.36    -0.72 0.19     2     4
## BIQ_30     30 73 5.53 1.47 -0.62    -0.95 0.17     4     7
## Group.R*   31 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##           vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1        1 74 5.36 1.17 -0.73     0.40 0.14     5  6.00
## BIQ_2        2 74 6.34 0.95 -1.63     2.51 0.11     6  7.00
## BIQ_3        3 74 5.58 1.55 -1.00     0.47 0.18     5  7.00
## BIQ_4        4 74 3.72 1.76  0.24    -0.95 0.20     2  5.00
## BIQ_5        5 74 5.50 1.31 -0.67    -0.30 0.15     5  6.75
## BIQ_6        6 74 5.74 1.42 -0.95     0.17 0.17     5  7.00
## BIQ_7        7 74 5.78 1.20 -0.91     0.18 0.14     5  7.00
## BIQ_8        8 74 5.80 1.54 -1.52     1.66 0.18     5  7.00
## BIQ_9        9 74 5.30 1.81 -0.88    -0.32 0.21     4  7.00
## BIQ_10      10 74 5.68 1.29 -0.81     0.48 0.15     5  7.00
## BIQ_11      11 74 5.14 1.46 -0.62    -0.35 0.17     4  6.00
## BIQ_12      12 74 5.92 1.50 -1.73     2.64 0.17     6  7.00
## BIQ_13      13 74 3.53 1.81  0.36    -0.92 0.21     2  5.00
## BIQ_14      14 74 3.31 1.51  0.61     0.09 0.18     2  4.00
## BIQ_15      15 74 5.24 1.19 -0.09    -0.68 0.14     4  6.00
## BIQ_16      16 74 6.04 1.25 -1.27     0.86 0.15     5  7.00
## BIQ_17      17 74 3.30 1.69  0.37    -0.61 0.20     2  4.00
## BIQ_18      18 74 4.85 1.76 -0.44    -0.85 0.21     4  6.00
## BIQ_19      19 74 5.35 1.39 -0.97     0.36 0.16     5  6.00
## BIQ_20      20 74 5.50 1.10 -0.09    -1.13 0.13     5  6.00
## BIQ_21      21 74 5.18 1.56 -0.76     0.23 0.18     4  6.00
## BIQ_22      22 74 5.80 1.29 -1.20     1.24 0.15     5  7.00
## BIQ_23      23 74 5.05 1.34 -0.50    -0.09 0.16     4  6.00
## BIQ_24      24 74 5.34 1.30 -0.26    -1.01 0.15     4  6.00
## BIQ_25      25 74 5.31 1.15 -0.40    -0.32 0.13     5  6.00
## BIQ_26      26 74 5.62 1.62 -1.18     0.73 0.19     5  7.00
## BIQ_27      27 74 5.27 1.51 -0.83    -0.16 0.18     4  6.00
## BIQ_28      28 74 5.49 1.42 -0.71    -0.25 0.16     4  7.00
## BIQ_29      29 74 3.23 1.56  0.33    -0.51 0.18     2  4.00
## BIQ_30      30 74 5.76 1.46 -1.14     0.33 0.17     5  7.00
```

```
## Group.R*   31 75  NaN   NA    NA       NA   NA    NA    NA
```

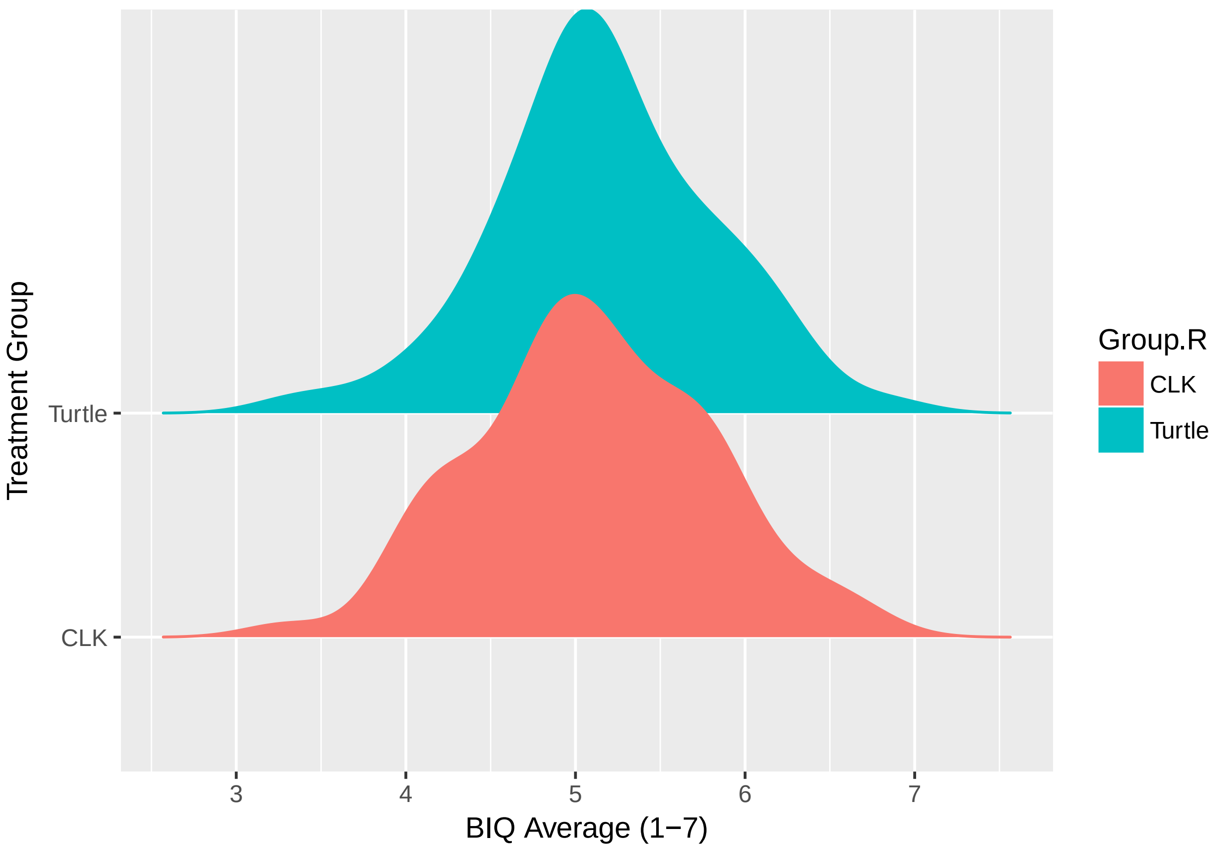
```r
psych::describeBy(BIQ.all_T1[,c(33,36,37,38)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## BIQ_tot         1 72 152.78 20.55 0.04    -0.24 2.42 140.75 168.25
## BIQ_avg         2 72   5.09  0.69 0.04    -0.24 0.08   4.69   5.61
## BIQ_avg_MR85    3 73   5.10  0.69 0.02    -0.29 0.08   4.70   5.63
## Group.R*        4 76    NaN    NA   NA       NA   NA     NA     NA
## ------------------------------------------------------------
## group: Turtle
##              vars  n   mean    sd  skew kurtosis   se  Q0.25  Q0.75
## BIQ_tot         1 74 155.01 19.27 -0.08     0.27 2.24 143.75 167.50
## BIQ_avg         2 74   5.17  0.64 -0.08     0.27 0.07   4.79   5.58
## BIQ_avg_MR85    3 74   5.17  0.64 -0.08     0.27 0.07   4.79   5.58
## Group.R*        4 75    NaN    NA    NA       NA   NA     NA     NA
```

2.1.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
#Groups do not differ on average BIQ scores
t.test(BIQ.all_T1$BIQ_avg_MR85~BIQ.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  BIQ.all_T1$BIQ_avg_MR85 by BIQ.all_T1$Group
## t = -0.57432, df = 144.05, p-value = 0.5666
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2799918  0.1539137
## sample estimates:
## mean in group 0 mean in group 1
##        5.104078        5.167117
```


Treatment Group
Turtle
CLK
3
4
5
6
7
BIQ Average (1−7)
Group.R
CLK
Turtle

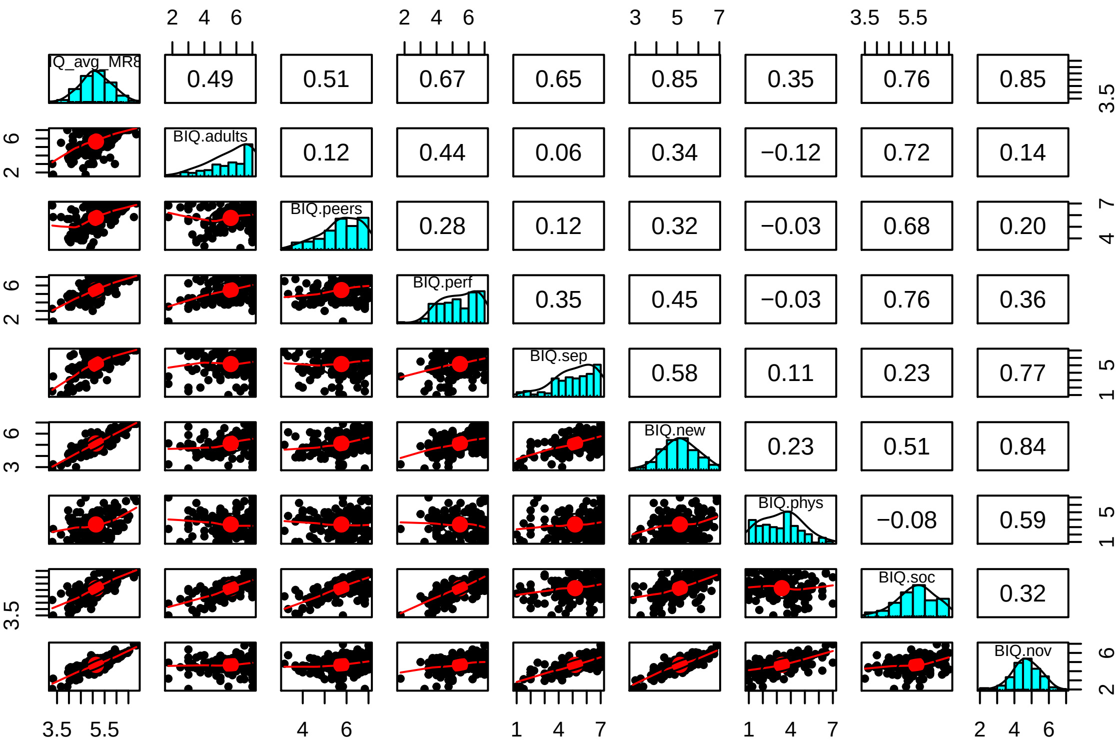
2.1.6 TIME 1: SUBSCALES

2.1.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(BIQ.all_T1[,c(39:46)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##            vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ.adults    1 147 5.65 1.30 -0.83    -0.11 0.11  4.88  7.00
## BIQ.peers     2 147 5.76 0.92 -0.66    -0.28 0.08  5.33  6.50
## BIQ.perf      3 147 5.46 1.13 -0.39    -0.65 0.09  4.50  6.50
## BIQ.sep       4 147 5.17 1.47 -0.74    -0.09 0.12  4.25  6.25
## BIQ.new       5 147 5.12 0.83 -0.15    -0.22 0.07  4.56  5.73
## BIQ.phys      6 147 3.36 1.44  0.23    -0.56 0.12  2.25  4.25
## BIQ.soc       7 147 5.64 0.78 -0.41    -0.20 0.06  5.21  6.21
## BIQ.nov       8 147 4.69 0.85 -0.28     0.52 0.07  4.22  5.31
```

```
psych::pairs.panels(BIQ.all_T1[,c(37,39:46)])
```



2.1.6.2 CRONBACH'S ALPHA: ADULTS SUBSCALE

```
psych::alpha(BIQ.all_T1[BIQ.adults], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.adults], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.91      0.91     0.9      0.71 9.9 0.013  5.6 1.3     0.72
##
##  lower alpha upper     95% confidence boundaries
## 0.88 0.91 0.93
##
##  lower median upper bootstrapped confidence intervals
##  0.87 0.91 0.94
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r  S/N alpha se  var.r med.r
## BIQ_3       0.91      0.92    0.88      0.78 10.9    0.012 0.0022  0.79
## BIQ_16      0.88      0.88    0.84      0.72  7.6    0.017 0.0040  0.70
```

```
## BIQ_26      0.86      0.87    0.84      0.68  6.5    0.020 0.0190  0.66
## BIQ_30      0.85      0.86    0.81      0.66  5.9    0.020 0.0091  0.70
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_3  147  0.83  0.82  0.73   0.70  5.4 1.6
## BIQ_16 147  0.87  0.88  0.84   0.78  6.0 1.3
## BIQ_26 147  0.91  0.91  0.87   0.83  5.6 1.6
## BIQ_30 147  0.92  0.93  0.91   0.86  5.6 1.5
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_3  0.02 0.03 0.06 0.16 0.18 0.22 0.32 0.03
## BIQ_16 0.00 0.01 0.07 0.07 0.14 0.22 0.50 0.03
## BIQ_26 0.03 0.01 0.07 0.14 0.14 0.22 0.39 0.03
## BIQ_30 0.00 0.03 0.08 0.12 0.11 0.27 0.38 0.03
```

2.1.6.3 CRONBACH'S ALPHA: PEERS SUBSCALE

```
psych::alpha(BIQ.all_T1[BIQ.peers], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.peers], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.81      0.81     0.8      0.42 4.4 0.024  5.8 0.92     0.43
##
##  lower alpha upper     95% confidence boundaries
## 0.76 0.81 0.86
##
##  lower median upper bootstrapped confidence intervals
##  0.74 0.81 0.86
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_2       0.77      0.77    0.75      0.40 3.4    0.029 0.0101  0.41
## BIQ_7       0.76      0.77    0.74      0.40 3.3    0.030 0.0094  0.38
## BIQ_8       0.80      0.80    0.78      0.45 4.1    0.026 0.0081  0.45
## BIQ_12      0.75      0.76    0.74      0.39 3.2    0.032 0.0122  0.35
## BIQ_19      0.78      0.79    0.77      0.43 3.7    0.028 0.0155  0.41
## BIQ_20      0.80      0.81    0.79      0.46 4.3    0.025 0.0095  0.47
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_2  147  0.74  0.76  0.71   0.63  6.3 1.1
## BIQ_7  147  0.76  0.78  0.74   0.64  5.7 1.2
## BIQ_8  147  0.67  0.65  0.55   0.49  5.9 1.4
## BIQ_12 147  0.81  0.79  0.75   0.68  6.0 1.4
## BIQ_19 147  0.71  0.71  0.62   0.56  5.4 1.3
## BIQ_20 147  0.62  0.63  0.50   0.45  5.4 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_2  0.01 0.00 0.03 0.03 0.09 0.30 0.54 0.03
## BIQ_7  0.00 0.01 0.03 0.15 0.16 0.33 0.31 0.03
## BIQ_8  0.02 0.03 0.03 0.04 0.16 0.29 0.43 0.03
## BIQ_12 0.02 0.01 0.04 0.06 0.12 0.27 0.48 0.03
## BIQ_19 0.01 0.03 0.07 0.15 0.18 0.37 0.20 0.03
## BIQ_20 0.01 0.01 0.03 0.19 0.28 0.26 0.22 0.03
```

2.1.6.4 CRONBACH'S ALPHA: PERFORMANCE SUBSCALE

```r
psych::alpha(BIQ.all_T1[BIQ.perf], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.perf], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean  sd median_r
##       0.85      0.85    0.86      0.59 5.9 0.02  5.5 1.1     0.53
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.85 0.9
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_6       0.82      0.82    0.80      0.61 4.6    0.027 0.034  0.52
## BIQ_10      0.80      0.80    0.74      0.58 4.1    0.028 0.011  0.52
## BIQ_21      0.83      0.83    0.80      0.62 5.0    0.025 0.028  0.54
## BIQ_28      0.80      0.80    0.74      0.57 4.0    0.028 0.012  0.54
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_6  147  0.83  0.82  0.74   0.68  5.6 1.3
## BIQ_10 147  0.85  0.85  0.82   0.73  5.7 1.3
## BIQ_21 147  0.81  0.81  0.71   0.65  5.1 1.4
## BIQ_28 147  0.85  0.85  0.82   0.72  5.4 1.4
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_6  0.01 0.01 0.05 0.17 0.20 0.22 0.35 0.03
## BIQ_10 0.01 0.01 0.01 0.19 0.19 0.24 0.35 0.03
## BIQ_21 0.02 0.01 0.06 0.26 0.21 0.22 0.21 0.03
## BIQ_28 0.01 0.01 0.07 0.24 0.14 0.25 0.29 0.03
```

2.1.6.5 CRONBACH'S ALPHA: SEPARATION SUBSCALE

```r
psych::alpha(BIQ.all_T1[BIQ.sep], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.sep], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##        0.9       0.9    0.89       0.7 9.3 0.013  5.2 1.5      0.7
##
##  lower alpha upper     95% confidence boundaries
## 0.87 0.9 0.93
##
##  lower median upper bootstrapped confidence intervals
##  0.86 0.9 0.93
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_9       0.88      0.89    0.84      0.72 7.9    0.016 0.0021  0.72
## BIQ_11      0.87      0.87    0.84      0.69 6.7    0.018 0.0103  0.72
## BIQ_18      0.85      0.86    0.82      0.67 6.2    0.021 0.0097  0.67
## BIQ_27      0.88      0.88    0.83      0.71 7.3    0.017 0.0035  0.68
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_9  147  0.87  0.86  0.80   0.75  5.5 1.8
```

```
## BIQ_11 147  0.88  0.89  0.84   0.79  5.2 1.5
## BIQ_18 147  0.91  0.90  0.87   0.82  4.9 1.8
## BIQ_27 147  0.86  0.87  0.82   0.76  5.2 1.6
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_9  0.05 0.04 0.07 0.13 0.10 0.20 0.41 0.03
## BIQ_11 0.02 0.04 0.08 0.19 0.16 0.29 0.22 0.03
## BIQ_18 0.07 0.06 0.09 0.16 0.20 0.18 0.24 0.03
## BIQ_27 0.01 0.07 0.06 0.16 0.18 0.29 0.23 0.03
```

2.1.6.6 CRONBACH'S ALPHA: NEW SUBSCALE

```
psych::alpha(BIQ.all_T1[BIQ.new], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.new], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.8      0.81    0.82      0.34 4.2 0.025  5.1 0.83     0.33
##
##  lower alpha upper     95% confidence boundaries
## 0.75 0.8 0.85
##
##  lower median upper bootstrapped confidence intervals
##  0.74 0.8 0.84
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_1       0.76      0.77    0.79      0.32 3.3    0.030 0.034  0.32
## BIQ_5       0.78      0.79    0.80      0.35 3.8    0.027 0.041  0.32
## BIQ_14      0.82      0.83    0.84      0.41 4.8    0.022 0.025  0.37
## BIQ_15      0.74      0.75    0.77      0.30 3.1    0.032 0.033  0.28
## BIQ_22      0.78      0.79    0.80      0.35 3.7    0.028 0.037  0.30
## BIQ_23      0.75      0.76    0.78      0.31 3.2    0.031 0.032  0.30
## BIQ_24      0.81      0.81    0.83      0.39 4.4    0.024 0.035  0.37
## BIQ_25      0.75      0.76    0.77      0.31 3.2    0.031 0.029  0.32
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_1  147  0.72  0.73  0.69   0.61  5.4 1.2
## BIQ_5  147  0.62  0.62  0.55   0.48  5.4 1.3
## BIQ_14 147  0.42  0.40  0.25   0.22  3.5 1.4
## BIQ_15 147  0.80  0.81  0.79   0.72  5.3 1.2
## BIQ_22 146  0.64  0.64  0.58   0.49  5.7 1.3
## BIQ_23 147  0.77  0.77  0.75   0.66  5.1 1.4
## BIQ_24 147  0.48  0.48  0.35   0.31  5.4 1.3
## BIQ_25 147  0.77  0.78  0.77   0.67  5.3 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_1  0.00 0.01 0.05 0.15 0.26 0.37 0.16 0.03
## BIQ_5  0.01 0.03 0.03 0.18 0.22 0.33 0.21 0.03
## BIQ_14 0.08 0.18 0.22 0.35 0.07 0.05 0.04 0.03
## BIQ_15 0.00 0.02 0.02 0.27 0.25 0.24 0.20 0.03
## BIQ_22 0.01 0.00 0.03 0.18 0.13 0.31 0.34 0.03
## BIQ_23 0.01 0.03 0.04 0.28 0.20 0.29 0.14 0.03
## BIQ_24 0.00 0.02 0.04 0.26 0.16 0.25 0.27 0.03
## BIQ_25 0.00 0.03 0.04 0.16 0.32 0.27 0.18 0.03
```

2.1.6.7 CRONBACH'S ALPHA: PHYSICAL SUBSCALE

```r
psych::alpha(BIQ.all_T1[BIQ.phys], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.phys], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.88      0.88    0.87      0.64 7.1 0.017  3.4 1.4     0.64
##
##  lower alpha upper     95% confidence boundaries
## 0.84 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.88 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_4       0.83      0.84    0.79      0.63 5.1    0.024 0.0084  0.68
## BIQ_13      0.82      0.82    0.76      0.60 4.6    0.026 0.0054  0.59
## BIQ_17      0.87      0.87    0.84      0.70 6.9    0.018 0.0126  0.68
## BIQ_29      0.83      0.83    0.80      0.63 5.0    0.024 0.0276  0.54
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_4  147  0.87  0.86  0.82   0.75  3.6 1.8
## BIQ_13 147  0.89  0.88  0.86   0.79  3.4 1.7
## BIQ_17 147  0.80  0.80  0.70   0.65  3.2 1.7
## BIQ_29 147  0.86  0.87  0.81   0.75  3.2 1.6
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_4  0.12 0.22 0.13 0.23 0.15 0.08 0.07 0.03
## BIQ_13 0.15 0.20 0.16 0.27 0.10 0.07 0.06 0.03
## BIQ_17 0.18 0.20 0.20 0.20 0.08 0.09 0.04 0.03
## BIQ_29 0.20 0.18 0.18 0.27 0.08 0.06 0.03 0.03
```

2.1.6.8 CRONBACH'S ALPHA: SOCIAL SUBSCALE (adults, peers, performance)

```r
psych::alpha(BIQ.all_T1[BIQ.soc], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.soc], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.84      0.84    0.91      0.27 5.3 0.019  5.6 0.78     0.22
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.84 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.79 0.84 0.88
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_3       0.84      0.84    0.90      0.28 5.1    0.020 0.042  0.22
## BIQ_16      0.83      0.83    0.90      0.27 4.9    0.021 0.040  0.22
## BIQ_26      0.83      0.83    0.89      0.27 4.8    0.021 0.040  0.22
## BIQ_30      0.82      0.82    0.89      0.26 4.6    0.022 0.040  0.22
## BIQ_2       0.84      0.84    0.90      0.28 5.1    0.019 0.045  0.22
## BIQ_7       0.84      0.83    0.90      0.28 5.0    0.020 0.046  0.22
## BIQ_8       0.84      0.84    0.91      0.28 5.1    0.019 0.049  0.23
## BIQ_12      0.83      0.83    0.90      0.27 4.9    0.020 0.047  0.21
```

```
## BIQ_19      0.84      0.83    0.91      0.28 5.0    0.020 0.049  0.22
## BIQ_20      0.85      0.84    0.91      0.29 5.4    0.019 0.046  0.23
## BIQ_6       0.83      0.83    0.90      0.27 4.8    0.021 0.046  0.21
## BIQ_10      0.83      0.83    0.89      0.28 4.9    0.020 0.045  0.22
## BIQ_21      0.83      0.82    0.90      0.27 4.7    0.021 0.048  0.21
## BIQ_28      0.83      0.82    0.89      0.26 4.7    0.021 0.046  0.21
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_3  147  0.55  0.51  0.48   0.44  5.4 1.6
## BIQ_16 147  0.61  0.59  0.58   0.52  6.0 1.3
## BIQ_26 147  0.67  0.64  0.63   0.57  5.6 1.6
## BIQ_30 147  0.73  0.70  0.71   0.65  5.6 1.5
## BIQ_2  147  0.45  0.49  0.45   0.37  6.3 1.1
## BIQ_7  147  0.50  0.53  0.50   0.41  5.7 1.2
## BIQ_8  147  0.50  0.50  0.44   0.39  5.9 1.4
## BIQ_12 147  0.57  0.58  0.55   0.47  6.0 1.4
## BIQ_19 147  0.52  0.53  0.48   0.42  5.4 1.3
## BIQ_20 147  0.37  0.40  0.33   0.27  5.4 1.2
## BIQ_6  147  0.64  0.64  0.61   0.56  5.6 1.3
## BIQ_10 147  0.57  0.57  0.56   0.48  5.7 1.3
## BIQ_21 147  0.66  0.66  0.63   0.58  5.1 1.4
## BIQ_28 147  0.68  0.67  0.67   0.60  5.4 1.4
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_3  0.02 0.03 0.06 0.16 0.18 0.22 0.32 0.03
## BIQ_16 0.00 0.01 0.07 0.07 0.14 0.22 0.50 0.03
## BIQ_26 0.03 0.01 0.07 0.14 0.14 0.22 0.39 0.03
## BIQ_30 0.00 0.03 0.08 0.12 0.11 0.27 0.38 0.03
## BIQ_2  0.01 0.00 0.03 0.03 0.09 0.30 0.54 0.03
## BIQ_7  0.00 0.01 0.03 0.15 0.16 0.33 0.31 0.03
## BIQ_8  0.02 0.03 0.03 0.04 0.16 0.29 0.43 0.03
## BIQ_12 0.02 0.01 0.04 0.06 0.12 0.27 0.48 0.03
## BIQ_19 0.01 0.03 0.07 0.15 0.18 0.37 0.20 0.03
## BIQ_20 0.01 0.01 0.03 0.19 0.28 0.26 0.22 0.03
## BIQ_6  0.01 0.01 0.05 0.17 0.20 0.22 0.35 0.03
## BIQ_10 0.01 0.01 0.01 0.19 0.19 0.24 0.35 0.03
## BIQ_21 0.02 0.01 0.06 0.26 0.21 0.22 0.21 0.03
## BIQ_28 0.01 0.01 0.07 0.24 0.14 0.25 0.29 0.03
```

2.1.6.9 CRONBACH'S ALPHA: NOVELTY SUBSCALE (separation, new, physical)

```r
psych::alpha(BIQ.all_T1[BIQ.nov], n.iter = 5000)
```

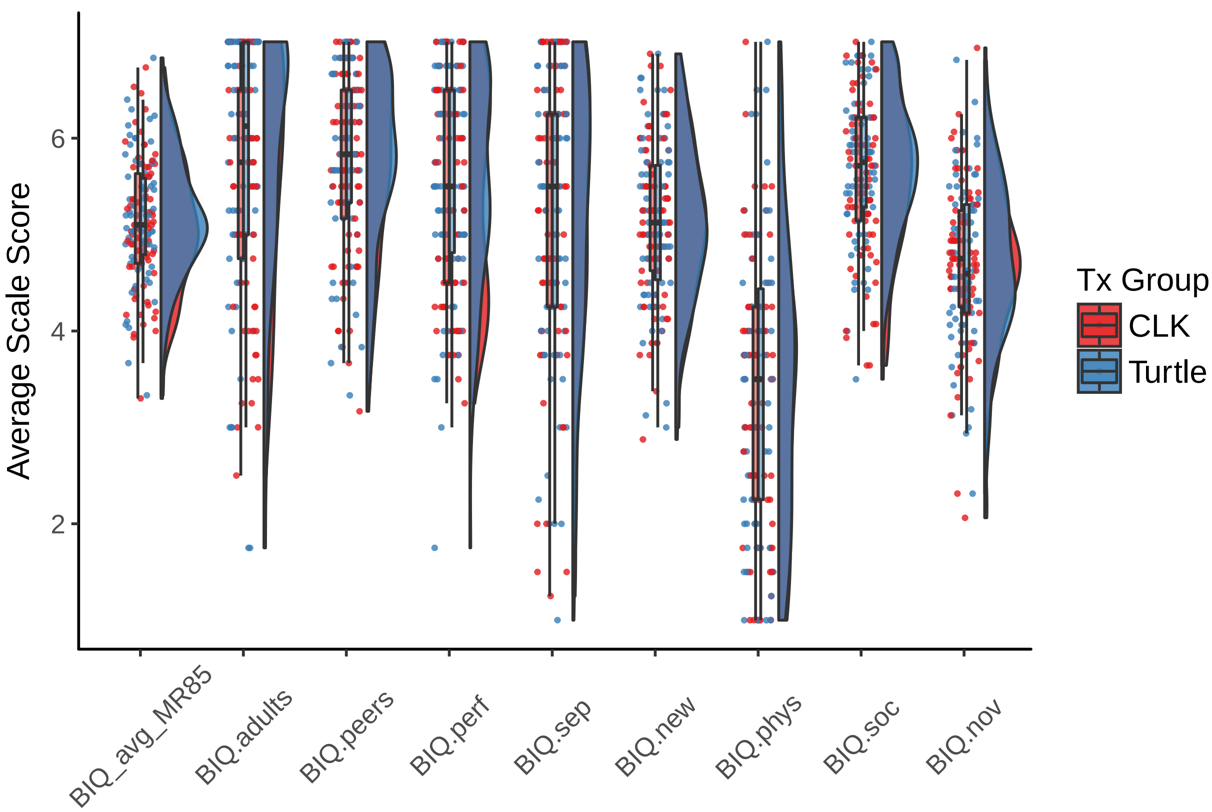
```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T1[BIQ.nov], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.86    0.92      0.28 6.3 0.017  4.7 0.85     0.25
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.86 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.86 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_9       0.85      0.85    0.91      0.28 5.8    0.019 0.048  0.25
## BIQ_11      0.84      0.84    0.91      0.27 5.4    0.020 0.048  0.24
```

```
## BIQ_18      0.84      0.85    0.91      0.27 5.6    0.019 0.047  0.24
## BIQ_27      0.84      0.85    0.91      0.28 5.7    0.019 0.047  0.24
## BIQ_1       0.85      0.85    0.91      0.28 5.7    0.019 0.053  0.24
## BIQ_5       0.85      0.86    0.92      0.29 6.1    0.018 0.054  0.24
## BIQ_14      0.86      0.86    0.92      0.29 6.3    0.018 0.054  0.26
## BIQ_15      0.84      0.85    0.91      0.27 5.5    0.019 0.051  0.24
## BIQ_22      0.85      0.86    0.92      0.29 6.1    0.018 0.052  0.25
## BIQ_23      0.84      0.84    0.91      0.26 5.4    0.020 0.052  0.23
## BIQ_24      0.86      0.87    0.92      0.31 6.6    0.017 0.049  0.26
## BIQ_25      0.84      0.84    0.91      0.27 5.4    0.019 0.048  0.24
## BIQ_4       0.86      0.86    0.91      0.30 6.3    0.017 0.046  0.26
## BIQ_13      0.85      0.86    0.91      0.29 6.2    0.017 0.047  0.25
## BIQ_17      0.85      0.86    0.92      0.29 6.2    0.017 0.050  0.25
## BIQ_29      0.85      0.86    0.91      0.29 6.0    0.018 0.050  0.25
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_9  147  0.63  0.62  0.61   0.54  5.5 1.8
## BIQ_11 147  0.76  0.76  0.76   0.71  5.2 1.5
## BIQ_18 147  0.69  0.67  0.67   0.60  4.9 1.8
## BIQ_27 147  0.64  0.64  0.63   0.56  5.2 1.6
## BIQ_1  147  0.60  0.64  0.61   0.55  5.4 1.2
## BIQ_5  147  0.47  0.50  0.45   0.40  5.4 1.3
## BIQ_14 147  0.43  0.42  0.35   0.33  3.5 1.4
## BIQ_15 147  0.70  0.73  0.72   0.65  5.3 1.2
## BIQ_22 146  0.45  0.48  0.44   0.36  5.7 1.3
## BIQ_23 147  0.75  0.77  0.76   0.71  5.1 1.4
## BIQ_24 147  0.24  0.28  0.21   0.15  5.4 1.3
## BIQ_25 147  0.74  0.76  0.76   0.70  5.3 1.2
## BIQ_4  147  0.45  0.41  0.39   0.34  3.6 1.8
## BIQ_13 147  0.50  0.46  0.45   0.39  3.4 1.7
## BIQ_17 147  0.50  0.47  0.44   0.39  3.2 1.7
## BIQ_29 147  0.56  0.53  0.51   0.47  3.2 1.6
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_9  0.05 0.04 0.07 0.13 0.10 0.20 0.41 0.03
## BIQ_11 0.02 0.04 0.08 0.19 0.16 0.29 0.22 0.03
## BIQ_18 0.07 0.06 0.09 0.16 0.20 0.18 0.24 0.03
## BIQ_27 0.01 0.07 0.06 0.16 0.18 0.29 0.23 0.03
## BIQ_1  0.00 0.01 0.05 0.15 0.26 0.37 0.16 0.03
## BIQ_5  0.01 0.03 0.03 0.18 0.22 0.33 0.21 0.03
## BIQ_14 0.08 0.18 0.22 0.35 0.07 0.05 0.04 0.03
## BIQ_15 0.00 0.02 0.02 0.27 0.25 0.24 0.20 0.03
## BIQ_22 0.01 0.00 0.03 0.18 0.13 0.31 0.34 0.03
## BIQ_23 0.01 0.03 0.04 0.28 0.20 0.29 0.14 0.03
## BIQ_24 0.00 0.02 0.04 0.26 0.16 0.25 0.27 0.03
## BIQ_25 0.00 0.03 0.04 0.16 0.32 0.27 0.18 0.03
## BIQ_4  0.12 0.22 0.13 0.23 0.15 0.08 0.07 0.03
## BIQ_13 0.15 0.20 0.16 0.27 0.10 0.07 0.06 0.03
## BIQ_17 0.18 0.20 0.20 0.20 0.08 0.09 0.04 0.03
## BIQ_29 0.20 0.18 0.18 0.27 0.08 0.06 0.03 0.03
```

2.1.6.10 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(BIQ.all_T1[37:46], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
```

```
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T1 Folder:

`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:

- `/BIQ_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/BIQ_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ

- /BIQ_T1_Summary_wo_Raw_items.txt: The processed summary scores for BIQ wo raw items

2.2 TIME 2: COMPLETE SCALE

2.2.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(BIQ.all_T2[,c(3:32)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1     1 131 4.95 1.17 -0.68     0.42 0.10   4.0   6.0
## BIQ_2     2 131 5.98 1.22 -1.71     3.55 0.11   6.0   7.0
## BIQ_3     3 131 4.82 1.56 -0.58    -0.37 0.14   4.0   6.0
## BIQ_4     4 131 3.30 1.72  0.21    -0.95 0.15   2.0   4.5
## BIQ_5     5 131 5.07 1.41 -0.37    -0.61 0.12   4.0   6.0
## BIQ_6     6 131 5.41 1.43 -0.82     0.36 0.12   4.0   7.0
## BIQ_7     7 131 5.66 1.28 -0.87     0.54 0.11   5.0   7.0
## BIQ_8     8 131 5.63 1.37 -1.09     1.05 0.12   5.0   7.0
## BIQ_9     9 131 5.21 1.72 -0.81    -0.24 0.15   4.0   7.0
## BIQ_10   10 131 5.58 1.40 -0.66    -0.57 0.12   4.0   7.0
## BIQ_11   11 131 4.98 1.52 -0.75     0.01 0.13   4.0   6.0
## BIQ_12   12 131 5.71 1.50 -1.44     1.62 0.13   5.0   7.0
## BIQ_13   13 131 3.33 1.73  0.33    -0.83 0.15   2.0   4.0
## BIQ_14   14 131 3.46 1.32  0.30    -0.22 0.12   2.5   4.0
## BIQ_15   15 131 5.05 1.17 -0.22    -0.45 0.10   4.0   6.0
## BIQ_16   16 131 5.76 1.38 -1.12     0.70 0.12   5.0   7.0
## BIQ_17   17 131 2.92 1.48  0.31    -0.80 0.13   2.0   4.0
## BIQ_18   18 131 4.56 1.80 -0.28    -0.96 0.16   3.0   6.0
## BIQ_19   19 131 5.18 1.40 -0.73     0.14 0.12   4.0   6.0
## BIQ_20   20 131 5.18 1.18 -0.51     0.36 0.10   4.0   6.0
## BIQ_21   21 131 5.10 1.32 -0.22    -0.69 0.12   4.0   6.0
## BIQ_22   22 131 5.44 1.27 -0.85     0.57 0.11   5.0   6.0
## BIQ_23   23 131 4.98 1.20 -0.51     0.53 0.10   4.0   6.0
## BIQ_24   24 131 5.27 1.31 -0.54    -0.06 0.11   4.0   6.0
## BIQ_25   25 131 5.05 1.18 -0.55     0.37 0.10   4.0   6.0
## BIQ_26   26 131 5.36 1.48 -0.60    -0.60 0.13   4.0   7.0
## BIQ_27   27 131 4.79 1.69 -0.54    -0.39 0.15   4.0   6.0
## BIQ_28   28 131 5.24 1.33 -0.32    -0.68 0.12   4.0   6.0
## BIQ_29   29 131 3.08 1.45  0.31    -0.57 0.13   2.0   4.0
## BIQ_30   30 131 5.35 1.46 -0.63    -0.50 0.13   4.0   7.0
```

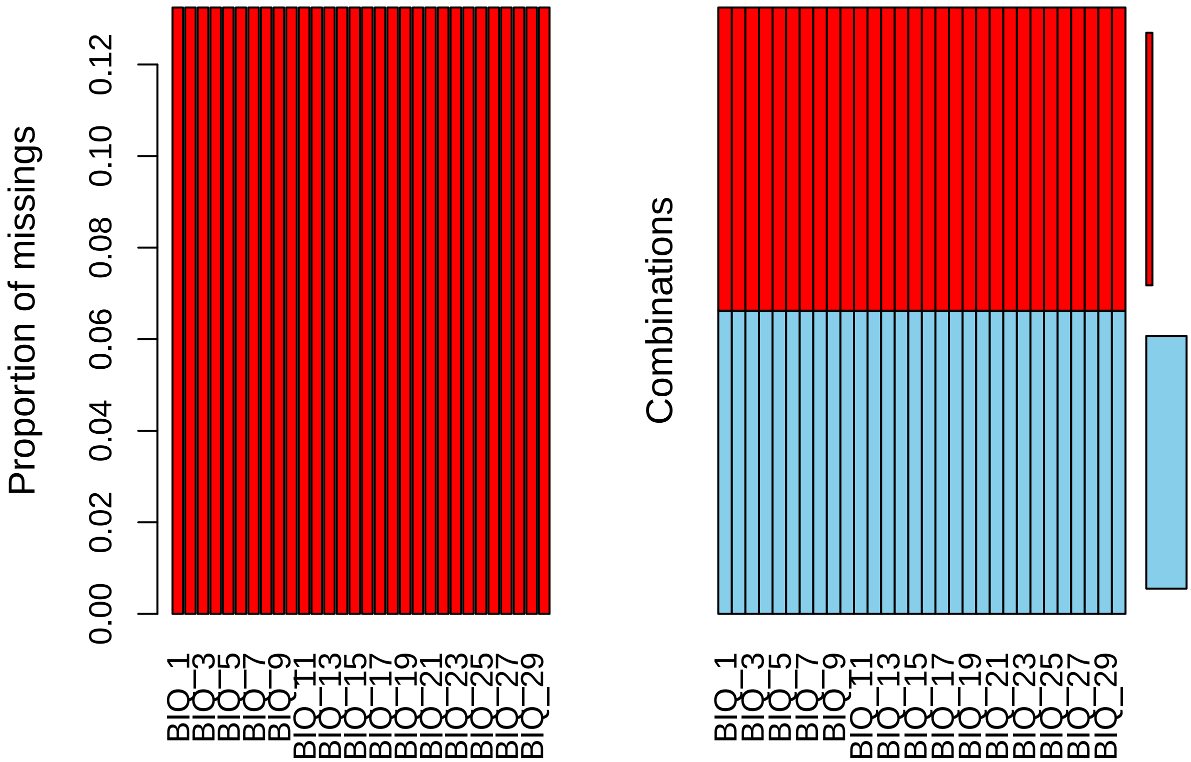
```
#Calculating Summary Scores:
BIQ.all_T2$BIQ_tot<-rowSums(BIQ.all_T2[,3:32])  #inclunding na.rm=T results in 0's

BIQ.all_T2$Miss_tot<-rep(NA, nrow(BIQ.all_T2))
for(n in 1:nrow(BIQ.all_T2)){
  BIQ.all_T2$Miss_tot[n]<-sum(is.na(BIQ.all_T2[n,3:32])==TRUE)
}

BIQ.all_T2$Miss_per<-rep(NA, nrow(BIQ.all_T2))
for(n in 1:nrow(BIQ.all_T2)){
  BIQ.all_T2$Miss_per[n]<-round(sum(is.na(BIQ.all_T2[n,3:32])==TRUE)/ncol(BIQ.all_T2[3:32])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
BIQ.all_T2$BIQ_avg<-rowMeans(BIQ.all_T2[,3:32])

#Creating variable with individual mean replacement if respondent completed >85% of items
BIQ.all_T2$BIQ_avg_MR85<-ifelse(BIQ.all_T2$Miss_per<15, rowMeans(BIQ.all_T2[,3:32],
                                                                  na.rm=T), NA)

#Descriptive Statistics for Summary Scores
```

```r
psych::describe(BIQ.all_T2[,c(33,36,37)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n   mean    sd  skew kurtosis   se  Q0.25 Q0.75
## BIQ_tot         1 131 147.38 21.20 -0.21     0.05 1.85 132.50 162.0
## BIQ_avg         2 131   4.91  0.71 -0.21     0.05 0.06   4.42   5.4
## BIQ_avg_MR85    3 131   4.91  0.71 -0.21     0.05 0.06   4.42   5.4
```

2.2.2 MISSING DATA

```r
VIM::aggr(BIQ.all_T2[,3:32])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subjects 011, 017, 019, 029, 030, 031, 038, 039, 041, 045, 047, 037, 096, 113, 114, 116, 125, 132, 142, 154, and 155 failed to respond to any items; $N = 21$; 13.91%

2. Missing pattern 2: All items completed; $N = 130$; 86.09%

The variable `BIQ_tot` is the vector of individual summed BIQ scores - 064 is dropped from this summary variable (see above). The varaible `BIQ_avg` is the vector of individual mean BIQ scores - 064 is dropped from this summary variable (see above).

The variable `BIQ_avg_MR85` is a vector of individual mean BIQ scores that includes estimated averages when at least 85% of the necessary data is available - note 064 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T2 to report.

2.2.3 CRONBACH'S ALPHA

```r
psych::alpha(BIQ.all_T2[,3:32], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[, 3:32], n.iter = 5000)
```

```
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.89       0.9    0.96      0.23   9 0.012  4.9 0.71      0.2
##
##  lower alpha upper     95% confidence boundaries
## 0.87 0.89 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.86 0.89 0.92
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_1       0.89      0.89    0.95      0.22 8.4    0.013 0.045  0.19
## BIQ_2       0.89      0.90    0.96      0.24 9.0    0.012 0.045  0.21
## BIQ_3       0.89      0.90    0.95      0.23 8.7    0.013 0.044  0.20
## BIQ_4       0.90      0.90    0.95      0.24 9.2    0.012 0.042  0.21
## BIQ_5       0.89      0.90    0.95      0.23 8.5    0.013 0.046  0.19
## BIQ_6       0.89      0.90    0.95      0.23 8.7    0.013 0.045  0.19
## BIQ_7       0.89      0.90    0.95      0.23 8.8    0.013 0.045  0.20
## BIQ_8       0.89      0.90    0.96      0.24 9.0    0.012 0.045  0.21
## BIQ_9       0.89      0.89    0.95      0.23 8.5    0.013 0.044  0.19
## BIQ_10      0.89      0.90    0.95      0.23 8.6    0.013 0.045  0.19
## BIQ_11      0.89      0.90    0.95      0.23 8.6    0.013 0.044  0.20
## BIQ_12      0.90      0.90    0.96      0.24 9.1    0.012 0.044  0.21
## BIQ_13      0.90      0.90    0.95      0.24 9.2    0.012 0.042  0.21
## BIQ_14      0.89      0.90    0.96      0.23 8.9    0.013 0.046  0.20
## BIQ_15      0.89      0.89    0.95      0.22 8.3    0.013 0.044  0.19
## BIQ_16      0.89      0.90    0.95      0.23 8.8    0.013 0.042  0.20
## BIQ_17      0.89      0.90    0.95      0.24 9.0    0.012 0.044  0.21
## BIQ_18      0.89      0.90    0.95      0.23 8.6    0.013 0.044  0.20
## BIQ_19      0.90      0.90    0.96      0.24 9.1    0.012 0.044  0.21
## BIQ_20      0.89      0.90    0.95      0.23 8.7    0.013 0.046  0.20
## BIQ_21      0.89      0.89    0.95      0.23 8.4    0.013 0.045  0.19
## BIQ_22      0.89      0.89    0.95      0.22 8.3    0.013 0.045  0.19
## BIQ_23      0.89      0.89    0.95      0.22 8.2    0.013 0.044  0.19
## BIQ_24      0.89      0.90    0.95      0.23 8.7    0.013 0.046  0.19
## BIQ_25      0.89      0.89    0.95      0.22 8.3    0.013 0.044  0.19
## BIQ_26      0.89      0.90    0.95      0.23 8.7    0.013 0.043  0.19
## BIQ_27      0.89      0.90    0.95      0.23 8.5    0.013 0.044  0.20
## BIQ_28      0.89      0.89    0.95      0.23 8.5    0.013 0.044  0.19
## BIQ_29      0.89      0.90    0.95      0.24 9.0    0.013 0.043  0.21
## BIQ_30      0.89      0.90    0.95      0.23 8.7    0.013 0.043  0.19
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_1  131  0.67  0.68  0.67   0.64  4.9 1.2
## BIQ_2  131  0.31  0.34  0.31   0.26  6.0 1.2
## BIQ_3  131  0.50  0.50  0.49   0.44  4.8 1.6
## BIQ_4  131  0.26  0.23  0.22   0.19  3.3 1.7
## BIQ_5  131  0.59  0.60  0.58   0.55  5.1 1.4
## BIQ_6  131  0.51  0.52  0.51   0.46  5.4 1.4
## BIQ_7  131  0.44  0.46  0.44   0.39  5.7 1.3
## BIQ_8  131  0.31  0.32  0.29   0.25  5.6 1.4
## BIQ_9  131  0.62  0.61  0.60   0.57  5.2 1.7
## BIQ_10 131  0.58  0.58  0.58   0.54  5.6 1.4
## BIQ_11 131  0.60  0.58  0.58   0.55  5.0 1.5
## BIQ_12 131  0.26  0.27  0.25   0.19  5.7 1.5
## BIQ_13 131  0.28  0.25  0.24   0.20  3.3 1.7
## BIQ_14 131  0.41  0.40  0.37   0.36  3.5 1.3
## BIQ_15 131  0.72  0.73  0.72   0.70  5.1 1.2
## BIQ_16 131  0.43  0.43  0.43   0.37  5.8 1.4
## BIQ_17 131  0.35  0.33  0.32   0.29  2.9 1.5
```

```
## BIQ_18 131  0.58  0.56  0.56   0.52  4.6 1.8
## BIQ_19 131  0.25  0.27  0.25   0.19  5.2 1.4
## BIQ_20 131  0.49  0.51  0.50   0.45  5.2 1.2
## BIQ_21 131  0.65  0.66  0.65   0.61  5.1 1.3
## BIQ_22 131  0.70  0.71  0.70   0.67  5.4 1.3
## BIQ_23 131  0.75  0.76  0.76   0.73  5.0 1.2
## BIQ_24 131  0.48  0.50  0.48   0.43  5.3 1.3
## BIQ_25 131  0.74  0.74  0.74   0.71  5.1 1.2
## BIQ_26 131  0.51  0.51  0.51   0.45  5.4 1.5
## BIQ_27 131  0.61  0.59  0.58   0.56  4.8 1.7
## BIQ_28 131  0.64  0.64  0.64   0.60  5.2 1.3
## BIQ_29 131  0.39  0.37  0.36   0.33  3.1 1.4
## BIQ_30 131  0.53  0.53  0.53   0.47  5.4 1.5
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_1  0.01 0.02 0.09 0.16 0.38 0.28 0.05 0.13
## BIQ_2  0.02 0.01 0.02 0.05 0.15 0.34 0.41 0.13
## BIQ_3  0.03 0.08 0.05 0.25 0.18 0.29 0.12 0.13
## BIQ_4  0.21 0.18 0.11 0.25 0.15 0.06 0.04 0.13
## BIQ_5  0.01 0.03 0.09 0.24 0.18 0.27 0.18 0.13
## BIQ_6  0.02 0.01 0.05 0.18 0.19 0.27 0.27 0.13
## BIQ_7  0.01 0.02 0.02 0.16 0.20 0.28 0.32 0.13
## BIQ_8  0.02 0.02 0.02 0.13 0.20 0.29 0.32 0.13
## BIQ_9  0.05 0.05 0.05 0.20 0.11 0.26 0.29 0.13
## BIQ_10 0.00 0.03 0.04 0.20 0.15 0.23 0.36 0.13
## BIQ_11 0.04 0.03 0.09 0.18 0.20 0.32 0.14 0.13
## BIQ_12 0.03 0.02 0.05 0.07 0.14 0.33 0.37 0.13
## BIQ_13 0.18 0.21 0.12 0.26 0.10 0.08 0.05 0.13
## BIQ_14 0.05 0.20 0.26 0.31 0.11 0.06 0.02 0.13
## BIQ_15 0.00 0.02 0.04 0.30 0.24 0.30 0.10 0.13
## BIQ_16 0.01 0.02 0.05 0.08 0.18 0.26 0.40 0.13
## BIQ_17 0.21 0.24 0.13 0.28 0.08 0.04 0.01 0.13
## BIQ_18 0.05 0.12 0.08 0.23 0.16 0.17 0.18 0.13
## BIQ_19 0.02 0.04 0.05 0.19 0.22 0.31 0.17 0.13
## BIQ_20 0.01 0.02 0.03 0.24 0.28 0.31 0.12 0.13
## BIQ_21 0.00 0.03 0.07 0.25 0.24 0.23 0.18 0.13
## BIQ_22 0.01 0.02 0.03 0.17 0.21 0.37 0.20 0.13
## BIQ_23 0.02 0.01 0.06 0.26 0.30 0.27 0.08 0.13
## BIQ_24 0.01 0.02 0.04 0.23 0.22 0.29 0.19 0.13
## BIQ_25 0.01 0.02 0.04 0.25 0.28 0.31 0.08 0.13
## BIQ_26 0.00 0.06 0.03 0.23 0.14 0.25 0.29 0.13
## BIQ_27 0.05 0.08 0.05 0.20 0.27 0.15 0.19 0.13
## BIQ_28 0.00 0.03 0.05 0.25 0.21 0.24 0.21 0.13
## BIQ_29 0.16 0.22 0.21 0.27 0.07 0.06 0.01 0.13
## BIQ_30 0.00 0.06 0.03 0.22 0.14 0.28 0.27 0.13
```

2.2.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```r
BIQ.all_T2$Group.R<-ifelse(BIQ.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(BIQ.all_T2[,c(3:32,38)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##         vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1      1 63 4.76 1.21 -0.77     0.80 0.15   4.0     5
## BIQ_2      2 63 5.84 1.41 -1.68     2.97 0.18   5.0     7
## BIQ_3      3 63 4.48 1.59 -0.30    -0.73 0.20   4.0     6
## BIQ_4      4 63 3.05 1.62  0.17    -1.08 0.20   1.5     4
```

```
## BIQ_5       5 63 4.97 1.49 -0.43    -0.48 0.19   4.0     6
## BIQ_6       6 63 5.19 1.51 -0.73     0.08 0.19   4.0     6
## BIQ_7       7 63 5.52 1.39 -0.76     0.32 0.18   5.0     7
## BIQ_8       8 63 5.56 1.45 -0.98     0.55 0.18   5.0     7
## BIQ_9       9 63 5.11 1.94 -0.81    -0.59 0.24   4.0     7
## BIQ_10     10 63 5.41 1.47 -0.45    -0.95 0.18   4.0     7
## BIQ_11     11 63 4.90 1.77 -0.77    -0.34 0.22   4.0     6
## BIQ_12     12 63 5.75 1.51 -1.53     1.88 0.19   5.0     7
## BIQ_13     13 63 3.16 1.69  0.37    -0.80 0.21   2.0     4
## BIQ_14     14 63 3.46 1.19  0.26     0.01 0.15   3.0     4
## BIQ_15     15 63 4.94 1.23 -0.45    -0.37 0.15   4.0     6
## BIQ_16     16 63 5.68 1.50 -1.12     0.56 0.19   5.0     7
## BIQ_17     17 63 2.94 1.53  0.26    -0.75 0.19   1.5     4
## BIQ_18     18 63 4.65 1.92 -0.49    -0.88 0.24   4.0     6
## BIQ_19     19 63 5.22 1.34 -0.76     0.59 0.17   4.5     6
## BIQ_20     20 63 5.02 1.26 -0.60     0.63 0.16   4.0     6
## BIQ_21     21 63 4.78 1.37 -0.23    -0.79 0.17   4.0     6
## BIQ_22     22 63 5.32 1.40 -0.95     0.60 0.18   4.5     6
## BIQ_23     23 63 4.83 1.31 -0.73     0.60 0.17   4.0     6
## BIQ_24     24 63 5.08 1.38 -0.28    -0.67 0.17   4.0     6
## BIQ_25     25 63 4.84 1.30 -0.45     0.04 0.16   4.0     6
## BIQ_26     26 63 5.19 1.47 -0.42    -0.74 0.19   4.0     6
## BIQ_27     27 63 4.60 1.85 -0.36    -0.82 0.23   3.5     6
## BIQ_28     28 63 5.08 1.37 -0.25    -0.66 0.17   4.0     6
## BIQ_29     29 63 3.06 1.51  0.31    -0.63 0.19   2.0     4
## BIQ_30     30 63 5.13 1.59 -0.54    -0.87 0.20   4.0     6
## Group.R*   31 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1       1 68 5.12 1.10 -0.49    -0.59 0.13  4.75  6.00
## BIQ_2       2 68 6.12 1.02 -1.24     1.12 0.12  6.00  7.00
## BIQ_3       3 68 5.13 1.48 -0.88     0.33 0.18  4.00  6.00
## BIQ_4       4 68 3.53 1.79  0.18    -1.03 0.22  2.00  5.00
## BIQ_5       5 68 5.16 1.33 -0.22    -1.08 0.16  4.00  6.00
## BIQ_6       6 68 5.62 1.33 -0.83     0.41 0.16  5.00  7.00
## BIQ_7       7 68 5.78 1.16 -0.88     0.32 0.14  5.00  7.00
## BIQ_8       8 68 5.69 1.30 -1.17     1.49 0.16  5.00  7.00
## BIQ_9       9 68 5.31 1.50 -0.60    -0.37 0.18  4.00  7.00
## BIQ_10     10 68 5.74 1.33 -0.86    -0.11 0.16  5.00  7.00
## BIQ_11     11 68 5.06 1.27 -0.41    -0.62 0.15  4.00  6.00
## BIQ_12     12 68 5.68 1.50 -1.33     1.26 0.18  5.00  7.00
## BIQ_13     13 68 3.49 1.76  0.28    -0.92 0.21  2.00  5.00
## BIQ_14     14 68 3.46 1.44  0.31    -0.51 0.17  2.00  4.00
## BIQ_15     15 68 5.16 1.10  0.15    -1.06 0.13  4.00  6.00
## BIQ_16     16 68 5.84 1.27 -1.01     0.32 0.15  5.00  7.00
## BIQ_17     17 68 2.91 1.44  0.36    -0.95 0.17  2.00  4.00
## BIQ_18     18 68 4.47 1.70 -0.02    -1.11 0.21  3.00  6.00
## BIQ_19     19 68 5.13 1.47 -0.67    -0.27 0.18  4.00  6.00
## BIQ_20     20 68 5.32 1.09 -0.24    -0.81 0.13  4.75  6.00
## BIQ_21     21 68 5.40 1.20 -0.02    -1.25 0.15  4.00  6.25
## BIQ_22     22 68 5.54 1.13 -0.48    -0.68 0.14  5.00  6.00
## BIQ_23     23 68 5.12 1.07  0.06    -0.89 0.13  4.00  6.00
## BIQ_24     24 68 5.44 1.21 -0.78     0.85 0.15  4.75  6.00
## BIQ_25     25 68 5.25 1.03 -0.42     0.10 0.12  5.00  6.00
## BIQ_26     26 68 5.51 1.49 -0.77    -0.41 0.18  4.00  7.00
## BIQ_27     27 68 4.96 1.52 -0.68     0.05 0.18  4.00  6.00
## BIQ_28     28 68 5.38 1.28 -0.35    -0.83 0.16  4.00  6.00
## BIQ_29     29 68 3.10 1.39  0.31    -0.61 0.17  2.00  4.00
## BIQ_30     30 68 5.56 1.31 -0.58    -0.46 0.16  4.00  7.00
## Group.R*   31 75  NaN   NA    NA       NA   NA    NA    NA
```

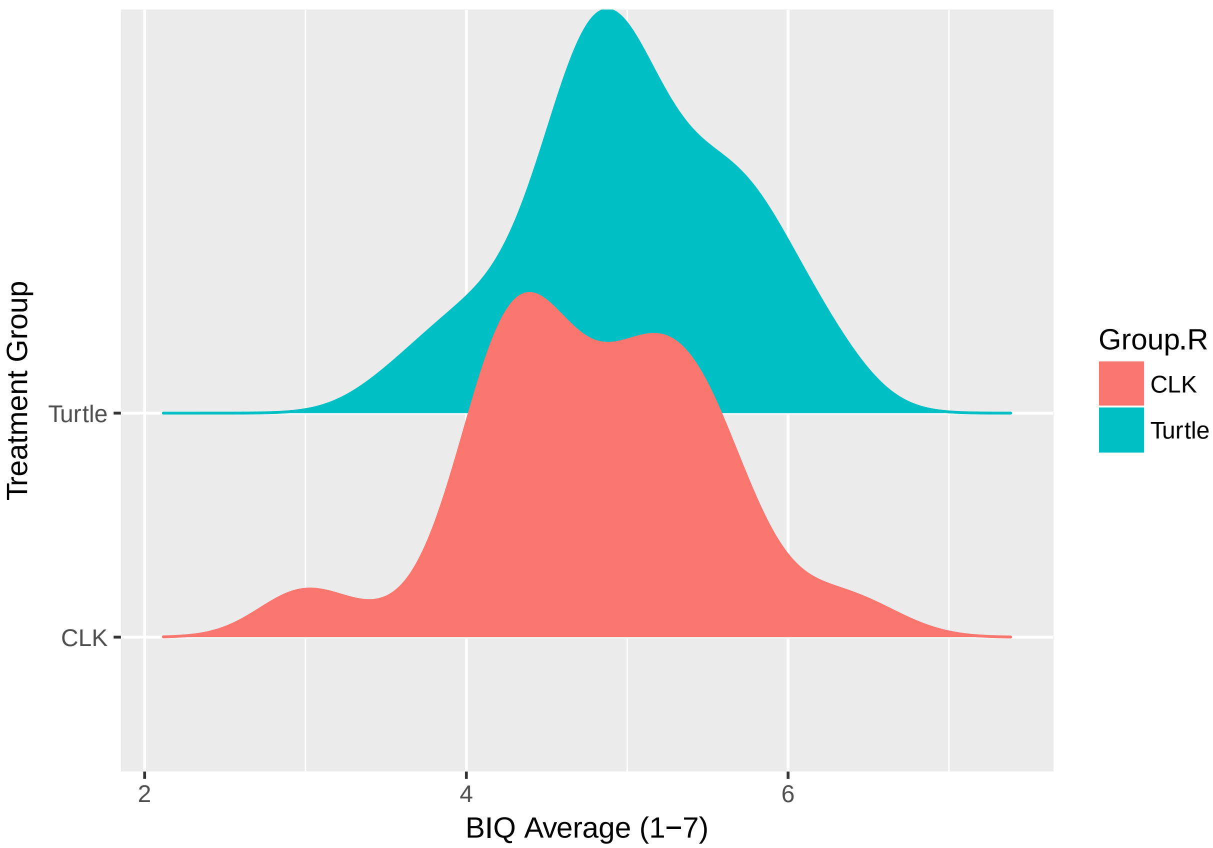
```r
psych::describeBy(BIQ.all_T2[,c(33,36,37,38)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n   mean    sd  skew kurtosis   se Q0.25  Q0.75
## BIQ_tot         1 63 143.51 22.50 -0.16     0.12 2.83 129.0 159.50
## BIQ_avg         2 63   4.78  0.75 -0.16     0.12 0.09   4.3   5.32
## BIQ_avg_MR85    3 63   4.78  0.75 -0.16     0.12 0.09   4.3   5.32
## Group.R*        4 76    NaN    NA    NA       NA   NA    NA     NA
## --------------------------------------------------------
## group: Turtle
##              vars  n   mean    sd skew kurtosis   se Q0.25  Q0.75
## BIQ_tot         1 68 150.97 19.39 -0.1    -0.48 2.35 141.0 167.00
## BIQ_avg         2 68   5.03  0.65 -0.1    -0.48 0.08   4.7   5.57
## BIQ_avg_MR85    3 68   5.03  0.65 -0.1    -0.48 0.08   4.7   5.57
## Group.R*        4 75    NaN    NA   NA       NA   NA    NA     NA
```

2.2.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
#Groups do not differ on average BIQ scores
t.test(BIQ.all_T2$BIQ_avg_MR85~BIQ.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  BIQ.all_T2$BIQ_avg_MR85 by BIQ.all_T2$Group
## t = -2.0261, df = 122.87, p-value = 0.04492
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.49178342 -0.00572669
## sample estimates:
## mean in group 0 mean in group 1
##        4.783598        5.032353
```


Treatment Group
Turtle
CLK
2
4
6
BIQ Average (1−7)
Group.R
CLK
Turtle

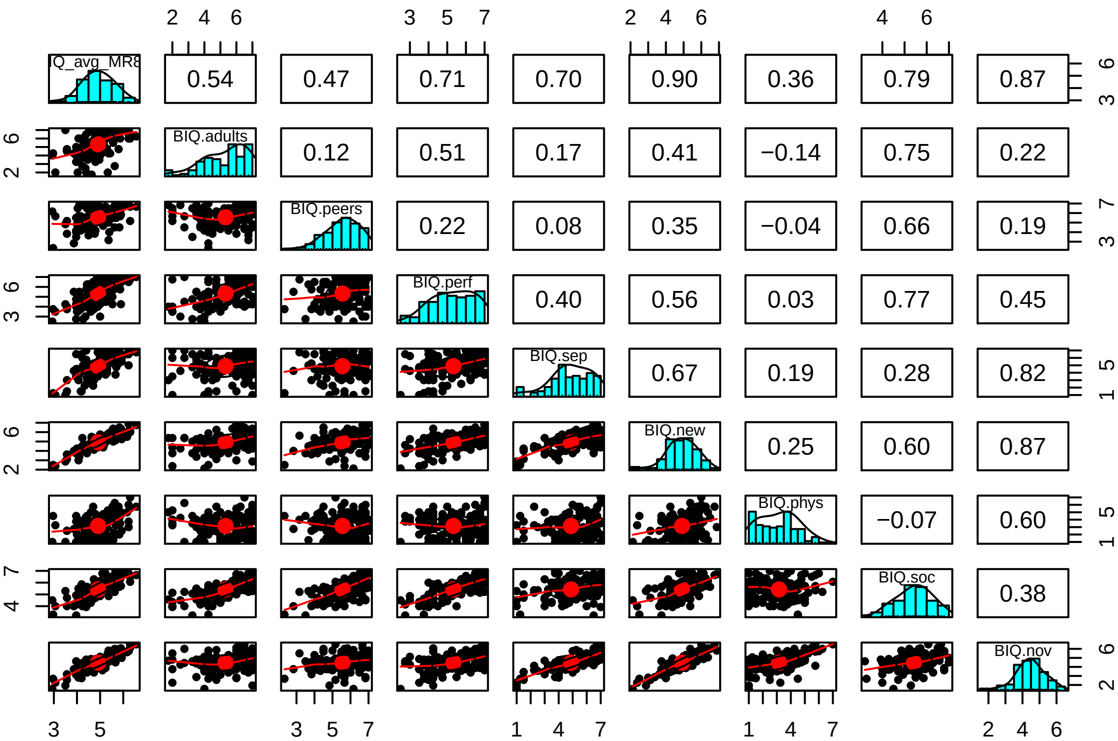
2.2.6 TIME 2: SUBSCALES

2.2.6.1 SUBSCALE DESCRIPTIVES

```r
#Item-Level Statistics:
psych::describe(BIQ.all_T2[,c(39:46)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##            vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ.adults    1 131 5.32 1.33 -0.70    -0.30 0.12  4.25  6.50
## BIQ.peers     2 131 5.55 0.95 -0.67     0.31 0.08  5.00  6.17
## BIQ.perf      3 131 5.33 1.15 -0.29    -0.85 0.10  4.38  6.25
## BIQ.sep       4 131 4.89 1.46 -0.65     0.10 0.13  4.00  6.00
## BIQ.new       5 131 4.91 0.88 -0.47     0.54 0.08  4.38  5.50
## BIQ.phys      6 131 3.16 1.40  0.21    -0.71 0.12  2.00  4.00
## BIQ.soc       7 131 5.42 0.80 -0.27    -0.39 0.07  4.86  6.00
## BIQ.nov       8 131 4.46 0.89 -0.35     0.60 0.08  3.94  4.97
```

```r
psych::pairs.panels(BIQ.all_T2[,c(37,39:46)])
```



2.2.6.2 CRONBACH'S ALPHA: ADULTS SUBSCALE

```r
psych::alpha(BIQ.all_T2[BIQ.adults], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.adults], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean  sd median_r
##       0.93      0.93    0.91      0.76  13 0.0098  5.3 1.3     0.78
##
##  lower alpha upper     95% confidence boundaries
## 0.91 0.93 0.95
##
##  lower median upper bootstrapped confidence intervals
##  0.9 0.93 0.95
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r  S/N alpha se   var.r med.r
## BIQ_3       0.92      0.92    0.89      0.80 11.9    0.011 0.00037  0.80
## BIQ_16      0.91      0.91    0.87      0.76  9.7    0.013 0.00147  0.77
```

```
## BIQ_26      0.89      0.89    0.85      0.73  8.0    0.016 0.00265  0.72
## BIQ_30      0.90      0.90    0.87      0.76  9.4    0.014 0.00518  0.77
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_3  131  0.88  0.88  0.81   0.78  4.8 1.6
## BIQ_16 131  0.90  0.90  0.87   0.83  5.8 1.4
## BIQ_26 131  0.94  0.94  0.92   0.88  5.4 1.5
## BIQ_30 131  0.91  0.91  0.87   0.84  5.4 1.5
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_3  0.03 0.08 0.05 0.25 0.18 0.29 0.12 0.13
## BIQ_16 0.01 0.02 0.05 0.08 0.18 0.26 0.40 0.13
## BIQ_26 0.00 0.06 0.03 0.23 0.14 0.25 0.29 0.13
## BIQ_30 0.00 0.06 0.03 0.22 0.14 0.28 0.27 0.13
```

2.2.6.3 CRONBACH'S ALPHA: PEERS SUBSCALE

```
psych::alpha(BIQ.all_T2[BIQ.peers], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.peers], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.81      0.81    0.79      0.42 4.3 0.024  5.6 0.95     0.39
##
##  lower alpha upper     95% confidence boundaries
## 0.76 0.81 0.85
##
##  lower median upper bootstrapped confidence intervals
##  0.72 0.81 0.87
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_2       0.77      0.77    0.74      0.40 3.3    0.030 0.0057  0.38
## BIQ_7       0.76      0.76    0.72      0.39 3.2    0.031 0.0038  0.38
## BIQ_8       0.78      0.79    0.76      0.43 3.7    0.028 0.0064  0.41
## BIQ_12      0.78      0.79    0.76      0.42 3.7    0.028 0.0075  0.42
## BIQ_19      0.79      0.80    0.77      0.44 3.9    0.027 0.0046  0.44
## BIQ_20      0.78      0.78    0.76      0.42 3.6    0.028 0.0066  0.41
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_2  131  0.74  0.75  0.69   0.62  6.0 1.2
## BIQ_7  131  0.78  0.79  0.75   0.66  5.7 1.3
## BIQ_8  131  0.70  0.69  0.61   0.54  5.6 1.4
## BIQ_12 131  0.72  0.70  0.61   0.55  5.7 1.5
## BIQ_19 131  0.67  0.66  0.55   0.49  5.2 1.4
## BIQ_20 131  0.69  0.71  0.62   0.55  5.2 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_2  0.02 0.01 0.02 0.05 0.15 0.34 0.41 0.13
## BIQ_7  0.01 0.02 0.02 0.16 0.20 0.28 0.32 0.13
## BIQ_8  0.02 0.02 0.02 0.13 0.20 0.29 0.32 0.13
## BIQ_12 0.03 0.02 0.05 0.07 0.14 0.33 0.37 0.13
## BIQ_19 0.02 0.04 0.05 0.19 0.22 0.31 0.17 0.13
## BIQ_20 0.01 0.02 0.03 0.24 0.28 0.31 0.12 0.13
```

2.2.6.4 CRONBACH'S ALPHA: PERFORMANCE SUBSCALE

```r
psych::alpha(BIQ.all_T2[BIQ.perf], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.perf], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean  sd median_r
##       0.86      0.86    0.86       0.6 6.1 0.02  5.3 1.1     0.62
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.86 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.81 0.86 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_6       0.87      0.87    0.83      0.68 6.4    0.019 0.012  0.64
## BIQ_10      0.81      0.81    0.77      0.59 4.3    0.027 0.015  0.64
## BIQ_21      0.79      0.80    0.77      0.57 3.9    0.030 0.043  0.45
## BIQ_28      0.80      0.80    0.75      0.57 4.1    0.029 0.014  0.60
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_6  131  0.77  0.77  0.65   0.59  5.4 1.4
## BIQ_10 131  0.85  0.85  0.81   0.72  5.6 1.4
## BIQ_21 131  0.87  0.87  0.81   0.76  5.1 1.3
## BIQ_28 131  0.86  0.86  0.83   0.74  5.2 1.3
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_6  0.02 0.01 0.05 0.18 0.19 0.27 0.27 0.13
## BIQ_10 0.00 0.03 0.04 0.20 0.15 0.23 0.36 0.13
## BIQ_21 0.00 0.03 0.07 0.25 0.24 0.23 0.18 0.13
## BIQ_28 0.00 0.03 0.05 0.25 0.21 0.24 0.21 0.13
```

2.2.6.5 CRONBACH'S ALPHA: SEPARATION SUBSCALE

```r
psych::alpha(BIQ.all_T2[BIQ.sep], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.sep], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.89      0.89    0.86      0.66 7.9 0.015  4.9 1.5     0.65
##
##  lower alpha upper     95% confidence boundaries
## 0.86 0.89 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.89 0.92
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_9       0.85      0.86    0.80      0.67 6.0    0.020 0.0007  0.66
## BIQ_11      0.86      0.86    0.81      0.67 6.1    0.020 0.0050  0.66
## BIQ_18      0.84      0.84    0.78      0.64 5.4    0.023 0.0025  0.62
## BIQ_27      0.86      0.86    0.81      0.67 6.1    0.019 0.0048  0.65
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_9  131  0.86  0.86  0.80   0.75  5.2 1.7
```

```
## BIQ_11 131  0.85  0.86  0.79   0.74  5.0 1.5
## BIQ_18 131  0.89  0.88  0.84   0.79  4.6 1.8
## BIQ_27 131  0.86  0.86  0.79   0.74  4.8 1.7
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_9  0.05 0.05 0.05 0.20 0.11 0.26 0.29 0.13
## BIQ_11 0.04 0.03 0.09 0.18 0.20 0.32 0.14 0.13
## BIQ_18 0.05 0.12 0.08 0.23 0.16 0.17 0.18 0.13
## BIQ_27 0.05 0.08 0.05 0.20 0.27 0.15 0.19 0.13
```

2.2.6.6 CRONBACH'S ALPHA: NEW SUBSCALE

```
psych::alpha(BIQ.all_T2[BIQ.new], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.new], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.85      0.86    0.86      0.43 5.9 0.019  4.9 0.88     0.44
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.79 0.85 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_1       0.82      0.83    0.84      0.41 4.8    0.022 0.032  0.40
## BIQ_5       0.84      0.84    0.85      0.44 5.4    0.020 0.032  0.40
## BIQ_14      0.86      0.87    0.87      0.48 6.5    0.017 0.025  0.52
## BIQ_15      0.81      0.82    0.82      0.39 4.5    0.023 0.029  0.33
## BIQ_22      0.82      0.83    0.83      0.41 4.8    0.023 0.031  0.40
## BIQ_23      0.82      0.82    0.83      0.40 4.6    0.023 0.030  0.40
## BIQ_24      0.86      0.87    0.87      0.48 6.6    0.017 0.025  0.52
## BIQ_25      0.82      0.82    0.83      0.40 4.7    0.023 0.029  0.40
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_1  131  0.76  0.77  0.73   0.68  4.9 1.2
## BIQ_5  131  0.68  0.67  0.61   0.55  5.1 1.4
## BIQ_14 131  0.51  0.50  0.38   0.34  3.5 1.3
## BIQ_15 131  0.83  0.84  0.83   0.77  5.1 1.2
## BIQ_22 131  0.78  0.78  0.75   0.69  5.4 1.3
## BIQ_23 131  0.80  0.81  0.79   0.72  5.0 1.2
## BIQ_24 131  0.50  0.49  0.37   0.34  5.3 1.3
## BIQ_25 131  0.79  0.79  0.77   0.71  5.1 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_1  0.01 0.02 0.09 0.16 0.38 0.28 0.05 0.13
## BIQ_5  0.01 0.03 0.09 0.24 0.18 0.27 0.18 0.13
## BIQ_14 0.05 0.20 0.26 0.31 0.11 0.06 0.02 0.13
## BIQ_15 0.00 0.02 0.04 0.30 0.24 0.30 0.10 0.13
## BIQ_22 0.01 0.02 0.03 0.17 0.21 0.37 0.20 0.13
## BIQ_23 0.02 0.01 0.06 0.26 0.30 0.27 0.08 0.13
## BIQ_24 0.01 0.02 0.04 0.23 0.22 0.29 0.19 0.13
## BIQ_25 0.01 0.02 0.04 0.25 0.28 0.31 0.08 0.13
```

2.2.6.7 CRONBACH'S ALPHA: PHYSICAL SUBSCALE

```r
psych::alpha(BIQ.all_T2[BIQ.phys], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.phys], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##        0.9       0.9    0.89      0.69 8.9 0.014  3.2 1.4     0.69
##
##  lower alpha upper     95% confidence boundaries
## 0.87 0.9 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.85 0.9 0.93
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_4       0.87      0.87    0.84      0.70 7.0    0.019 0.0103  0.70
## BIQ_13      0.86      0.87    0.83      0.68 6.5    0.021 0.0123  0.67
## BIQ_17      0.88      0.89    0.84      0.72 7.7    0.016 0.0039  0.70
## BIQ_29      0.85      0.85    0.81      0.66 5.7    0.021 0.0137  0.60
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_4  131  0.88  0.87  0.81   0.77  3.3 1.7
## BIQ_13 131  0.89  0.88  0.84   0.79  3.3 1.7
## BIQ_17 131  0.84  0.85  0.79   0.72  2.9 1.5
## BIQ_29 131  0.89  0.90  0.87   0.82  3.1 1.4
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_4  0.21 0.18 0.11 0.25 0.15 0.06 0.04 0.13
## BIQ_13 0.18 0.21 0.12 0.26 0.10 0.08 0.05 0.13
## BIQ_17 0.21 0.24 0.13 0.28 0.08 0.04 0.01 0.13
## BIQ_29 0.16 0.22 0.21 0.27 0.07 0.06 0.01 0.13
```

2.2.6.8 CRONBACH'S ALPHA: SOCIAL SUBSCALE (adults, peers, performance)

```r
psych::alpha(BIQ.all_T2[BIQ.soc], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.soc], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.85      0.85    0.91      0.28 5.6 0.019  5.4 0.8     0.25
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.85 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_3       0.83      0.83    0.90      0.28 5.0    0.021 0.046  0.23
## BIQ_16      0.83      0.83    0.90      0.28 5.0    0.020 0.045  0.23
## BIQ_26      0.83      0.83    0.89      0.27 4.9    0.021 0.044  0.23
## BIQ_30      0.83      0.83    0.89      0.27 4.9    0.021 0.044  0.22
## BIQ_2       0.84      0.84    0.91      0.29 5.4    0.019 0.053  0.29
## BIQ_7       0.84      0.83    0.90      0.28 5.0    0.020 0.055  0.21
## BIQ_8       0.85      0.85    0.91      0.30 5.5    0.019 0.053  0.29
## BIQ_12      0.85      0.85    0.91      0.30 5.5    0.018 0.052  0.29
```

```
## BIQ_19      0.85      0.85    0.91      0.31 5.7    0.018 0.049  0.29
## BIQ_20      0.84      0.84    0.91      0.29 5.4    0.019 0.054  0.29
## BIQ_6       0.83      0.83    0.90      0.28 5.0    0.020 0.053  0.22
## BIQ_10      0.84      0.84    0.90      0.28 5.1    0.020 0.050  0.23
## BIQ_21      0.83      0.83    0.89      0.27 4.9    0.021 0.051  0.21
## BIQ_28      0.83      0.83    0.89      0.28 5.1    0.020 0.048  0.23
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_3  131  0.66  0.64  0.62   0.57  4.8 1.6
## BIQ_16 131  0.65  0.63  0.62   0.57  5.8 1.4
## BIQ_26 131  0.70  0.68  0.69   0.63  5.4 1.5
## BIQ_30 131  0.70  0.68  0.68   0.62  5.4 1.5
## BIQ_2  131  0.48  0.50  0.45   0.39  6.0 1.2
## BIQ_7  131  0.62  0.63  0.61   0.54  5.7 1.3
## BIQ_8  131  0.45  0.46  0.40   0.35  5.6 1.4
## BIQ_12 131  0.44  0.45  0.39   0.33  5.7 1.5
## BIQ_19 131  0.36  0.38  0.31   0.25  5.2 1.4
## BIQ_20 131  0.47  0.50  0.45   0.39  5.2 1.2
## BIQ_6  131  0.65  0.64  0.61   0.56  5.4 1.4
## BIQ_10 131  0.59  0.59  0.58   0.50  5.6 1.4
## BIQ_21 131  0.70  0.70  0.69   0.63  5.1 1.3
## BIQ_28 131  0.63  0.63  0.62   0.55  5.2 1.3
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_3  0.03 0.08 0.05 0.25 0.18 0.29 0.12 0.13
## BIQ_16 0.01 0.02 0.05 0.08 0.18 0.26 0.40 0.13
## BIQ_26 0.00 0.06 0.03 0.23 0.14 0.25 0.29 0.13
## BIQ_30 0.00 0.06 0.03 0.22 0.14 0.28 0.27 0.13
## BIQ_2  0.02 0.01 0.02 0.05 0.15 0.34 0.41 0.13
## BIQ_7  0.01 0.02 0.02 0.16 0.20 0.28 0.32 0.13
## BIQ_8  0.02 0.02 0.02 0.13 0.20 0.29 0.32 0.13
## BIQ_12 0.03 0.02 0.05 0.07 0.14 0.33 0.37 0.13
## BIQ_19 0.02 0.04 0.05 0.19 0.22 0.31 0.17 0.13
## BIQ_20 0.01 0.02 0.03 0.24 0.28 0.31 0.12 0.13
## BIQ_6  0.02 0.01 0.05 0.18 0.19 0.27 0.27 0.13
## BIQ_10 0.00 0.03 0.04 0.20 0.15 0.23 0.36 0.13
## BIQ_21 0.00 0.03 0.07 0.25 0.24 0.23 0.18 0.13
## BIQ_28 0.00 0.03 0.05 0.25 0.21 0.24 0.21 0.13
```

2.2.6.9 CRONBACH'S ALPHA: NOVELTY SUBSCALE (separation, new, physical)

```r
psych::alpha(BIQ.all_T2[BIQ.nov], n.iter = 5000)
```

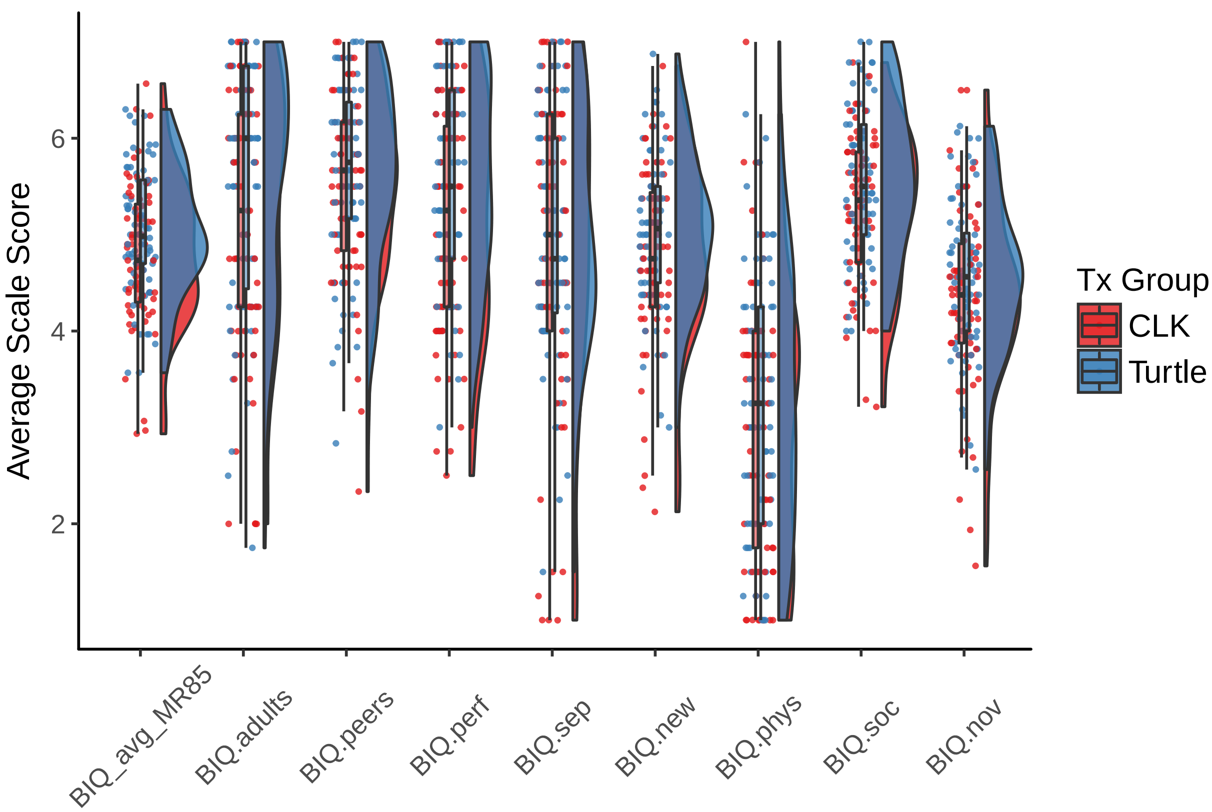
```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T2[BIQ.nov], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.89      0.89    0.93      0.34 8.2 0.014  4.5 0.89     0.31
##
##  lower alpha upper     95% confidence boundaries
## 0.86 0.89 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.84 0.88 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_9       0.88      0.88    0.93      0.33 7.5    0.015 0.046  0.30
## BIQ_11      0.87      0.88    0.93      0.33 7.4    0.015 0.046  0.30
```

```
## BIQ_18      0.87      0.88    0.93      0.33 7.5    0.015 0.045  0.30
## BIQ_27      0.87      0.88    0.93      0.33 7.4    0.016 0.046  0.30
## BIQ_1       0.88      0.88    0.93      0.33 7.4    0.015 0.048  0.30
## BIQ_5       0.88      0.89    0.93      0.35 7.9    0.014 0.049  0.30
## BIQ_14      0.88      0.89    0.93      0.35 7.9    0.015 0.052  0.31
## BIQ_15      0.87      0.88    0.93      0.32 7.2    0.015 0.046  0.29
## BIQ_22      0.88      0.88    0.93      0.34 7.6    0.015 0.048  0.30
## BIQ_23      0.87      0.88    0.93      0.32 7.2    0.015 0.046  0.29
## BIQ_24      0.89      0.90    0.94      0.37 8.7    0.013 0.044  0.33
## BIQ_25      0.87      0.88    0.93      0.33 7.2    0.015 0.047  0.30
## BIQ_4       0.89      0.89    0.93      0.35 8.2    0.014 0.043  0.32
## BIQ_13      0.88      0.89    0.93      0.35 8.2    0.014 0.043  0.31
## BIQ_17      0.88      0.89    0.93      0.35 8.1    0.014 0.045  0.32
## BIQ_29      0.88      0.89    0.93      0.35 7.9    0.014 0.046  0.32
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_9  131  0.67  0.66  0.65   0.60  5.2 1.7
## BIQ_11 131  0.71  0.71  0.70   0.65  5.0 1.5
## BIQ_18 131  0.71  0.69  0.68   0.63  4.6 1.8
## BIQ_27 131  0.74  0.72  0.71   0.67  4.8 1.7
## BIQ_1  131  0.68  0.70  0.68   0.63  4.9 1.2
## BIQ_5  131  0.53  0.55  0.51   0.45  5.1 1.4
## BIQ_14 131  0.55  0.55  0.50   0.48  3.5 1.3
## BIQ_15 131  0.76  0.78  0.77   0.72  5.1 1.2
## BIQ_22 131  0.62  0.65  0.63   0.56  5.4 1.3
## BIQ_23 131  0.76  0.78  0.77   0.72  5.0 1.2
## BIQ_24 131  0.28  0.31  0.25   0.19  5.3 1.3
## BIQ_25 131  0.75  0.77  0.75   0.71  5.1 1.2
## BIQ_4  131  0.50  0.46  0.45   0.40  3.3 1.7
## BIQ_13 131  0.50  0.47  0.46   0.41  3.3 1.7
## BIQ_17 131  0.52  0.50  0.49   0.44  2.9 1.5
## BIQ_29 131  0.57  0.55  0.55   0.50  3.1 1.4
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_9  0.05 0.05 0.05 0.20 0.11 0.26 0.29 0.13
## BIQ_11 0.04 0.03 0.09 0.18 0.20 0.32 0.14 0.13
## BIQ_18 0.05 0.12 0.08 0.23 0.16 0.17 0.18 0.13
## BIQ_27 0.05 0.08 0.05 0.20 0.27 0.15 0.19 0.13
## BIQ_1  0.01 0.02 0.09 0.16 0.38 0.28 0.05 0.13
## BIQ_5  0.01 0.03 0.09 0.24 0.18 0.27 0.18 0.13
## BIQ_14 0.05 0.20 0.26 0.31 0.11 0.06 0.02 0.13
## BIQ_15 0.00 0.02 0.04 0.30 0.24 0.30 0.10 0.13
## BIQ_22 0.01 0.02 0.03 0.17 0.21 0.37 0.20 0.13
## BIQ_23 0.02 0.01 0.06 0.26 0.30 0.27 0.08 0.13
## BIQ_24 0.01 0.02 0.04 0.23 0.22 0.29 0.19 0.13
## BIQ_25 0.01 0.02 0.04 0.25 0.28 0.31 0.08 0.13
## BIQ_4  0.21 0.18 0.11 0.25 0.15 0.06 0.04 0.13
## BIQ_13 0.18 0.21 0.12 0.26 0.10 0.08 0.05 0.13
## BIQ_17 0.21 0.24 0.13 0.28 0.08 0.04 0.01 0.13
## BIQ_29 0.16 0.22 0.21 0.27 0.07 0.06 0.01 0.13
```

2.2.6.10 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(BIQ.all_T2[37:46], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
```

```
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T2 Folder:
`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:
- `/BIQ_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/BIQ_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ

- /BIQ_T2_Summary_wo_Raw_items.txt: The processed summary scores for BIQ wo raw items

2.3 TIME 3: COMPLETE SCALE

2.3.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(BIQ.all_T3[,c(3:32)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1     1 127 4.47 1.11 -0.28    -0.28 0.10   4.0  5.00
## BIQ_2     2 127 5.53 1.34 -0.68    -0.41 0.12   5.0  7.00
## BIQ_3     3 127 4.19 1.56 -0.24    -0.62 0.14   3.0  5.00
## BIQ_4     4 126 2.80 1.41  0.42    -0.58 0.13   2.0  4.00
## BIQ_5     5 127 4.48 1.23 -0.16    -0.40 0.11   4.0  5.00
## BIQ_6     6 127 5.22 1.42 -0.32    -0.79 0.13   4.0  6.00
## BIQ_7     7 127 5.08 1.45 -0.52    -0.28 0.13   4.0  6.00
## BIQ_8     8 127 5.13 1.45 -0.65     0.07 0.13   4.0  6.00
## BIQ_9     9 127 4.58 1.75 -0.26    -0.81 0.16   3.0  6.00
## BIQ_10   10 126 5.31 1.34 -0.26    -0.97 0.12   4.0  6.75
## BIQ_11   11 127 4.52 1.53 -0.28    -0.56 0.14   4.0  6.00
## BIQ_12   12 127 5.27 1.41 -0.73     0.26 0.12   4.5  6.00
## BIQ_13   13 127 2.89 1.48  0.51    -0.23 0.13   2.0  4.00
## BIQ_14   14 127 3.02 1.12  0.29    -0.16 0.10   2.0  4.00
## BIQ_15   15 126 4.50 1.14 -0.10     0.46 0.10   4.0  5.00
## BIQ_16   16 126 5.36 1.52 -0.68    -0.33 0.14   4.0  7.00
## BIQ_17   17 127 2.70 1.47  0.74    -0.05 0.13   2.0  4.00
## BIQ_18   18 127 4.01 1.75  0.02    -1.02 0.16   3.0  5.00
## BIQ_19   19 127 4.76 1.42 -0.50    -0.33 0.13   4.0  6.00
## BIQ_20   20 127 4.69 1.36 -0.02    -0.69 0.12   4.0  6.00
## BIQ_21   21 127 4.69 1.38  0.11    -0.66 0.12   4.0  6.00
## BIQ_22   22 127 4.73 1.38 -0.51     0.20 0.12   4.0  6.00
## BIQ_23   23 127 4.37 1.19 -0.21    -0.28 0.11   4.0  5.00
## BIQ_24   24 127 4.85 1.40 -0.28    -0.58 0.12   4.0  6.00
## BIQ_25   25 127 4.55 1.23 -0.26     0.44 0.11   4.0  5.00
## BIQ_26   26 127 4.76 1.58 -0.24    -0.76 0.14   4.0  6.00
## BIQ_27   27 127 4.25 1.69 -0.12    -0.88 0.15   3.0  6.00
## BIQ_28   28 127 4.78 1.48 -0.06    -0.68 0.13   4.0  6.00
## BIQ_29   29 127 2.63 1.27  0.37    -0.36 0.11   2.0  4.00
## BIQ_30   30 127 4.80 1.57 -0.26    -0.76 0.14   4.0  6.00
```

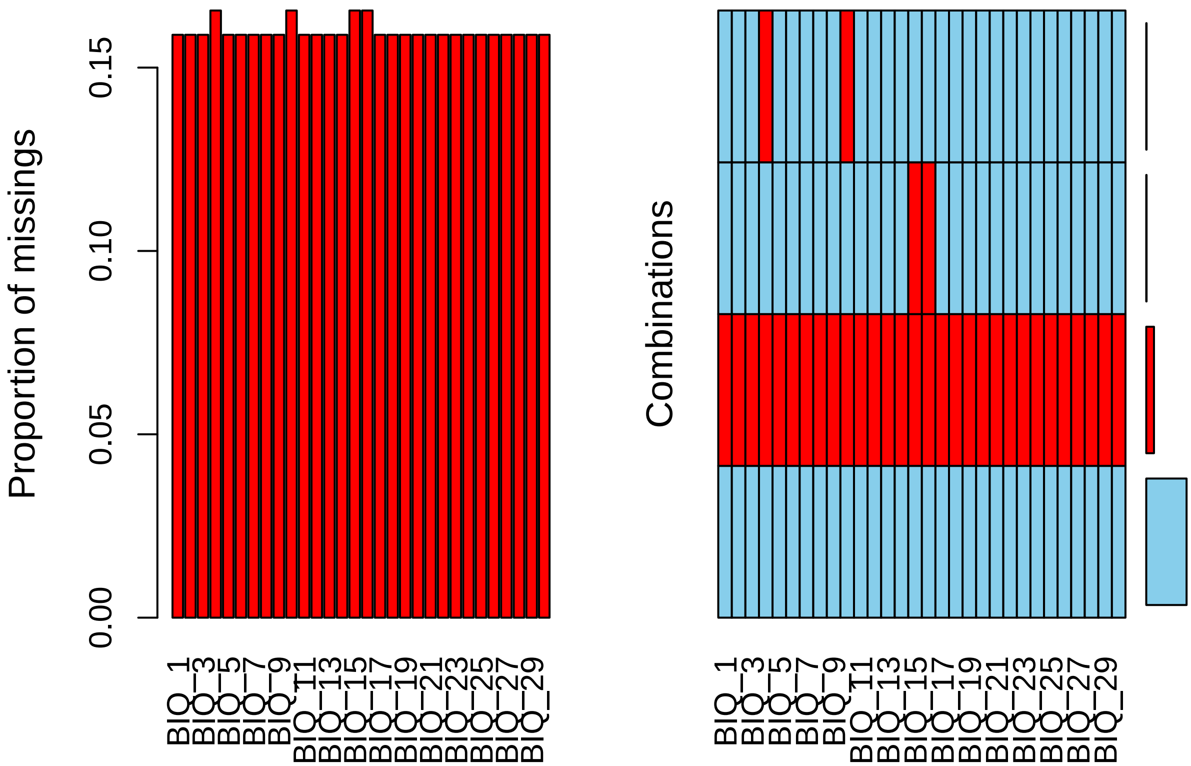
```
#Calculating Summary Scores:
BIQ.all_T3$BIQ_tot<-rowSums(BIQ.all_T3[,3:32])  #inclunding na.rm=T results in 0's

BIQ.all_T3$Miss_tot<-rep(NA, nrow(BIQ.all_T3))
for(n in 1:nrow(BIQ.all_T3)){
  BIQ.all_T3$Miss_tot[n]<-sum(is.na(BIQ.all_T3[n,3:32])==TRUE)
}

BIQ.all_T3$Miss_per<-rep(NA, nrow(BIQ.all_T3))
for(n in 1:nrow(BIQ.all_T3)){
  BIQ.all_T3$Miss_per[n]<-round(sum(is.na(BIQ.all_T3[n,3:32])==TRUE)/ncol(BIQ.all_T3[3:32])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
BIQ.all_T3$BIQ_avg<-rowMeans(BIQ.all_T3[,3:32])

#Creating variable with individual mean replacement if respondent completed >85% of items
BIQ.all_T3$BIQ_avg_MR85<-ifelse(BIQ.all_T3$Miss_per<15, rowMeans(BIQ.all_T3[,3:32],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
```

```r
psych::describe(BIQ.all_T3[,c(33,36,37)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n   mean    sd  skew kurtosis   se  Q0.25  Q0.75
## BIQ_tot         1 125 133.03 20.57 -0.08    -0.15 1.84 120.00 148.00
## BIQ_avg         2 125   4.43  0.69 -0.08    -0.15 0.06   4.00   4.93
## BIQ_avg_MR85    3 127   4.43  0.69 -0.08    -0.17 0.06   3.98   4.92
```

2.3.2 MISSING DATA

```r
VIM::aggr(BIQ.all_T3[,3:32])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 116 failed to respond to `BIQ_4` and `BIQ_10`; $N = 1$; 0.66%
2. Missing pattern 2: Subject 077 failed to respond to `BIQ_15` and `BIQ_16`; $N = 1$; 0.66%
3. Missing pattern 3: Subjects 017, 019, 029, 030, 031, 038, 039, 041, 045, 063, 089, 096, 097, 099, 108, 113, 114, 125, 126, 132, 142, 154, and 155 failed to respond to any items; $N = 23$; 15.23%
4. Missing pattern 4: All items completed; $N = 126$; 83.44%

The variable `BIQ_tot` is the vector of individual summed BIQ scores - 064 is dropped from this summary variable (see above). The varaible `BIQ_avg` is the vector of individual mean BIQ scores - 064 is dropped from this summary variable (see above).

The variable `BIQ_avg_MR85` is a vector of individual mean BIQ scores that includes estimated averages when at least 85% of the necessary data is available - note 064 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T3 to report.

2.3.3 CRONBACH'S ALPHA

```r
psych::alpha(BIQ.all_T3[,3:32], n.iter = 5000)
```

```
## Some items ( BIQ_13 BIQ_17 BIQ_29 ) were negatively correlated with the total scale and
## probably should be reversed.
```

```
## To do this, run the function again with the 'check.keys=TRUE' option
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[, 3:32], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.89      0.89    0.95      0.21   8 0.013  4.4 0.69     0.19
##
##  lower alpha upper     95% confidence boundaries
## 0.86 0.89 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.85 0.89 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_1       0.88      0.88    0.95      0.20 7.5    0.014 0.048  0.18
## BIQ_2       0.88      0.89    0.95      0.21 7.7    0.014 0.046  0.19
## BIQ_3       0.88      0.88    0.95      0.21 7.7    0.014 0.046  0.19
## BIQ_4       0.89      0.89    0.95      0.22 8.2    0.013 0.045  0.21
## BIQ_5       0.88      0.88    0.95      0.20 7.5    0.014 0.047  0.18
## BIQ_6       0.88      0.89    0.95      0.21 7.7    0.014 0.047  0.18
## BIQ_7       0.88      0.89    0.95      0.21 7.8    0.014 0.047  0.19
## BIQ_8       0.88      0.89    0.95      0.21 7.8    0.014 0.047  0.19
## BIQ_9       0.88      0.88    0.95      0.21 7.7    0.014 0.047  0.18
## BIQ_10      0.88      0.88    0.95      0.21 7.5    0.014 0.047  0.18
## BIQ_11      0.88      0.88    0.95      0.21 7.6    0.014 0.047  0.19
## BIQ_12      0.88      0.89    0.95      0.21 7.9    0.014 0.046  0.19
## BIQ_13      0.89      0.89    0.95      0.22 8.3    0.013 0.044  0.21
## BIQ_14      0.89      0.89    0.95      0.22 8.2    0.013 0.047  0.20
## BIQ_15      0.88      0.88    0.95      0.20 7.3    0.014 0.046  0.18
## BIQ_16      0.88      0.89    0.95      0.21 7.7    0.014 0.045  0.18
## BIQ_17      0.89      0.89    0.95      0.23 8.4    0.013 0.044  0.21
## BIQ_18      0.88      0.89    0.95      0.21 7.8    0.014 0.046  0.19
## BIQ_19      0.88      0.89    0.95      0.21 7.9    0.014 0.047  0.20
## BIQ_20      0.88      0.89    0.95      0.21 7.8    0.014 0.048  0.19
## BIQ_21      0.88      0.88    0.95      0.21 7.7    0.014 0.047  0.19
## BIQ_22      0.88      0.88    0.95      0.21 7.5    0.014 0.048  0.18
## BIQ_23      0.88      0.88    0.95      0.20 7.3    0.014 0.047  0.18
## BIQ_24      0.88      0.88    0.95      0.21 7.6    0.014 0.048  0.18
## BIQ_25      0.88      0.88    0.95      0.21 7.5    0.014 0.047  0.18
## BIQ_26      0.88      0.88    0.95      0.21 7.7    0.014 0.045  0.19
## BIQ_27      0.88      0.89    0.95      0.21 7.7    0.014 0.047  0.19
## BIQ_28      0.88      0.88    0.95      0.20 7.4    0.014 0.047  0.18
## BIQ_29      0.89      0.89    0.95      0.22 8.3    0.013 0.045  0.21
## BIQ_30      0.88      0.88    0.95      0.21 7.6    0.014 0.046  0.18
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_1  127 0.638 0.655 0.645 0.6040  4.5 1.1
## BIQ_2  127 0.499 0.509 0.501 0.4479  5.5 1.3
## BIQ_3  127 0.545 0.533 0.531 0.4877  4.2 1.6
## BIQ_4  126 0.209 0.219 0.209 0.1416  2.8 1.4
## BIQ_5  127 0.643 0.648 0.633 0.6050  4.5 1.2
## BIQ_6  127 0.483 0.483 0.471 0.4271  5.2 1.4
## BIQ_7  127 0.458 0.463 0.447 0.3990  5.1 1.5
## BIQ_8  127 0.452 0.458 0.443 0.3931  5.1 1.5
## BIQ_9  127 0.553 0.532 0.525 0.4898  4.6 1.8
## BIQ_10 126 0.630 0.624 0.621 0.5867  5.3 1.3
## BIQ_11 127 0.546 0.540 0.534 0.4899  4.5 1.5
## BIQ_12 127 0.411 0.415 0.401 0.3517  5.3 1.4
## BIQ_13 127 0.168 0.180 0.170 0.0974  2.9 1.5
```

```
## BIQ_14 127 0.225 0.235 0.199 0.1721  3.0 1.1
## BIQ_15 126 0.719 0.726 0.724 0.6916  4.5 1.1
## BIQ_16 126 0.523 0.508 0.507 0.4668  5.4 1.5
## BIQ_17 127 0.076 0.081 0.046 0.0052  2.7 1.5
## BIQ_18 127 0.467 0.449 0.443 0.3971  4.0 1.7
## BIQ_19 127 0.401 0.408 0.390 0.3394  4.8 1.4
## BIQ_20 127 0.459 0.465 0.449 0.4050  4.7 1.4
## BIQ_21 127 0.535 0.533 0.523 0.4852  4.7 1.4
## BIQ_22 127 0.627 0.630 0.614 0.5843  4.7 1.4
## BIQ_23 127 0.728 0.736 0.733 0.6981  4.4 1.2
## BIQ_24 127 0.533 0.537 0.511 0.4805  4.9 1.4
## BIQ_25 127 0.631 0.640 0.628 0.5925  4.6 1.2
## BIQ_26 127 0.545 0.529 0.530 0.4884  4.8 1.6
## BIQ_27 127 0.511 0.499 0.487 0.4465  4.3 1.7
## BIQ_28 127 0.678 0.675 0.676 0.6367  4.8 1.5
## BIQ_29 127 0.122 0.133 0.110 0.0618  2.6 1.3
## BIQ_30 127 0.571 0.554 0.552 0.5165  4.8 1.6
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_1  0.01 0.02 0.16 0.31 0.30 0.19 0.01 0.16
## BIQ_2  0.00 0.02 0.06 0.15 0.18 0.29 0.29 0.16
## BIQ_3  0.06 0.09 0.17 0.24 0.22 0.17 0.06 0.16
## BIQ_4  0.21 0.27 0.16 0.25 0.07 0.02 0.01 0.17
## BIQ_5  0.01 0.05 0.14 0.33 0.24 0.20 0.03 0.16
## BIQ_6  0.01 0.02 0.07 0.29 0.13 0.24 0.24 0.16
## BIQ_7  0.02 0.04 0.06 0.24 0.19 0.27 0.18 0.16
## BIQ_8  0.02 0.02 0.09 0.16 0.28 0.23 0.20 0.16
## BIQ_9  0.06 0.06 0.14 0.25 0.13 0.17 0.18 0.16
## BIQ_10 0.00 0.02 0.06 0.25 0.20 0.22 0.25 0.17
## BIQ_11 0.03 0.09 0.09 0.33 0.14 0.24 0.09 0.16
## BIQ_12 0.02 0.03 0.06 0.15 0.28 0.24 0.22 0.16
## BIQ_13 0.21 0.23 0.20 0.23 0.09 0.02 0.02 0.16
## BIQ_14 0.07 0.27 0.33 0.25 0.06 0.02 0.00 0.16
## BIQ_15 0.01 0.05 0.06 0.42 0.29 0.13 0.05 0.17
## BIQ_16 0.01 0.06 0.05 0.17 0.21 0.20 0.31 0.17
## BIQ_17 0.24 0.31 0.14 0.22 0.04 0.04 0.02 0.16
## BIQ_18 0.08 0.15 0.18 0.19 0.17 0.15 0.09 0.16
## BIQ_19 0.02 0.05 0.09 0.28 0.16 0.32 0.07 0.16
## BIQ_20 0.00 0.06 0.10 0.32 0.21 0.19 0.11 0.16
## BIQ_21 0.00 0.06 0.09 0.35 0.21 0.13 0.14 0.16
## BIQ_22 0.03 0.03 0.08 0.28 0.27 0.22 0.09 0.16
## BIQ_23 0.01 0.07 0.09 0.45 0.16 0.22 0.01 0.16
## BIQ_24 0.01 0.05 0.11 0.24 0.23 0.24 0.13 0.16
## BIQ_25 0.02 0.05 0.07 0.35 0.32 0.13 0.06 0.16
## BIQ_26 0.02 0.06 0.13 0.28 0.14 0.21 0.17 0.16
## BIQ_27 0.06 0.13 0.14 0.23 0.19 0.16 0.10 0.16
## BIQ_28 0.02 0.03 0.13 0.30 0.20 0.14 0.18 0.16
## BIQ_29 0.24 0.23 0.25 0.22 0.05 0.00 0.01 0.16
## BIQ_30 0.02 0.04 0.16 0.22 0.18 0.20 0.17 0.16
```

2.3.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
BIQ.all_T3$Group.R<-ifelse(BIQ.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(BIQ.all_T3[,c(3:32,38)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
```

```
## BIQ_1       1 60 4.40 1.14 -0.47     0.04 0.15  4.00     5
## BIQ_2       2 60 5.67 1.23 -0.86     0.16 0.16  5.00     7
## BIQ_3       3 60 4.15 1.61 -0.10    -0.81 0.21  3.00     5
## BIQ_4       4 59 2.61 1.29  0.31    -1.12 0.17  2.00     4
## BIQ_5       5 60 4.35 1.30 -0.20    -0.35 0.17  4.00     5
## BIQ_6       6 60 5.05 1.36 -0.21    -0.86 0.18  4.00     6
## BIQ_7       7 60 5.17 1.36 -0.34    -0.78 0.17  4.00     6
## BIQ_8       8 60 5.27 1.45 -0.66    -0.14 0.19  4.00     6
## BIQ_9       9 60 4.62 1.82 -0.39    -0.89 0.24  3.00     6
## BIQ_10     10 59 5.19 1.35 -0.17    -0.98 0.18  4.00     6
## BIQ_11     11 60 4.43 1.68 -0.18    -0.83 0.22  4.00     6
## BIQ_12     12 60 5.42 1.34 -0.77     0.06 0.17  5.00     6
## BIQ_13     13 60 2.72 1.46  0.58    -0.33 0.19  1.75     4
## BIQ_14     14 60 3.08 1.15  0.43    -0.27 0.15  2.00     4
## BIQ_15     15 60 4.43 1.35 -0.02    -0.12 0.17  4.00     5
## BIQ_16     16 60 5.32 1.51 -0.51    -0.67 0.20  4.00     7
## BIQ_17     17 60 2.77 1.50  0.60    -0.39 0.19  2.00     4
## BIQ_18     18 60 4.17 1.89 -0.04    -1.23 0.24  3.00     6
## BIQ_19     19 60 4.85 1.44 -0.59     0.04 0.19  4.00     6
## BIQ_20     20 60 4.70 1.46 -0.21    -0.82 0.19  4.00     6
## BIQ_21     21 60 4.37 1.31  0.20    -0.39 0.17  4.00     5
## BIQ_22     22 60 4.73 1.47 -0.80     0.28 0.19  4.00     6
## BIQ_23     23 60 4.38 1.26 -0.34    -0.43 0.16  4.00     6
## BIQ_24     24 60 4.85 1.45 -0.30    -0.94 0.19  4.00     6
## BIQ_25     25 60 4.45 1.42 -0.39    -0.11 0.18  4.00     5
## BIQ_26     26 60 4.67 1.54 -0.05    -0.88 0.20  4.00     6
## BIQ_27     27 60 4.22 1.78 -0.14    -0.93 0.23  3.00     6
## BIQ_28     28 60 4.55 1.48 -0.11    -0.31 0.19  4.00     5
## BIQ_29     29 60 2.50 1.26  0.33    -1.02 0.16  1.00     3
## BIQ_30     30 60 4.73 1.61 -0.19    -1.13 0.21  3.00     6
## Group.R*   31 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ_1       1 67 4.54 1.09 -0.06    -0.82 0.13  4.00   5.0
## BIQ_2       2 67 5.40 1.44 -0.50    -0.83 0.18  4.00   7.0
## BIQ_3       3 67 4.22 1.53 -0.37    -0.49 0.19  3.50   5.0
## BIQ_4       4 67 2.97 1.50  0.40    -0.57 0.18  2.00   4.0
## BIQ_5       5 67 4.60 1.17 -0.03    -0.75 0.14  4.00   6.0
## BIQ_6       6 67 5.37 1.48 -0.45    -0.74 0.18  4.00   7.0
## BIQ_7       7 67 5.00 1.54 -0.59    -0.21 0.19  4.00   6.0
## BIQ_8       8 67 5.00 1.46 -0.64     0.17 0.18  4.00   6.0
## BIQ_9       9 67 4.55 1.70 -0.12    -0.79 0.21  4.00   6.0
## BIQ_10     10 67 5.42 1.34 -0.33    -1.01 0.16  4.00   7.0
## BIQ_11     11 67 4.60 1.38 -0.35    -0.42 0.17  4.00   6.0
## BIQ_12     12 67 5.13 1.46 -0.67     0.26 0.18  4.00   6.0
## BIQ_13     13 67 3.04 1.48  0.45    -0.19 0.18  2.00   4.0
## BIQ_14     14 67 2.97 1.09  0.13    -0.23 0.13  2.00   4.0
## BIQ_15     15 66 4.56 0.93 -0.06     0.55 0.11  4.00   5.0
## BIQ_16     16 66 5.39 1.54 -0.82    -0.10 0.19  4.25   7.0
## BIQ_17     17 67 2.64 1.45  0.86     0.23 0.18  2.00   4.0
## BIQ_18     18 67 3.87 1.61  0.02    -0.88 0.20  3.00   5.0
## BIQ_19     19 67 4.67 1.42 -0.42    -0.72 0.17  4.00   6.0
## BIQ_20     20 67 4.69 1.27  0.24    -0.69 0.16  4.00   6.0
## BIQ_21     21 67 4.97 1.39 -0.01    -0.87 0.17  4.00   6.0
## BIQ_22     22 67 4.73 1.30 -0.12    -0.15 0.16  4.00   6.0
## BIQ_23     23 67 4.36 1.14 -0.05    -0.24 0.14  4.00   5.0
## BIQ_24     24 67 4.85 1.37 -0.25    -0.29 0.17  4.00   6.0
## BIQ_25     25 67 4.64 1.03  0.33     0.20 0.13  4.00   5.0
## BIQ_26     26 67 4.84 1.62 -0.39    -0.68 0.20  4.00   6.0
## BIQ_27     27 67 4.28 1.61 -0.07    -0.94 0.20  3.00   5.5
```

```
## BIQ_28      28 67 4.99 1.47  0.00    -1.21 0.18  4.00   6.0
## BIQ_29      29 67 2.75 1.28  0.39     0.07 0.16  2.00   4.0
## BIQ_30      30 67 4.87 1.54 -0.32    -0.42 0.19  4.00   6.0
## Group.R*    31 75  NaN   NA    NA       NA   NA    NA    NA
```

Seems as though there may be differential attrition. Lost 8 Turtle parents and 15 CLK parents to post…

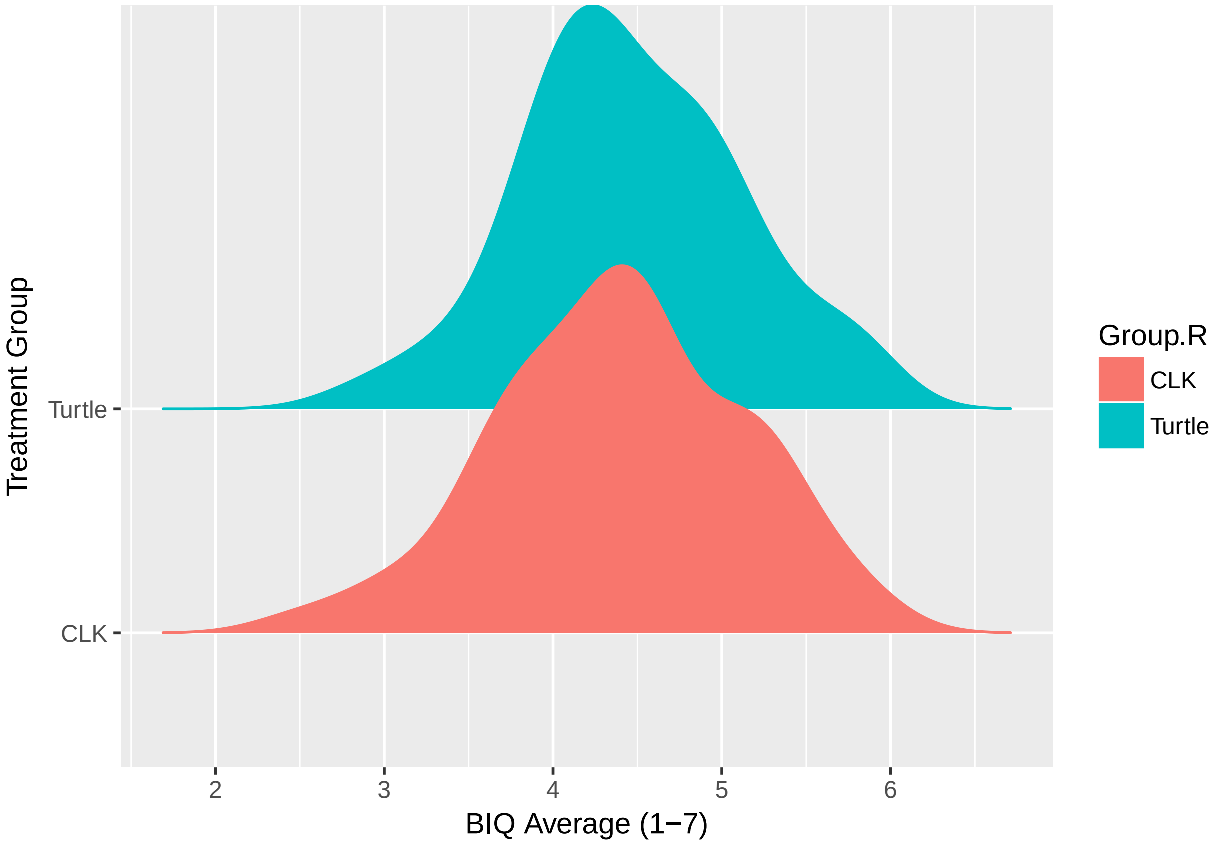
```
psych::describeBy(BIQ.all_T3[,c(33,36,37,38)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##                vars  n   mean    sd  skew kurtosis   se  Q0.25  Q0.75
## BIQ_tot           1 59 132.20 21.68 -0.21    -0.25 2.82 118.00 149.00
## BIQ_avg           2 59   4.41  0.72 -0.21    -0.25 0.09   3.93   4.97
## BIQ_avg_MR85      3 60   4.39  0.72 -0.17    -0.31 0.09   3.93   4.93
## Group.R*          4 76    NaN    NA    NA       NA   NA     NA     NA
## --------------------------------------------------------
## group: Turtle
##                vars  n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## BIQ_tot           1 66 133.77 19.66 0.10    -0.24 2.42 120.25 147.50
## BIQ_avg           2 66   4.46  0.66 0.10    -0.24 0.08   4.01   4.92
## BIQ_avg_MR85      3 67   4.46  0.65 0.08    -0.22 0.08   4.02   4.90
## Group.R*          4 75    NaN    NA   NA       NA   NA     NA     NA
```

2.3.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average BIQ scores
t.test(BIQ.all_T3$BIQ_avg_MR85~BIQ.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  BIQ.all_T3$BIQ_avg_MR85 by BIQ.all_T3$Group
## t = -0.5746, df = 119.39, p-value = 0.5666
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.3137758  0.1726244
## sample estimates:
## mean in group 0 mean in group 1
##        4.392857        4.463433
```



Treatment Group
Turtle
CLK
2
3
4
5
6
BIQ Average (1−7)
Group.R
CLK
Turtle

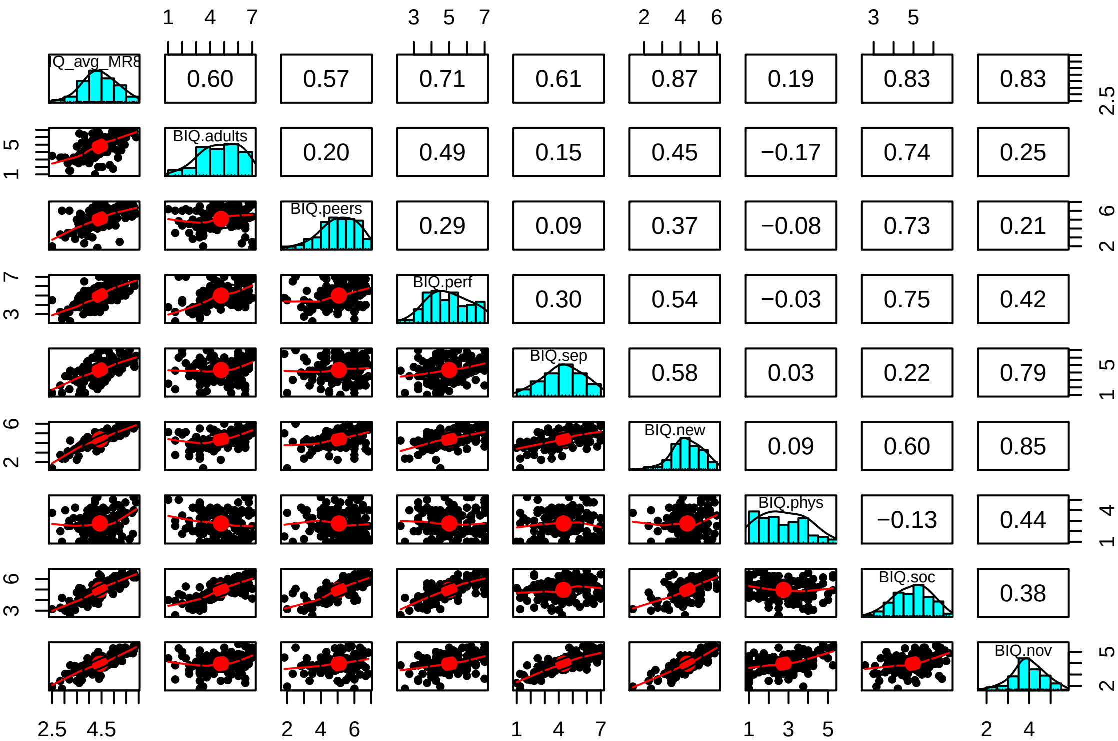
2.3.6 TIME 3: SUBSCALES

2.3.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(BIQ.all_T3[,c(39:46)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##            vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## BIQ.adults    1 126 4.77 1.42 -0.38    -0.64 0.13  3.75  6.00
## BIQ.peers     2 127 5.07 1.10 -0.61    -0.03 0.10  4.33  6.00
## BIQ.perf      3 126 5.00 1.16  0.07    -0.82 0.10  4.00  6.00
## BIQ.sep       4 127 4.34 1.43 -0.19    -0.57 0.13  3.50  5.50
## BIQ.new       5 127 4.37 0.84 -0.49     0.60 0.07  3.88  5.00
## BIQ.phys      6 126 2.75 1.16  0.18    -0.92 0.10  1.75  3.75
## BIQ.soc       7 127 4.97 0.89 -0.24    -0.53 0.08  4.29  5.61
## BIQ.nov       8 127 3.96 0.76 -0.21     0.07 0.07  3.56  4.44
```

```
psych::pairs.panels(BIQ.all_T3[,c(37,39:46)])
```



2.3.6.2 CRONBACH'S ALPHA: ADULTS SUBSCALE

```
psych::alpha(BIQ.all_T3[BIQ.adults], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.adults], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean  sd median_r
##       0.93      0.93    0.92      0.78  14 0.0089  4.8 1.4     0.78
##
##  lower alpha upper     95% confidence boundaries
## 0.92 0.93 0.95
##
##  lower median upper bootstrapped confidence intervals
##  0.91 0.93 0.95
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r  S/N alpha se   var.r med.r
## BIQ_3       0.92      0.92    0.88      0.79 11.4    0.011 0.00048  0.79
## BIQ_16      0.91      0.91    0.88      0.77 10.3    0.013 0.00149  0.77
```

```
## BIQ_26      0.90      0.90    0.86      0.75  9.2    0.014 0.00077  0.74
## BIQ_30      0.92      0.92    0.89      0.79 11.2    0.012 0.00197  0.81
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_3  127  0.90  0.90  0.85   0.82  4.2 1.6
## BIQ_16 126  0.91  0.91  0.88   0.85  5.4 1.5
## BIQ_26 127  0.93  0.93  0.91   0.88  4.8 1.6
## BIQ_30 127  0.90  0.90  0.85   0.83  4.8 1.6
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_3  0.06 0.09 0.17 0.24 0.22 0.17 0.06 0.16
## BIQ_16 0.01 0.06 0.05 0.17 0.21 0.20 0.31 0.17
## BIQ_26 0.02 0.06 0.13 0.28 0.14 0.21 0.17 0.16
## BIQ_30 0.02 0.04 0.16 0.22 0.18 0.20 0.17 0.16
```

2.3.6.3 CRONBACH'S ALPHA: PEERS SUBSCALE

```
psych::alpha(BIQ.all_T3[BIQ.peers], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.peers], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.87      0.88    0.87      0.54   7 0.016  5.1 1.1     0.53
##
##  lower alpha upper     95% confidence boundaries
## 0.84 0.87 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.82 0.87 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_2       0.83      0.83    0.81      0.50 5.0    0.022 0.0059  0.48
## BIQ_7       0.86      0.86    0.85      0.56 6.4    0.018 0.0063  0.56
## BIQ_8       0.85      0.85    0.83      0.54 5.9    0.019 0.0067  0.52
## BIQ_12      0.85      0.85    0.83      0.53 5.6    0.020 0.0068  0.53
## BIQ_19      0.85      0.86    0.84      0.54 5.9    0.019 0.0100  0.55
## BIQ_20      0.86      0.87    0.85      0.56 6.4    0.018 0.0072  0.56
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_2  127  0.87  0.87  0.85   0.80  5.5 1.3
## BIQ_7  127  0.74  0.74  0.67   0.62  5.1 1.5
## BIQ_8  127  0.79  0.78  0.73   0.68  5.1 1.5
## BIQ_12 127  0.81  0.81  0.77   0.71  5.3 1.4
## BIQ_19 127  0.78  0.78  0.71   0.67  4.8 1.4
## BIQ_20 127  0.73  0.73  0.65   0.61  4.7 1.4
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_2  0.00 0.02 0.06 0.15 0.18 0.29 0.29 0.16
## BIQ_7  0.02 0.04 0.06 0.24 0.19 0.27 0.18 0.16
## BIQ_8  0.02 0.02 0.09 0.16 0.28 0.23 0.20 0.16
## BIQ_12 0.02 0.03 0.06 0.15 0.28 0.24 0.22 0.16
## BIQ_19 0.02 0.05 0.09 0.28 0.16 0.32 0.07 0.16
## BIQ_20 0.00 0.06 0.10 0.32 0.21 0.19 0.11 0.16
```

2.3.6.4 CRONBACH'S ALPHA: PERFORMANCE SUBSCALE

```r
psych::alpha(BIQ.all_T3[BIQ.perf], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.perf], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.84      0.84    0.85      0.57 5.3 0.022    5 1.2     0.54
##
##  lower alpha upper     95% confidence boundaries
## 0.8 0.84 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.78 0.84 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_6       0.84      0.83    0.80      0.63 5.1    0.024 0.025  0.57
## BIQ_10      0.79      0.79    0.74      0.56 3.8    0.030 0.014  0.57
## BIQ_21      0.79      0.79    0.77      0.56 3.8    0.030 0.045  0.45
## BIQ_28      0.78      0.78    0.72      0.54 3.5    0.031 0.014  0.51
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_6  127  0.78  0.77  0.66   0.59  5.2 1.4
## BIQ_10 126  0.83  0.84  0.80   0.70  5.3 1.3
## BIQ_21 127  0.83  0.83  0.75   0.69  4.7 1.4
## BIQ_28 127  0.86  0.85  0.82   0.72  4.8 1.5
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_6  0.01 0.02 0.07 0.29 0.13 0.24 0.24 0.16
## BIQ_10 0.00 0.02 0.06 0.25 0.20 0.22 0.25 0.17
## BIQ_21 0.00 0.06 0.09 0.35 0.21 0.13 0.14 0.16
## BIQ_28 0.02 0.03 0.13 0.30 0.20 0.14 0.18 0.16
```

2.3.6.5 CRONBACH'S ALPHA: SEPARATION SUBSCALE

```r
psych::alpha(BIQ.all_T3[BIQ.sep], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.sep], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.87      0.87    0.86      0.63 6.9 0.017  4.3 1.4      0.6
##
##  lower alpha upper     95% confidence boundaries
## 0.84 0.87 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.82 0.87 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_9       0.83      0.83    0.77      0.62 4.9    0.024 0.0038  0.59
## BIQ_11      0.84      0.84    0.80      0.63 5.1    0.023 0.0168  0.58
## BIQ_18      0.82      0.83    0.77      0.61 4.8    0.025 0.0061  0.61
## BIQ_27      0.86      0.85    0.81      0.66 5.9    0.020 0.0104  0.61
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_9  127  0.87  0.86  0.81   0.75  4.6 1.8
```

```
## BIQ_11 127  0.84  0.85  0.78   0.73  4.5 1.5
## BIQ_18 127  0.87  0.87  0.82   0.76  4.0 1.7
## BIQ_27 127  0.82  0.82  0.74   0.68  4.3 1.7
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_9  0.06 0.06 0.14 0.25 0.13 0.17 0.18 0.16
## BIQ_11 0.03 0.09 0.09 0.33 0.14 0.24 0.09 0.16
## BIQ_18 0.08 0.15 0.18 0.19 0.17 0.15 0.09 0.16
## BIQ_27 0.06 0.13 0.14 0.23 0.19 0.16 0.10 0.16
```

2.3.6.6 CRONBACH'S ALPHA: NEW SUBSCALE

```
psych::alpha(BIQ.all_T3[BIQ.new], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.new], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.84      0.84    0.85      0.39 5.2 0.02  4.4 0.84     0.45
##
##  lower alpha upper     95% confidence boundaries
## 0.8 0.84 0.87
##
##  lower median upper bootstrapped confidence intervals
##  0.77 0.84 0.88
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_1       0.81      0.81    0.81      0.38 4.2    0.024 0.030  0.41
## BIQ_5       0.81      0.82    0.82      0.39 4.4    0.023 0.032  0.41
## BIQ_14      0.86      0.86    0.86      0.47 6.3    0.018 0.012  0.50
## BIQ_15      0.80      0.80    0.80      0.36 3.9    0.025 0.031  0.41
## BIQ_22      0.81      0.82    0.82      0.39 4.4    0.023 0.034  0.41
## BIQ_23      0.80      0.80    0.80      0.36 4.0    0.025 0.029  0.39
## BIQ_24      0.84      0.84    0.84      0.42 5.2    0.020 0.034  0.50
## BIQ_25      0.81      0.81    0.81      0.38 4.3    0.024 0.032  0.41
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_1  127  0.74  0.75  0.72   0.65  4.5 1.1
## BIQ_5  127  0.72  0.71  0.66   0.61  4.5 1.2
## BIQ_14 127  0.36  0.38  0.24   0.21  3.0 1.1
## BIQ_15 126  0.81  0.82  0.81   0.74  4.5 1.1
## BIQ_22 127  0.72  0.71  0.65   0.59  4.7 1.4
## BIQ_23 127  0.79  0.80  0.79   0.71  4.4 1.2
## BIQ_24 127  0.59  0.57  0.46   0.42  4.9 1.4
## BIQ_25 127  0.74  0.75  0.71   0.64  4.6 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_1  0.01 0.02 0.16 0.31 0.30 0.19 0.01 0.16
## BIQ_5  0.01 0.05 0.14 0.33 0.24 0.20 0.03 0.16
## BIQ_14 0.07 0.27 0.33 0.25 0.06 0.02 0.00 0.16
## BIQ_15 0.01 0.05 0.06 0.42 0.29 0.13 0.05 0.17
## BIQ_22 0.03 0.03 0.08 0.28 0.27 0.22 0.09 0.16
## BIQ_23 0.01 0.07 0.09 0.45 0.16 0.22 0.01 0.16
## BIQ_24 0.01 0.05 0.11 0.24 0.23 0.24 0.13 0.16
## BIQ_25 0.02 0.05 0.07 0.35 0.32 0.13 0.06 0.16
```

2.3.6.7 CRONBACH'S ALPHA: PHYSICAL SUBSCALE

```r
psych::alpha(BIQ.all_T3[BIQ.phys], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.phys], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.85      0.85    0.84      0.58 5.6 0.021  2.8 1.2     0.55
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.78 0.85 0.9
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## BIQ_4       0.78      0.78    0.71      0.55 3.6    0.031 0.0061  0.53
## BIQ_13      0.76      0.76    0.69      0.52 3.2    0.034 0.0025  0.53
## BIQ_17      0.86      0.86    0.83      0.67 6.2    0.019 0.0195  0.63
## BIQ_29      0.81      0.81    0.79      0.59 4.3    0.028 0.0433  0.47
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_4  126  0.86  0.86  0.84   0.74  2.8 1.4
## BIQ_13 127  0.88  0.89  0.88   0.78  2.9 1.5
## BIQ_17 127  0.76  0.75  0.59   0.55  2.7 1.5
## BIQ_29 127  0.81  0.82  0.72   0.68  2.6 1.3
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_4  0.21 0.27 0.16 0.25 0.07 0.02 0.01 0.17
## BIQ_13 0.21 0.23 0.20 0.23 0.09 0.02 0.02 0.16
## BIQ_17 0.24 0.31 0.14 0.22 0.04 0.04 0.02 0.16
## BIQ_29 0.24 0.23 0.25 0.22 0.05 0.00 0.01 0.16
```

2.3.6.8 CRONBACH'S ALPHA: SOCIAL SUBSCALE (adults, peers, performance)

```r
psych::alpha(BIQ.all_T3[BIQ.soc], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.soc], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.87      0.87    0.93      0.33 6.9 0.016    5 0.89     0.27
##
##  lower alpha upper     95% confidence boundaries
## 0.84 0.87 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.87 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_3       0.86      0.86    0.92      0.33 6.4    0.017 0.041  0.27
## BIQ_16      0.86      0.86    0.92      0.32 6.2    0.017 0.041  0.25
## BIQ_26      0.86      0.86    0.92      0.32 6.2    0.017 0.039  0.26
## BIQ_30      0.86      0.86    0.92      0.32 6.2    0.017 0.042  0.27
## BIQ_2       0.86      0.86    0.92      0.33 6.3    0.017 0.045  0.28
## BIQ_7       0.87      0.86    0.93      0.33 6.4    0.017 0.049  0.26
## BIQ_8       0.87      0.87    0.92      0.33 6.5    0.016 0.046  0.28
## BIQ_12      0.87      0.86    0.92      0.33 6.4    0.017 0.046  0.28
```

```
## BIQ_19      0.87      0.87    0.93      0.34 6.7    0.016 0.044  0.28
## BIQ_20      0.87      0.87    0.93      0.34 6.8    0.016 0.044  0.28
## BIQ_6       0.87      0.87    0.92      0.33 6.4    0.017 0.048  0.25
## BIQ_10      0.87      0.86    0.92      0.33 6.4    0.017 0.047  0.27
## BIQ_21      0.87      0.87    0.92      0.33 6.5    0.017 0.046  0.27
## BIQ_28      0.86      0.86    0.92      0.33 6.3    0.017 0.047  0.25
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_3  127  0.65  0.62  0.61   0.56  4.2 1.6
## BIQ_16 126  0.69  0.67  0.67   0.62  5.4 1.5
## BIQ_26 127  0.69  0.67  0.67   0.62  4.8 1.6
## BIQ_30 127  0.69  0.67  0.66   0.61  4.8 1.6
## BIQ_2  127  0.63  0.65  0.63   0.56  5.5 1.3
## BIQ_7  127  0.61  0.61  0.58   0.52  5.1 1.5
## BIQ_8  127  0.57  0.58  0.55   0.48  5.1 1.5
## BIQ_12 127  0.61  0.62  0.59   0.53  5.3 1.4
## BIQ_19 127  0.52  0.53  0.49   0.42  4.8 1.4
## BIQ_20 127  0.48  0.50  0.46   0.40  4.7 1.4
## BIQ_6  127  0.61  0.61  0.58   0.53  5.2 1.4
## BIQ_10 126  0.61  0.62  0.60   0.54  5.3 1.3
## BIQ_21 127  0.59  0.59  0.56   0.51  4.7 1.4
## BIQ_28 127  0.66  0.66  0.65   0.58  4.8 1.5
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_3  0.06 0.09 0.17 0.24 0.22 0.17 0.06 0.16
## BIQ_16 0.01 0.06 0.05 0.17 0.21 0.20 0.31 0.17
## BIQ_26 0.02 0.06 0.13 0.28 0.14 0.21 0.17 0.16
## BIQ_30 0.02 0.04 0.16 0.22 0.18 0.20 0.17 0.16
## BIQ_2  0.00 0.02 0.06 0.15 0.18 0.29 0.29 0.16
## BIQ_7  0.02 0.04 0.06 0.24 0.19 0.27 0.18 0.16
## BIQ_8  0.02 0.02 0.09 0.16 0.28 0.23 0.20 0.16
## BIQ_12 0.02 0.03 0.06 0.15 0.28 0.24 0.22 0.16
## BIQ_19 0.02 0.05 0.09 0.28 0.16 0.32 0.07 0.16
## BIQ_20 0.00 0.06 0.10 0.32 0.21 0.19 0.11 0.16
## BIQ_6  0.01 0.02 0.07 0.29 0.13 0.24 0.24 0.16
## BIQ_10 0.00 0.02 0.06 0.25 0.20 0.22 0.25 0.17
## BIQ_21 0.00 0.06 0.09 0.35 0.21 0.13 0.14 0.16
## BIQ_28 0.02 0.03 0.13 0.30 0.20 0.14 0.18 0.16
```

2.3.6.9 CRONBACH'S ALPHA: NOVELTY SUBSCALE (separation, new, physical)

```
psych::alpha(BIQ.all_T3[BIQ.nov], n.iter = 5000)
```

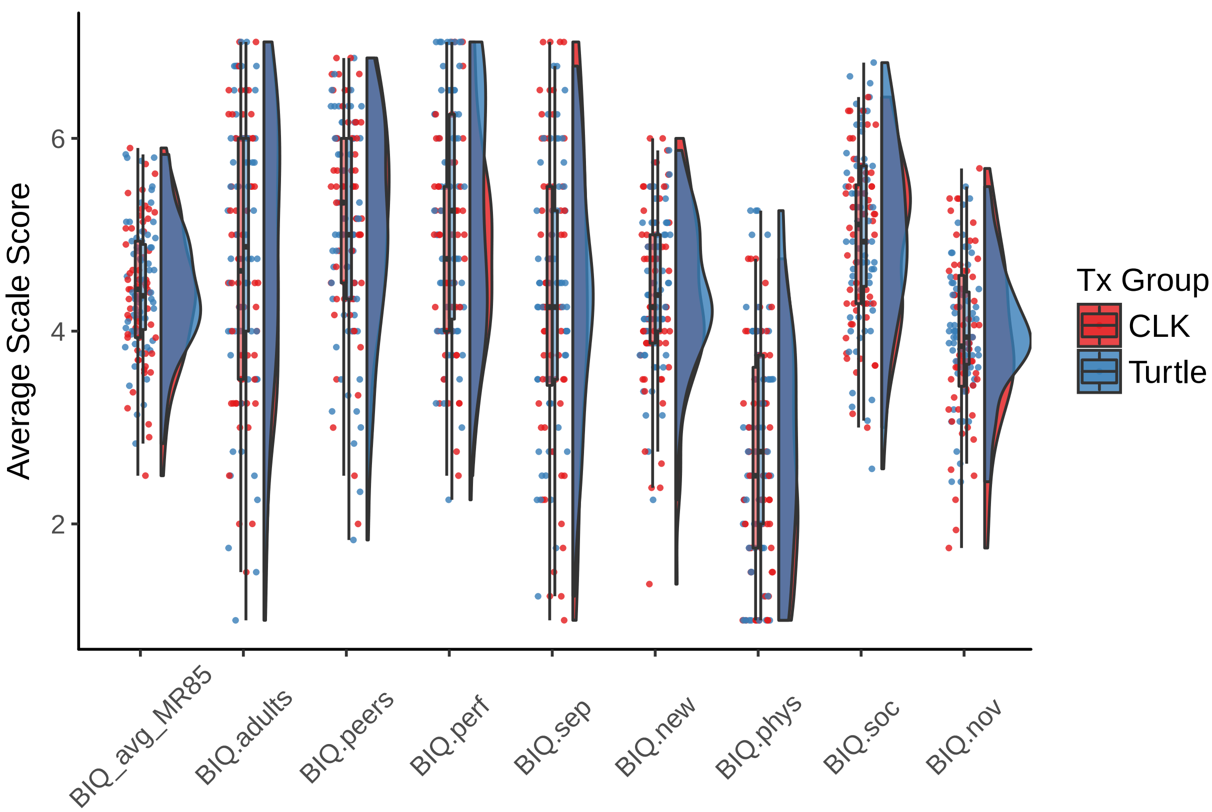
```
## Some items ( BIQ_17 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option

##
## Reliability analysis
## Call: psych::alpha(x = BIQ.all_T3[BIQ.nov], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.84      0.85    0.91      0.26 5.6 0.019    4 0.76     0.26
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.84 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.79 0.84 0.88
##  Reliability if an item is dropped:
```

```
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## BIQ_9       0.83      0.84    0.90      0.25 5.1    0.021 0.053  0.24
## BIQ_11      0.82      0.83    0.90      0.24 4.9    0.021 0.054  0.21
## BIQ_18      0.83      0.84    0.90      0.25 5.1    0.020 0.053  0.22
## BIQ_27      0.83      0.84    0.90      0.25 5.1    0.021 0.054  0.24
## BIQ_1       0.83      0.83    0.90      0.25 5.0    0.020 0.056  0.22
## BIQ_5       0.83      0.84    0.90      0.26 5.2    0.020 0.056  0.22
## BIQ_14      0.84      0.85    0.91      0.27 5.6    0.019 0.060  0.29
## BIQ_15      0.82      0.83    0.89      0.24 4.8    0.021 0.052  0.21
## BIQ_22      0.83      0.84    0.90      0.25 5.1    0.020 0.057  0.22
## BIQ_23      0.82      0.83    0.90      0.24 4.8    0.021 0.054  0.22
## BIQ_24      0.84      0.85    0.91      0.27 5.6    0.018 0.057  0.29
## BIQ_25      0.83      0.84    0.90      0.25 5.1    0.020 0.054  0.22
## BIQ_4       0.84      0.84    0.90      0.27 5.4    0.019 0.054  0.29
## BIQ_13      0.84      0.85    0.90      0.27 5.5    0.018 0.052  0.29
## BIQ_17      0.85      0.86    0.91      0.29 6.0    0.017 0.049  0.29
## BIQ_29      0.85      0.85    0.91      0.28 5.8    0.018 0.051  0.29
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## BIQ_9  127  0.66  0.62  0.62   0.57  4.6 1.8
## BIQ_11 127  0.75  0.73  0.72   0.68  4.5 1.5
## BIQ_18 127  0.65  0.61  0.60   0.55  4.0 1.7
## BIQ_27 127  0.66  0.63  0.61   0.57  4.3 1.7
## BIQ_1  127  0.65  0.68  0.66   0.60  4.5 1.1
## BIQ_5  127  0.57  0.59  0.56   0.50  4.5 1.2
## BIQ_14 127  0.41  0.42  0.36   0.33  3.0 1.1
## BIQ_15 126  0.75  0.77  0.77   0.71  4.5 1.1
## BIQ_22 127  0.59  0.60  0.56   0.51  4.7 1.4
## BIQ_23 127  0.73  0.74  0.74   0.68  4.4 1.2
## BIQ_24 127  0.37  0.39  0.33   0.27  4.9 1.4
## BIQ_25 127  0.59  0.61  0.59   0.52  4.6 1.2
## BIQ_4  126  0.46  0.47  0.46   0.36  2.8 1.4
## BIQ_13 127  0.43  0.43  0.43   0.32  2.9 1.5
## BIQ_17 127  0.24  0.23  0.17   0.12  2.7 1.5
## BIQ_29 127  0.31  0.31  0.27   0.21  2.6 1.3
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7 miss
## BIQ_9  0.06 0.06 0.14 0.25 0.13 0.17 0.18 0.16
## BIQ_11 0.03 0.09 0.09 0.33 0.14 0.24 0.09 0.16
## BIQ_18 0.08 0.15 0.18 0.19 0.17 0.15 0.09 0.16
## BIQ_27 0.06 0.13 0.14 0.23 0.19 0.16 0.10 0.16
## BIQ_1  0.01 0.02 0.16 0.31 0.30 0.19 0.01 0.16
## BIQ_5  0.01 0.05 0.14 0.33 0.24 0.20 0.03 0.16
## BIQ_14 0.07 0.27 0.33 0.25 0.06 0.02 0.00 0.16
## BIQ_15 0.01 0.05 0.06 0.42 0.29 0.13 0.05 0.17
## BIQ_22 0.03 0.03 0.08 0.28 0.27 0.22 0.09 0.16
## BIQ_23 0.01 0.07 0.09 0.45 0.16 0.22 0.01 0.16
## BIQ_24 0.01 0.05 0.11 0.24 0.23 0.24 0.13 0.16
## BIQ_25 0.02 0.05 0.07 0.35 0.32 0.13 0.06 0.16
## BIQ_4  0.21 0.27 0.16 0.25 0.07 0.02 0.01 0.17
## BIQ_13 0.21 0.23 0.20 0.23 0.09 0.02 0.02 0.16
## BIQ_17 0.24 0.31 0.14 0.22 0.04 0.04 0.02 0.16
## BIQ_29 0.24 0.23 0.25 0.22 0.05 0.00 0.01 0.16
```

2.3.6.10 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(BIQ.all_T3[37:46], id.var="Group.R")

raincloud_theme = theme(
```

```
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T3 Folder:

`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:
- `/BIQ_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/BIQ_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/BIQ_T3_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

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2.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

2.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(BIQ.wide)
```

```
##                vars   n  mean    sd median trimmed   mad  min    max
## ID                1 151 86.11 49.12  88.00   86.21 62.27 1.00 170.00
## Group             2 151  0.50  0.50   0.00    0.50  0.00 0.00   1.00
## Group.R*          3 151  1.50  0.50   1.00    1.50  0.00 1.00   2.00
## BIQ_avg_MR85.0    4 147  5.14  0.66   5.10    5.14  0.64 3.30   6.83
## BIQ.adults.0      5 147  5.65  1.30   6.00    5.81  1.48 1.75   7.00
## BIQ.peers.0       6 147  5.76  0.92   5.83    5.84  0.99 3.17   7.00
## BIQ.perf.0        7 147  5.46  1.13   5.50    5.51  1.48 1.75   7.00
## BIQ.sep.0         8 147  5.17  1.47   5.50    5.32  1.48 1.00   7.00
## BIQ.new.0         9 147  5.12  0.83   5.12    5.13  0.93 2.88   6.88
## BIQ.phys.0       10 147  3.36  1.44   3.50    3.32  1.48 1.00   7.00
## BIQ.soc.0        11 147  5.64  0.78   5.71    5.68  0.74 3.50   7.00
## BIQ.nov.0        12 147  4.69  0.85   4.69    4.71  0.74 2.06   6.94
## BIQ_avg_MR85.1   13 131  4.91  0.71   4.90    4.92  0.74 2.93   6.57
## BIQ.adults.1     14 131  5.32  1.33   5.75    5.45  1.48 1.75   7.00
## BIQ.peers.1      15 131  5.55  0.95   5.67    5.62  0.99 2.33   7.00
## BIQ.perf.1       16 131  5.33  1.15   5.50    5.38  1.48 2.50   7.00
## BIQ.sep.1        17 131  4.89  1.46   5.00    5.00  1.48 1.00   7.00
## BIQ.new.1        18 131  4.91  0.88   5.00    4.94  0.93 2.12   6.88
## BIQ.phys.1       19 131  3.16  1.40   3.25    3.12  1.48 1.00   7.00
## BIQ.soc.1        20 131  5.42  0.80   5.43    5.44  0.85 3.21   7.00
## BIQ.nov.1        21 131  4.46  0.89   4.50    4.49  0.83 1.56   6.50
## BIQ_avg_MR85.2   22 127  4.43  0.69   4.40    4.43  0.69 2.50   5.90
## BIQ.adults.2     23 126  4.77  1.42   4.75    4.84  1.85 1.00   7.00
## BIQ.peers.2      24 127  5.07  1.10   5.17    5.15  1.24 1.83   6.83
## BIQ.perf.2       25 126  5.00  1.16   5.00    5.00  1.48 2.25   7.00
## BIQ.sep.2        26 127  4.34  1.43   4.25    4.37  1.48 1.00   7.00
## BIQ.new.2        27 127  4.37  0.84   4.25    4.41  0.74 1.38   6.00
## BIQ.phys.2       28 126  2.75  1.16   2.62    2.71  1.30 1.00   5.25
## BIQ.soc.2        29 127  4.97  0.89   5.07    4.99  0.95 2.57   6.79
## BIQ.nov.2        30 127  3.96  0.76   3.94    3.97  0.65 1.75   5.69
##                 range  skew kurtosis   se
## ID             169.00 -0.02    -1.21 4.00
## Group            1.00  0.01    -2.01 0.04
## Group.R*         1.00  0.01    -2.01 0.04
## BIQ_avg_MR85.0   3.53 -0.03     0.00 0.05
## BIQ.adults.0     5.25 -0.83    -0.11 0.11
## BIQ.peers.0      3.83 -0.66    -0.28 0.08
## BIQ.perf.0       5.25 -0.39    -0.65 0.09
## BIQ.sep.0        6.00 -0.74    -0.09 0.12
## BIQ.new.0        4.00 -0.15    -0.22 0.07
## BIQ.phys.0       6.00  0.23    -0.56 0.12
## BIQ.soc.0        3.50 -0.41    -0.20 0.06
## BIQ.nov.0        4.88 -0.28     0.52 0.07
## BIQ_avg_MR85.1   3.63 -0.21     0.05 0.06
## BIQ.adults.1     5.25 -0.70    -0.30 0.12
## BIQ.peers.1      4.67 -0.67     0.31 0.08
```

```
## BIQ.perf.1       4.50 -0.29    -0.85 0.10
## BIQ.sep.1        6.00 -0.65     0.10 0.13
## BIQ.new.1        4.75 -0.47     0.54 0.08
## BIQ.phys.1       6.00  0.21    -0.71 0.12
## BIQ.soc.1        3.79 -0.27    -0.39 0.07
## BIQ.nov.1        4.94 -0.35     0.60 0.08
## BIQ_avg_MR85.2   3.40 -0.08    -0.17 0.06
## BIQ.adults.2     6.00 -0.38    -0.64 0.13
## BIQ.peers.2      5.00 -0.61    -0.03 0.10
## BIQ.perf.2       4.75  0.07    -0.82 0.10
## BIQ.sep.2        6.00 -0.19    -0.57 0.13
## BIQ.new.2        4.62 -0.49     0.60 0.07
## BIQ.phys.2       4.25  0.18    -0.92 0.10
## BIQ.soc.2        4.21 -0.24    -0.53 0.08
## BIQ.nov.2        3.94 -0.21     0.07 0.07
```

LONG DATA SET

```r
psych::describe(BIQ.long)
```

```
##                vars   n  mean    sd median trimmed   mad  min    max  range
## ID                1 453 86.11 49.01  88.00   86.21 62.27 1.00 170.00 169.00
## Group             2 453  0.50  0.50   0.00    0.50  0.00 0.00   1.00   1.00
## BIQ_avg_MR85      3 405  4.84  0.74   4.87    4.85  0.74 2.50   6.83   4.33
## Group.R*          4 453  1.50  0.50   1.00    1.50  0.00 1.00   2.00   1.00
## BIQ.adults        5 404  5.27  1.40   5.50    5.39  1.48 1.00   7.00   6.00
## BIQ.peers         6 405  5.48  1.03   5.67    5.56  0.99 1.83   7.00   5.17
## BIQ.perf          7 404  5.28  1.16   5.25    5.31  1.48 1.75   7.00   5.25
## BIQ.sep           8 405  4.82  1.49   4.75    4.92  1.48 1.00   7.00   6.00
## BIQ.new           9 405  4.82  0.90   4.88    4.84  0.93 1.38   6.88   5.50
## BIQ.phys         10 404  3.10  1.37   3.00    3.05  1.48 1.00   7.00   6.00
## BIQ.soc          11 405  5.36  0.87   5.43    5.39  0.85 2.57   7.00   4.43
## BIQ.nov          12 405  4.39  0.89   4.38    4.41  0.83 1.56   6.94   5.38
## Time             13 453  1.00  0.82   1.00    1.00  1.48 0.00   2.00   2.00
##                 skew kurtosis   se
## ID             -0.02    -1.20 2.30
## Group           0.01    -2.00 0.02
## BIQ_avg_MR85 -0.13    -0.05 0.04
## Group.R*        0.01    -2.00 0.02
## BIQ.adults     -0.63    -0.40 0.07
## BIQ.peers      -0.71     0.26 0.05
## BIQ.perf       -0.21    -0.83 0.06
## BIQ.sep        -0.49    -0.34 0.07
## BIQ.new        -0.32     0.36 0.04
## BIQ.phys        0.29    -0.52 0.07
## BIQ.soc        -0.38    -0.26 0.04
## BIQ.nov        -0.18     0.26 0.04
## Time            0.00    -1.51 0.04
```

2.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```r
psych::describeBy(BIQ.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##                  vars  n  mean    sd median trimmed   mad  min    max  range
## ID                  1 76 86.59 48.90  87.00   86.65 62.27 2.00 168.00 166.00
## Group               2 76  0.00  0.00   0.00    0.00  0.00 0.00   0.00   0.00
## Group.R*            3 76  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
```

```
## BIQ_avg_MR85.0    4 73  5.10  0.69   5.10    5.10  0.74 3.30   6.73   3.43
## BIQ.adults.0      5 73  5.54  1.25   5.75    5.65  1.48 2.50   7.00   4.50
## BIQ.peers.0       6 73  5.74  0.95   5.83    5.82  0.99 3.17   7.00   3.83
## BIQ.perf.0        7 73  5.39  1.13   5.50    5.41  1.48 3.25   7.00   3.75
## BIQ.sep.0         8 73  5.20  1.49   5.50    5.36  1.48 1.25   7.00   5.75
## BIQ.new.0         9 73  5.13  0.84   5.12    5.14  0.87 2.88   6.88   4.00
## BIQ.phys.0       10 73  3.27  1.41   3.50    3.25  1.48 1.00   7.00   6.00
## BIQ.soc.0        11 73  5.59  0.83   5.71    5.63  0.74 3.64   7.00   3.36
## BIQ.nov.0        12 73  4.68  0.85   4.75    4.71  0.74 2.06   6.94   4.88
## BIQ_avg_MR85.1   13 63  4.78  0.75   4.73    4.79  0.74 2.93   6.57   3.63
## BIQ.adults.1     14 63  5.12  1.38   5.25    5.24  1.48 2.00   7.00   5.00
## BIQ.peers.1      15 63  5.48  0.95   5.67    5.54  0.99 2.33   7.00   4.67
## BIQ.perf.1       16 63  5.12  1.20   5.25    5.16  1.48 2.50   7.00   4.50
## BIQ.sep.1        17 63  4.82  1.66   5.00    4.99  1.85 1.00   7.00   6.00
## BIQ.new.1        18 63  4.77  0.95   4.75    4.83  0.93 2.12   6.75   4.62
## BIQ.phys.1       19 63  3.05  1.44   3.25    2.98  1.48 1.00   7.00   6.00
## BIQ.soc.1        20 63  5.27  0.80   5.36    5.31  0.85 3.21   6.79   3.57
## BIQ.nov.1        21 63  4.35  0.98   4.38    4.40  0.74 1.56   6.50   4.94
## BIQ_avg_MR85.2   22 60  4.39  0.72   4.43    4.41  0.74 2.50   5.90   3.40
## BIQ.adults.2     23 60  4.72  1.39   4.62    4.76  2.04 1.50   7.00   5.50
## BIQ.peers.2      24 60  5.18  1.08   5.33    5.26  1.24 2.00   6.83   4.83
## BIQ.perf.2       25 59  4.80  1.04   4.75    4.78  1.11 2.50   7.00   4.50
## BIQ.sep.2        26 60  4.36  1.60   4.25    4.41  1.85 1.00   7.00   6.00
## BIQ.new.2        27 60  4.34  0.95   4.25    4.39  0.93 1.38   6.00   4.62
## BIQ.phys.2       28 59  2.63  1.14   2.50    2.59  1.48 1.00   4.75   3.75
## BIQ.soc.2        29 60  4.93  0.85   5.11    4.95  1.01 3.00   6.43   3.43
## BIQ.nov.2        30 60  3.92  0.87   3.84    3.94  0.83 1.75   5.69   3.94
##                 skew kurtosis   se
## ID              0.00    -1.28 5.61
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## BIQ_avg_MR85.0  0.02    -0.29 0.08
## BIQ.adults.0   -0.55    -0.80 0.15
## BIQ.peers.0    -0.59    -0.49 0.11
## BIQ.perf.0     -0.09    -1.42 0.13
## BIQ.sep.0      -0.78     0.01 0.17
## BIQ.new.0      -0.13    -0.33 0.10
## BIQ.phys.0      0.15    -0.62 0.16
## BIQ.soc.0      -0.38    -0.47 0.10
## BIQ.nov.0      -0.37     0.88 0.10
## BIQ_avg_MR85.1 -0.16     0.12 0.09
## BIQ.adults.1   -0.59    -0.52 0.17
## BIQ.peers.1    -0.73     0.75 0.12
## BIQ.perf.1     -0.22    -0.99 0.15
## BIQ.sep.1      -0.75    -0.21 0.21
## BIQ.new.1      -0.58     0.38 0.12
## BIQ.phys.1      0.28    -0.53 0.18
## BIQ.soc.1      -0.49    -0.33 0.10
## BIQ.nov.1      -0.37     0.52 0.12
## BIQ_avg_MR85.2 -0.17    -0.31 0.09
## BIQ.adults.2   -0.20    -0.92 0.18
## BIQ.peers.2    -0.66     0.15 0.14
## BIQ.perf.2      0.15    -0.40 0.14
## BIQ.sep.2      -0.22    -0.79 0.21
## BIQ.new.2      -0.52     0.36 0.12
## BIQ.phys.2      0.19    -1.15 0.15
## BIQ.soc.2      -0.25    -0.87 0.11
## BIQ.nov.2      -0.21    -0.28 0.11
## ------------------------------------------------------------
## group: Turtle
##                vars  n  mean    sd median trimmed   mad  min    max  range
```

```
## ID                 1 75 85.63 49.66  88.00   85.70 62.27 1.00 170.00 169.00
## Group              2 75  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## Group.R*           3 75  2.00  0.00   2.00    2.00  0.00 2.00   2.00   0.00
## BIQ_avg_MR85.0     4 74  5.17  0.64   5.10    5.17  0.59 3.33   6.83   3.50
## BIQ.adults.0       5 74  5.75  1.35   6.12    5.96  1.30 1.75   7.00   5.25
## BIQ.peers.0        6 74  5.78  0.89   5.83    5.87  0.86 3.33   7.00   3.67
## BIQ.perf.0         7 74  5.52  1.14   5.50    5.60  1.11 1.75   7.00   5.25
## BIQ.sep.0          8 74  5.14  1.47   5.50    5.28  1.48 1.00   7.00   6.00
## BIQ.new.0          9 74  5.11  0.83   5.12    5.12  0.93 3.00   6.88   3.88
## BIQ.phys.0        10 74  3.44  1.48   3.50    3.38  1.48 1.00   7.00   6.00
## BIQ.soc.0         11 74  5.70  0.73   5.75    5.73  0.69 3.50   7.00   3.50
## BIQ.nov.0         12 74  4.70  0.85   4.59    4.72  0.83 2.31   6.81   4.50
## BIQ_avg_MR85.1    13 68  5.03  0.65   4.98    5.04  0.59 3.57   6.30   2.73
## BIQ.adults.1      14 68  5.51  1.27   6.00    5.63  1.11 1.75   7.00   5.25
## BIQ.peers.1       15 68  5.62  0.95   5.75    5.68  0.86 2.83   7.00   4.17
## BIQ.perf.1        16 68  5.53  1.06   5.50    5.58  1.11 3.00   7.00   4.00
## BIQ.sep.1         17 68  4.95  1.24   4.75    5.00  1.11 1.50   7.00   5.50
## BIQ.new.1         18 68  5.03  0.79   5.06    5.04  0.83 3.00   6.88   3.88
## BIQ.phys.1        19 68  3.26  1.36   3.25    3.24  1.67 1.00   6.25   5.25
## BIQ.soc.1         20 68  5.56  0.79   5.50    5.57  0.85 4.00   7.00   3.00
## BIQ.nov.1         21 68  4.57  0.78   4.56    4.57  0.79 2.56   6.12   3.56
## BIQ_avg_MR85.2    22 67  4.46  0.65   4.37    4.46  0.64 2.83   5.83   3.00
## BIQ.adults.2      23 66  4.81  1.46   4.88    4.91  1.67 1.00   7.00   6.00
## BIQ.peers.2       24 67  4.98  1.12   5.00    5.06  1.24 1.83   6.83   5.00
## BIQ.perf.2        25 67  5.19  1.24   5.25    5.21  1.48 2.25   7.00   4.75
## BIQ.sep.2         26 67  4.32  1.27   4.25    4.35  1.48 1.25   6.75   5.50
## BIQ.new.2         27 67  4.41  0.73   4.38    4.43  0.74 2.25   5.88   3.62
## BIQ.phys.2        28 67  2.85  1.18   2.75    2.82  1.48 1.00   5.25   4.25
## BIQ.soc.2         29 67  5.00  0.93   4.93    5.03  0.95 2.57   6.79   4.21
## BIQ.nov.2         30 67  4.00  0.66   3.94    4.00  0.56 2.44   5.50   3.06
##                 skew kurtosis   se
## ID             -0.04    -1.21 5.73
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## BIQ_avg_MR85.0 -0.08     0.27 0.07
## BIQ.adults.0   -1.08     0.49 0.16
## BIQ.peers.0    -0.73    -0.12 0.10
## BIQ.perf.0     -0.66     0.12 0.13
## BIQ.sep.0      -0.68    -0.26 0.17
## BIQ.new.0      -0.16    -0.19 0.10
## BIQ.phys.0      0.27    -0.63 0.17
## BIQ.soc.0      -0.39    -0.02 0.09
## BIQ.nov.0      -0.18     0.05 0.10
## BIQ_avg_MR85.1 -0.10    -0.48 0.08
## BIQ.adults.1   -0.78    -0.16 0.15
## BIQ.peers.1    -0.61    -0.22 0.12
## BIQ.perf.1     -0.25    -0.98 0.13
## BIQ.sep.1      -0.24    -0.38 0.15
## BIQ.new.1      -0.12    -0.10 0.10
## BIQ.phys.1      0.15    -0.97 0.16
## BIQ.soc.1      -0.06    -0.88 0.10
## BIQ.nov.1      -0.07    -0.24 0.09
## BIQ_avg_MR85.2  0.08    -0.22 0.08
## BIQ.adults.2   -0.51    -0.45 0.18
## BIQ.peers.2    -0.55    -0.25 0.14
## BIQ.perf.2     -0.09    -1.09 0.15
## BIQ.sep.2      -0.14    -0.59 0.16
## BIQ.new.2      -0.28     0.03 0.09
## BIQ.phys.2      0.16    -0.83 0.14
## BIQ.soc.2      -0.25    -0.41 0.11
## BIQ.nov.2      -0.10     0.02 0.08
```

LONG DATA SET

```r
psych::describeBy(BIQ.long, group='Group.R')
```

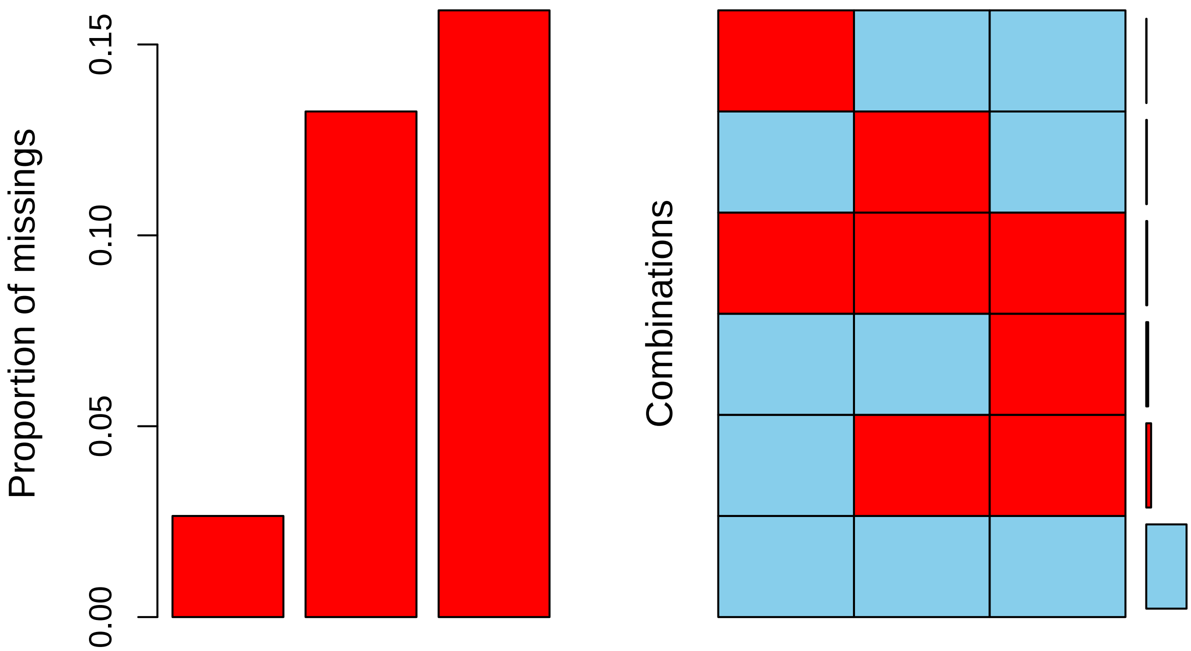
```
##
##  Descriptive statistics by group
## group: CLK
##                vars   n  mean    sd median trimmed   mad  min    max  range
## ID                1 228 86.59 48.69  87.00   86.63 62.27 2.00 168.00 166.00
## Group             2 228  0.00  0.00   0.00    0.00  0.00 0.00   0.00   0.00
## BIQ_avg_MR85      3 196  4.78  0.77   4.82    4.80  0.77 2.50   6.73   4.23
## Group.R*          4 228  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## BIQ.adults        5 196  5.15  1.37   5.38    5.24  1.67 1.50   7.00   5.50
## BIQ.peers         6 196  5.49  1.01   5.67    5.56  0.99 2.00   7.00   5.00
## BIQ.perf          7 195  5.12  1.15   5.00    5.13  1.48 2.50   7.00   4.50
## BIQ.sep           8 196  4.82  1.61   5.00    4.96  1.85 1.00   7.00   6.00
## BIQ.new           9 196  4.77  0.96   4.88    4.81  0.93 1.38   6.88   5.50
## BIQ.phys         10 195  3.01  1.36   3.00    2.95  1.48 1.00   7.00   6.00
## BIQ.soc          11 196  5.29  0.86   5.36    5.32  0.90 3.00   7.00   4.00
## BIQ.nov          12 196  4.34  0.95   4.41    4.38  0.88 1.56   6.94   5.38
## Time             13 228  1.00  0.82   1.00    1.00  1.48 0.00   2.00   2.00
##                 skew kurtosis   se
## ID              0.00    -1.25 3.22
## Group            NaN      NaN 0.00
## BIQ_avg_MR85 -0.14    -0.01 0.06
## Group.R*         NaN      NaN 0.00
## BIQ.adults    -0.47    -0.69 0.10
## BIQ.peers     -0.69     0.32 0.07
## BIQ.perf      -0.05    -0.96 0.08
## BIQ.sep       -0.59    -0.38 0.11
## BIQ.new       -0.47     0.43 0.07
## BIQ.phys       0.29    -0.50 0.10
## BIQ.soc       -0.35    -0.46 0.06
## BIQ.nov       -0.30     0.30 0.07
## Time           0.00    -1.51 0.05
## --------------------------------------------------------
## group: Turtle
##                vars   n  mean    sd median trimmed   mad  min    max  range
## ID                1 225 85.63 49.44  88.00   85.72 62.27 1.00 170.00 169.00
## Group             2 225  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## BIQ_avg_MR85      3 209  4.90  0.71   4.93    4.90  0.74 2.83   6.83   4.00
## Group.R*          4 225  2.00  0.00   2.00    2.00  0.00 2.00   2.00   0.00
## BIQ.adults        5 208  5.38  1.41   5.75    5.53  1.48 1.00   7.00   6.00
## BIQ.peers         6 209  5.47  1.04   5.67    5.56  0.99 1.83   7.00   5.17
## BIQ.perf          7 209  5.42  1.15   5.50    5.47  1.48 1.75   7.00   5.25
## BIQ.sep           8 209  4.82  1.37   4.75    4.88  1.48 1.00   7.00   6.00
## BIQ.new           9 209  4.86  0.85   4.88    4.86  0.93 2.25   6.88   4.62
## BIQ.phys         10 209  3.19  1.37   3.00    3.15  1.48 1.00   7.00   6.00
## BIQ.soc          11 209  5.43  0.87   5.43    5.46  0.85 2.57   7.00   4.43
## BIQ.nov          12 209  4.43  0.83   4.38    4.43  0.83 2.31   6.81   4.50
## Time             13 225  1.00  0.82   1.00    1.00  1.48 0.00   2.00   2.00
##                 skew kurtosis   se
## ID             -0.04    -1.17 3.30
## Group            NaN      NaN 0.00
## BIQ_avg_MR85 -0.09    -0.20 0.05
## Group.R*         NaN      NaN 0.00
## BIQ.adults    -0.78    -0.09 0.10
## BIQ.peers     -0.73     0.16 0.07
## BIQ.perf      -0.37    -0.62 0.08
## BIQ.sep       -0.33    -0.49 0.10
## BIQ.new       -0.08    -0.06 0.06
## BIQ.phys       0.29    -0.57 0.09
```

```
## BIQ.soc      -0.42    -0.07 0.06
## BIQ.nov       0.04    -0.09 0.06
## Time          0.00    -1.51 0.05
```

2.4.3 EXPLORATORY PLOTS

2.4.3.1 MISSING PATTERNS OVERALL SCALE

```
VIM::aggr(BIQ.wide[,c(4,13,22)])
```

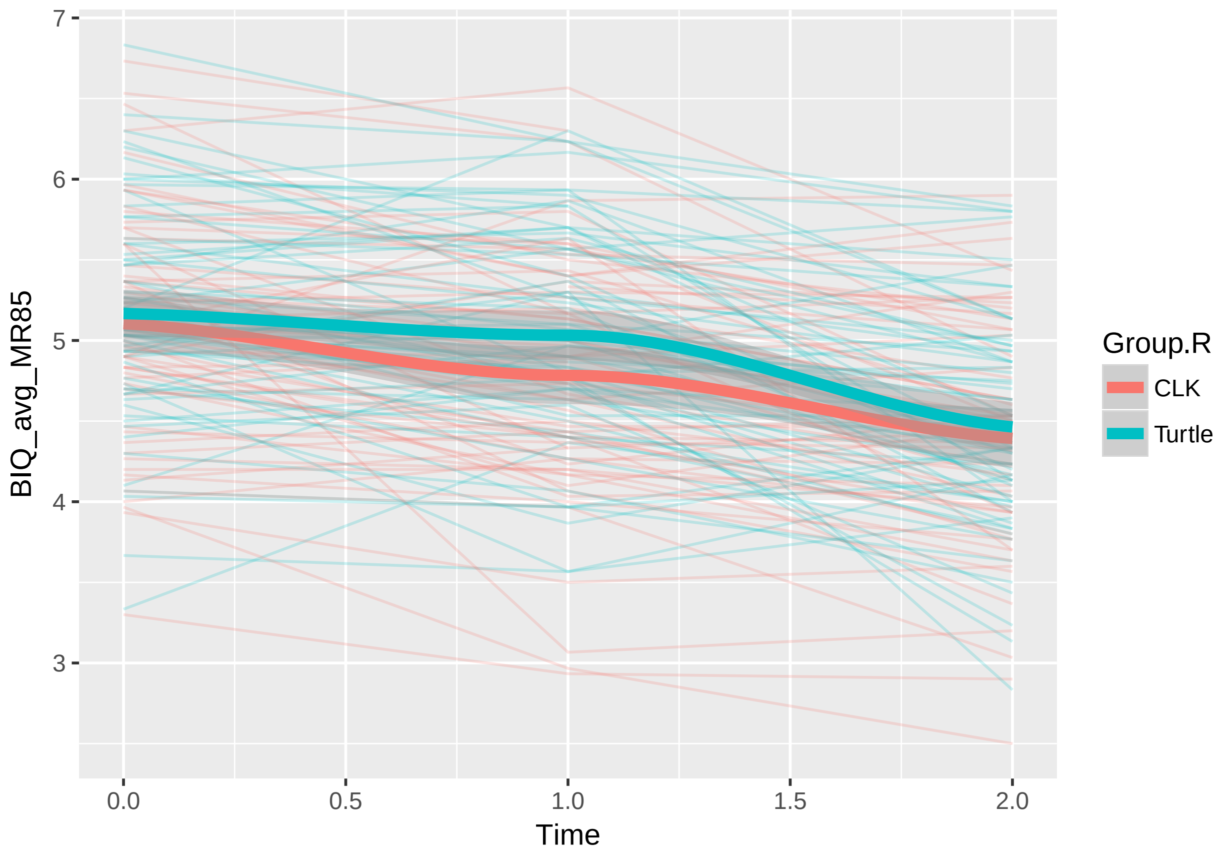


Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

2.4.3.2 SPAGHETTI PLOTS

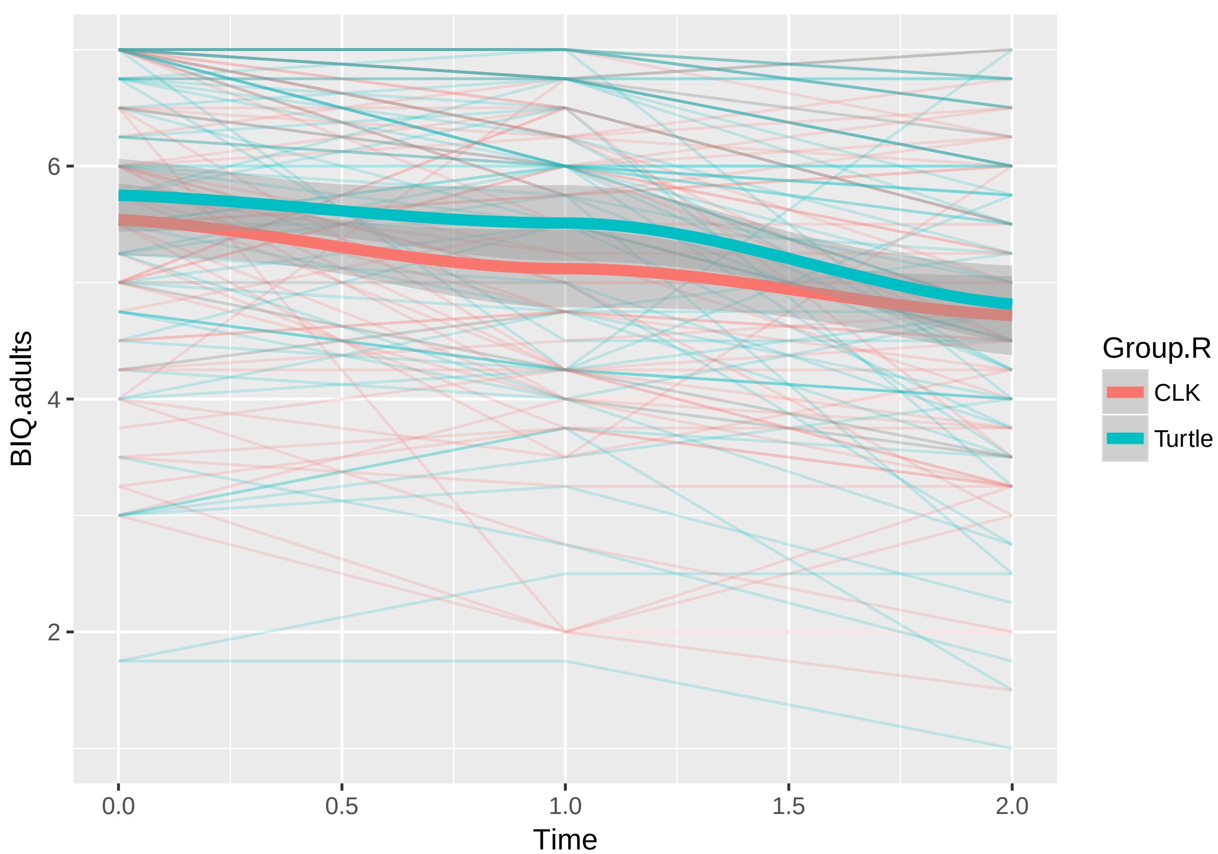
2.4.3.2.1 OVERALL SCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ_avg_MR85))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



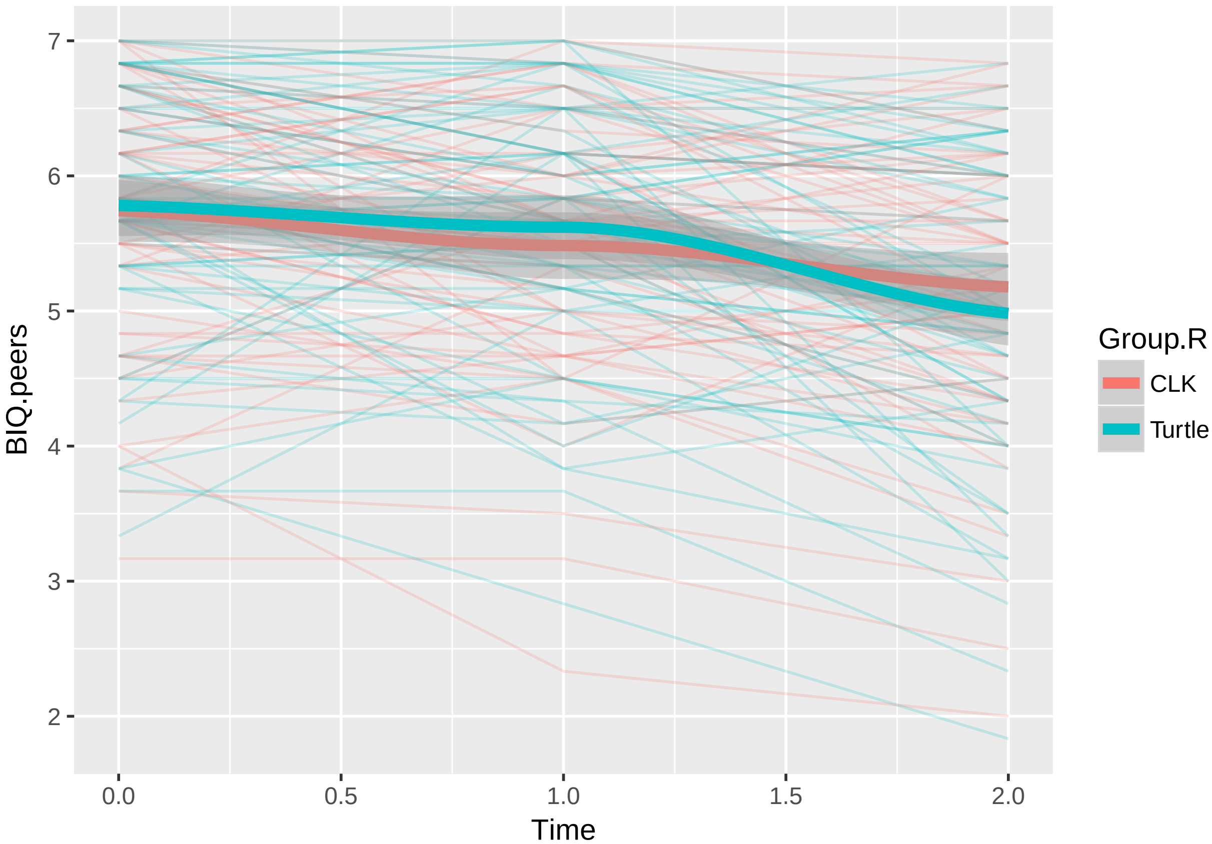
2.4.3.2.2 ADULTS SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.adults))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



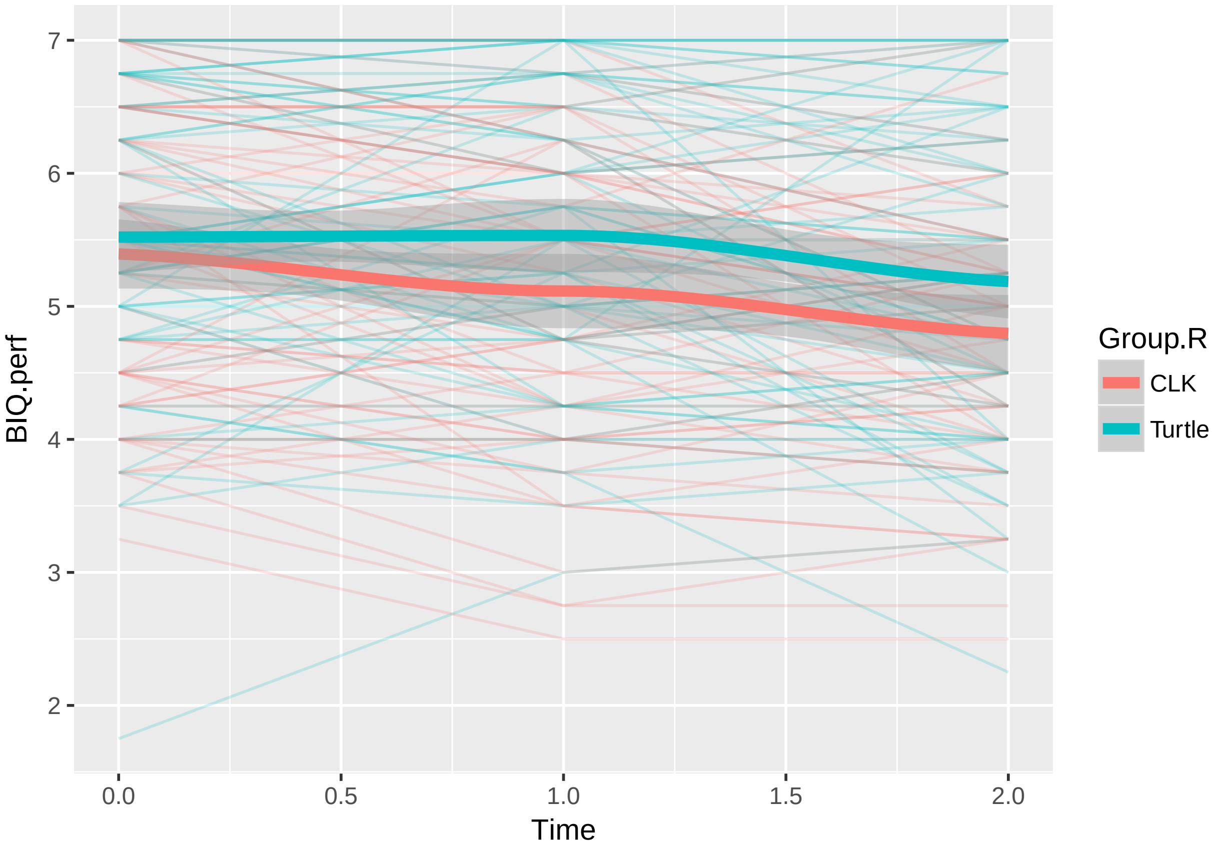
2.4.3.2.3 PEERS SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.peers))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



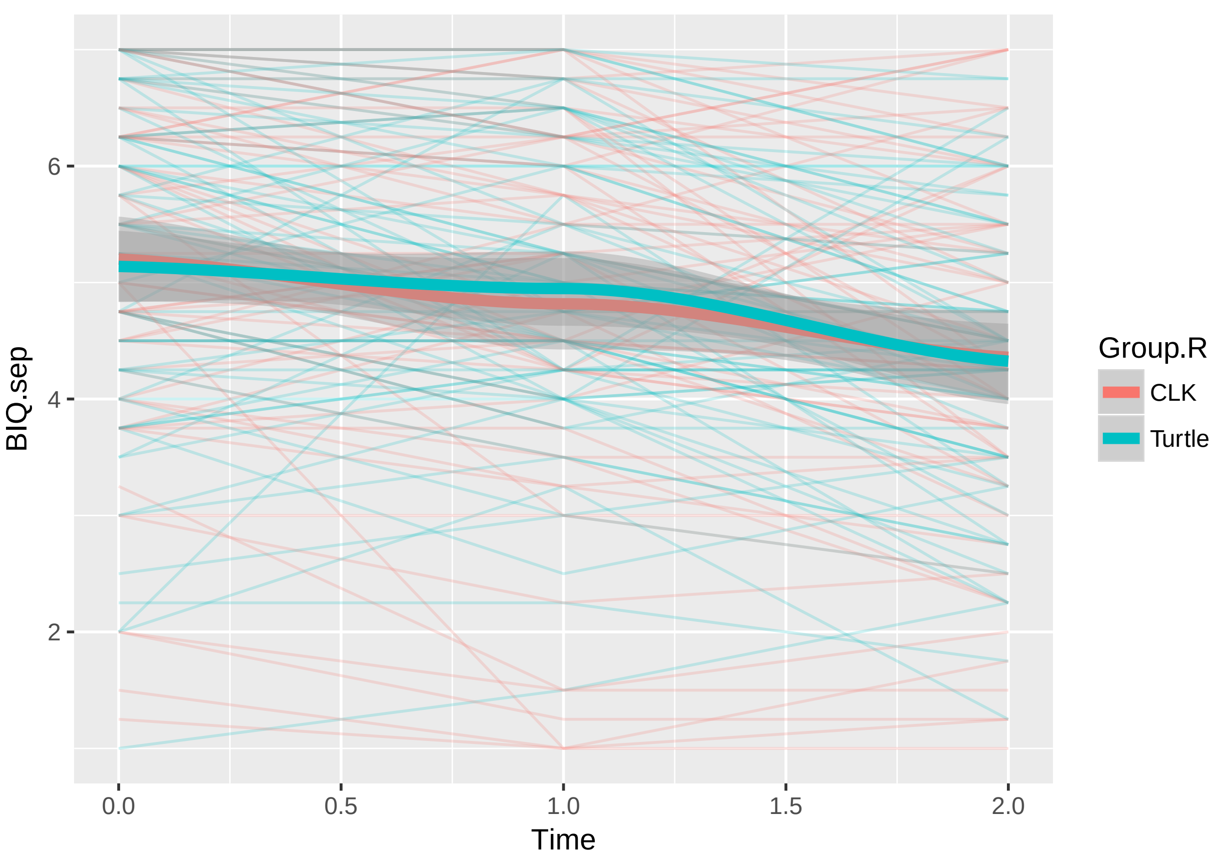
2.4.3.2.4 PERFORMANCE FEARS SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.perf))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



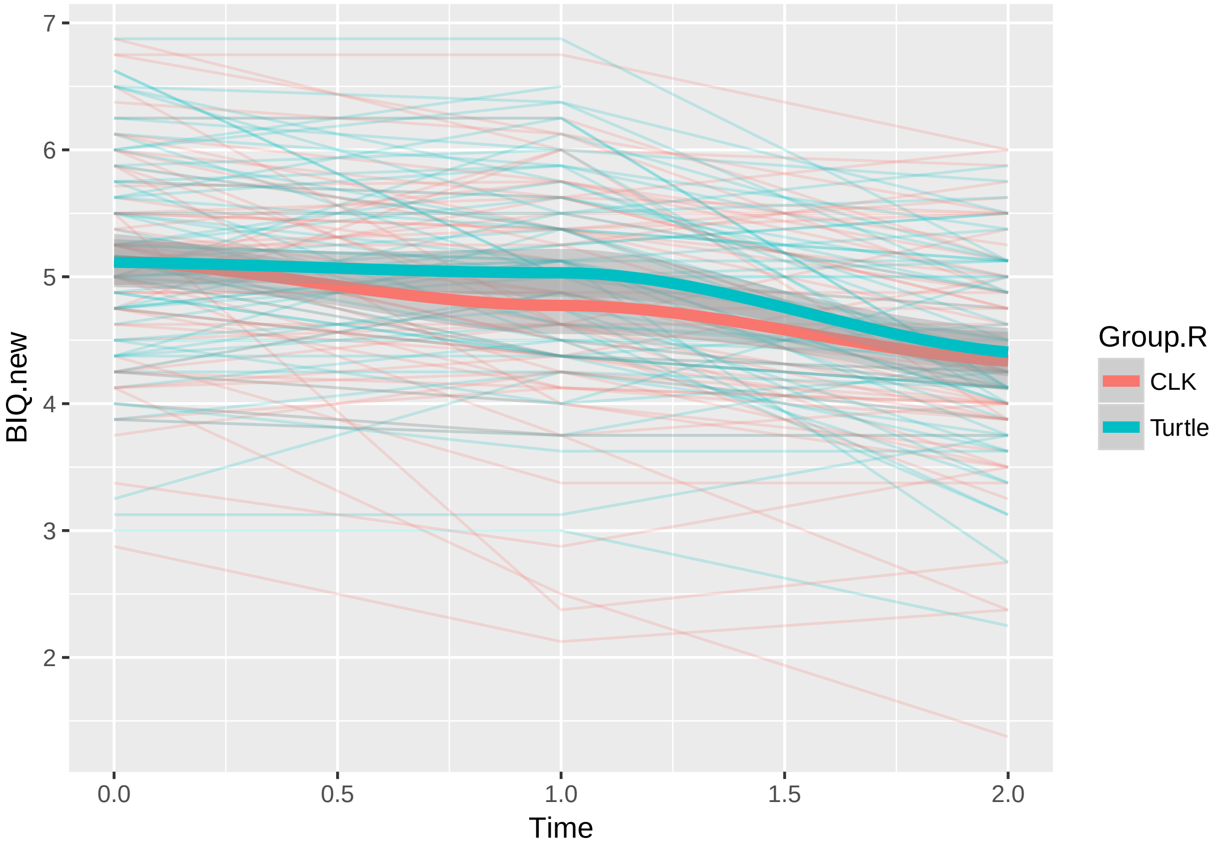
2.4.3.2.5 SEPARATION FEARS SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.sep))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



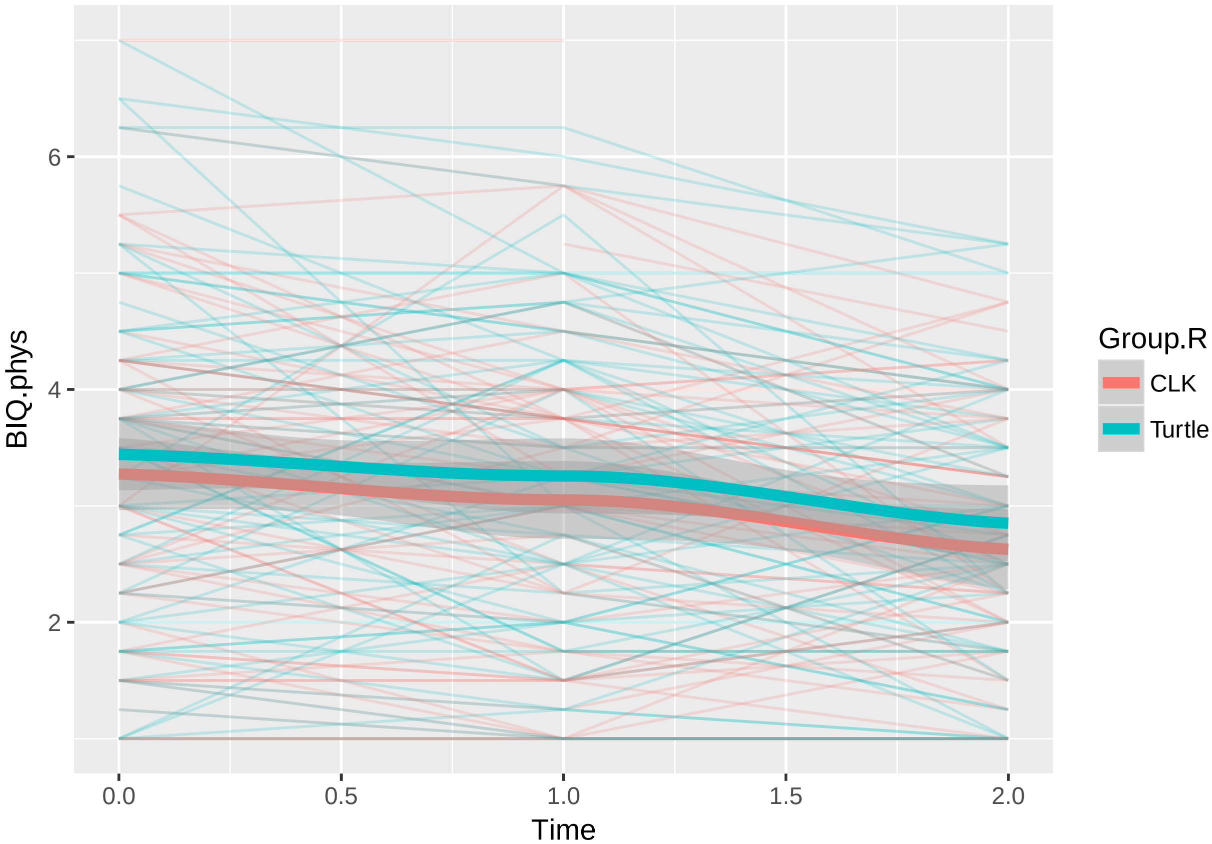
2.4.3.2.6 NEW/SETTINGS OBJECTS SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.new))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



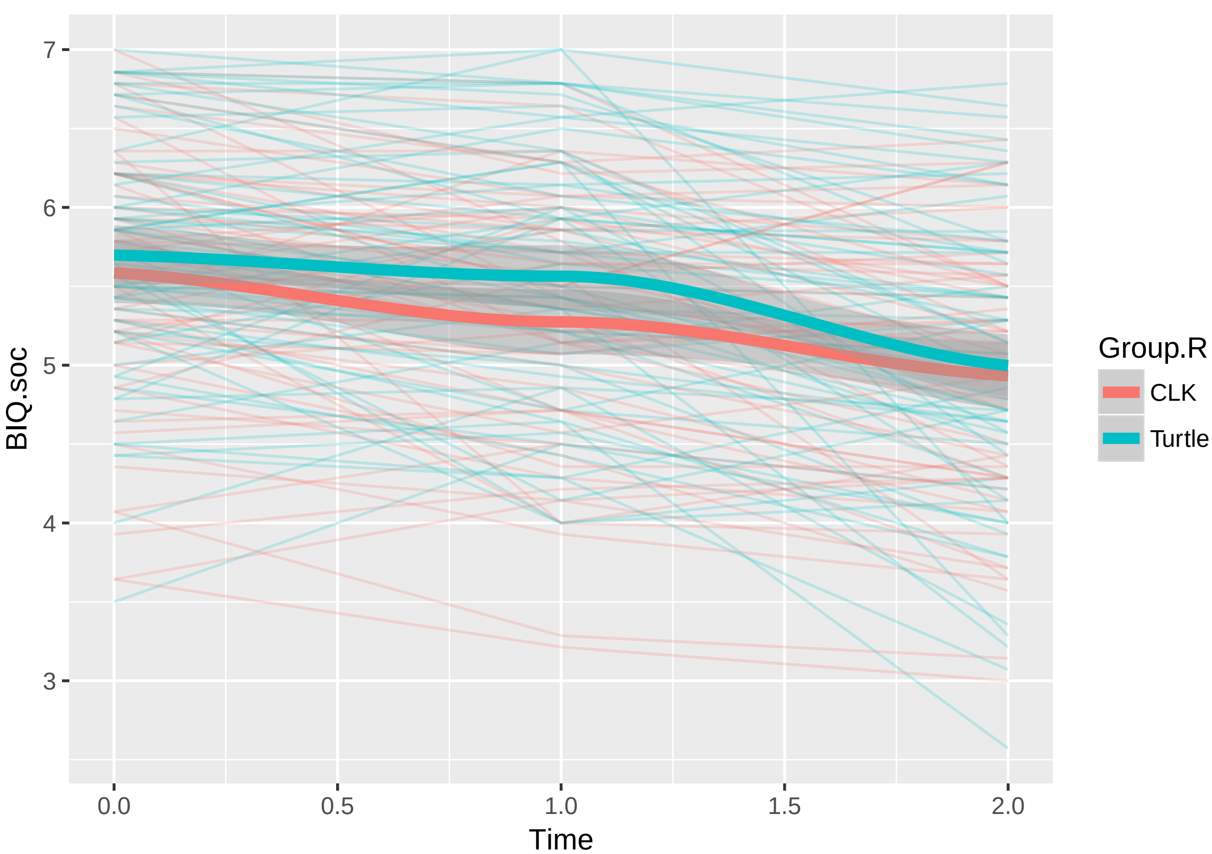
2.4.3.2.7 PHYSICAL FEARS SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.phys))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



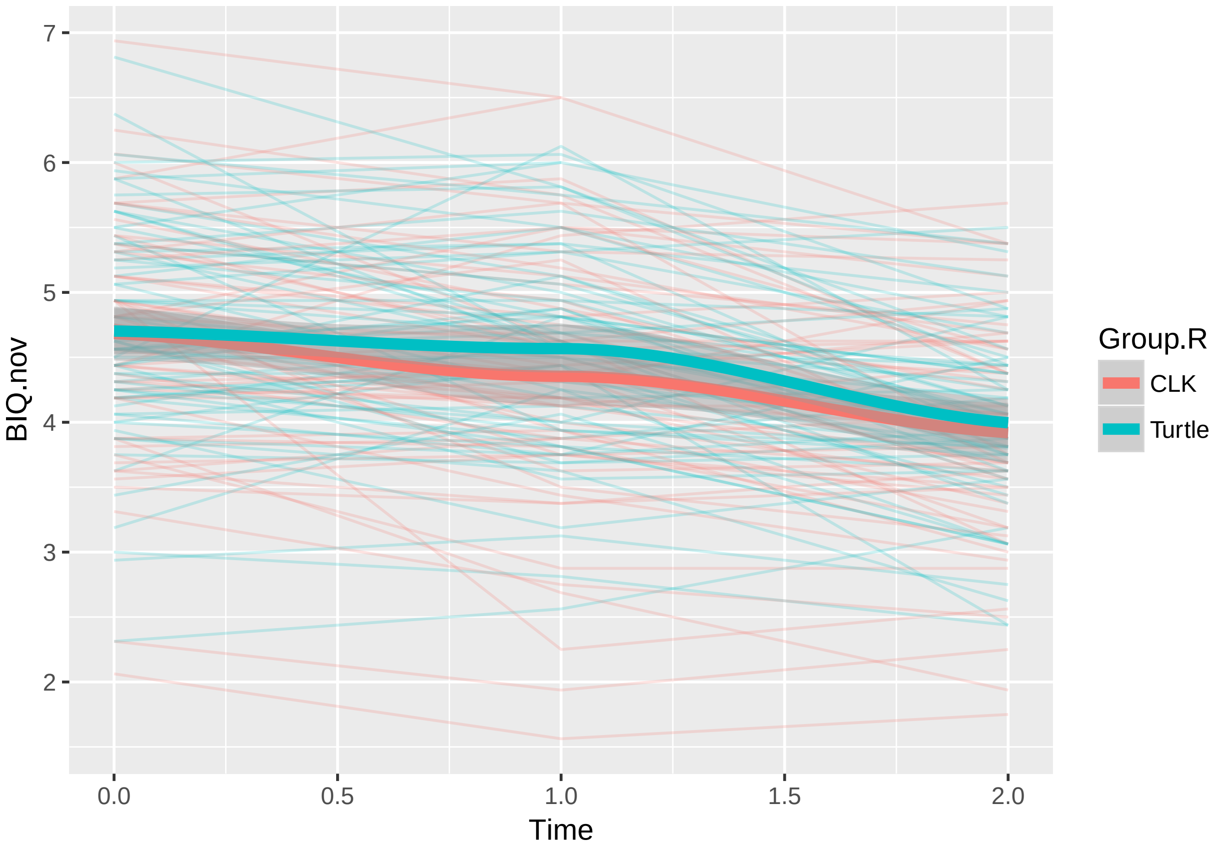
2.4.3.2.8 SOCIAL SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.soc))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



2.4.3.2.9 NOVELTY SUBSCALE

```
g1<-ggplot(data=BIQ.long, aes(x=Time, y=BIQ.nov))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



3 Child Anxiety Life Interference Scale (CALIS)

Citation:
Kennedy, S. J., Rapee, R. M., & Edwards, S. L. (2009). A selective intervention program for inhibited preschool-aged children of parents with an anxiety disorder: Effects on current anxiety disorders and temperament. *Journal Of The American Academy Of Child & Adolescent Psychiatry, 48*, 602-609. doi:10.1097/CHI.0b013e31819f6fa9

Measure Description:
The Child Anxiety Life Interference Scale - Preschool Version (CALIS; Kennedy Rapee, & Edwards, 2009) is an 18-item parent-report measure assessing the impact of a child's anxiety on their own life and on the lives of their parents. This scale is made up of three factors that tap into life interference at home, outside of the home, and on parent life. The internal consistency of the measure was assessed using McDonald's omega coefficient in a study consisting of 784 parents of anxious children aged 3-7 (Gilbertson, Morgan, Rapee, Lyneham, & Bayer, 2017). The internal consistency was adequate for each of the three factors (At Home $\omega = .77$, Outside the Home $\omega = .87$, and Parent Life $\omega = .94$) and for the total scale ($\omega = .88$).

Additional References:
Gilbertson, T. J., Morgan, A. J., Rapee, R. M., Lyneham, H. J., & Bayer, J. K. (2017). Psychometric properties of the Child Anxiety Life Interference Scale—Preschool Version. *Journal of Anxiety Disorders*, 5262-71. doi:10.1016/j.janxdis.2017.10.002

Response Options:
1 = Not at all
2 = Only a little
3 = Some
4 = Quite a lot
5 = A great deal
6 = Does not apply

Item Information:
1. CALI_1: Getting on with parents
2. CALI_2: Getting on with siblings
3. CALI_3: Interacting (e.g., playing/talking with other children at preschool/daycare)
4. CALI_4: Interacting (e.g., playing/talking) with familiar adults (e.g., relatives, parent's friends)
5. CALI_5: Interacting (e.g., playing/talking) with unfamiliar adults
6. CALI_6: Ability to participate in activities at preschool/daycare (D)
7. CALI_7: Ability to participate in activities outside preschool/daycare (e.g., swimming lessons)
8. CALI_8: Ability to participate in enjoyable activities like going to parties, concerts
9: CALI_9: Ability to perform daily activities independently (e.g., sleeping, playing)
10: CALI_10: Ability to separate from parents to attend preschool/daycare, stay with babysitters
11: CALI_11: Your relationship with your partner
12: CALI_12: Your relationship with extended family
13: CALI_13: Time spent fostering personal friendships
14: CALI_14: Your career (choice to work, how many hours you do, or how often you miss work)
15: CALI_15: The level of harmony in the family home
16: CALI_16: Your ability to go out to activities/events without your child
17: CALI_17: Your ability to go out to activities/events with your child
18: CALI_18: Your level of stress
19: CALI_19: Your free time

Subscale Information:
Interference at home: 1, 2, 9, 10, 15 *Interference outside of home*: 3, 4, 5, 6, 7, 8 *Interference on parent life*: 11, 12, 13, 14, 16, 17, 18, 19

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

3.1 TIME 1: COMPLETE SCALE

3.1.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(CALI.all_T1[,c(3:21)], trim=F, quant=c(.25,.75), ranges=F)
```

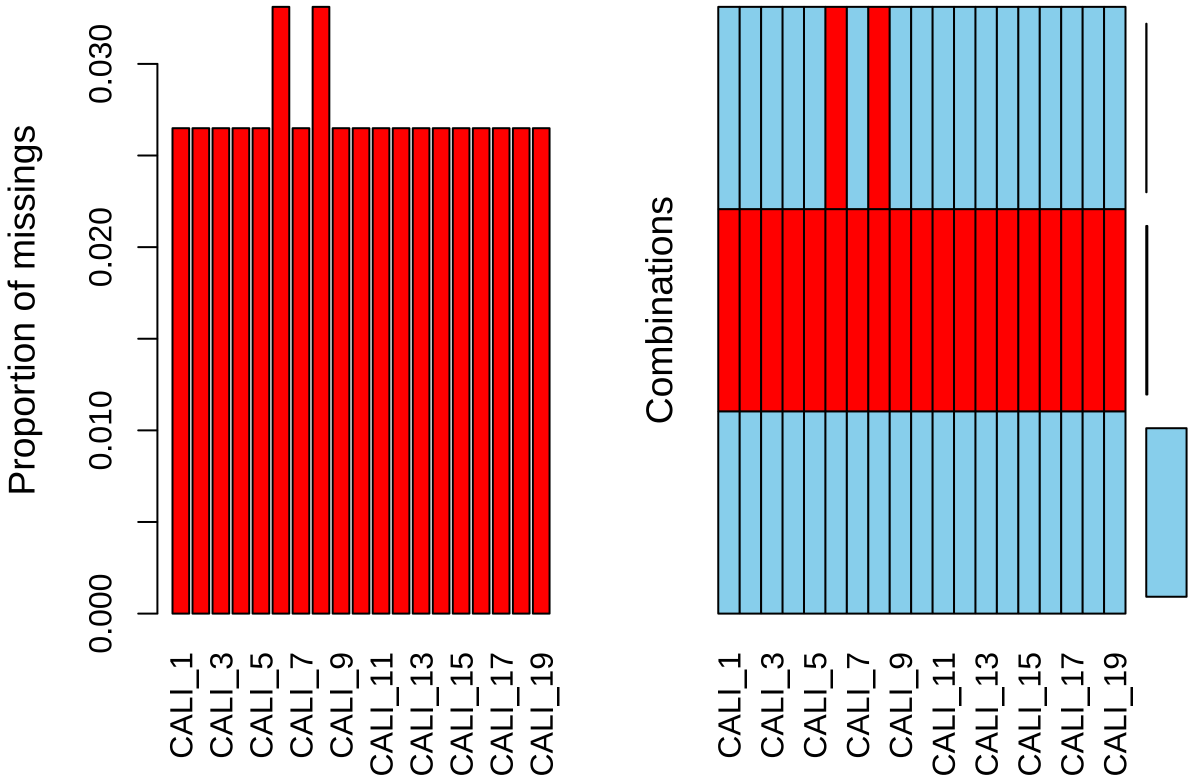
```
##         vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1     1 147 1.67 0.97  1.45     1.88 0.08     1     2
## CALI_2     2 147 2.29 1.98  1.19    -0.36 0.16     1     3
## CALI_3     3 147 3.06 1.22  0.00    -0.85 0.10     2     4
## CALI_4     4 147 2.41 1.11  0.33    -0.63 0.09     1     3
## CALI_5     5 147 3.85 1.22 -0.52    -0.70 0.10     3     5
## CALI_6     6 146 2.80 1.12  0.19    -0.50 0.09     2     3
## CALI_7     7 147 3.53 1.21  0.00    -0.56 0.10     3     4
## CALI_8     8 146 3.08 1.18  0.04    -0.65 0.10     2     4
## CALI_9     9 147 2.07 1.15  0.89    -0.06 0.09     1     3
## CALI_10   10 147 2.47 1.23  0.62    -0.47 0.10     2     3
## CALI_11   11 147 1.95 1.32  1.59     2.00 0.11     1     2
## CALI_12   12 147 1.70 1.08  1.76     3.02 0.09     1     2
## CALI_13   13 147 2.38 1.37  0.78    -0.19 0.11     1     3
## CALI_14   14 147 1.76 1.20  1.56     1.69 0.10     1     2
## CALI_15   15 147 1.88 0.96  0.71    -0.47 0.08     1     3
## CALI_16   16 147 2.33 1.35  0.74    -0.30 0.11     1     3
## CALI_17   17 147 2.35 1.17  0.64    -0.11 0.10     1     3
## CALI_18   18 147 2.63 1.07  0.01    -0.81 0.09     2     3
## CALI_19   19 147 2.20 1.24  0.70    -0.49 0.10     1     3
```

```
#Calculating Summary Scores:
CALI.all_T1$CALI_tot<-rowSums(CALI.all_T1[,3:21])  #inclunding na.rm=T results in 0's

CALI.all_T1$Miss_tot<-rep(NA, nrow(CALI.all_T1))
for(n in 1:nrow(CALI.all_T1)){
  CALI.all_T1$Miss_tot[n]<-sum(is.na(CALI.all_T1[n,3:21])==TRUE)
}

CALI.all_T1$Miss_per<-rep(NA, nrow(CALI.all_T1))
for(n in 1:nrow(CALI.all_T1)){
  CALI.all_T1$Miss_per[n]<-round(sum(is.na(CALI.all_T1[n,3:21])==TRUE)/ncol(CALI.all_T1[3:21])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
CALI.all_T1$CALI_avg<-rowMeans(CALI.all_T1[,3:21])

#Creating variable with individual mean replacement if respondent completed >85% of items
CALI.all_T1$CALI_avg_MR85<-ifelse(CALI.all_T1$Miss_per<15, rowMeans(CALI.all_T1[,3:21],
                                                                    na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(CALI.all_T1[,c(22,25,26)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##               vars   n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot         1 146 46.44 13.10 0.41    -0.22 1.08 37.00 56.00
## CALI_avg         2 146  2.44  0.69 0.41    -0.22 0.06  1.95  2.95
## CALI_avg_MR85    3 147  2.44  0.69 0.42    -0.21 0.06  1.95  2.95
```

3.1.2 MISSING DATA

```
VIM::aggr(CALI.all_T1[,3:21])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 116 failed to resond to `CALI_6` and `CALI_8`; $N = 1$; 0.66%

2. Missing pattern 2: Subjects 005, 038, 096, and 125 failed to respond to any items; $N = 4$; 2.65%

3. Missing pattern 3: All items completed; $N = 146$; 96.69%

The variable `CALI_tot` is the vector of individual summed CALI scores - 116 is dropped from this summary variable (see above).

The varaible `CALI_avg` is the vector of individual mean CALI scores - 116 is dropped from this summary variable (see above).

The variable `CALI_avg_MR85` is a vector of individual mean CALI scores that includes estimated averages when at least 85% of the necessary data is available - note 116 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T1 to report.

3.1.3 CRONBACH'S ALPHA

```
psych::alpha(CALI.all_T1[,3:21], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T1[, 3:21], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.88    0.92      0.29 7.7 0.015  2.4 0.69     0.29
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.84 0.88 0.9
##  Reliability if an item is dropped:
```

```
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_1       0.87      0.88    0.91      0.29 7.4    0.015 0.023  0.29
## CALI_2       0.88      0.88    0.92      0.30 7.6    0.014 0.021  0.29
## CALI_3       0.87      0.88    0.91      0.29 7.4    0.015 0.021  0.29
## CALI_4       0.87      0.88    0.91      0.29 7.4    0.015 0.023  0.29
## CALI_5       0.88      0.89    0.92      0.31 8.0    0.014 0.019  0.30
## CALI_6       0.87      0.88    0.91      0.29 7.4    0.015 0.022  0.29
## CALI_7       0.88      0.88    0.92      0.30 7.7    0.015 0.023  0.30
## CALI_8       0.87      0.88    0.91      0.29 7.2    0.015 0.022  0.29
## CALI_9       0.87      0.88    0.91      0.29 7.3    0.015 0.022  0.29
## CALI_10      0.87      0.88    0.91      0.29 7.3    0.015 0.023  0.29
## CALI_11      0.87      0.88    0.91      0.28 7.1    0.016 0.022  0.29
## CALI_12      0.87      0.88    0.91      0.28 7.1    0.016 0.022  0.29
## CALI_13      0.87      0.88    0.91      0.28 7.2    0.016 0.023  0.29
## CALI_14      0.87      0.88    0.91      0.28 7.1    0.016 0.022  0.29
## CALI_15      0.87      0.87    0.91      0.28 6.9    0.016 0.022  0.29
## CALI_16      0.87      0.88    0.91      0.28 7.1    0.016 0.021  0.29
## CALI_17      0.87      0.88    0.91      0.28 7.1    0.016 0.022  0.29
## CALI_18      0.86      0.87    0.91      0.28 6.8    0.016 0.022  0.28
## CALI_19      0.86      0.87    0.91      0.27 6.8    0.016 0.020  0.29
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CALI_1  147  0.50  0.51  0.48   0.44  1.7 0.97
## CALI_2  147  0.47  0.42  0.37   0.33  2.3 1.98
## CALI_3  147  0.48  0.50  0.48   0.41  3.1 1.22
## CALI_4  147  0.51  0.52  0.48   0.44  2.4 1.11
## CALI_5  147  0.27  0.29  0.24   0.18  3.9 1.22
## CALI_6  146  0.52  0.53  0.51   0.45  2.8 1.12
## CALI_7  147  0.41  0.41  0.36   0.33  3.5 1.21
## CALI_8  146  0.58  0.58  0.56   0.51  3.1 1.18
## CALI_9  147  0.54  0.54  0.51   0.48  2.1 1.15
## CALI_10 147  0.56  0.55  0.52   0.49  2.5 1.23
## CALI_11 147  0.63  0.64  0.62   0.57  2.0 1.32
## CALI_12 147  0.64  0.65  0.63   0.59  1.7 1.08
## CALI_13 147  0.61  0.61  0.58   0.54  2.4 1.37
## CALI_14 147  0.62  0.62  0.60   0.56  1.8 1.20
## CALI_15 147  0.69  0.70  0.69   0.64  1.9 0.96
## CALI_16 147  0.64  0.63  0.61   0.57  2.3 1.35
## CALI_17 147  0.63  0.64  0.62   0.57  2.3 1.17
## CALI_18 147  0.73  0.74  0.73   0.69  2.6 1.07
## CALI_19 147  0.78  0.77  0.77   0.73  2.2 1.24
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_1  0.61 0.19 0.15 0.05 0.00 0.01 0.03
## CALI_2  0.61 0.11 0.07 0.01 0.00 0.20 0.03
## CALI_3  0.12 0.19 0.35 0.18 0.16 0.00 0.03
## CALI_4  0.26 0.26 0.33 0.11 0.04 0.00 0.03
## CALI_5  0.04 0.10 0.26 0.18 0.39 0.02 0.03
## CALI_6  0.14 0.24 0.40 0.14 0.09 0.00 0.03
## CALI_7  0.05 0.13 0.35 0.22 0.20 0.04 0.03
## CALI_8  0.10 0.20 0.36 0.21 0.13 0.01 0.03
## CALI_9  0.41 0.27 0.20 0.07 0.05 0.00 0.03
## CALI_10 0.24 0.32 0.26 0.07 0.10 0.00 0.03
## CALI_11 0.51 0.24 0.14 0.03 0.03 0.04 0.03
## CALI_12 0.60 0.22 0.11 0.05 0.01 0.01 0.03
## CALI_13 0.35 0.25 0.18 0.16 0.03 0.03 0.03
## CALI_14 0.63 0.15 0.12 0.07 0.03 0.01 0.03
## CALI_15 0.46 0.25 0.24 0.04 0.01 0.00 0.03
## CALI_16 0.39 0.18 0.26 0.10 0.06 0.02 0.03
```

```
## CALI_17 0.29 0.27 0.30 0.07 0.05 0.01 0.03
## CALI_18 0.18 0.24 0.36 0.18 0.03 0.00 0.03
## CALI_19 0.40 0.22 0.20 0.14 0.03 0.01 0.03
```

3.1.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CALI.all_T1$Group.R<-ifelse(CALI.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(CALI.all_T1[,c(3:21,27)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1      1 73 1.59 0.83  1.15     0.25 0.10     1     2
## CALI_2      2 73 2.12 1.91  1.38     0.13 0.22     1     2
## CALI_3      3 73 3.14 1.19  0.03    -0.77 0.14     2     4
## CALI_4      4 73 2.45 1.25  0.47    -0.77 0.15     1     3
## CALI_5      5 73 3.96 1.16 -0.34    -0.87 0.14     3     5
## CALI_6      6 72 2.86 1.19  0.26    -0.76 0.14     2     4
## CALI_7      7 73 3.63 1.17  0.12    -0.57 0.14     3     5
## CALI_8      8 72 3.00 1.24  0.22    -0.77 0.15     2     4
## CALI_9      9 73 2.14 1.15  0.72    -0.38 0.13     1     3
## CALI_10    10 73 2.60 1.33  0.53    -0.82 0.16     2     3
## CALI_11    11 73 2.08 1.42  1.40     1.17 0.17     1     3
## CALI_12    12 73 1.81 1.22  1.67     2.36 0.14     1     2
## CALI_13    13 73 2.34 1.38  0.70    -0.50 0.16     1     3
## CALI_14    14 73 2.01 1.31  1.08     0.12 0.15     1     3
## CALI_15    15 73 1.78 0.95  0.83    -0.57 0.11     1     2
## CALI_16    16 73 2.37 1.38  0.61    -0.67 0.16     1     3
## CALI_17    17 73 2.26 1.19  0.81     0.25 0.14     1     3
## CALI_18    18 73 2.47 1.12  0.14    -1.17 0.13     2     3
## CALI_19    19 73 2.32 1.31  0.55    -0.76 0.15     1     3
## Group.R*   20 76  NaN   NA    NA       NA   NA    NA    NA
## ---------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1      1 74 1.74 1.10  1.43     1.65 0.13  1.00     2
## CALI_2      2 74 2.45 2.05  1.00    -0.78 0.24  1.00     3
## CALI_3      3 74 2.99 1.26 -0.02    -1.00 0.15  2.00     4
## CALI_4      4 74 2.38 0.96 -0.07    -1.08 0.11  2.00     3
## CALI_5      5 74 3.74 1.28 -0.60    -0.82 0.15  3.00     5
## CALI_6      6 74 2.74 1.05  0.02    -0.36 0.12  2.00     3
## CALI_7      7 74 3.43 1.24 -0.08    -0.70 0.14  3.00     4
## CALI_8      8 74 3.16 1.12 -0.14    -0.51 0.13  3.00     4
## CALI_9      9 74 2.00 1.16  1.04     0.25 0.13  1.00     3
## CALI_10    10 74 2.34 1.11  0.61    -0.26 0.13  1.25     3
## CALI_11    11 74 1.82 1.20  1.75     2.86 0.14  1.00     2
## CALI_12    12 74 1.59 0.91  1.52     1.88 0.11  1.00     2
## CALI_13    13 74 2.42 1.36  0.85     0.03 0.16  1.00     3
## CALI_14    14 74 1.51 1.02  2.27     5.22 0.12  1.00     2
## CALI_15    15 74 1.97 0.96  0.59    -0.38 0.11  1.00     3
## CALI_16    16 74 2.28 1.32  0.85     0.06 0.15  1.00     3
## CALI_17    17 74 2.43 1.16  0.47    -0.48 0.13  1.25     3
## CALI_18    18 74 2.78 1.00 -0.06    -0.32 0.12  2.00     3
## CALI_19    19 74 2.08 1.16  0.84    -0.25 0.13  1.00     3
## Group.R*   20 75  NaN   NA    NA       NA   NA    NA    NA
```

```
psych::describeBy(CALI.all_T1[,c(22,25,26,27)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

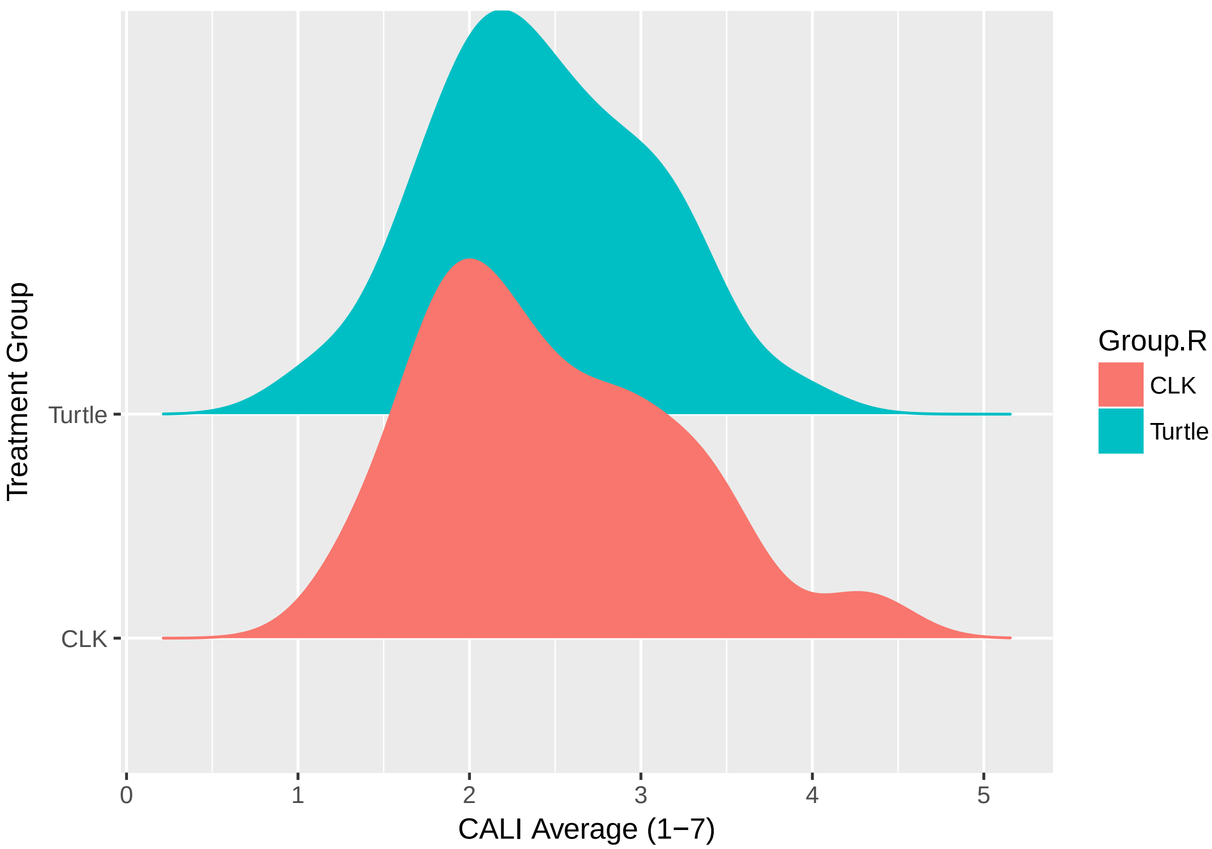
```
##
##  Descriptive statistics by group
```

```
## group: CLK
##                vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot          1 72 47.01 14.19 0.54    -0.34 1.67 36.00    57
## CALI_avg          2 72  2.47  0.75 0.54    -0.34 0.09  1.89     3
## CALI_avg_MR85     3 73  2.47  0.74 0.56    -0.31 0.09  1.89     3
## Group.R*          4 76   NaN    NA   NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##                vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot          1 74 45.88 12.01 0.13    -0.46 1.40 37.25 54.75
## CALI_avg          2 74  2.41  0.63 0.13    -0.46 0.07  1.96  2.88
## CALI_avg_MR85     3 74  2.41  0.63 0.13    -0.46 0.07  1.96  2.88
## Group.R*          4 75   NaN    NA   NA       NA   NA    NA    NA
```

3.1.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CALI scores
t.test(CALI.all_T1$CALI_avg_MR85~CALI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CALI.all_T1$CALI_avg_MR85 by CALI.all_T1$Group
## t = 0.47487, df = 140.75, p-value = 0.6356
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1710329  0.2791742
## sample estimates:
## mean in group 0 mean in group 1
##        2.468722        2.414651
```



3.1.6 TIME 1: SUBSCALES

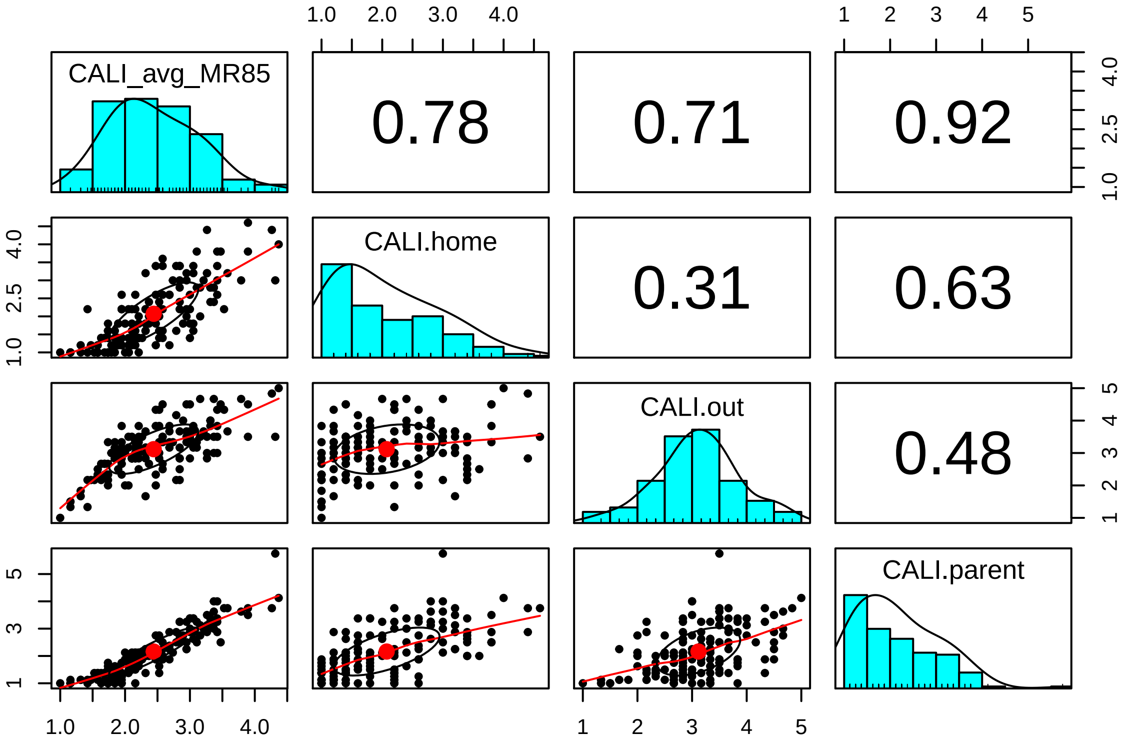
3.1.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CALI.all_T1[,c(28:30)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##             vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI.home      1 147 2.07 0.87  0.71    -0.31 0.07  1.40  2.60
## CALI.out       2 146 3.12 0.76 -0.05     0.08 0.06  2.67  3.50
## CALI.parent    3 147 2.16 0.88  0.79     0.57 0.07  1.38  2.75
```

Note that 116 did not complete at least 85% of the items for the child scale (they missed 2 out of the 10 items). As a reminder other, more sophisticated mean replacement strategies are available to the modern researcher.

```
psych::pairs.panels(CALI.all_T1[,c(26, 28:30)])
```



3.1.6.2 CRONBACH'S ALPHA: HOME SUBSCALE

```
psych::alpha(CALI.all_T1[CALI.home], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T1[CALI.home], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.68      0.72    0.69      0.34 2.6 0.039  2.1 0.87     0.34
##
##  lower alpha upper     95% confidence boundaries
## 0.61 0.68 0.76
##
##  lower median upper bootstrapped confidence intervals
##  0.59 0.68 0.76
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CALI_1       0.64      0.68    0.62      0.35 2.1    0.046 0.0047  0.35
## CALI_2       0.68      0.68    0.64      0.35 2.2    0.043 0.0113  0.36
## CALI_9       0.61      0.66    0.60      0.32 1.9    0.047 0.0091  0.31
## CALI_10      0.65      0.71    0.66      0.38 2.5    0.043 0.0040  0.36
```

```
## CALI_15      0.61      0.64    0.58      0.31 1.8    0.048 0.0044   0.33
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CALI_1  147  0.62  0.68  0.56   0.46  1.7 0.97
## CALI_2  147  0.78  0.67  0.54   0.46  2.3 1.98
## CALI_9  147  0.69  0.72  0.63   0.51  2.1 1.15
## CALI_10 147  0.62  0.62  0.46   0.39  2.5 1.23
## CALI_15 147  0.69  0.75  0.67   0.55  1.9 0.96
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_1  0.61 0.19 0.15 0.05 0.00 0.01 0.03
## CALI_2  0.61 0.11 0.07 0.01 0.00 0.20 0.03
## CALI_9  0.41 0.27 0.20 0.07 0.05 0.00 0.03
## CALI_10 0.24 0.32 0.26 0.07 0.10 0.00 0.03
## CALI_15 0.46 0.25 0.24 0.04 0.01 0.00 0.03
```

Note - low alpha

3.1.6.3 CRONBACH'S ALPHA: OUTSIDE OF HOME SUBSCALE

```r
psych::alpha(CALI.all_T1[CALI.out], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T1[CALI.out], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.73      0.73    0.74      0.31 2.7 0.035  3.1 0.77     0.29
##
##  lower alpha upper     95% confidence boundaries
## 0.66 0.73 0.79
##
##  lower median upper bootstrapped confidence intervals
##  0.63 0.73 0.79
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_3      0.65      0.65    0.62      0.27 1.9    0.046 0.011  0.28
## CALI_4      0.70      0.70    0.69      0.32 2.3    0.039 0.024  0.30
## CALI_5      0.71      0.71    0.70      0.32 2.4    0.038 0.021  0.30
## CALI_6      0.65      0.66    0.63      0.28 1.9    0.045 0.011  0.28
## CALI_7      0.70      0.71    0.71      0.32 2.4    0.038 0.028  0.29
## CALI_8      0.72      0.72    0.72      0.34 2.6    0.037 0.022  0.30
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## CALI_3 147  0.75  0.75  0.73   0.59  3.1 1.2
## CALI_4 147  0.61  0.63  0.52   0.44  2.4 1.1
## CALI_5 147  0.62  0.61  0.49   0.40  3.9 1.2
## CALI_6 146  0.73  0.74  0.71   0.58  2.8 1.1
## CALI_7 147  0.62  0.61  0.47   0.41  3.5 1.2
## CALI_8 146  0.58  0.57  0.43   0.36  3.1 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6 miss
## CALI_3 0.12 0.19 0.35 0.18 0.16 0.00 0.03
## CALI_4 0.26 0.26 0.33 0.11 0.04 0.00 0.03
## CALI_5 0.04 0.10 0.26 0.18 0.39 0.02 0.03
## CALI_6 0.14 0.24 0.40 0.14 0.09 0.00 0.03
## CALI_7 0.05 0.13 0.35 0.22 0.20 0.04 0.03
## CALI_8 0.10 0.20 0.36 0.21 0.13 0.01 0.03
```

3.1.6.4 CRONBACH'S ALPHA: PARENT SUBSCALE

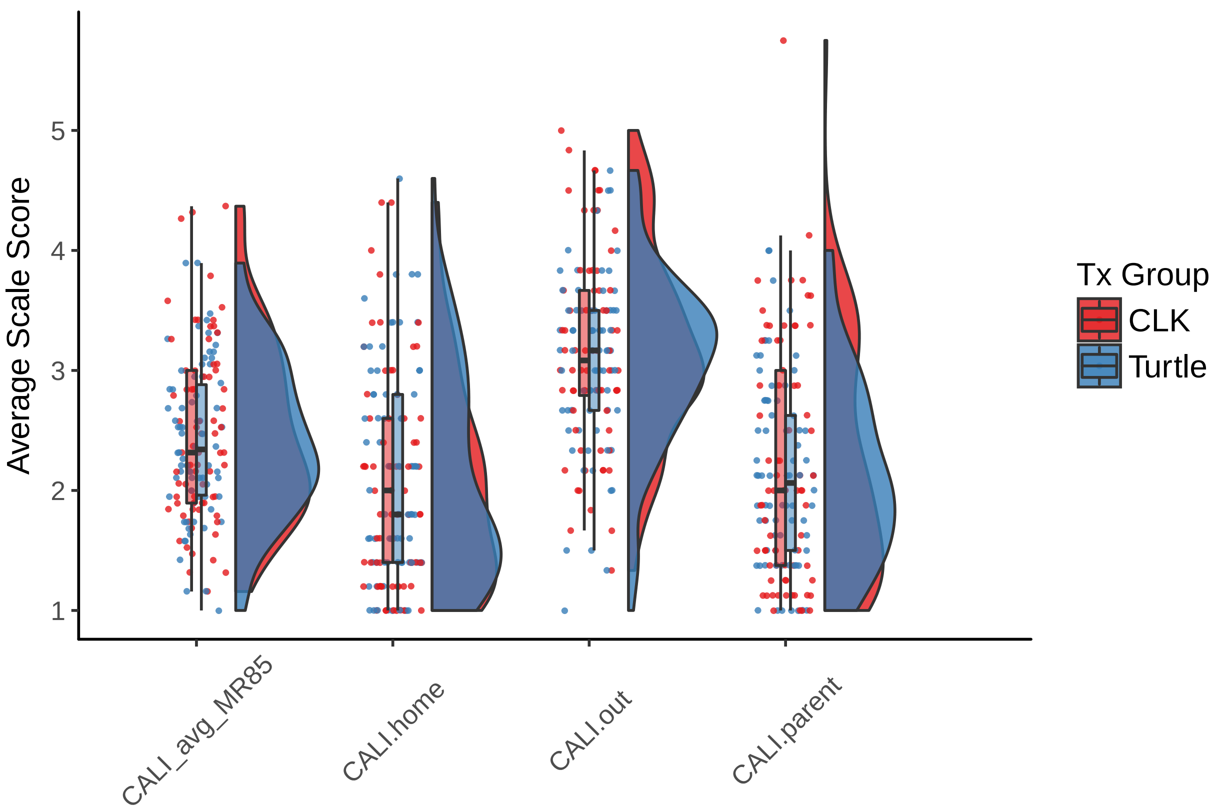
```
psych::alpha(CALI.all_T1[CALI.parent], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T1[CALI.parent], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.87    0.87      0.45 6.5 0.017  2.2 0.88     0.43
##
##  lower alpha upper     95% confidence boundaries
## 0.83 0.86 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.81 0.86 0.9
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CALI_11      0.85      0.85    0.85      0.46 5.9    0.018 0.0073  0.43
## CALI_12      0.85      0.85    0.84      0.44 5.6    0.019 0.0091  0.46
## CALI_13      0.85      0.86    0.86      0.46 5.9    0.018 0.0105  0.46
## CALI_14      0.85      0.85    0.86      0.45 5.8    0.019 0.0094  0.46
## CALI_16      0.85      0.85    0.85      0.44 5.6    0.019 0.0084  0.43
## CALI_17      0.85      0.86    0.86      0.46 6.0    0.018 0.0091  0.43
## CALI_18      0.85      0.85    0.85      0.44 5.6    0.019 0.0104  0.43
## CALI_19      0.83      0.84    0.84      0.42 5.2    0.021 0.0076  0.40
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean  sd
## CALI_11 147  0.69  0.69  0.65   0.57  2.0 1.3
## CALI_12 147  0.73  0.73  0.70   0.64  1.7 1.1
## CALI_13 147  0.69  0.68  0.61   0.57  2.4 1.4
## CALI_14 147  0.70  0.70  0.64   0.60  1.8 1.2
## CALI_16 147  0.74  0.74  0.70   0.64  2.3 1.3
## CALI_17 147  0.66  0.67  0.60   0.55  2.3 1.2
## CALI_18 147  0.72  0.73  0.69   0.64  2.6 1.1
## CALI_19 147  0.81  0.81  0.79   0.74  2.2 1.2
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_11 0.51 0.24 0.14 0.03 0.03 0.04 0.03
## CALI_12 0.60 0.22 0.11 0.05 0.01 0.01 0.03
## CALI_13 0.35 0.25 0.18 0.16 0.03 0.03 0.03
## CALI_14 0.63 0.15 0.12 0.07 0.03 0.01 0.03
## CALI_16 0.39 0.18 0.26 0.10 0.06 0.02 0.03
## CALI_17 0.29 0.27 0.30 0.07 0.05 0.01 0.03
## CALI_18 0.18 0.24 0.36 0.18 0.03 0.00 0.03
## CALI_19 0.40 0.22 0.20 0.14 0.03 0.01 0.03
```

3.1.6.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(CALI.all_T1[26:30], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
```

```
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T1 Folder:
`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:
- `/CALI_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CALI_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CALI
- `/CALI_T1_Summary_wo_Raw_items.txt`: The processed summary scores for CALI wo raw items

3.2 TIME 2: COMPLETE SCALE

3.2.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(CALI.all_T2[,c(3:21)], trim=F, quant=c(.25,.75), ranges=F)
```

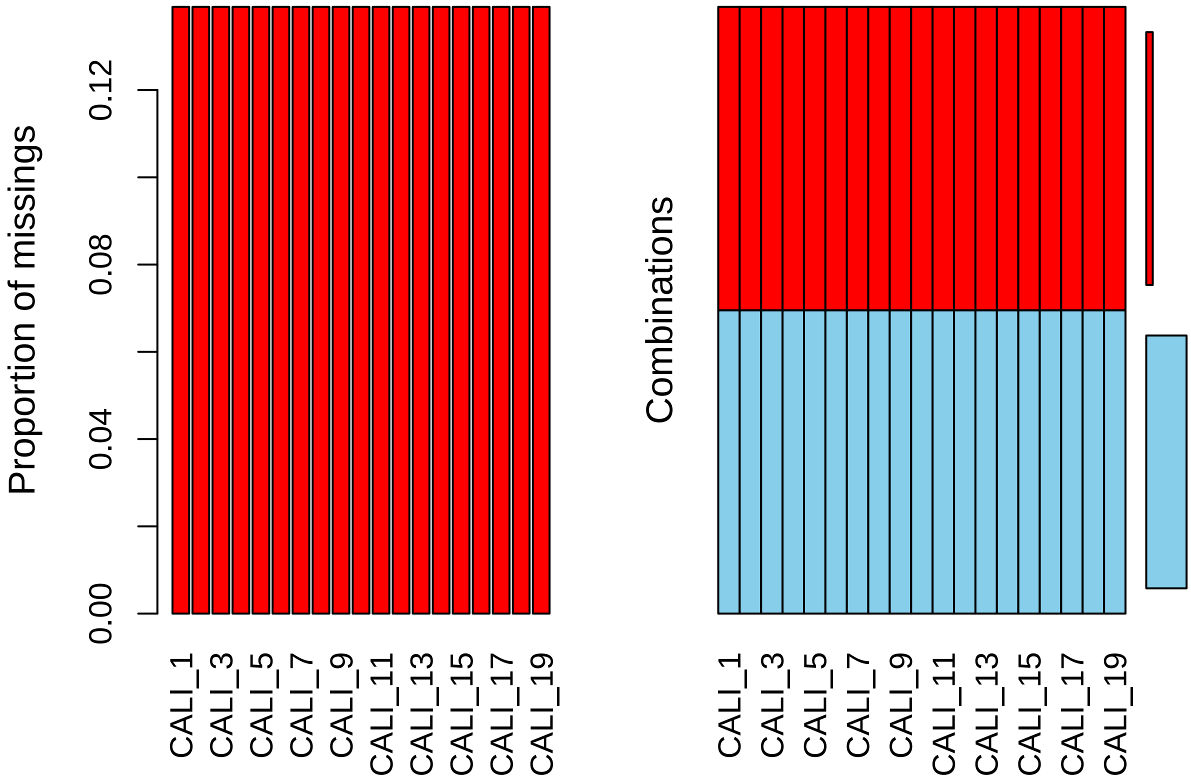
```
##         vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1     1 130 1.82 1.03  1.08     0.25 0.09     1  2.00
## CALI_2     2 130 2.45 2.03  0.98    -0.81 0.18     1  3.75
## CALI_3     3 130 3.03 1.13  0.04    -0.73 0.10     2  4.00
## CALI_4     4 130 2.56 1.13  0.46    -0.48 0.10     2  3.00
## CALI_5     5 130 3.75 1.09 -0.64    -0.29 0.10     3  5.00
## CALI_6     6 130 2.71 1.05  0.44     0.16 0.09     2  3.00
## CALI_7     7 130 3.32 1.14 -0.20    -0.68 0.10     3  4.00
## CALI_8     8 130 3.08 1.24 -0.01    -0.73 0.11     2  4.00
## CALI_9     9 130 2.11 1.28  1.06     0.30 0.11     1  3.00
## CALI_10   10 130 2.22 1.12  0.65    -0.37 0.10     1  3.00
## CALI_11   11 130 1.89 1.20  1.40     1.63 0.11     1  3.00
## CALI_12   12 130 1.65 0.85  1.11     0.26 0.07     1  2.00
## CALI_13   13 130 2.06 1.14  0.85    -0.08 0.10     1  3.00
## CALI_14   14 130 1.70 1.15  1.89     3.39 0.10     1  2.00
## CALI_15   15 130 1.84 0.96  0.94     0.07 0.08     1  2.00
## CALI_16   16 130 2.04 1.22  0.99     0.10 0.11     1  3.00
## CALI_17   17 130 2.26 1.05  0.48    -0.34 0.09     1  3.00
## CALI_18   18 130 2.51 0.93 -0.02    -0.41 0.08     2  3.00
## CALI_19   19 130 2.22 1.16  0.71    -0.03 0.10     1  3.00
```

```
#Calculating Summary Scores:
CALI.all_T2$CALI_tot<-rowSums(CALI.all_T2[,3:21])  #inclunding na.rm=T results in 0's

CALI.all_T2$Miss_tot<-rep(NA, nrow(CALI.all_T2))
for(n in 1:nrow(CALI.all_T2)){
  CALI.all_T2$Miss_tot[n]<-sum(is.na(CALI.all_T2[n,3:21])==TRUE)
}

CALI.all_T2$Miss_per<-rep(NA, nrow(CALI.all_T2))
for(n in 1:nrow(CALI.all_T2)){
  CALI.all_T2$Miss_per[n]<-round(sum(is.na(CALI.all_T2[n,3:21])==TRUE)/ncol(CALI.all_T2[3:21])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
CALI.all_T2$CALI_avg<-rowMeans(CALI.all_T2[,3:21])

#Creating variable with individual mean replacement if respondent completed >85% of items
CALI.all_T2$CALI_avg_MR85<-ifelse(CALI.all_T2$Miss_per<15, rowMeans(CALI.all_T2[,3:21],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(CALI.all_T2[,c(22,25,26)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##               vars   n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot         1 130 45.22 12.48 0.53    -0.02 1.09 36.00 52.75
## CALI_avg         2 130  2.38  0.66 0.53    -0.02 0.06  1.89  2.78
## CALI_avg_MR85    3 130  2.38  0.66 0.53    -0.02 0.06  1.89  2.78
```

3.2.2 MISSING DATA

```
VIM::aggr(CALI.all_T2[,3:21])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[To be completed at future date]

The variable `CALI_tot` is the vector of individual summed CALI scores - 116 is dropped from this summary variable (see above).

The varaible `CALI_avg` is the vector of individual mean CALI scores - 116 is dropped from this summary variable (see above).

The variable `CALI_avg_MR85` is a vector of individual mean CALI scores that includes estimated averages when at least 85% of the necessary data is available - note 116 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T2 to report.

3.2.3 CRONBACH'S ALPHA

```
psych::alpha(CALI.all_T2[,3:21], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T2[, 3:21], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.89    0.93       0.3 8.3 0.015  2.4 0.66      0.3
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.88 0.91
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_1       0.87      0.88    0.92      0.30 7.6    0.016 0.026  0.29
## CALI_2       0.89      0.90    0.93      0.33 8.7    0.013 0.019  0.32
## CALI_3       0.88      0.89    0.92      0.31 8.2    0.015 0.023  0.32
```

```
## CALI_4       0.87      0.89    0.92      0.31 8.1    0.015 0.024  0.32
## CALI_5       0.88      0.89    0.93      0.32 8.4    0.015 0.023  0.32
## CALI_6       0.87      0.89    0.92      0.31 8.1    0.015 0.023  0.32
## CALI_7       0.87      0.89    0.92      0.30 7.9    0.016 0.025  0.30
## CALI_8       0.87      0.89    0.92      0.31 8.0    0.015 0.025  0.32
## CALI_9       0.87      0.89    0.92      0.30 7.8    0.016 0.026  0.29
## CALI_10      0.87      0.89    0.92      0.30 7.8    0.016 0.026  0.29
## CALI_11      0.87      0.89    0.92      0.30 7.8    0.016 0.024  0.30
## CALI_12      0.87      0.88    0.92      0.30 7.5    0.016 0.024  0.30
## CALI_13      0.87      0.88    0.92      0.30 7.7    0.016 0.025  0.29
## CALI_14      0.87      0.89    0.92      0.31 8.0    0.015 0.024  0.30
## CALI_15      0.87      0.88    0.92      0.30 7.6    0.016 0.024  0.30
## CALI_16      0.87      0.89    0.92      0.30 7.7    0.016 0.023  0.30
## CALI_17      0.87      0.89    0.92      0.30 7.7    0.016 0.025  0.30
## CALI_18      0.87      0.88    0.92      0.29 7.4    0.016 0.024  0.29
## CALI_19      0.86      0.88    0.92      0.29 7.5    0.016 0.023  0.29
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CALI_1  130  0.68  0.68  0.66   0.63  1.8 1.03
## CALI_2  130  0.34  0.27  0.23   0.19  2.5 2.03
## CALI_3  130  0.43  0.45  0.43   0.35  3.0 1.13
## CALI_4  130  0.48  0.50  0.47   0.41  2.6 1.13
## CALI_5  130  0.38  0.40  0.36   0.30  3.8 1.09
## CALI_6  130  0.46  0.48  0.46   0.39  2.7 1.05
## CALI_7  130  0.57  0.58  0.56   0.51  3.3 1.14
## CALI_8  130  0.54  0.55  0.52   0.47  3.1 1.24
## CALI_9  130  0.64  0.63  0.60   0.58  2.1 1.28
## CALI_10 130  0.63  0.63  0.60   0.57  2.2 1.12
## CALI_11 130  0.60  0.61  0.59   0.54  1.9 1.20
## CALI_12 130  0.68  0.70  0.69   0.64  1.6 0.85
## CALI_13 130  0.64  0.65  0.63   0.58  2.1 1.14
## CALI_14 130  0.53  0.53  0.51   0.46  1.7 1.15
## CALI_15 130  0.69  0.70  0.68   0.64  1.8 0.96
## CALI_16 130  0.65  0.64  0.63   0.59  2.0 1.22
## CALI_17 130  0.64  0.63  0.62   0.58  2.3 1.05
## CALI_18 130  0.73  0.75  0.74   0.69  2.5 0.93
## CALI_19 130  0.72  0.71  0.71   0.67  2.2 1.16
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_1  0.52 0.24 0.15 0.07 0.02 0.00 0.14
## CALI_2  0.56 0.12 0.06 0.02 0.02 0.22 0.14
## CALI_3  0.09 0.23 0.35 0.22 0.12 0.00 0.14
## CALI_4  0.18 0.35 0.28 0.12 0.07 0.00 0.14
## CALI_5  0.04 0.09 0.24 0.34 0.29 0.00 0.14
## CALI_6  0.12 0.31 0.40 0.12 0.05 0.01 0.14
## CALI_7  0.07 0.15 0.35 0.25 0.18 0.00 0.14
## CALI_8  0.13 0.16 0.36 0.19 0.15 0.01 0.14
## CALI_9  0.43 0.27 0.14 0.10 0.05 0.02 0.14
## CALI_10 0.32 0.32 0.22 0.10 0.04 0.00 0.14
## CALI_11 0.54 0.18 0.18 0.05 0.02 0.02 0.14
## CALI_12 0.56 0.27 0.13 0.04 0.00 0.00 0.14
## CALI_13 0.42 0.24 0.24 0.05 0.05 0.00 0.14
## CALI_14 0.63 0.18 0.12 0.04 0.02 0.02 0.14
## CALI_15 0.47 0.30 0.16 0.06 0.01 0.00 0.14
## CALI_16 0.47 0.22 0.18 0.09 0.04 0.01 0.14
## CALI_17 0.28 0.30 0.32 0.07 0.03 0.00 0.14
## CALI_18 0.17 0.28 0.45 0.09 0.02 0.00 0.14
## CALI_19 0.35 0.24 0.29 0.07 0.04 0.01 0.14
```

3.2.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CALI.all_T2$Group.R<-ifelse(CALI.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(CALI.all_T2[,c(3:21,27)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1      1 63 1.75 1.03  1.21     0.49 0.13   1.0   2.0
## CALI_2      2 63 2.30 2.04  1.12    -0.59 0.26   1.0   3.0
## CALI_3      3 63 2.98 1.10  0.17    -0.61 0.14   2.0   4.0
## CALI_4      4 63 2.48 1.18  0.32    -0.89 0.15   1.5   3.0
## CALI_5      5 63 3.67 1.18 -0.69    -0.42 0.15   3.0   5.0
## CALI_6      6 63 2.67 0.90  0.29     0.04 0.11   2.0   3.0
## CALI_7      7 63 3.29 1.16 -0.25    -0.73 0.15   3.0   4.0
## CALI_8      8 63 3.06 1.23  0.09    -0.55 0.15   2.0   4.0
## CALI_9      9 63 2.17 1.37  0.94    -0.27 0.17   1.0   3.0
## CALI_10    10 63 2.29 1.07  0.52    -0.43 0.13   1.0   3.0
## CALI_11    11 63 1.86 1.08  0.82    -0.52 0.14   1.0   3.0
## CALI_12    12 63 1.76 0.96  1.01    -0.12 0.12   1.0   2.0
## CALI_13    13 63 2.19 1.20  0.73    -0.37 0.15   1.0   3.0
## CALI_14    14 63 1.73 1.12  1.34     0.67 0.14   1.0   2.0
## CALI_15    15 63 1.83 1.04  1.02     0.08 0.13   1.0   2.5
## CALI_16    16 63 2.30 1.29  0.63    -0.48 0.16   1.0   3.0
## CALI_17    17 63 2.22 1.02  0.53    -0.15 0.13   1.0   3.0
## CALI_18    18 63 2.51 0.93  0.04    -0.40 0.12   2.0   3.0
## CALI_19    19 63 2.40 1.14  0.47     0.03 0.14   1.0   3.0
## Group.R*   20 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1      1 67 1.88 1.04  0.96    -0.01 0.13     1   2.5
## CALI_2      2 67 2.60 2.03  0.85    -1.01 0.25     1   4.0
## CALI_3      3 67 3.07 1.17 -0.09    -0.86 0.14     2   4.0
## CALI_4      4 67 2.64 1.08  0.66    -0.16 0.13     2   3.0
## CALI_5      5 67 3.84 1.01 -0.46    -0.56 0.12     3   5.0
## CALI_6      6 67 2.75 1.17  0.44    -0.16 0.14     2   3.0
## CALI_7      7 67 3.34 1.14 -0.14    -0.72 0.14     3   4.0
## CALI_8      8 67 3.10 1.26 -0.10    -0.94 0.15     2   4.0
## CALI_9      9 67 2.04 1.19  1.15     0.87 0.14     1   3.0
## CALI_10    10 67 2.16 1.16  0.77    -0.36 0.14     1   3.0
## CALI_11    11 67 1.93 1.32  1.62     2.07 0.16     1   2.0
## CALI_12    12 67 1.54 0.72  0.93    -0.54 0.09     1   2.0
## CALI_13    13 67 1.94 1.07  0.92     0.09 0.13     1   3.0
## CALI_14    14 67 1.67 1.19  2.31     5.38 0.14     1   2.0
## CALI_15    15 67 1.85 0.89  0.79    -0.23 0.11     1   2.0
## CALI_16    16 67 1.79 1.11  1.40     1.17 0.14     1   2.0
## CALI_17    17 67 2.30 1.07  0.41    -0.57 0.13     1   3.0
## CALI_18    18 67 2.51 0.94 -0.07    -0.49 0.12     2   3.0
## CALI_19    19 67 2.06 1.17  0.96     0.13 0.14     1   3.0
## Group.R*   20 75  NaN   NA    NA       NA   NA    NA    NA
```

```
psych::describeBy(CALI.all_T2[,c(22,25,26,27)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

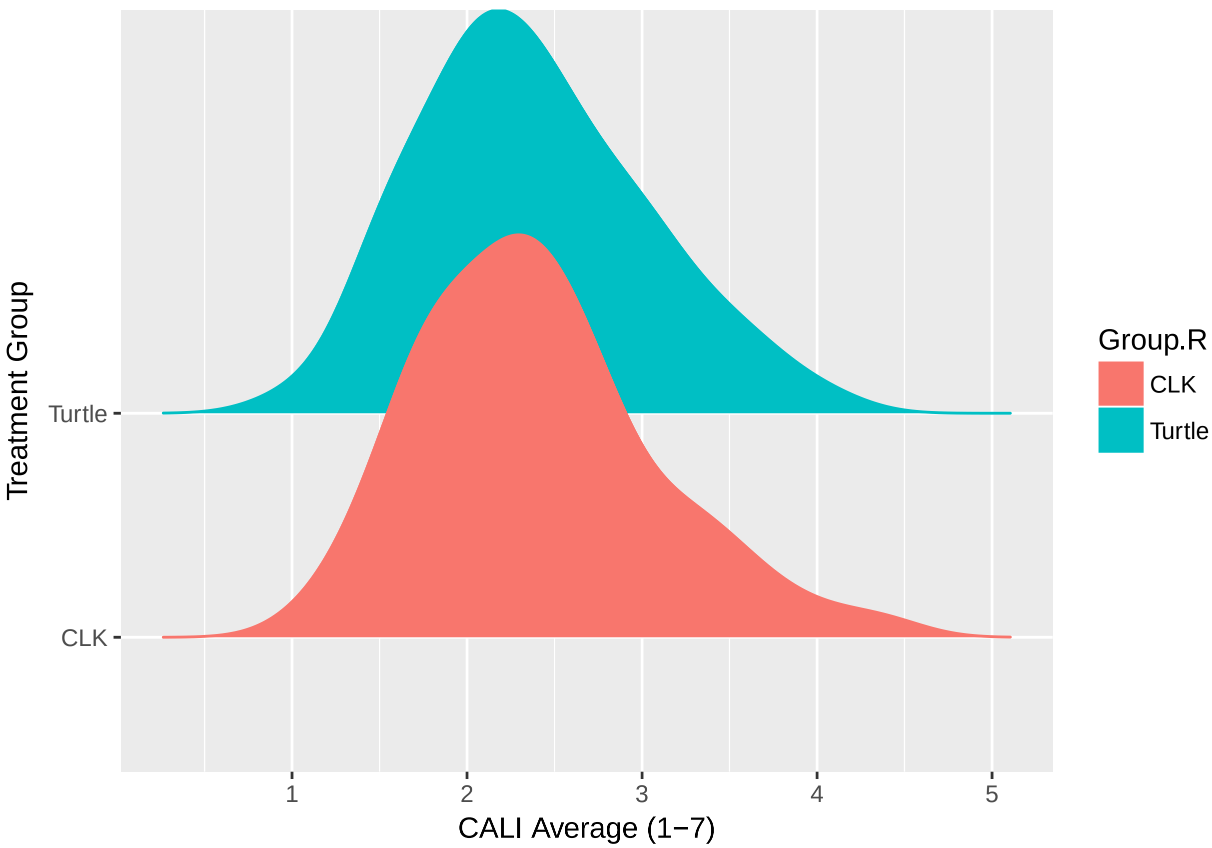
```
##
##  Descriptive statistics by group
## group: CLK
##               vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot         1 63 45.44 12.78 0.63     0.17 1.61 36.00 52.00
## CALI_avg         2 63  2.39  0.67 0.63     0.17 0.08  1.89  2.74
## CALI_avg_MR85    3 63  2.39  0.67 0.63     0.17 0.08  1.89  2.74
```

```
## Group.R*         4 76   NaN    NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##               vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot         1 67 45.01 12.28 0.39    -0.35 1.50 36.50 52.50
## CALI_avg         2 67  2.37  0.65 0.39    -0.35 0.08  1.92  2.76
## CALI_avg_MR85    3 67  2.37  0.65 0.39    -0.35 0.08  1.92  2.76
## Group.R*         4 75   NaN    NA   NA       NA   NA    NA    NA
```

3.2.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CALI scores
t.test(CALI.all_T2$CALI_avg_MR85~CALI.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CALI.all_T2$CALI_avg_MR85 by CALI.all_T2$Group
## t = 0.19514, df = 126.68, p-value = 0.8456
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2066354  0.2518479
## sample estimates:
## mean in group 0 mean in group 1
##        2.391813        2.369207
```



3.2.6 TIME 2: SUBSCALES

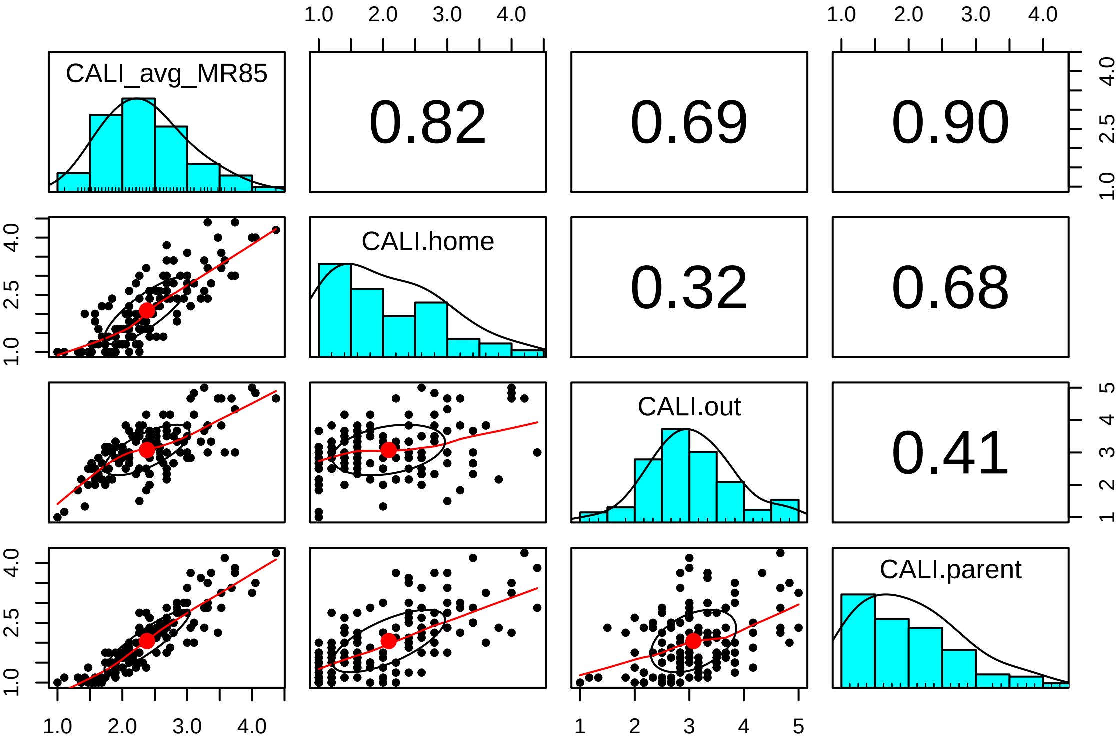
3.2.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CALI.all_T2[,c(28:30)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##             vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## CALI.home      1 130 2.09 0.88 0.63    -0.41 0.08   1.4   2.6
## CALI.out       2 130 3.08 0.78 0.23     0.21 0.07   2.5   3.5
## CALI.parent    3 130 2.04 0.79 0.66    -0.20 0.07   1.5   2.5
```

Note that 116 did not complete at least 85% of the items for the child scale (they missed 2 out of the 10 items). As a reminder other, more sophisticated mean replacement strategies are available to the modern researcher.

```
psych::pairs.panels(CALI.all_T2[,c(26, 28:30)])
```



3.2.6.2 CRONBACH'S ALPHA: HOME SUBSCALE

```
psych::alpha(CALI.all_T2[CALI.home], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T2[CALI.home], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.67      0.72     0.7      0.34 2.6 0.043  2.1 0.88     0.35
##
##  lower alpha upper     95% confidence boundaries
## 0.58 0.67 0.75
##
##  lower median upper bootstrapped confidence intervals
##  0.55 0.67 0.75
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CALI_1       0.58      0.65    0.60      0.31 1.8    0.055 0.0180  0.30
## CALI_2       0.74      0.74    0.69      0.42 2.9    0.034 0.0037  0.42
## CALI_9       0.56      0.64    0.60      0.31 1.8    0.056 0.0146  0.34
## CALI_10      0.61      0.68    0.64      0.35 2.1    0.051 0.0158  0.36
```

```
## CALI_15      0.61      0.66    0.61      0.33 2.0    0.051 0.0092  0.35
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CALI_1  130  0.70  0.74  0.66   0.54  1.8 1.03
## CALI_2  130  0.70  0.56  0.37   0.31  2.5 2.03
## CALI_9  130  0.72  0.75  0.67   0.53  2.1 1.28
## CALI_10 130  0.63  0.68  0.56   0.44  2.2 1.12
## CALI_15 130  0.63  0.71  0.63   0.47  1.8 0.96
##
## Non missing response frequency for each item
##             1    2    3    4    5    6 miss
## CALI_1  0.52 0.24 0.15 0.07 0.02 0.00 0.14
## CALI_2  0.56 0.12 0.06 0.02 0.02 0.22 0.14
## CALI_9  0.43 0.27 0.14 0.10 0.05 0.02 0.14
## CALI_10 0.32 0.32 0.22 0.10 0.04 0.00 0.14
## CALI_15 0.47 0.30 0.16 0.06 0.01 0.00 0.14
```

Note - low alpha

3.2.6.3 CRONBACH'S ALPHA: OUTSIDE OF HOME SUBSCALE

```
psych::alpha(CALI.all_T2[CALI.out], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T2[CALI.out], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.78      0.78     0.8      0.37 3.6 0.028  3.1 0.78     0.36
##
##  lower alpha upper     95% confidence boundaries
## 0.73 0.78 0.84
##
##  lower median upper bootstrapped confidence intervals
##  0.7 0.78 0.84
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_3      0.74      0.74    0.74      0.36 2.9    0.034 0.023  0.33
## CALI_4      0.74      0.75    0.74      0.37 2.9    0.033 0.026  0.34
## CALI_5      0.78      0.78    0.78      0.42 3.6    0.029 0.015  0.38
## CALI_6      0.73      0.73    0.73      0.35 2.7    0.035 0.020  0.31
## CALI_7      0.74      0.74    0.74      0.37 2.9    0.034 0.019  0.36
## CALI_8      0.75      0.75    0.76      0.38 3.0    0.033 0.023  0.35
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean  sd
## CALI_3 130  0.72  0.72  0.66   0.56  3.0 1.1
## CALI_4 130  0.70  0.70  0.63   0.54  2.6 1.1
## CALI_5 130  0.58  0.58  0.46   0.39  3.8 1.1
## CALI_6 130  0.74  0.75  0.71   0.61  2.7 1.0
## CALI_7 130  0.71  0.71  0.65   0.56  3.3 1.1
## CALI_8 130  0.70  0.68  0.60   0.52  3.1 1.2
##
## Non missing response frequency for each item
##           1    2    3    4    5    6 miss
## CALI_3 0.09 0.23 0.35 0.22 0.12 0.00 0.14
## CALI_4 0.18 0.35 0.28 0.12 0.07 0.00 0.14
## CALI_5 0.04 0.09 0.24 0.34 0.29 0.00 0.14
## CALI_6 0.12 0.31 0.40 0.12 0.05 0.01 0.14
## CALI_7 0.07 0.15 0.35 0.25 0.18 0.00 0.14
## CALI_8 0.13 0.16 0.36 0.19 0.15 0.01 0.14
```

3.2.6.4 CRONBACH'S ALPHA: PARENT SUBSCALE

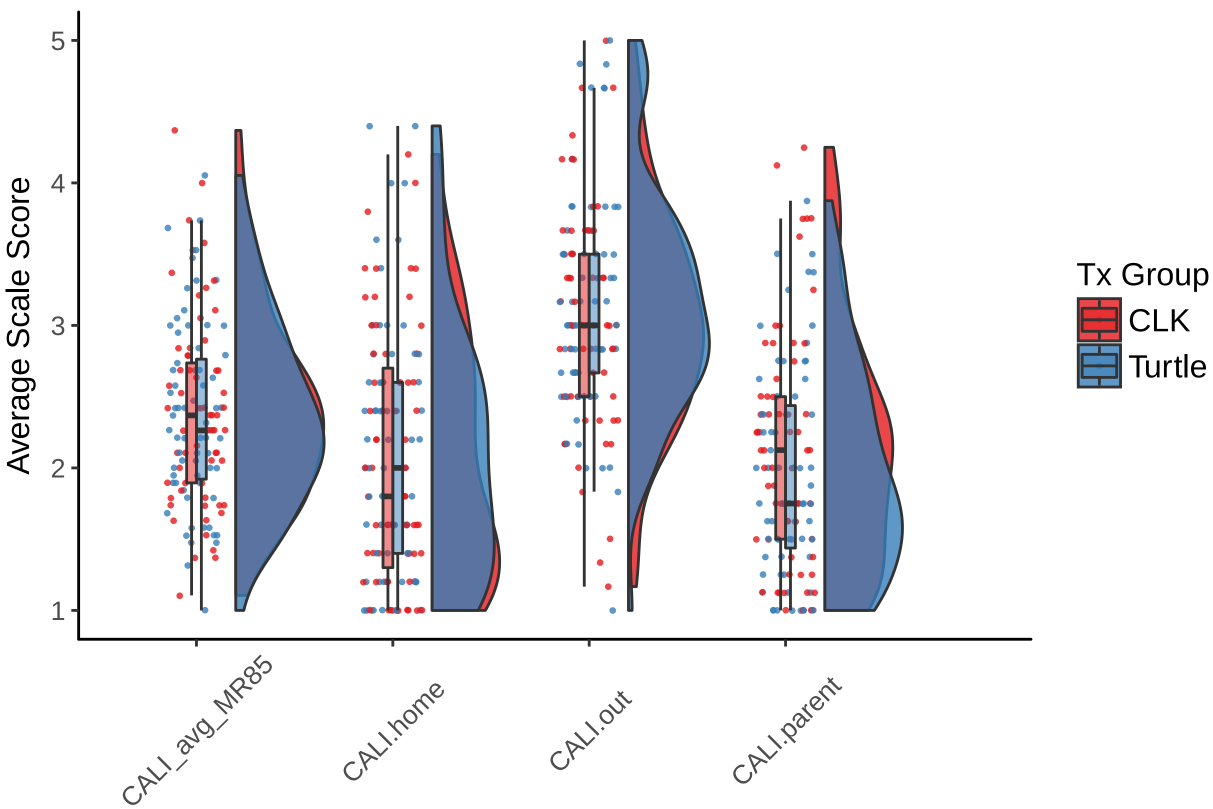
```
psych::alpha(CALI.all_T2[CALI.parent], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T2[CALI.parent], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.87    0.88      0.45 6.6 0.017    2 0.79     0.45
##
##  lower alpha upper     95% confidence boundaries
## 0.83 0.86 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.81 0.86 0.9
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CALI_11      0.85      0.86    0.87      0.46 5.9    0.018 0.0143  0.44
## CALI_12      0.85      0.85    0.86      0.44 5.5    0.019 0.0152  0.42
## CALI_13      0.85      0.85    0.87      0.45 5.8    0.019 0.0159  0.45
## CALI_14      0.85      0.86    0.87      0.47 6.2    0.018 0.0114  0.45
## CALI_16      0.84      0.85    0.85      0.45 5.7    0.019 0.0113  0.45
## CALI_17      0.86      0.87    0.87      0.48 6.4    0.017 0.0092  0.47
## CALI_18      0.84      0.84    0.85      0.44 5.4    0.020 0.0136  0.42
## CALI_19      0.84      0.84    0.84      0.43 5.4    0.020 0.0101  0.44
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CALI_11 130  0.71  0.70  0.65   0.59  1.9 1.20
## CALI_12 130  0.74  0.76  0.72   0.67  1.6 0.85
## CALI_13 130  0.71  0.71  0.65   0.60  2.1 1.14
## CALI_14 130  0.68  0.67  0.60   0.56  1.7 1.15
## CALI_16 130  0.75  0.73  0.71   0.64  2.0 1.22
## CALI_17 130  0.61  0.63  0.55   0.49  2.3 1.05
## CALI_18 130  0.77  0.79  0.76   0.70  2.5 0.93
## CALI_19 130  0.80  0.79  0.78   0.71  2.2 1.16
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_11 0.54 0.18 0.18 0.05 0.02 0.02 0.14
## CALI_12 0.56 0.27 0.13 0.04 0.00 0.00 0.14
## CALI_13 0.42 0.24 0.24 0.05 0.05 0.00 0.14
## CALI_14 0.63 0.18 0.12 0.04 0.02 0.02 0.14
## CALI_16 0.47 0.22 0.18 0.09 0.04 0.01 0.14
## CALI_17 0.28 0.30 0.32 0.07 0.03 0.00 0.14
## CALI_18 0.17 0.28 0.45 0.09 0.02 0.00 0.14
## CALI_19 0.35 0.24 0.29 0.07 0.04 0.01 0.14
```

3.2.6.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(CALI.all_T2[26:30], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
```

```
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T2 Folder:

`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:

- `/CALI_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CALI_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CALI
- `/CALI_T2_Summary_wo_Raw_items.txt`: The processed summary scores for CALI wo raw items

3.3 TIME 3: COMPLETE SCALE

3.3.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(CALI.all_T3[,c(3:21)], trim=F, quant=c(.25,.75), ranges=F)
```

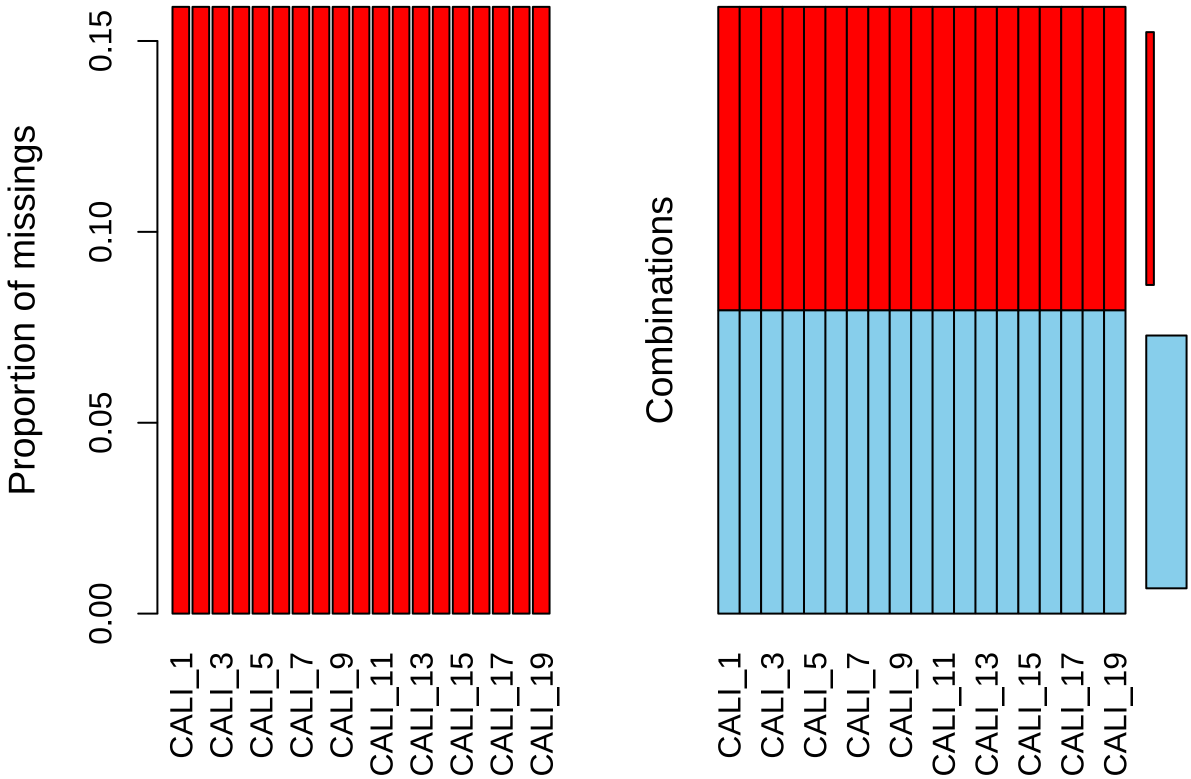
```
##         vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1     1 127 1.69 0.94  1.44     2.40 0.08     1     2
## CALI_2     2 127 2.41 2.04  1.07    -0.66 0.18     1     3
## CALI_3     3 127 2.57 0.96  0.05    -0.36 0.09     2     3
## CALI_4     4 127 2.23 0.98  0.35    -0.49 0.09     1     3
## CALI_5     5 127 3.36 1.21 -0.20    -0.55 0.11     3     4
## CALI_6     6 127 2.28 0.85  0.21    -0.60 0.08     2     3
## CALI_7     7 127 2.86 1.10  0.07    -0.32 0.10     2     4
## CALI_8     8 127 2.64 1.03  0.15    -0.46 0.09     2     3
## CALI_9     9 127 1.79 0.97  1.05     0.20 0.09     1     2
## CALI_10   10 127 1.98 0.89  0.63    -0.06 0.08     1     3
## CALI_11   11 127 1.78 1.09  1.75     3.58 0.10     1     2
## CALI_12   12 127 1.63 0.89  1.59     3.39 0.08     1     2
## CALI_13   13 127 1.94 1.13  1.38     2.21 0.10     1     3
## CALI_14   14 127 1.54 1.06  2.39     5.92 0.09     1     2
## CALI_15   15 127 1.76 0.92  1.40     2.81 0.08     1     2
## CALI_16   16 127 1.90 1.04  1.05     0.89 0.09     1     3
## CALI_17   17 127 2.00 0.97  0.99     1.40 0.09     1     3
## CALI_18   18 127 2.34 0.91  0.73     1.25 0.08     2     3
## CALI_19   19 127 1.93 1.04  1.06     0.93 0.09     1     3
```

```
#Calculating Summary Scores:
CALI.all_T3$CALI_tot<-rowSums(CALI.all_T3[,3:21])  #inclunding na.rm=T results in 0's

CALI.all_T3$Miss_tot<-rep(NA, nrow(CALI.all_T3))
for(n in 1:nrow(CALI.all_T3)){
  CALI.all_T3$Miss_tot[n]<-sum(is.na(CALI.all_T3[n,3:21])==TRUE)
}

CALI.all_T3$Miss_per<-rep(NA, nrow(CALI.all_T3))
for(n in 1:nrow(CALI.all_T3)){
  CALI.all_T3$Miss_per[n]<-round(sum(is.na(CALI.all_T3[n,3:21])==TRUE)/ncol(CALI.all_T3[3:21])*100,
                                 digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
CALI.all_T3$CALI_avg<-rowMeans(CALI.all_T3[,3:21])

#Creating variable with individual mean replacement if respondent completed >85% of items
CALI.all_T3$CALI_avg_MR85<-ifelse(CALI.all_T3$Miss_per<15, rowMeans(CALI.all_T3[,3:21],
                                                                     na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(CALI.all_T3[,c(22,25,26)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##               vars   n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot         1 127 40.61 11.52 0.76     1.18 1.02 31.00 48.50
## CALI_avg         2 127  2.14  0.61 0.76     1.18 0.05  1.63  2.55
## CALI_avg_MR85    3 127  2.14  0.61 0.76     1.18 0.05  1.63  2.55
```

3.3.2 MISSING DATA

```
VIM::aggr(CALI.all_T3[,3:21])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[To be completed at future date]

The variable `CALI_tot` is the vector of individual summed CALI scores - 116 is dropped from this summary variable (see above).

The varaible `CALI_avg` is the vector of individual mean CALI scores - 116 is dropped from this summary variable (see above).

The variable `CALI_avg_MR85` is a vector of individual mean CALI scores that includes estimated averages when at least 85% of the necessary data is available - note 116 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T3 to report.

3.3.3 CRONBACH'S ALPHA

```
psych::alpha(CALI.all_T3[,3:21], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T3[, 3:21], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88       0.9    0.93      0.31 8.5 0.015  2.1 0.61      0.3
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.88 0.91
##  Reliability if an item is dropped:
##          raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_1        0.87      0.89    0.93      0.31 8.0    0.016 0.033  0.30
## CALI_2        0.89      0.90    0.93      0.33 8.8    0.012 0.031  0.32
## CALI_3        0.88      0.90    0.93      0.33 8.7    0.014 0.032  0.32
```

```
## CALI_4       0.87      0.89    0.93      0.32 8.3    0.015 0.034  0.31
## CALI_5       0.88      0.90    0.93      0.33 9.0    0.014 0.029  0.32
## CALI_6       0.88      0.89    0.93      0.32 8.5    0.015 0.033  0.31
## CALI_7       0.88      0.89    0.93      0.32 8.4    0.015 0.034  0.32
## CALI_8       0.87      0.89    0.93      0.31 8.3    0.015 0.034  0.31
## CALI_9       0.87      0.89    0.93      0.31 8.0    0.016 0.034  0.30
## CALI_10      0.87      0.89    0.93      0.31 7.9    0.016 0.035  0.29
## CALI_11      0.87      0.89    0.92      0.30 7.8    0.016 0.032  0.30
## CALI_12      0.87      0.89    0.92      0.30 7.8    0.016 0.032  0.30
## CALI_13      0.87      0.89    0.92      0.31 7.9    0.016 0.033  0.30
## CALI_14      0.87      0.89    0.93      0.31 8.0    0.016 0.032  0.30
## CALI_15      0.87      0.88    0.92      0.30 7.7    0.016 0.031  0.30
## CALI_16      0.87      0.89    0.92      0.30 7.8    0.016 0.032  0.30
## CALI_17      0.87      0.89    0.92      0.30 7.9    0.016 0.033  0.29
## CALI_18      0.87      0.89    0.93      0.30 7.8    0.016 0.033  0.30
## CALI_19      0.86      0.88    0.92      0.30 7.5    0.016 0.030  0.29
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CALI_1  127  0.63  0.63  0.62   0.57  1.7 0.94
## CALI_2  127  0.42  0.35  0.30   0.26  2.4 2.04
## CALI_3  127  0.34  0.37  0.32   0.27  2.6 0.96
## CALI_4  127  0.49  0.50  0.48   0.42  2.2 0.98
## CALI_5  127  0.28  0.28  0.24   0.18  3.4 1.21
## CALI_6  127  0.43  0.45  0.42   0.36  2.3 0.85
## CALI_7  127  0.49  0.48  0.46   0.41  2.9 1.10
## CALI_8  127  0.52  0.53  0.51   0.45  2.6 1.03
## CALI_9  127  0.64  0.64  0.62   0.59  1.8 0.97
## CALI_10 127  0.64  0.65  0.62   0.59  2.0 0.89
## CALI_11 127  0.70  0.69  0.68   0.64  1.8 1.09
## CALI_12 127  0.69  0.70  0.69   0.65  1.6 0.89
## CALI_13 127  0.65  0.66  0.64   0.59  1.9 1.13
## CALI_14 127  0.62  0.62  0.60   0.56  1.5 1.06
## CALI_15 127  0.74  0.74  0.74   0.70  1.8 0.92
## CALI_16 127  0.71  0.71  0.70   0.67  1.9 1.04
## CALI_17 127  0.66  0.66  0.64   0.61  2.0 0.97
## CALI_18 127  0.69  0.70  0.69   0.65  2.3 0.91
## CALI_19 127  0.80  0.80  0.80   0.76  1.9 1.04
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_1  0.56 0.24 0.16 0.03 0.00 0.01 0.16
## CALI_2  0.56 0.17 0.04 0.01 0.00 0.23 0.16
## CALI_3  0.16 0.28 0.43 0.11 0.02 0.00 0.16
## CALI_4  0.28 0.31 0.33 0.06 0.02 0.00 0.16
## CALI_5  0.09 0.13 0.33 0.27 0.17 0.02 0.16
## CALI_6  0.18 0.44 0.30 0.08 0.00 0.00 0.16
## CALI_7  0.13 0.20 0.40 0.20 0.06 0.01 0.16
## CALI_8  0.15 0.28 0.39 0.14 0.04 0.00 0.16
## CALI_9  0.51 0.27 0.15 0.06 0.01 0.00 0.16
## CALI_10 0.34 0.39 0.22 0.04 0.01 0.00 0.16
## CALI_11 0.54 0.24 0.17 0.02 0.01 0.02 0.16
## CALI_12 0.58 0.24 0.15 0.02 0.00 0.01 0.16
## CALI_13 0.46 0.25 0.22 0.03 0.01 0.02 0.16
## CALI_14 0.72 0.14 0.08 0.04 0.00 0.02 0.16
## CALI_15 0.50 0.30 0.18 0.01 0.01 0.01 0.16
## CALI_16 0.47 0.24 0.22 0.05 0.01 0.01 0.16
## CALI_17 0.35 0.37 0.22 0.04 0.01 0.01 0.16
## CALI_18 0.16 0.46 0.30 0.07 0.01 0.01 0.16
## CALI_19 0.44 0.29 0.19 0.06 0.01 0.01 0.16
```

3.3.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```r
CALI.all_T3$Group.R<-ifelse(CALI.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(CALI.all_T3[,c(3:21,27)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1      1 60 1.73 1.04  1.61     3.00 0.13     1  2.00
## CALI_2      2 60 2.35 2.07  1.11    -0.65 0.27     1  2.25
## CALI_3      3 60 2.70 0.96  0.16    -0.34 0.12     2  3.00
## CALI_4      4 60 2.17 1.01  0.25    -1.19 0.13     1  3.00
## CALI_5      5 60 3.37 1.23 -0.28    -0.60 0.16     3  4.00
## CALI_6      6 60 2.25 0.88  0.40    -0.52 0.11     2  3.00
## CALI_7      7 60 2.93 1.06  0.13    -0.49 0.14     2  4.00
## CALI_8      8 60 2.67 0.99  0.17    -0.43 0.13     2  3.00
## CALI_9      9 60 1.83 0.99  0.84    -0.56 0.13     1  2.25
## CALI_10    10 60 2.10 0.88  0.11    -1.16 0.11     1  3.00
## CALI_11    11 60 1.85 1.10  1.41     2.15 0.14     1  3.00
## CALI_12    12 60 1.73 1.01  1.62     3.43 0.13     1  2.00
## CALI_13    13 60 2.05 1.24  1.27     1.47 0.16     1  3.00
## CALI_14    14 60 1.53 0.98  2.28     5.93 0.13     1  2.00
## CALI_15    15 60 1.83 1.08  1.53     2.70 0.14     1  2.00
## CALI_16    16 60 2.07 1.13  0.97     0.92 0.15     1  3.00
## CALI_17    17 60 2.05 1.08  1.01     1.17 0.14     1  3.00
## CALI_18    18 60 2.33 0.93  0.91     2.28 0.12     2  3.00
## CALI_19    19 60 2.10 1.13  0.92     0.59 0.15     1  3.00
## Group.R*   20 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI_1      1 67 1.66 0.84  1.00    -0.07 0.10     1   2.0
## CALI_2      2 67 2.46 2.02  1.01    -0.73 0.25     1   3.0
## CALI_3      3 67 2.45 0.96 -0.06    -0.58 0.12     2   3.0
## CALI_4      4 67 2.28 0.95  0.47     0.17 0.12     2   3.0
## CALI_5      5 67 3.36 1.19 -0.12    -0.58 0.15     3   4.0
## CALI_6      6 67 2.30 0.84  0.03    -0.74 0.10     2   3.0
## CALI_7      7 67 2.79 1.15  0.05    -0.33 0.14     2   3.5
## CALI_8      8 67 2.61 1.07  0.15    -0.57 0.13     2   3.0
## CALI_9      9 67 1.75 0.96  1.22     0.93 0.12     1   2.0
## CALI_10    10 67 1.88 0.90  1.10     1.22 0.11     1   2.0
## CALI_11    11 67 1.72 1.08  2.04     4.93 0.13     1   2.0
## CALI_12    12 67 1.54 0.77  1.18     0.38 0.09     1   2.0
## CALI_13    13 67 1.84 1.01  1.37     2.53 0.12     1   2.0
## CALI_14    14 67 1.54 1.13  2.37     5.45 0.14     1   1.5
## CALI_15    15 67 1.69 0.76  0.58    -1.09 0.09     1   2.0
## CALI_16    16 67 1.75 0.93  0.96    -0.19 0.11     1   2.0
## CALI_17    17 67 1.96 0.86  0.79     0.77 0.11     1   2.0
## CALI_18    18 67 2.34 0.90  0.53     0.03 0.11     2   3.0
## CALI_19    19 67 1.78 0.93  1.11     0.79 0.11     1   2.0
## Group.R*   20 75  NaN   NA    NA       NA   NA    NA    NA
```

```r
psych::describeBy(CALI.all_T3[,c(22,25,26,27)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

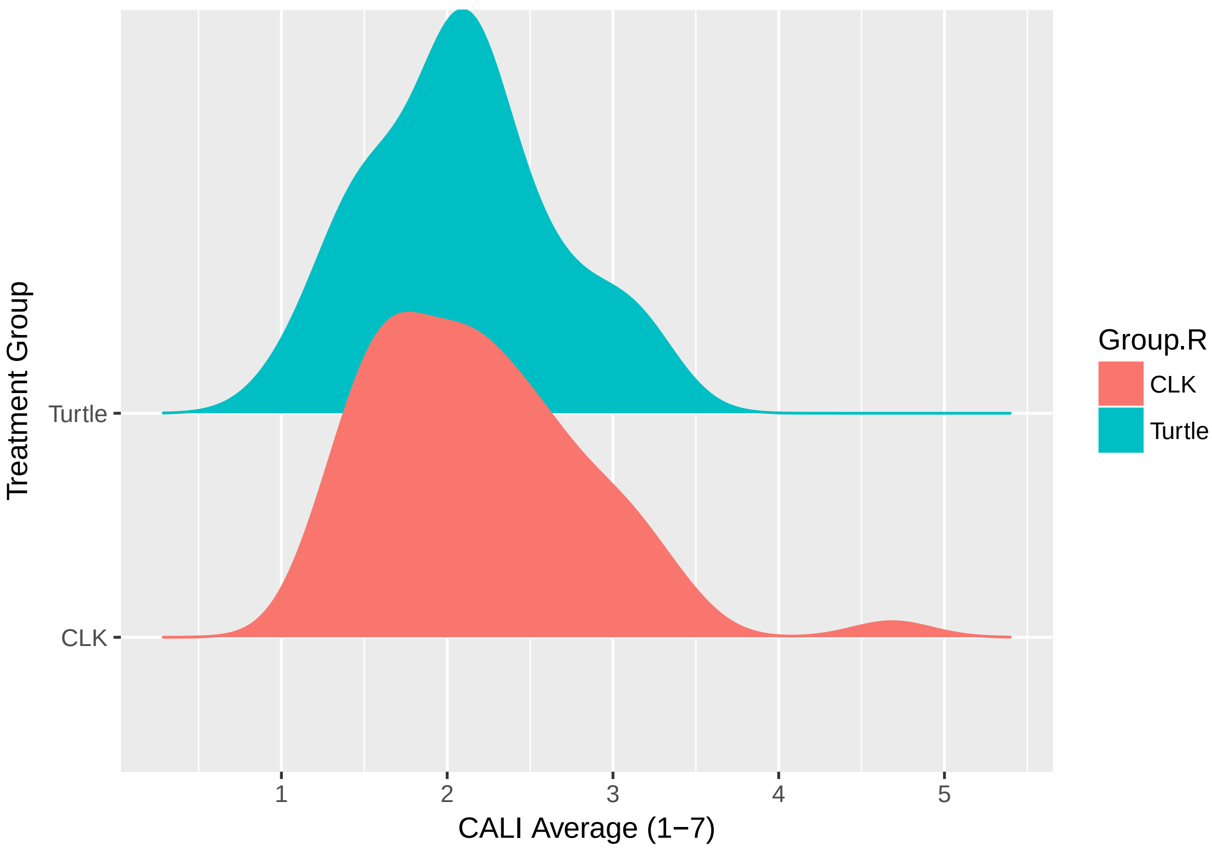
```
##
##  Descriptive statistics by group
## group: CLK
##               vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot         1 60 41.65 12.54    1     1.58 1.62 31.75 49.00
## CALI_avg         2 60  2.19  0.66    1     1.58 0.09  1.67  2.58
## CALI_avg_MR85    3 60  2.19  0.66    1     1.58 0.09  1.67  2.58
```

```
## Group.R*         4 76   NaN    NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## CALI_tot        1 67 39.67 10.52 0.27    -0.53 1.29 31.00 45.00
## CALI_avg        2 67  2.09  0.55 0.27    -0.53 0.07  1.63  2.37
## CALI_avg_MR85   3 67  2.09  0.55 0.27    -0.53 0.07  1.63  2.37
## Group.R*        4 75   NaN    NA    NA       NA   NA    NA    NA
```

3.3.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CALI scores
t.test(CALI.all_T3$CALI_avg_MR85~CALI.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CALI.all_T3$CALI_avg_MR85 by CALI.all_T3$Group
## t = 0.95696, df = 115.71, p-value = 0.3406
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1113873  0.3196355
## sample estimates:
## mean in group 0 mean in group 1
##        2.192105        2.087981
```



3.3.6 TIME 3: SUBSCALES

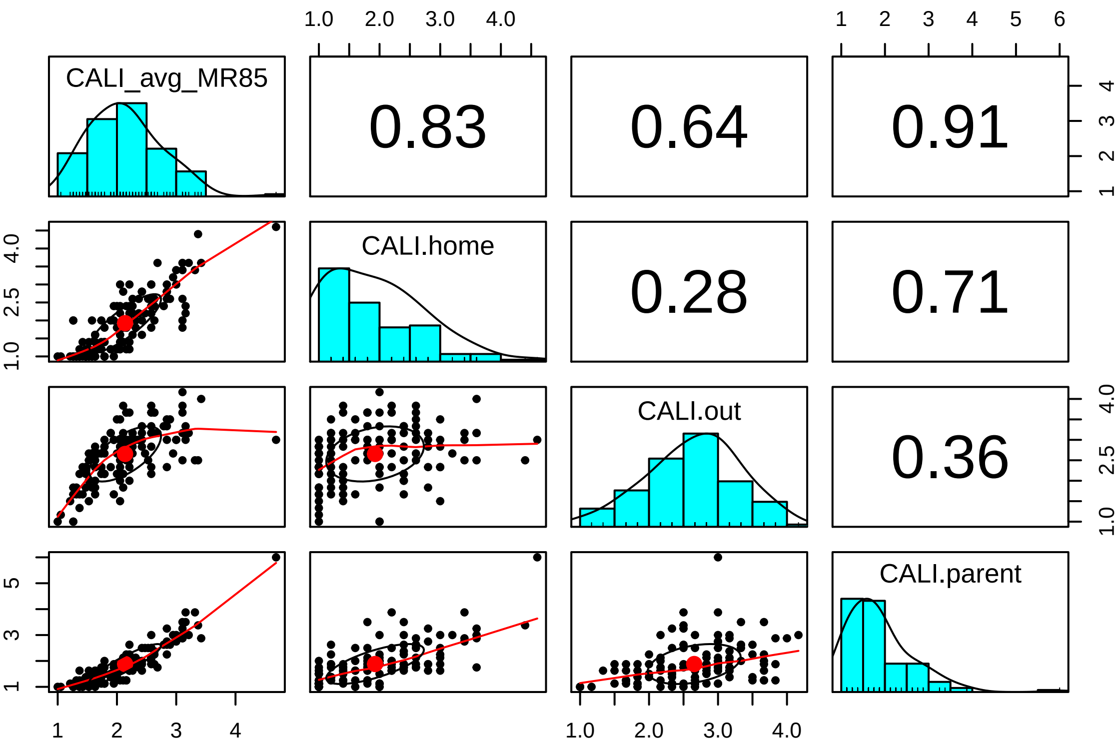
3.3.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CALI.all_T3[,c(28:30)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##             vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CALI.home      1 127 1.93 0.81  0.80     0.22 0.07  1.20  2.40
## CALI.out       2 127 2.65 0.67 -0.29    -0.28 0.06  2.25  3.08
## CALI.parent    3 127 1.88 0.77  1.73     5.26 0.07  1.25  2.19
```

Note that 116 did not complete at least 85% of the items for the child scale (they missed 2 out of the 10 items). As a reminder other, more sophisticated mean replacement strategies are available to the modern researcher.

```
psych::pairs.panels(CALI.all_T3[,c(26, 28:30)])
```



3.3.6.2 CRONBACH'S ALPHA: HOME SUBSCALE

```
psych::alpha(CALI.all_T3[CALI.home], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T3[CALI.home], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.66      0.75    0.73      0.37   3 0.043  1.9 0.81     0.37
##
##  lower alpha upper     95% confidence boundaries
## 0.58 0.66 0.75
##
##  lower median upper bootstrapped confidence intervals
##  0.54 0.66 0.75
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_1       0.59      0.69    0.65      0.36 2.3    0.051 0.017  0.33
## CALI_2       0.77      0.77    0.73      0.46 3.3    0.031 0.007  0.45
## CALI_9       0.56      0.67    0.63      0.34 2.0    0.054 0.018  0.33
## CALI_10      0.61      0.71    0.67      0.38 2.5    0.049 0.017  0.35
```

```
## CALI_15      0.56      0.67    0.62      0.33 2.0    0.055 0.015  0.33
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean   sd
## CALI_1  127  0.66  0.73  0.64   0.49  1.7 0.94
## CALI_2  127  0.74  0.57  0.37   0.33  2.4 2.04
## CALI_9  127  0.71  0.77  0.70   0.56  1.8 0.97
## CALI_10 127  0.61  0.69  0.58   0.44  2.0 0.89
## CALI_15 127  0.72  0.78  0.72   0.57  1.8 0.92
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_1  0.56 0.24 0.16 0.03 0.00 0.01 0.16
## CALI_2  0.56 0.17 0.04 0.01 0.00 0.23 0.16
## CALI_9  0.51 0.27 0.15 0.06 0.01 0.00 0.16
## CALI_10 0.34 0.39 0.22 0.04 0.01 0.00 0.16
## CALI_15 0.50 0.30 0.18 0.01 0.01 0.01 0.16
```

Note - low alpha

3.3.6.3 CRONBACH'S ALPHA: OUTSIDE OF HOME SUBSCALE

```r
psych::alpha(CALI.all_T3[CALI.out], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T3[CALI.out], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.73      0.74    0.77      0.33 2.9 0.034  2.7 0.67     0.31
##
##  lower alpha upper     95% confidence boundaries
## 0.67 0.73 0.8
##
##  lower median upper bootstrapped confidence intervals
##  0.64 0.73 0.8
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CALI_3      0.70      0.70    0.73      0.32 2.4    0.040 0.028  0.31
## CALI_4      0.70      0.71    0.70      0.33 2.5    0.040 0.022  0.29
## CALI_5      0.73      0.73    0.72      0.35 2.7    0.036 0.020  0.36
## CALI_6      0.68      0.68    0.69      0.30 2.1    0.042 0.024  0.26
## CALI_7      0.70      0.71    0.71      0.33 2.4    0.040 0.022  0.33
## CALI_8      0.69      0.71    0.71      0.32 2.4    0.040 0.021  0.31
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CALI_3 127  0.65  0.67  0.57   0.48  2.6 0.96
## CALI_4 127  0.65  0.65  0.58   0.47  2.2 0.98
## CALI_5 127  0.63  0.59  0.49   0.39  3.4 1.21
## CALI_6 127  0.69  0.73  0.67   0.56  2.3 0.85
## CALI_7 127  0.67  0.66  0.58   0.47  2.9 1.10
## CALI_8 127  0.67  0.67  0.59   0.48  2.6 1.03
##
## Non missing response frequency for each item
##           1    2    3    4    5    6 miss
## CALI_3 0.16 0.28 0.43 0.11 0.02 0.00 0.16
## CALI_4 0.28 0.31 0.33 0.06 0.02 0.00 0.16
## CALI_5 0.09 0.13 0.33 0.27 0.17 0.02 0.16
## CALI_6 0.18 0.44 0.30 0.08 0.00 0.00 0.16
## CALI_7 0.13 0.20 0.40 0.20 0.06 0.01 0.16
## CALI_8 0.15 0.28 0.39 0.14 0.04 0.00 0.16
```

3.3.6.4 CRONBACH'S ALPHA: PARENT SUBSCALE

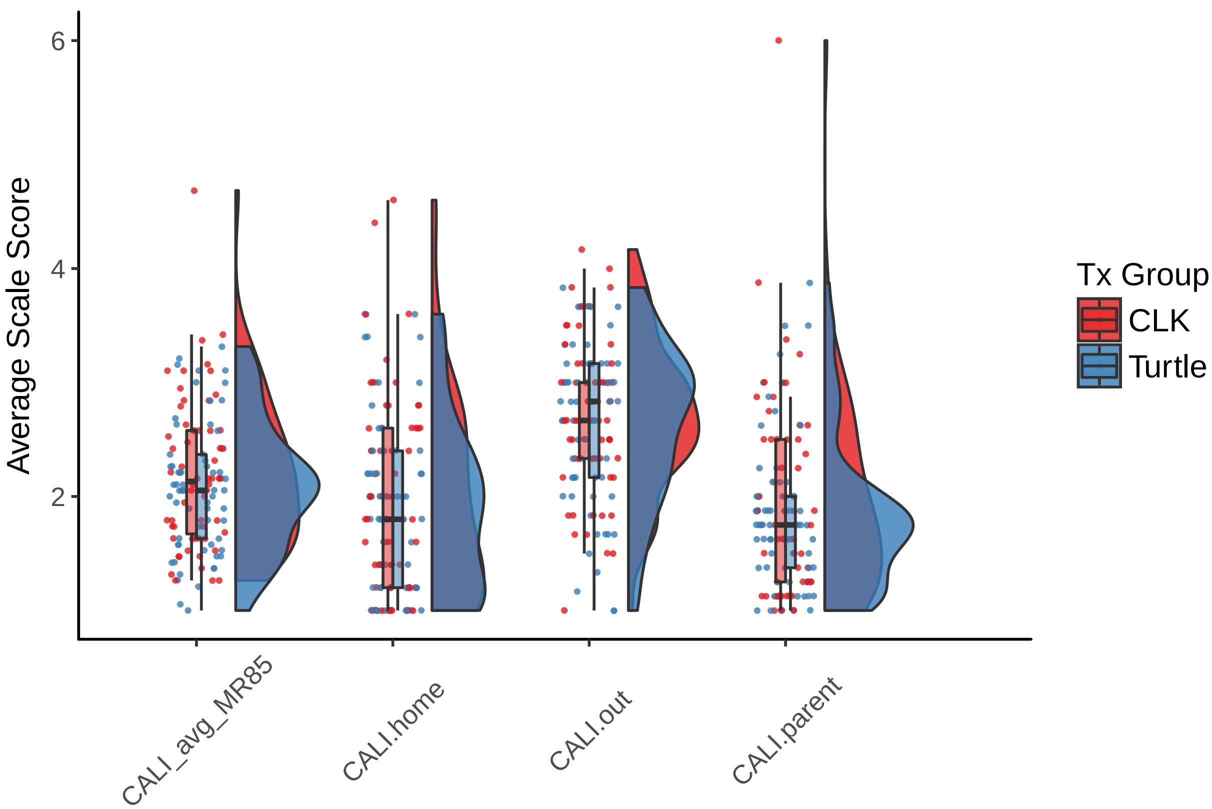
```
psych::alpha(CALI.all_T3[CALI.parent], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CALI.all_T3[CALI.parent], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.89       0.9     0.9      0.52 8.5 0.013  1.9 0.77     0.52
##
##  lower alpha upper     95% confidence boundaries
## 0.87 0.89 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.82 0.89 0.93
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CALI_11      0.88      0.88    0.88      0.52 7.6    0.014 0.0071  0.52
## CALI_12      0.88      0.88    0.87      0.51 7.2    0.015 0.0073  0.50
## CALI_13      0.88      0.88    0.88      0.52 7.6    0.014 0.0063  0.52
## CALI_14      0.88      0.88    0.88      0.52 7.5    0.015 0.0063  0.51
## CALI_16      0.88      0.88    0.87      0.51 7.3    0.015 0.0061  0.52
## CALI_17      0.89      0.89    0.89      0.54 8.1    0.014 0.0059  0.52
## CALI_18      0.88      0.89    0.88      0.52 7.7    0.014 0.0076  0.52
## CALI_19      0.87      0.87    0.87      0.49 6.8    0.016 0.0056  0.48
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CALI_11 127  0.74  0.74  0.70   0.65  1.8 1.09
## CALI_12 127  0.78  0.79  0.76   0.71  1.6 0.89
## CALI_13 127  0.75  0.74  0.70   0.65  1.9 1.13
## CALI_14 127  0.77  0.76  0.72   0.68  1.5 1.06
## CALI_16 127  0.79  0.79  0.76   0.71  1.9 1.04
## CALI_17 127  0.68  0.69  0.62   0.58  2.0 0.97
## CALI_18 127  0.72  0.73  0.68   0.64  2.3 0.91
## CALI_19 127  0.84  0.84  0.82   0.78  1.9 1.04
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CALI_11 0.54 0.24 0.17 0.02 0.01 0.02 0.16
## CALI_12 0.58 0.24 0.15 0.02 0.00 0.01 0.16
## CALI_13 0.46 0.25 0.22 0.03 0.01 0.02 0.16
## CALI_14 0.72 0.14 0.08 0.04 0.00 0.02 0.16
## CALI_16 0.47 0.24 0.22 0.05 0.01 0.01 0.16
## CALI_17 0.35 0.37 0.22 0.04 0.01 0.01 0.16
## CALI_18 0.16 0.46 0.30 0.07 0.01 0.01 0.16
## CALI_19 0.44 0.29 0.19 0.06 0.01 0.01 0.16
```

3.3.6.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(CALI.all_T3[26:30], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
```

```r
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T3 Folder:
`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:
- `/CALI_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CALI_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CALI
- `/CALI_T3_Summary_wo_Raw_items.txt`: The processed summary scores for CALI wo raw items

Final Data Names & Locations:
[List all relevant data sets, their file names, their path names on the backup drive, and their format]

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3.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

3.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(CALI.wide)
```

```
##                  vars   n  mean    sd median trimmed   mad min    max
## ID                  1 151 86.11 49.12  88.00   86.21 62.27   1 170.00
## Group               2 151  0.50  0.50   0.00    0.50  0.00   0   1.00
## Group.R*            3 151  1.50  0.50   1.00    1.50  0.00   1   2.00
## CALI_avg_MR85.0     4 147  2.44  0.69   2.32    2.42  0.70   1   4.37
## CALI.home.0         5 147  2.07  0.87   1.80    2.00  0.89   1   4.60
## CALI.out.0          6 146  3.12  0.76   3.17    3.11  0.62   1   5.00
## CALI.parent.0       7 147  2.16  0.88   2.00    2.10  0.93   1   5.75
## CALI_avg_MR85.1     8 130  2.38  0.66   2.29    2.34  0.59   1   4.37
## CALI.home.1         9 130  2.09  0.88   2.00    2.01  0.89   1   4.40
## CALI.out.1         10 130  3.08  0.78   3.00    3.05  0.74   1   5.00
## CALI.parent.1      11 130  2.04  0.79   2.00    1.97  0.74   1   4.25
## CALI_avg_MR85.2    12 127  2.14  0.61   2.11    2.10  0.70   1   4.68
## CALI.home.2        13 127  1.93  0.81   1.80    1.84  0.89   1   4.60
## CALI.out.2         14 127  2.65  0.67   2.67    2.67  0.74   1   4.17
## CALI.parent.2      15 127  1.88  0.77   1.75    1.79  0.74   1   6.00
##                   range  skew kurtosis   se
## ID               169.00 -0.02    -1.21 4.00
## Group              1.00  0.01    -2.01 0.04
## Group.R*           1.00  0.01    -2.01 0.04
## CALI_avg_MR85.0    3.37  0.42    -0.21 0.06
## CALI.home.0        3.60  0.71    -0.31 0.07
## CALI.out.0         4.00 -0.05     0.08 0.06
## CALI.parent.0      4.75  0.79     0.57 0.07
## CALI_avg_MR85.1    3.37  0.53    -0.02 0.06
## CALI.home.1        3.40  0.63    -0.41 0.08
## CALI.out.1         4.00  0.23     0.21 0.07
## CALI.parent.1      3.25  0.66    -0.20 0.07
## CALI_avg_MR85.2    3.68  0.76     1.18 0.05
## CALI.home.2        3.60  0.80     0.22 0.07
## CALI.out.2         3.17 -0.29    -0.28 0.06
## CALI.parent.2      5.00  1.73     5.26 0.07
```

LONG DATA SET

```
psych::describe(CALI.long)
```

```
##                vars   n  mean    sd median trimmed   mad min    max  range
## ID                1 453 86.11 49.01  88.00   86.21 62.27   1 170.00 169.00
## Group             2 453  0.50  0.50   0.00    0.50  0.00   0   1.00   1.00
## CALI_avg_MR85     3 404  2.33  0.66   2.21    2.29  0.62   1   4.68   3.68
## Group.R*          4 453  1.50  0.50   1.00    1.50  0.00   1   2.00   1.00
## CALI.home         5 404  2.03  0.85   1.80    1.95  0.89   1   4.60   3.60
## CALI.out          6 403  2.96  0.77   3.00    2.95  0.74   1   5.00   4.00
## CALI.parent       7 404  2.03  0.82   1.88    1.95  0.74   1   6.00   5.00
## Time              8 453  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##                 skew kurtosis   se
## ID             -0.02    -1.20 2.30
```

```
## Group          0.01    -2.00 0.02
## CALI_avg_MR85  0.57     0.17 0.03
## Group.R*       0.01    -2.00 0.02
## CALI.home      0.72    -0.17 0.04
## CALI.out       0.07     0.19 0.04
## CALI.parent    1.03     1.46 0.04
## Time           0.00    -1.51 0.04
```

3.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```
psych::describeBy(CALI.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##                 vars  n  mean    sd median trimmed   mad  min    max
## ID                 1 76 86.59 48.90  87.00   86.65 62.27 2.00 168.00
## Group              2 76  0.00  0.00   0.00    0.00  0.00 0.00   0.00
## Group.R*           3 76  1.00  0.00   1.00    1.00  0.00 1.00   1.00
## CALI_avg_MR85.0    4 73  2.47  0.74   2.32    2.43  0.78 1.16   4.37
## CALI.home.0        5 73  2.05  0.87   2.00    1.96  0.89 1.00   4.40
## CALI.out.0         6 72  3.16  0.82   3.08    3.14  0.74 1.33   5.00
## CALI.parent.0      7 73  2.21  1.00   2.00    2.12  1.11 1.00   5.75
## CALI_avg_MR85.1    8 63  2.39  0.67   2.37    2.35  0.70 1.11   4.37
## CALI.home.1        9 63  2.07  0.88   1.80    2.00  0.89 1.00   4.20
## CALI.out.1        10 63  3.02  0.79   3.00    3.01  0.74 1.17   5.00
## CALI.parent.1     11 63  2.12  0.83   2.12    2.04  0.93 1.00   4.25
## CALI_avg_MR85.2   12 60  2.19  0.66   2.13    2.14  0.66 1.26   4.68
## CALI.home.2       13 60  1.97  0.88   1.80    1.87  0.89 1.00   4.60
## CALI.out.2        14 60  2.68  0.67   2.67    2.68  0.49 1.00   4.17
## CALI.parent.2     15 60  1.96  0.88   1.75    1.85  0.83 1.00   6.00
##                  range  skew kurtosis   se
## ID              166.00  0.00    -1.28 5.61
## Group             0.00   NaN      NaN 0.00
## Group.R*          0.00   NaN      NaN 0.00
## CALI_avg_MR85.0   3.21  0.56    -0.31 0.09
## CALI.home.0       3.40  0.79    -0.07 0.10
## CALI.out.0        3.67  0.18    -0.45 0.10
## CALI.parent.0     4.75  0.81     0.34 0.12
## CALI_avg_MR85.1   3.26  0.63     0.17 0.08
## CALI.home.1       3.20  0.52    -0.86 0.11
## CALI.out.1        3.83  0.13     0.01 0.10
## CALI.parent.1     3.25  0.66    -0.20 0.10
## CALI_avg_MR85.2   3.42  1.00     1.58 0.09
## CALI.home.2       3.60  0.88     0.32 0.11
## CALI.out.2        3.17 -0.03    -0.27 0.09
## CALI.parent.2     5.00  1.81     5.38 0.11
## --------------------------------------------------------
## group: Turtle
##                 vars  n  mean    sd median trimmed   mad min    max  range
## ID                 1 75 85.63 49.66  88.00   85.70 62.27   1 170.00 169.00
## Group              2 75  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## Group.R*           3 75  2.00  0.00   2.00    2.00  0.00   2   2.00   0.00
## CALI_avg_MR85.0    4 74  2.41  0.63   2.34    2.41  0.62   1   3.89   2.89
## CALI.home.0        5 74  2.10  0.88   1.80    2.03  0.89   1   4.60   3.60
## CALI.out.0         6 74  3.07  0.71   3.17    3.10  0.49   1   4.67   3.67
## CALI.parent.0      7 74  2.12  0.74   2.06    2.08  0.83   1   4.00   3.00
## CALI_avg_MR85.1    8 67  2.37  0.65   2.26    2.34  0.62   1   4.05   3.05
## CALI.home.1        9 67  2.11  0.88   2.00    2.02  0.89   1   4.40   3.40
```

```
## CALI.out.1        10 67  3.12  0.78   3.00    3.08  0.74   1   5.00   4.00
## CALI.parent.1     11 67  1.97  0.74   1.75    1.91  0.74   1   3.88   2.88
## CALI_avg_MR85.2   12 67  2.09  0.55   2.05    2.07  0.55   1   3.32   2.32
## CALI.home.2       13 67  1.89  0.74   1.80    1.82  0.89   1   3.60   2.60
## CALI.out.2        14 67  2.63  0.69   2.83    2.66  0.74   1   3.83   2.83
## CALI.parent.2     15 67  1.81  0.66   1.75    1.73  0.56   1   3.88   2.88
##                  skew kurtosis   se
## ID              -0.04    -1.21 5.73
## Group             NaN      NaN 0.00
## Group.R*          NaN      NaN 0.00
## CALI_avg_MR85.0  0.13    -0.46 0.07
## CALI.home.0      0.63    -0.59 0.10
## CALI.out.0      -0.45     0.54 0.08
## CALI.parent.0    0.50    -0.37 0.09
## CALI_avg_MR85.1  0.39    -0.35 0.08
## CALI.home.1      0.72    -0.09 0.11
## CALI.out.1       0.31     0.27 0.10
## CALI.parent.1    0.60    -0.52 0.09
## CALI_avg_MR85.2  0.27    -0.53 0.07
## CALI.home.2      0.57    -0.53 0.09
## CALI.out.2      -0.49    -0.43 0.08
## CALI.parent.2    1.16     1.02 0.08
```

LONG DATA SET

```
psych::describeBy(CALI.long, group='Group.R')
```

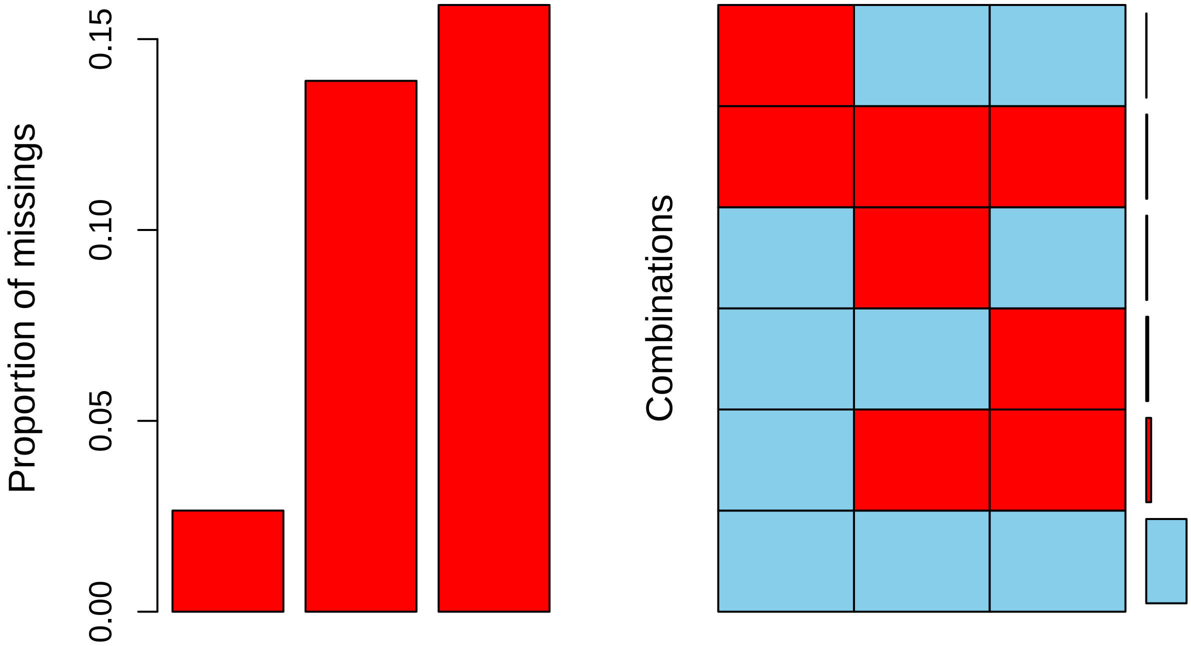
```
##
##  Descriptive statistics by group
## group: CLK
##               vars   n  mean    sd median trimmed   mad  min    max  range
## ID               1 228 86.59 48.69  87.00   86.63 62.27 2.00 168.00 166.00
## Group            2 228  0.00  0.00   0.00    0.00  0.00 0.00   0.00   0.00
## CALI_avg_MR85    3 196  2.36  0.70   2.26    2.31  0.70 1.11   4.68   3.58
## Group.R*         4 228  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## CALI.home        5 196  2.03  0.87   1.80    1.94  0.89 1.00   4.60   3.60
## CALI.out         6 195  2.97  0.79   3.00    2.95  0.74 1.00   5.00   4.00
## CALI.parent      7 196  2.11  0.91   2.00    2.01  0.93 1.00   6.00   5.00
## Time             8 228  1.00  0.82   1.00    1.00  1.48 0.00   2.00   2.00
##               skew kurtosis   se
## ID            0.00    -1.25 3.22
## Group          NaN      NaN 0.00
## CALI_avg_MR85 0.72     0.31 0.05
## Group.R*       NaN      NaN 0.00
## CALI.home     0.74    -0.17 0.06
## CALI.out      0.22    -0.06 0.06
## CALI.parent   1.08     1.59 0.07
## Time          0.00    -1.51 0.05
## ------------------------------------------------------------
## group: Turtle
##               vars   n  mean    sd median trimmed   mad min    max  range
## ID               1 225 85.63 49.44  88.00   85.72 62.27   1 170.00 169.00
## Group            2 225  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## CALI_avg_MR85    3 208  2.29  0.63   2.21    2.28  0.62   1   4.05   3.05
## Group.R*         4 225  2.00  0.00   2.00    2.00  0.00   2   2.00   0.00
## CALI.home        5 208  2.03  0.84   1.80    1.95  0.89   1   4.60   3.60
## CALI.out         6 208  2.95  0.76   3.00    2.96  0.74   1   5.00   4.00
## CALI.parent      7 208  1.97  0.72   1.88    1.91  0.74   1   4.00   3.00
## Time             8 225  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##                skew kurtosis   se
## ID            -0.04    -1.17 3.30
## Group           NaN      NaN 0.00
```

```
## CALI_avg_MR85  0.32    -0.31 0.04
## Group.R*         NaN      NaN 0.00
## CALI.home       0.70    -0.19 0.06
## CALI.out       -0.09     0.41 0.05
## CALI.parent     0.73    -0.12 0.05
## Time            0.00    -1.51 0.05
```

3.4.3 EXPLORATORY PLOTS

3.4.3.1 MISSING PATTERNS OVERALL SCALE

```
VIM::aggr(CALI.wide[,c(4,8,12)])
```

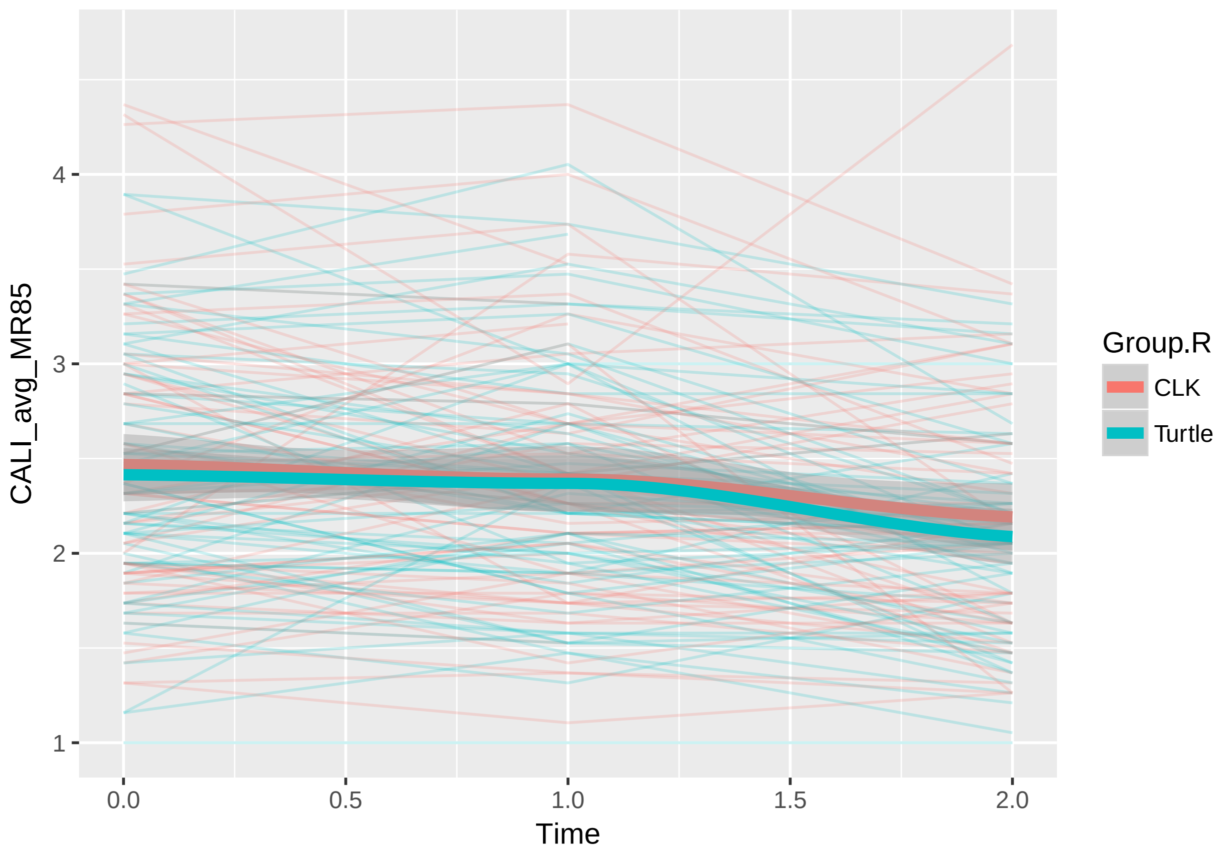


Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

3.4.3.2 SPAGHETTI PLOTS

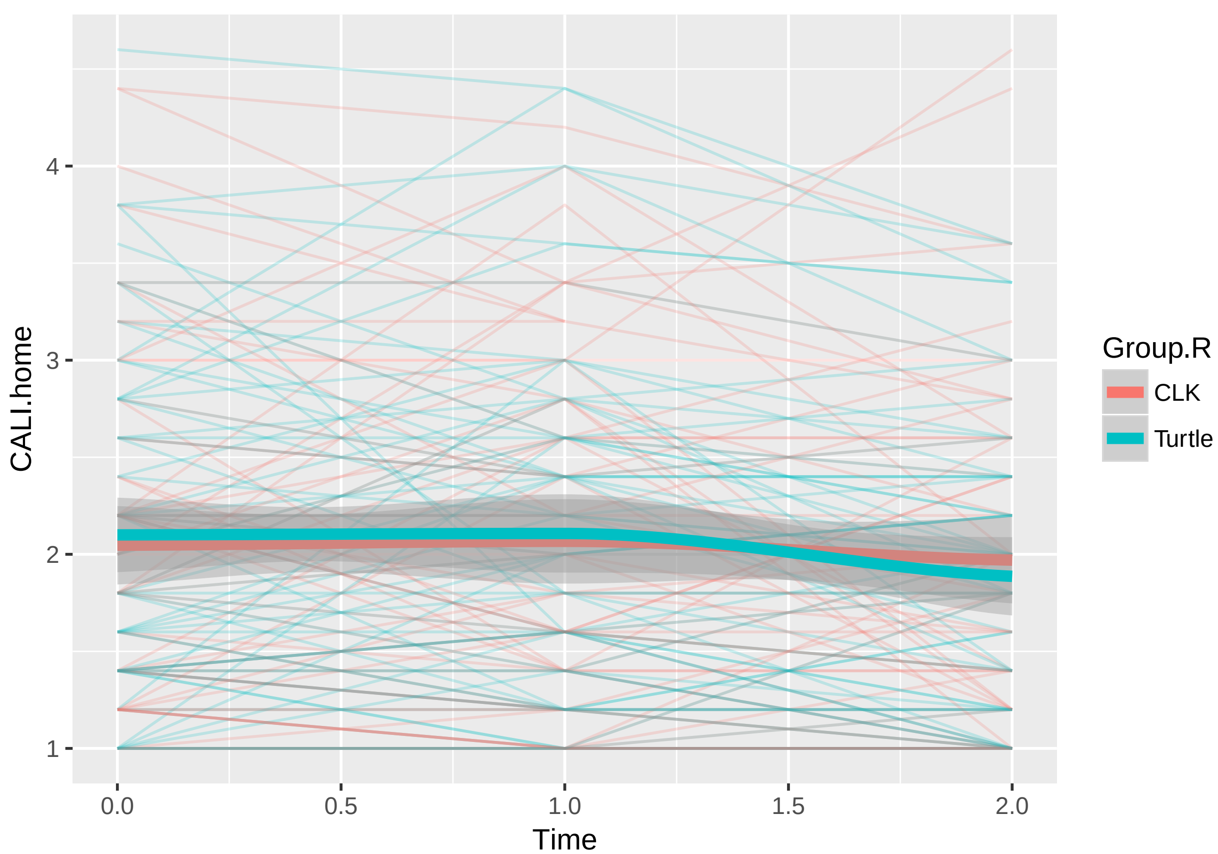
3.4.3.2.1 OVERALL SCALE

```
g1<-ggplot(data=CALI.long, aes(x=Time, y=CALI_avg_MR85))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



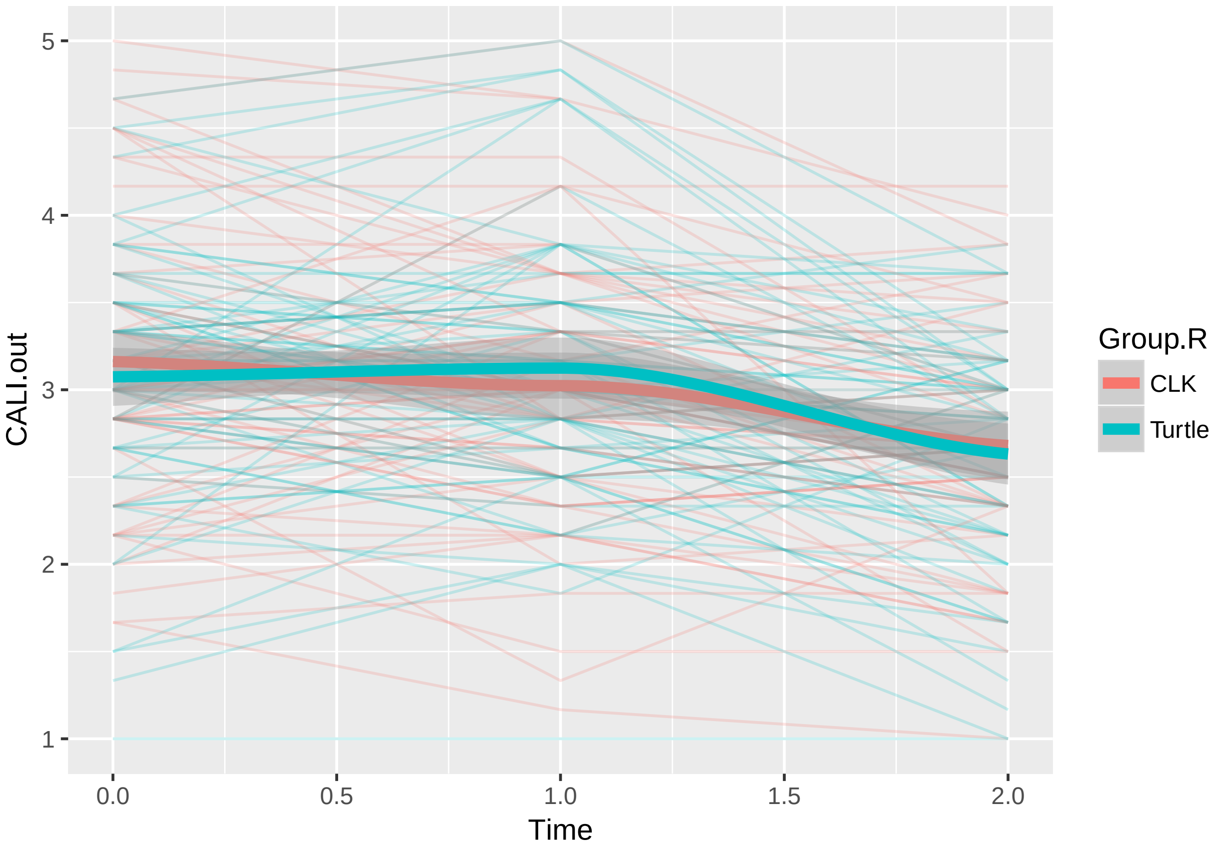
3.4.3.2.2 HOME SUBSCALE

```
g1<-ggplot(data=CALI.long, aes(x=Time, y=CALI.home))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



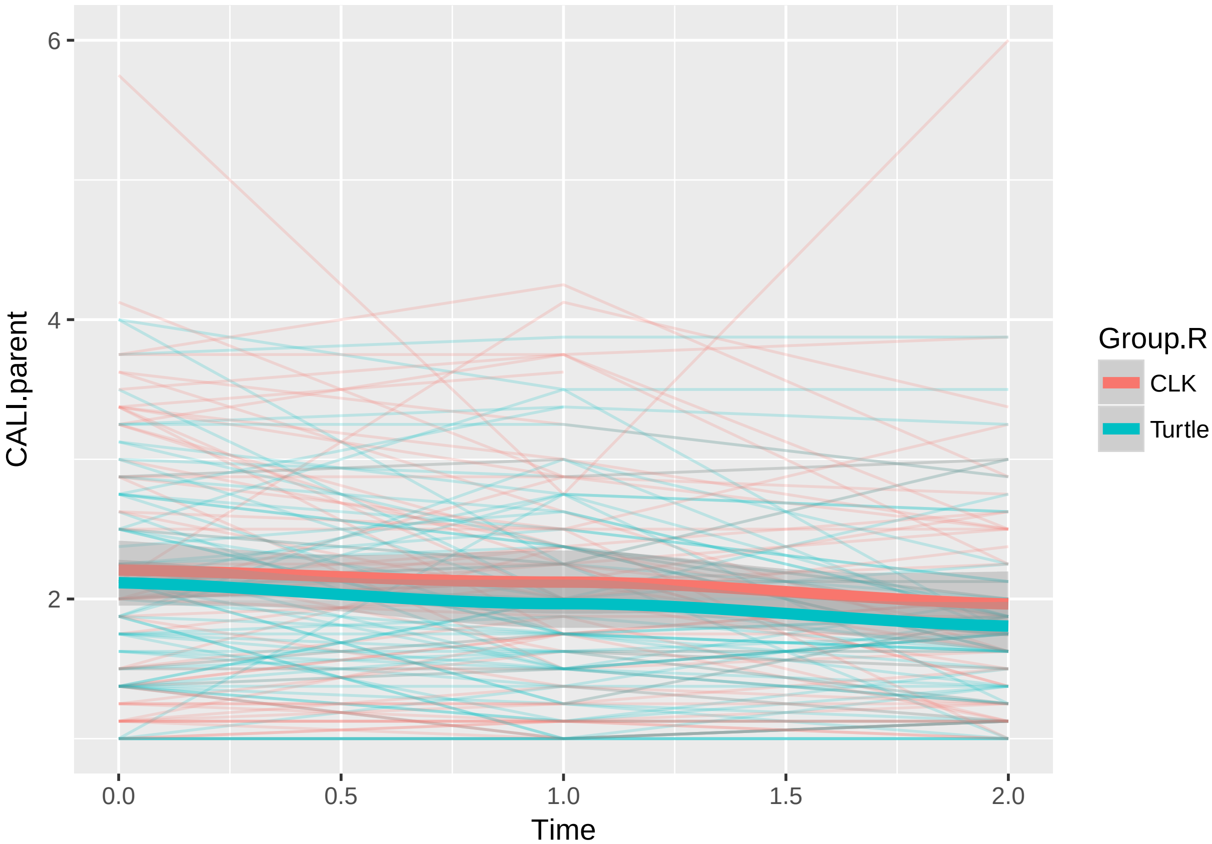
3.4.3.2.3 OUTSIDE OF HOME SUBSCALE

```
g1<-ggplot(data=CALI.long, aes(x=Time, y=CALI.out))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



3.4.3.2.4 PARENT SUBSCALE

```
g1<-ggplot(data=CALI.long, aes(x=Time, y=CALI.parent))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



6
4
2
0.0
0.5
1.0
1.5
2.0
Time
CALI.parent
Group.R
CLK
Turtle

4 Child Behavior Checklist (CBCL)

Citation:
Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA Preschool Forms & Profiles*. Burlington: VT: University of Vermont, Research Center for Children, Youth, and Families

Measure Description:
The Child Behavior Checklist/ 1.5-5 (CBCL, Achenbach & Rescorla, 2000) is a well-established and often used instrument for assessing emotional and behavioral problems in children aged one-and-a-half years to five years old. The 99-item parent report requires parents rate a series of statements about their child's behavior. A number of subscales can be derived from the CBCL that tap various behavioral and emotional problems children may be experiencing including: emotionally reactive, anxiety & depression, somatic complaints, withdrawal, sleep problems, attention problems, aggressive behaviors, and other problems. The emotionally reactive, anxiety & depression, somatic complaints, and withdrawal subscales can be combined to obtain an overall measure of internalizing problems. The attention problems and aggressive behavior subscales can be combined to obtain an overall measure of externalizing problems. Internal consistency for a total scale score (i.e., measuring total emotional/behavioral problems) was originally reported as $\alpha = .95$, with internal consistencies of the subscales and their composites ranging between $\alpha = .66$ to $\alpha = .92$) (Achenbach & Rescorla, 2000).

Additional Reference(s):

Response Options: 1 = Not True (as far as you know) 2 = Somewhat or Sometimes True 3 = Very True or Often True

Item Information:

1. CBCL_1: Aches or pains (without medical cause; do not include stomach or headaches)
2. CBCL_2: Acts too young for age
3. CBCL_3: Afraid to try new things
4. CBCL_4: Avoids looking others in the eye
5. CBCL_5: Can't concentrate, can't pay attention for long
6. CBCL_6: Can't sit still, restless, or hyperactive
7. CBCL_7: Can't stand having things out of place
8. CBCL_8: Can't stand waiting; wants everything now
9. CBCL_9: Chews on things that aren't edible
10. CBCL_10: Clings to adults or too dependent
11. CBCL_11: Constantly seeks help
12. CBCL_12: Constipated, doesn't move bowels (when not sick)
13. CBCL_13: Cries a lot
14. CBCL_14: Cruel to animals
15. CBCL_15: Defiant
16. CBCL_16: Demands must be met immediately
17. CBCL_17: Destroys his/her own things
18. CBCL_18: Destroys things belonging to his/her family or other children
19. CBCL_19: Diarrhea or loose bowels (when not sick)
20. CBCL_20: Disobedient

21. CBCL_21: Disturbed by any change in routine
22. CBCL_22: Doesn't want to sleep alone
23. CBCL_23: Doesn't answer when people talk to him/her
24. CBCL_24: Doesn't eat well (describe below):
25. CBCL_25: Doesn't get along with other children
26. CBCL_26: Doesn't know how to have fun; acts like a little adult
27. CBCL_27: Doesn't seem to feel guilty after misbehaving
28. CBCL_28: Doesn't want to go out of home
29. CBCL_29: Easily frustrated
30. CBCL_30: Easily jealous
31. CBCL_31: Eats or drinks things that are not food—don't include sweets (describe below):
32. CBCL_32: Fear certain animals, situations, or places (describe below):
33. CBCL_33: Feelings are easily hurt
34. CBCL_34: Gets hurt a lot, accident-prone
35. CBCL_35: Gets in many fights
36. CBCL_36: Gets into everything
37. CBCL_37: Gets too upset when separated from parents
38. CBCL_38: Has trouble getting to sleep
39. CBCL_39: Headaches (without medical cause)
40. CBCL_40: Hits others
41. CBCL_41: Holds his/her breath
42. CBCL_42: Hurts animals or people without meaning to
43. CBCL_43: Looks unhappy without good reason
44. CBCL_44: Angry moods
45. CBCL_45: Nausea, feels sick
46. CBCL_46: Nervous movements or twitching (describe):
47. CBCL_47: Nervous, high-strung, or tense
48. CBCL_48: Nightmares
49. CBCL_49: Overeating
50. CBCL_50: Overtired

51. CBCL_51: Shows panic for no good reason

52. CBCL_52: Painful bowel movements (without medical cause)

53. CBCL_53: Physically attacks people

54. CBCL_54: Picks nose, skin, or other parts of body (describe):

55. CBCL_55: Plays with own sex parts too much

56. CBCL_56: Poorly coordinated or clumsy

57. CBCL_57: Problems with eyes (without medical cause) (describe):

58. CBCL_58: Punishment doesn't change his/her behavior

59. CBCL_59: Quickly shifts from one activity to another

60. CBCL_60: Rashes or other skin problems (without medical cause)

61. CBCL_61: Refuses to eat

62. CBCL_62: Refuses to play active games

63. CBCL_63: Repeatedly rocks head or body

64. CBCL_64: Resists going to bed at night

65. CBCL_65: Resists toilet training (describe):

66. CBCL_66: Screams a lot

67. CBCL_67: Seems unresponsive to affection

68. CBCL_68: Self-conscious or easily embarrassed

69. CBCL_69: Selfish or won't share

70. CBCL_70: Shows little affection toward people

71. CBCL_71: Shows little interest in things around him/her

72. CBCL_72: Shows too little fear of getting hurt

73. CBCL_73: Too shy or timid

74. CBCL_74: Sleeps less than most kids during day and/or night (describe):

75. CBCL_75: Smears or plays with bowel movements

76. CBCL_76: Speech problem (describe):

77. CBCL_77: Stares into space or seems preoccupied

78. CBCL_78: Stomachaches or cramps (without medical cause)

79. CBCL_79: Rapid shifts between sadness and excitement

80. CBCL_80: Strange behavior (describe):

81. CBCL_81: Stubborn, sullen or irritable

82. CBCL_82: Sudden changes in mood or feelings

83. CBCL_83: Sulks a lot

84. CBCL_84: Talks or cries out in sleep

85. CBCL_85: Temper tantrums or hot temper

86. CBCL_86: Too concerned with neatness or cleanliness

87. CBCL_87: Too fearful or anxious

88. CBCL_88: Uncooperative

89. CBCL_89: Underactive, slow moving, or lacks energy

90. CBCL_90: Unhappy, sad, or depressed

91. CBCL_91: Unusually loud

92. CBCL_92: Upset by new people or situations (describe):

93. CBCL_93: Vomiting, throwing up (without medical cause)

94. CBCL_94: Wakes up often at night

95. CBCL_95: Wanders away

96. CBCL_96: Wants a lot of attention

97. CBCL_97: Whining

98. CBCL_98: Withdrawn, doesn't get involved with other

99. CBCL_99: Worries

Subscale Information: SYNDROME SCALES:
Emotionally Reactive: 21, 46, 51, 79, 82, 83, 92, 97, 99
Anxious/ Depressed: 10, 33, 37, 43, 47, 68, 87, 90
Somatic Complaints: 1, 7, 12, 19, 24, 39, 45, 52, 78, 86, 93
Withdrawn: 2, 4, 23, 62, 67, 70, 71, 98
Sleep Problems: 22, 38, 48, 64, 74, 84, 94
Attention Problems: 5, 6, 56, 59, 95
Aggressive Behavior: 8, 15, 16, 18, 20, 27, 29, 35, 40, 42, 44, 53, 58, 66, 69, 81, 85, 88, 96
Other Problems: 3, 9, 11, 13, 14, 17, 25, 26, 28, 30, 31, 32, 34, 36, 41, 49, 50, 54, 55, 57, 60, 61, 63, 65, 72, 73, 75, 76, 77, 80, 89, 91
Internalizing Problems: (Emotionally Reactive + Anxious/Depressed + Somatic Complaints + Withdrawn)
Externalizing Problems: (Attention Problems + Aggressive Behavior)
Total Problems: (Internalizing problems + Externalizing problems + Other problems + Sleep Problems)

DSM-ORIENTED SCALES: Depressive Problems: 13, 24, 38, 43, 49, 50, 71, 74, 89, 90
Anxiety Problems: 10, 22, 28, 32, 37, 47, 48, 51, 87, 99
Autism Spectrum Problem: 4, 7, 21, 23, 25, 63, 67, 70, 76, 80, 92, 98
Attention Deficit/ Hyperactivity Problem: 5, 6, 8, 16, 36, 59
Oppositional Defiant Problems: 15, 20, 44, 81, 85, 88

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

4.1 TIME 1: COMPLETE SCALE

4.1.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(CBCL.all_T1[,c(3:101)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##         vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1     1 146 1.19 0.49  2.53     5.54 0.04     1  1.00
## CBCL_2     2 146 1.43 0.56  0.85    -0.33 0.05     1  2.00
## CBCL_3     3 146 2.02 0.57  0.00     0.06 0.05     2  2.00
## CBCL_4     4 146 1.84 0.69  0.21    -0.93 0.06     1  2.00
## CBCL_5     5 146 1.32 0.59  1.63     1.55 0.05     1  2.00
## CBCL_6     6 146 1.31 0.59  1.75     1.88 0.05     1  1.00
## CBCL_7     7 145 1.31 0.56  1.61     1.59 0.05     1  2.00
## CBCL_8     8 145 1.75 0.71  0.39    -0.99 0.06     1  2.00
## CBCL_9     9 146 1.36 0.60  1.44     0.98 0.05     1  2.00
## CBCL_10   10 145 2.11 0.62 -0.08    -0.51 0.05     2  3.00
## CBCL_11   11 146 1.63 0.67  0.59    -0.74 0.06     1  2.00
## CBCL_12   12 146 1.27 0.53  1.79     2.27 0.04     1  1.00
## CBCL_13   13 146 1.55 0.66  0.78    -0.52 0.06     1  2.00
## CBCL_14   14 146 1.03 0.16  5.73    31.06 0.01     1  1.00
## CBCL_15   15 145 1.50 0.61  0.82    -0.35 0.05     1  2.00
## CBCL_16   16 144 1.64 0.65  0.52    -0.72 0.05     1  2.00
## CBCL_17   17 145 1.12 0.32  2.35     3.57 0.03     1  1.00
## CBCL_18   18 145 1.08 0.30  3.73    14.41 0.02     1  1.00
## CBCL_19   19 145 1.03 0.20  7.93    66.77 0.02     1  1.00
## CBCL_20   20 145 1.49 0.58  0.68    -0.55 0.05     1  2.00
## CBCL_21   21 145 1.55 0.66  0.77    -0.51 0.05     1  2.00
## CBCL_22   22 144 1.88 0.79  0.21    -1.38 0.07     1  3.00
## CBCL_23   23 145 1.97 0.64  0.02    -0.61 0.05     2  2.00
## CBCL_24   24 143 1.36 0.65  1.53     1.01 0.05     1  2.00
## CBCL_25   25 145 1.21 0.46  2.00     3.25 0.04     1  1.00
## CBCL_26   26 145 1.12 0.36  3.18    10.08 0.03     1  1.00
## CBCL_27   27 145 1.19 0.44  2.29     4.64 0.04     1  1.00
## CBCL_28   28 145 1.34 0.61  1.54     1.22 0.05     1  2.00
## CBCL_29   29 145 1.79 0.71  0.31    -0.99 0.06     1  2.00
## CBCL_30   30 145 1.40 0.62  1.26     0.47 0.05     1  2.00
## CBCL_31   31 145 1.01 0.12  8.25    66.54 0.01     1  1.00
## CBCL_32   32 145 1.48 0.70  1.12    -0.12 0.06     1  2.00
## CBCL_33   33 145 1.66 0.66  0.50    -0.75 0.05     1  2.00
## CBCL_34   34 145 1.13 0.38  2.90     8.22 0.03     1  1.00
## CBCL_35   35 145 1.04 0.23  6.09    40.06 0.02     1  1.00
## CBCL_36   36 145 1.18 0.48  2.68     6.32 0.04     1  1.00
## CBCL_37   37 145 1.69 0.71  0.52    -0.93 0.06     1  2.00
## CBCL_38   38 145 1.52 0.71  0.97    -0.42 0.06     1  2.00
## CBCL_39   39 145 1.04 0.20  4.56    18.90 0.02     1  1.00
## CBCL_40   40 145 1.25 0.45  1.38     0.50 0.04     1  1.00
## CBCL_41   41 145 1.03 0.18  5.05    23.66 0.02     1  1.00
## CBCL_42   42 145 1.07 0.28  4.26    19.27 0.02     1  1.00
## CBCL_43   43 145 1.12 0.35  2.72     6.89 0.03     1  1.00
## CBCL_44   44 144 1.36 0.55  1.19     0.40 0.05     1  2.00
## CBCL_45   45 144 1.08 0.27  3.16     8.02 0.02     1  1.00
## CBCL_46   46 143 1.17 0.45  2.57     6.01 0.04     1  1.00
## CBCL_47   47 144 1.25 0.52  1.97     3.00 0.04     1  1.00
## CBCL_48   48 144 1.28 0.51  1.55     1.48 0.04     1  2.00
## CBCL_49   49 142 1.03 0.17  5.64    30.06 0.01     1  1.00
## CBCL_50   50 144 1.26 0.47  1.45     0.98 0.04     1  1.25
## CBCL_51   51 144 1.08 0.30  3.72    14.28 0.03     1  1.00
## CBCL_52   52 144 1.08 0.27  3.16     8.02 0.02     1  1.00
## CBCL_53   53 144 1.07 0.28  4.25    19.10 0.02     1  1.00
```

```
## CBCL_54   54 144 1.38 0.59  1.27     0.56 0.05     1  2.00
## CBCL_55   55 143 1.08 0.29  3.95    16.30 0.02     1  1.00
## CBCL_56   56 144 1.10 0.37  3.71    13.75 0.03     1  1.00
## CBCL_57   57 143 1.01 0.08 11.71   136.04 0.01     1  1.00
## CBCL_58   58 143 1.23 0.48  1.97     3.11 0.04     1  1.00
## CBCL_59   59 143 1.34 0.56  1.36     0.86 0.05     1  2.00
## CBCL_60   60 142 1.08 0.29  3.93    16.15 0.02     1  1.00
## CBCL_61   61 143 1.15 0.39  2.64     6.59 0.03     1  1.00
## CBCL_62   62 143 1.11 0.34  2.97     8.50 0.03     1  1.00
## CBCL_63   63 143 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_64   64 144 1.69 0.70  0.50    -0.90 0.06     1  2.00
## CBCL_65   65 143 1.23 0.55  2.29     4.02 0.05     1  1.00
## CBCL_66   66 144 1.24 0.50  2.02     3.25 0.04     1  1.00
## CBCL_67   67 144 1.03 0.18  5.03    23.46 0.02     1  1.00
## CBCL_68   68 144 1.58 0.68  0.74    -0.63 0.06     1  2.00
## CBCL_69   69 144 1.26 0.51  1.84     2.54 0.04     1  1.00
## CBCL_70   70 144 1.09 0.29  2.83     6.05 0.02     1  1.00
## CBCL_71   71 144 1.03 0.18  5.03    23.46 0.02     1  1.00
## CBCL_72   72 143 1.04 0.20  4.52    18.57 0.02     1  1.00
## CBCL_73   73 143 2.29 0.55  0.02    -0.57 0.05     2  3.00
## CBCL_74   74 143 1.30 0.58  1.77     2.00 0.05     1  1.00
## CBCL_75   75 143 1.01 0.08 11.71   136.04 0.01     1  1.00
## CBCL_76   76 143 1.19 0.47  2.49     5.50 0.04     1  1.00
## CBCL_77   77 143 1.13 0.38  2.87     8.04 0.03     1  1.00
## CBCL_78   78 143 1.10 0.31  2.55     4.54 0.03     1  1.00
## CBCL_79   79 143 1.10 0.34  3.66    13.73 0.03     1  1.00
## CBCL_80   80 142 1.04 0.26  6.49    42.78 0.02     1  1.00
## CBCL_81   81 143 1.34 0.53  1.20     0.42 0.04     1  2.00
## CBCL_82   82 144 1.22 0.48  2.05     3.44 0.04     1  1.00
## CBCL_83   83 144 1.17 0.43  2.54     5.96 0.04     1  1.00
## CBCL_84   84 144 1.29 0.53  1.59     1.62 0.04     1  2.00
## CBCL_85   85 144 1.51 0.64  0.86    -0.34 0.05     1  2.00
## CBCL_86   86 144 1.14 0.39  2.77     7.35 0.03     1  1.00
## CBCL_87   87 144 1.47 0.65  1.02    -0.10 0.05     1  2.00
## CBCL_88   88 144 1.36 0.54  1.10     0.16 0.04     1  2.00
## CBCL_89   89 144 1.07 0.31  4.69    22.90 0.03     1  1.00
## CBCL_90   90 143 1.08 0.28  2.97     6.87 0.02     1  1.00
## CBCL_91   91 144 1.19 0.48  2.43     5.16 0.04     1  1.00
## CBCL_92   92 144 1.66 0.69  0.56    -0.82 0.06     1  2.00
## CBCL_93   93 144 1.04 0.23  6.07    39.75 0.02     1  1.00
## CBCL_94   94 144 1.31 0.58  1.69     1.75 0.05     1  1.25
## CBCL_95   95 143 1.03 0.18  5.01    23.26 0.02     1  1.00
## CBCL_96   96 144 1.50 0.68  1.00    -0.26 0.06     1  2.00
## CBCL_97   97 144 1.79 0.65  0.22    -0.72 0.05     1  2.00
## CBCL_98   98 144 1.24 0.46  1.66     1.73 0.04     1  1.00
## CBCL_99   99 144 1.38 0.58  1.21     0.45 0.05     1  2.00
```

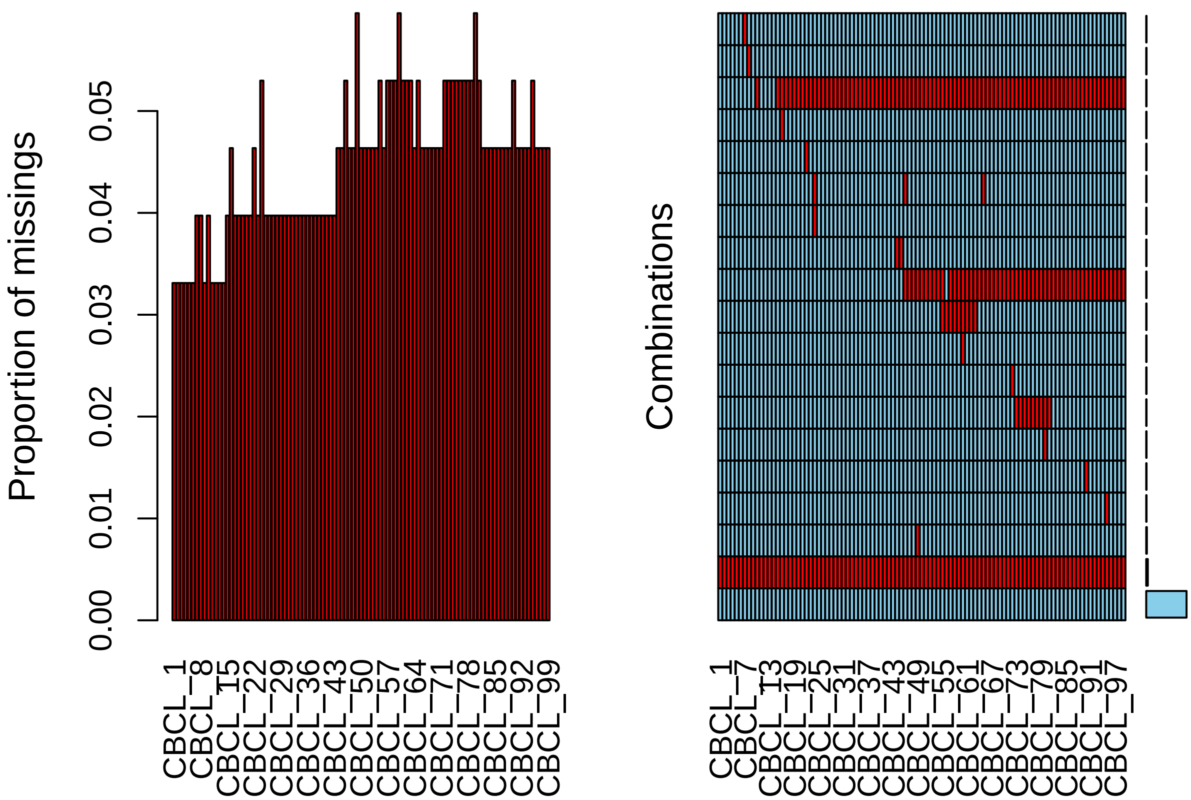
```
#Calculating Summary Scores:
CBCL.all_T1$CBCL_tot<-rowSums(CBCL.all_T1[,3:101])  #inclunding na.rm=T results in 0's

CBCL.all_T1$Miss_tot<-rep(NA, nrow(CBCL.all_T1))
for(n in 1:nrow(CBCL.all_T1)){
  CBCL.all_T1$Miss_tot[n]<-sum(is.na(CBCL.all_T1[n,3:101])==TRUE)
}

CBCL.all_T1$Miss_per<-rep(NA, nrow(CBCL.all_T1))
for(n in 1:nrow(CBCL.all_T1)){
  CBCL.all_T1$Miss_per[n]<-round(sum(is.na(CBCL.all_T1[n,3:101])==TRUE)/ncol(CBCL.all_T1[3:101])*100,
                                 digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
```

```r
CBCL.all_T1$CBCL_avg<-rowMeans(CBCL.all_T1[,3:101])

#Creating variable with individual mean replacement if respondent completed >85% of items
CBCL.all_T1$CBCL_avg_MR85<-ifelse(CBCL.all_T1$Miss_per<15, rowMeans(CBCL.all_T1[,3:101],
                                                            na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(CBCL.all_T1[,c(102,105,106)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##               vars   n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot         1 128 129.47 18.34 1.13     1.60 1.62 116.75 139.25
## CBCL_avg         2 128   1.31  0.19 1.13     1.60 0.02   1.18   1.41
## CBCL_avg_MR85    3 144   1.31  0.19 1.25     1.96 0.02   1.17   1.40
```

4.1.2 MISSING DATA

```r
VIM::aggr(CBCL.all_T1[,3:101])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 169 failed to respond to `CBCL_7`; $N = 1$; 0.66%
2. Missing pattern 2: Subject 011 failed to respond to `CBCL_8`; $N = 1$; 0.66%
3. Missing pattern 3: Subject 116 failed to respond to `CBCL_10` followed by `CBCL_15` through `CBCL_99`; $N = 1$; 0.66%
4. Missing pattern 4: Subject 001 failed to respond to `CBCL_16`; $N = 1$; 0.66%
5. Missing pattern 5: Subject 123 failed to respond to `CBCL_22`; $N = 1$; 0.66%
6. Missing pattern 6: Subject 088 failed to respond to `CBCL_24`, `CBCL_46`, and `CBCL_65`; $N = 1$; 0.66%

7. Missing pattern 7: Subject 166 failed to respond to `CBCL_24`; $N = 1$; 0.66%

8. Missing pattern 8: Subject 064 failed to respond to `CBCL_44` and `CBCL_45`; $N = 1$; 0.66%

9. Missing pattern 9: Subject 099 failed to respond to `CBCL_46` through `CBCL_55` and `CBCL_57` through `CBCL_99`; $N = 1$; 0.66%

10. Missing pattern 10: Subject 019 failed to respond to `CBCL_55` through `CBCL_63`; $N = 1$; 0.66%

11. Missing pattern 11: Subject 020 failed to respond to `CBCL_60`; $N = 1$; 0.66%
12. Missing pattern 12: Subject 030 failed to respond to `CBCL_72`; $N = 1$; 0.66%
13. Missing pattern 13: Subject 094 failed to respond to `CBCL_73` through `CBCL_81`; $N = 1$; 0.66%
14. Missing pattern 14: Subject 130 failed to respond to `CBCL_80`; $N = 1$; 0.66%
15. Missing pattern 15: Subject 147 failed to respond to `CBCL_90`; $N = 1$; 0.66%
16. Missing pattern 16: Subject 077 failed to respond to `CBCL_95`; $N = 1$; 0.66%
17. Missing pattern 17: Subject 007 failed to respond to `CBCL_49`; $N = 1$; 0.66%
18. Missing pattern 18: Subjects 005, 028, 038, 096, and 125 failed to respond to any items; $N = 5$; 3.31%
19. Missing pattern 19: All items completed; $N = 128$; 84.77%

The variable `CBCL_tot` is the vector of individual summed CBCL scores - cases with any missing are dropped from this score (see above)

The varaible `CBCL_avg` is the vector of individual mean CBCL scores - cases with any missing are dropped from this score (see above)

The variable `CBCL_avg_MR85` is a vector of individual mean CBCL scores that includes estimated averages when at least 85% of the necessary data is available - note 064 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T1 to report.

4.1.3 CRONBACH'S ALPHA

```
psych::alpha(CBCL.all_T1[,3:101])
```

```
## Some items ( CBCL_14 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option

##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[, 3:101])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.94      0.94    0.99      0.14  16 0.0061  1.3 0.2     0.13
##
##  lower alpha upper     95% confidence boundaries
## 0.93 0.94 0.96
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_1       0.94      0.94    0.99      0.14  15   0.0061 0.017  0.13
## CBCL_2       0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
## CBCL_3       0.94      0.94    0.99      0.14  15   0.0061 0.017  0.13
## CBCL_4       0.94      0.94    0.99      0.14  16   0.0061 0.017  0.13
## CBCL_5       0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
## CBCL_6       0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
## CBCL_7       0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
## CBCL_8       0.94      0.94    0.99      0.14  15   0.0063 0.017  0.13
## CBCL_9       0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
## CBCL_10      0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
## CBCL_11      0.94      0.94    0.99      0.14  15   0.0063 0.017  0.13
## CBCL_12      0.94      0.94    0.99      0.14  15   0.0062 0.017  0.13
```

```
## CBCL_13       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_14       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_15       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_16       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_17       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_18       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_19       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_20       0.94       0.94     0.99       0.13   15   0.0063 0.017   0.13
## CBCL_21       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_22       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_23       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_24       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_25       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_26       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_27       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_28       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_29       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_30       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_31       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_32       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_33       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_34       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_35       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_36       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_37       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_38       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_39       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_40       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_41       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_42       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_43       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_44       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_45       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_46       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_47       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_48       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_49       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_50       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_51       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_52       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_53       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_54       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_55       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_56       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_57       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_58       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_59       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_60       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_61       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_62       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_64       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_65       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_66       0.94       0.94     0.99       0.13   15   0.0063 0.017   0.13
## CBCL_67       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_68       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
## CBCL_69       0.94       0.94     0.99       0.14   15   0.0063 0.017   0.13
## CBCL_70       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_71       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_72       0.94       0.94     0.99       0.14   16   0.0061 0.017   0.13
## CBCL_73       0.94       0.94     0.99       0.14   15   0.0061 0.017   0.13
## CBCL_74       0.94       0.94     0.99       0.14   15   0.0062 0.017   0.13
```

```
## CBCL_75      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_76      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_77      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_78      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_79      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_80      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_81      0.94       0.94    0.99       0.14  15   0.0063 0.017  0.13
## CBCL_82      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_83      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_84      0.94       0.94    0.99       0.14  15   0.0061 0.017  0.13
## CBCL_85      0.94       0.94    0.99       0.14  15   0.0063 0.017  0.13
## CBCL_86      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_87      0.94       0.94    0.99       0.14  15   0.0063 0.017  0.13
## CBCL_88      0.94       0.94    0.99       0.14  15   0.0063 0.017  0.13
## CBCL_89      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_90      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_91      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_92      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_93      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_94      0.94       0.94    0.99       0.14  16   0.0061 0.017  0.13
## CBCL_95      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
## CBCL_96      0.94       0.94    0.99       0.14  15   0.0063 0.017  0.13
## CBCL_97      0.94       0.94    0.99       0.14  15   0.0063 0.017  0.13
## CBCL_98      0.94       0.94    0.99       0.14  15   0.0061 0.017  0.13
## CBCL_99      0.94       0.94    0.99       0.14  15   0.0062 0.017  0.13
##
##  Item statistics
##            n  raw.r std.r r.cor r.drop mean    sd
## CBCL_1   146  0.355 0.309 0.306  0.283  1.2 0.489
## CBCL_2   146  0.443 0.388 0.385  0.382  1.4 0.562
## CBCL_3   146  0.330 0.299 0.294  0.310  2.0 0.569
## CBCL_4   146  0.259 0.274 0.269  0.247  1.8 0.692
## CBCL_5   146  0.510 0.502 0.502  0.481  1.3 0.586
## CBCL_6   146  0.499 0.486 0.488  0.465  1.3 0.594
## CBCL_7   145  0.388 0.380 0.378  0.353  1.3 0.559
## CBCL_8   145  0.545 0.561 0.561  0.551  1.8 0.712
## CBCL_9   146  0.342 0.362 0.359  0.331  1.4 0.596
## CBCL_10 145  0.399 0.354 0.353  0.374  2.1 0.625
## CBCL_11 146  0.589 0.555 0.556  0.569  1.6 0.675
## CBCL_12 146  0.339 0.347 0.344  0.332  1.3 0.532
## CBCL_13 146  0.528 0.506 0.505  0.499  1.6 0.665
## CBCL_14 146 -0.039 0.014 0.010 -0.045  1.0 0.164
## CBCL_15 145  0.458 0.465 0.465  0.432  1.5 0.614
## CBCL_16 144  0.583 0.569 0.569  0.564  1.6 0.654
## CBCL_17 145  0.446 0.452 0.451  0.434  1.1 0.323
## CBCL_18 145  0.475 0.487 0.487  0.460  1.1 0.301
## CBCL_19 145  0.125 0.153 0.152  0.116  1.0 0.202
## CBCL_20 145  0.651 0.652 0.652  0.635  1.5 0.579
## CBCL_21 145  0.473 0.458 0.456  0.448  1.6 0.655
## CBCL_22 144  0.340 0.314 0.309  0.303  1.9 0.789
## CBCL_23 145  0.414 0.383 0.379  0.385  2.0 0.645
## CBCL_24 143  0.226 0.208 0.202  0.185  1.4 0.645
## CBCL_25 145  0.290 0.309 0.306  0.270  1.2 0.459
## CBCL_26 145  0.266 0.266 0.263  0.250  1.1 0.363
## CBCL_27 145  0.334 0.360 0.357  0.316  1.2 0.441
## CBCL_28 145  0.319 0.308 0.303  0.293  1.3 0.605
## CBCL_29 145  0.609 0.595 0.594  0.586  1.8 0.706
## CBCL_30 145  0.574 0.579 0.579  0.553  1.4 0.617
## CBCL_31 145  0.035 0.041 0.036  0.029  1.0 0.117
## CBCL_32 145  0.389 0.350 0.346  0.359  1.5 0.698
## CBCL_33 145  0.532 0.525 0.522  0.505  1.7 0.660
```

```
## CBCL_34 145  0.405 0.414 0.413  0.386  1.1 0.377
## CBCL_35 145  0.367 0.371 0.371  0.351  1.0 0.232
## CBCL_36 145  0.535 0.548 0.549  0.517  1.2 0.481
## CBCL_37 145  0.354 0.313 0.309  0.323  1.7 0.712
## CBCL_38 145  0.566 0.548 0.548  0.539  1.5 0.708
## CBCL_39 145  0.062 0.068 0.059  0.042  1.0 0.200
## CBCL_40 145  0.344 0.382 0.381  0.321  1.2 0.449
## CBCL_41 145  0.201 0.214 0.210  0.193  1.0 0.183
## CBCL_42 145  0.137 0.186 0.183  0.124  1.1 0.280
## CBCL_43 145  0.461 0.508 0.507  0.448  1.1 0.351
## CBCL_44 144  0.589 0.609 0.609  0.575  1.4 0.550
## CBCL_45 144  0.152 0.163 0.160  0.140  1.1 0.267
## CBCL_46 143  0.313 0.324 0.322  0.279  1.2 0.449
## CBCL_47 144  0.600 0.626 0.626  0.582  1.2 0.522
## CBCL_48 144  0.382 0.370 0.368  0.358  1.3 0.511
## CBCL_49 142  0.168 0.193 0.189  0.154  1.0 0.166
## CBCL_50 144  0.470 0.466 0.464  0.451  1.3 0.473
## CBCL_51 144  0.454 0.471 0.470  0.441  1.1 0.302
## CBCL_52 144  0.248 0.242 0.238  0.237  1.1 0.267
## CBCL_53 144  0.197 0.226 0.224  0.184  1.1 0.281
## CBCL_54 144  0.389 0.385 0.382  0.363  1.4 0.591
## CBCL_55 143  0.229 0.256 0.253  0.215  1.1 0.293
## CBCL_56 144  0.264 0.276 0.274  0.242  1.1 0.369
## CBCL_57 143  0.275 0.302 0.301  0.272  1.0 0.084
## CBCL_58 143  0.484 0.489 0.488  0.463  1.2 0.485
## CBCL_59 143  0.499 0.498 0.498  0.475  1.3 0.558
## CBCL_60 142  0.112 0.127 0.123  0.097  1.1 0.294
## CBCL_61 143  0.508 0.513 0.512  0.493  1.1 0.393
## CBCL_62 143  0.380 0.379 0.379  0.363  1.1 0.338
## CBCL_64 144  0.578 0.543 0.542  0.555  1.7 0.702
## CBCL_65 143  0.358 0.340 0.337  0.317  1.2 0.553
## CBCL_66 144  0.643 0.649 0.650  0.627  1.2 0.502
## CBCL_67 144  0.182 0.221 0.218  0.173  1.0 0.184
## CBCL_68 144  0.485 0.455 0.452  0.457  1.6 0.684
## CBCL_69 144  0.584 0.594 0.595  0.566  1.3 0.512
## CBCL_70 144  0.227 0.267 0.265  0.212  1.1 0.288
## CBCL_71 144  0.189 0.215 0.213  0.181  1.0 0.184
## CBCL_72 143  0.186 0.202 0.200  0.175  1.0 0.201
## CBCL_73 143  0.336 0.302 0.297  0.311  2.3 0.552
## CBCL_74 143  0.414 0.401 0.397  0.389  1.3 0.582
## CBCL_75 143  0.016 0.034 0.027  0.012  1.0 0.084
## CBCL_76 143  0.151 0.165 0.159  0.127  1.2 0.474
## CBCL_77 143  0.354 0.364 0.363  0.338  1.1 0.380
## CBCL_78 143  0.140 0.151 0.146  0.125  1.1 0.307
## CBCL_79 143  0.488 0.512 0.513  0.477  1.1 0.342
## CBCL_80 142  0.267 0.279 0.275  0.256  1.0 0.263
## CBCL_81 143  0.619 0.625 0.625  0.603  1.3 0.532
## CBCL_82 144  0.522 0.538 0.539  0.505  1.2 0.480
## CBCL_83 144  0.492 0.501 0.501  0.474  1.2 0.426
## CBCL_84 144  0.331 0.313 0.310  0.307  1.3 0.527
## CBCL_85 144  0.604 0.601 0.601  0.583  1.5 0.637
## CBCL_86 144  0.321 0.339 0.336  0.300  1.1 0.385
## CBCL_87 144  0.566 0.554 0.552  0.542  1.5 0.647
## CBCL_88 144  0.594 0.596 0.597  0.577  1.4 0.537
## CBCL_89 144  0.236 0.255 0.251  0.222  1.1 0.305
## CBCL_90 143  0.335 0.357 0.356  0.324  1.1 0.278
## CBCL_91 144  0.503 0.518 0.515  0.483  1.2 0.477
## CBCL_92 144  0.393 0.362 0.358  0.363  1.7 0.691
## CBCL_93 144  0.124 0.144 0.139  0.112  1.0 0.233
## CBCL_94 144  0.251 0.228 0.222  0.224  1.3 0.585
## CBCL_95 143  0.374 0.415 0.415  0.368  1.0 0.184
```

```
## CBCL_96 144  0.609 0.607 0.606  0.587  1.5 0.679
## CBCL_97 144  0.643 0.616 0.614  0.624  1.8 0.646
## CBCL_98 144  0.323 0.349 0.347  0.302  1.2 0.458
## CBCL_99 144  0.551 0.550 0.549  0.529  1.4 0.579
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_1  0.85 0.11 0.04 0.03
## CBCL_2  0.60 0.36 0.03 0.03
## CBCL_3  0.15 0.68 0.17 0.03
## CBCL_4  0.33 0.50 0.17 0.03
## CBCL_5  0.74 0.20 0.06 0.03
## CBCL_6  0.76 0.17 0.07 0.03
## CBCL_7  0.74 0.21 0.05 0.04
## CBCL_8  0.41 0.43 0.16 0.04
## CBCL_9  0.71 0.23 0.06 0.03
## CBCL_10 0.14 0.60 0.26 0.04
## CBCL_11 0.48 0.41 0.11 0.03
## CBCL_12 0.77 0.19 0.04 0.03
## CBCL_13 0.54 0.36 0.10 0.03
## CBCL_14 0.97 0.03 0.00 0.03
## CBCL_15 0.57 0.37 0.06 0.04
## CBCL_16 0.46 0.44 0.10 0.05
## CBCL_17 0.88 0.12 0.00 0.04
## CBCL_18 0.92 0.07 0.01 0.04
## CBCL_19 0.98 0.01 0.01 0.04
## CBCL_20 0.55 0.41 0.04 0.04
## CBCL_21 0.54 0.37 0.09 0.04
## CBCL_22 0.38 0.37 0.26 0.05
## CBCL_23 0.22 0.59 0.19 0.04
## CBCL_24 0.73 0.18 0.09 0.05
## CBCL_25 0.81 0.17 0.02 0.04
## CBCL_26 0.90 0.09 0.01 0.04
## CBCL_27 0.83 0.14 0.02 0.04
## CBCL_28 0.72 0.21 0.07 0.04
## CBCL_29 0.37 0.46 0.17 0.04
## CBCL_30 0.67 0.26 0.07 0.04
## CBCL_31 0.99 0.01 0.00 0.04
## CBCL_32 0.64 0.24 0.12 0.04
## CBCL_33 0.45 0.45 0.10 0.04
## CBCL_34 0.88 0.10 0.01 0.04
## CBCL_35 0.97 0.03 0.01 0.04
## CBCL_36 0.86 0.10 0.04 0.04
## CBCL_37 0.46 0.40 0.14 0.04
## CBCL_38 0.60 0.28 0.12 0.04
## CBCL_39 0.96 0.04 0.00 0.04
## CBCL_40 0.76 0.23 0.01 0.04
## CBCL_41 0.97 0.03 0.00 0.04
## CBCL_42 0.94 0.06 0.01 0.04
## CBCL_43 0.88 0.11 0.01 0.04
## CBCL_44 0.67 0.29 0.03 0.05
## CBCL_45 0.92 0.08 0.00 0.05
## CBCL_46 0.85 0.12 0.03 0.05
## CBCL_47 0.79 0.17 0.04 0.05
## CBCL_48 0.74 0.23 0.03 0.05
## CBCL_49 0.97 0.03 0.00 0.06
## CBCL_50 0.75 0.24 0.01 0.05
## CBCL_51 0.92 0.07 0.01 0.05
## CBCL_52 0.92 0.08 0.00 0.05
## CBCL_53 0.94 0.06 0.01 0.05
## CBCL_54 0.67 0.27 0.06 0.05
```

```
## CBCL_55 0.93 0.06 0.01 0.05
## CBCL_56 0.92 0.06 0.02 0.05
## CBCL_57 0.99 0.01 0.00 0.05
## CBCL_58 0.80 0.17 0.03 0.05
## CBCL_59 0.70 0.26 0.04 0.05
## CBCL_60 0.93 0.06 0.01 0.06
## CBCL_61 0.87 0.12 0.01 0.05
## CBCL_62 0.90 0.10 0.01 0.05
## CBCL_64 0.44 0.42 0.14 0.05
## CBCL_65 0.83 0.10 0.06 0.05
## CBCL_66 0.80 0.17 0.03 0.05
## CBCL_67 0.97 0.03 0.00 0.05
## CBCL_68 0.53 0.36 0.11 0.05
## CBCL_69 0.78 0.19 0.03 0.05
## CBCL_70 0.91 0.09 0.00 0.05
## CBCL_71 0.97 0.03 0.00 0.05
## CBCL_72 0.96 0.04 0.00 0.05
## CBCL_73 0.05 0.62 0.34 0.05
## CBCL_74 0.76 0.17 0.06 0.05
## CBCL_75 0.99 0.01 0.00 0.05
## CBCL_76 0.85 0.12 0.03 0.05
## CBCL_77 0.88 0.10 0.01 0.05
## CBCL_78 0.90 0.10 0.00 0.05
## CBCL_79 0.92 0.07 0.01 0.05
## CBCL_80 0.97 0.01 0.01 0.06
## CBCL_81 0.69 0.29 0.03 0.05
## CBCL_82 0.81 0.17 0.03 0.05
## CBCL_83 0.85 0.12 0.02 0.05
## CBCL_84 0.74 0.22 0.03 0.05
## CBCL_85 0.57 0.35 0.08 0.05
## CBCL_86 0.88 0.11 0.01 0.05
## CBCL_87 0.61 0.31 0.08 0.05
## CBCL_88 0.67 0.31 0.03 0.05
## CBCL_89 0.94 0.04 0.01 0.05
## CBCL_90 0.92 0.08 0.00 0.05
## CBCL_91 0.84 0.12 0.03 0.05
## CBCL_92 0.47 0.41 0.12 0.05
## CBCL_93 0.97 0.03 0.01 0.05
## CBCL_94 0.75 0.19 0.06 0.05
## CBCL_95 0.97 0.03 0.00 0.05
## CBCL_96 0.60 0.29 0.10 0.05
## CBCL_97 0.33 0.54 0.12 0.05
## CBCL_98 0.78 0.21 0.01 0.05
## CBCL_99 0.67 0.28 0.05 0.05
```

Note - unable to take resampling approach to calculating CI_{95} for α as several variables had 0 variability.

4.1.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CBCL.all_T1$Group.R<-ifelse(CBCL.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(CBCL.all_T1[,c(3:101,107)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1      1 73 1.21 0.50  2.35     4.70 0.06     1  1.00
## CBCL_2      2 73 1.37 0.54  1.04     0.00 0.06     1  2.00
## CBCL_3      3 73 2.00 0.47  0.00     1.44 0.06     2  2.00
## CBCL_4      4 73 1.92 0.72  0.12    -1.10 0.08     1  2.00
## CBCL_5      5 73 1.33 0.53  1.26     0.56 0.06     1  2.00
```

```
## CBCL_6      6 73 1.33 0.60  1.61     1.42 0.07     1  2.00
## CBCL_7      7 73 1.32 0.55  1.50     1.27 0.06     1  2.00
## CBCL_8      8 72 1.65 0.73  0.63    -0.94 0.09     1  2.00
## CBCL_9      9 73 1.37 0.61  1.39     0.79 0.07     1  2.00
## CBCL_10    10 72 2.14 0.56  0.03    -0.10 0.07     2  2.00
## CBCL_11    11 73 1.62 0.66  0.58    -0.72 0.08     1  2.00
## CBCL_12    12 73 1.23 0.46  1.66     1.74 0.05     1  1.00
## CBCL_13    13 73 1.58 0.69  0.75    -0.64 0.08     1  2.00
## CBCL_14    14 73 1.03 0.16  5.67    30.59 0.02     1  1.00
## CBCL_15    15 72 1.42 0.58  0.98    -0.09 0.07     1  2.00
## CBCL_16    16 72 1.60 0.69  0.69    -0.70 0.08     1  2.00
## CBCL_17    17 72 1.10 0.30  2.66     5.16 0.04     1  1.00
## CBCL_18    18 72 1.06 0.23  3.80    12.62 0.03     1  1.00
## CBCL_19    19 72 1.06 0.29  5.40    30.32 0.03     1  1.00
## CBCL_20    20 72 1.42 0.58  0.98    -0.09 0.07     1  2.00
## CBCL_21    21 72 1.60 0.73  0.76    -0.77 0.09     1  2.00
## CBCL_22    22 72 2.04 0.78 -0.07    -1.36 0.09     1  3.00
## CBCL_23    23 72 1.96 0.66  0.04    -0.74 0.08     2  2.00
## CBCL_24    24 72 1.35 0.65  1.61     1.19 0.08     1  1.25
## CBCL_25    25 72 1.22 0.45  1.75     2.12 0.05     1  1.00
## CBCL_26    26 72 1.11 0.36  3.28    10.90 0.04     1  1.00
## CBCL_27    27 72 1.17 0.44  2.64     6.47 0.05     1  1.00
## CBCL_28    28 72 1.38 0.62  1.37     0.73 0.07     1  2.00
## CBCL_29    29 72 1.79 0.71  0.31    -1.03 0.08     1  2.00
## CBCL_30    30 72 1.31 0.52  1.40     0.98 0.06     1  2.00
## CBCL_31    31 72 1.03 0.17  5.63    30.09 0.02     1  1.00
## CBCL_32    32 72 1.47 0.69  1.11    -0.13 0.08     1  2.00
## CBCL_33    33 72 1.67 0.67  0.49    -0.81 0.08     1  2.00
## CBCL_34    34 72 1.17 0.38  1.75     1.08 0.04     1  1.00
## CBCL_35    35 72 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_36    36 72 1.19 0.52  2.57     5.50 0.06     1  1.00
## CBCL_37    37 72 1.75 0.69  0.35    -0.92 0.08     1  2.00
## CBCL_38    38 72 1.57 0.71  0.81    -0.65 0.08     1  2.00
## CBCL_39    39 72 1.04 0.20  4.49    18.44 0.02     1  1.00
## CBCL_40    40 72 1.24 0.43  1.22    -0.53 0.05     1  1.00
## CBCL_41    41 72 1.03 0.17  5.63    30.09 0.02     1  1.00
## CBCL_42    42 72 1.07 0.31  4.64    22.53 0.04     1  1.00
## CBCL_43    43 72 1.14 0.39  2.74     7.21 0.05     1  1.00
## CBCL_44    44 71 1.32 0.55  1.45     1.13 0.07     1  2.00
## CBCL_45    45 71 1.07 0.26  3.29     8.93 0.03     1  1.00
## CBCL_46    46 71 1.23 0.51  2.17     3.83 0.06     1  1.00
## CBCL_47    47 71 1.27 0.58  2.01     2.78 0.07     1  1.00
## CBCL_48    48 71 1.24 0.43  1.20    -0.58 0.05     1  1.00
## CBCL_49    49 70 1.03 0.17  5.54    29.09 0.02     1  1.00
## CBCL_50    50 71 1.30 0.52  1.47     1.19 0.06     1  2.00
## CBCL_51    51 71 1.10 0.34  3.61    13.37 0.04     1  1.00
## CBCL_52    52 71 1.06 0.23  3.77    12.37 0.03     1  1.00
## CBCL_53    53 71 1.04 0.20  4.46    18.10 0.02     1  1.00
## CBCL_54    54 71 1.38 0.62  1.35     0.66 0.07     1  2.00
## CBCL_55    55 70 1.09 0.33  4.01    16.70 0.04     1  1.00
## CBCL_56    56 71 1.10 0.34  3.61    13.37 0.04     1  1.00
## CBCL_57    57 70 1.01 0.12  8.01    63.09 0.01     1  1.00
## CBCL_58    58 70 1.17 0.42  2.28     4.60 0.05     1  1.00
## CBCL_59    59 70 1.33 0.53  1.28     0.61 0.06     1  2.00
## CBCL_60    60 70 1.10 0.30  2.61     4.88 0.04     1  1.00
## CBCL_61    61 70 1.21 0.48  2.11     3.73 0.06     1  1.00
## CBCL_62    62 70 1.09 0.28  2.90     6.48 0.03     1  1.00
## CBCL_63    63 70 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_64    64 71 1.79 0.70  0.30    -0.96 0.08     1  2.00
## CBCL_65    65 71 1.27 0.58  2.01     2.78 0.07     1  1.00
## CBCL_66    66 71 1.21 0.48  2.13     3.84 0.06     1  1.00
```

```
## CBCL_67    67 71 1.04 0.20  4.46    18.10 0.02     1  1.00
## CBCL_68    68 71 1.58 0.67  0.71    -0.63 0.08     1  2.00
## CBCL_69    69 71 1.23 0.48  2.00     3.24 0.06     1  1.00
## CBCL_70    70 71 1.10 0.30  2.64     5.02 0.04     1  1.00
## CBCL_71    71 71 1.07 0.26  3.29     8.93 0.03     1  1.00
## CBCL_72    72 70 1.04 0.20  4.42    17.77 0.02     1  1.00
## CBCL_73    73 70 2.31 0.60 -0.25    -0.70 0.07     2  3.00
## CBCL_74    74 70 1.41 0.67  1.31     0.36 0.08     1  2.00
## CBCL_75    75 70 1.01 0.12  8.01    63.09 0.01     1  1.00
## CBCL_76    76 70 1.21 0.48  2.11     3.73 0.06     1  1.00
## CBCL_77    77 70 1.11 0.36  3.22    10.47 0.04     1  1.00
## CBCL_78    78 70 1.10 0.30  2.61     4.88 0.04     1  1.00
## CBCL_79    79 70 1.13 0.41  3.27    10.30 0.05     1  1.00
## CBCL_80    80 70 1.04 0.27  6.37    41.46 0.03     1  1.00
## CBCL_81    81 70 1.33 0.53  1.28     0.61 0.06     1  2.00
## CBCL_82    82 71 1.28 0.54  1.72     2.03 0.06     1  1.00
## CBCL_83    83 71 1.21 0.50  2.30     4.45 0.06     1  1.00
## CBCL_84    84 71 1.32 0.58  1.57     1.39 0.07     1  2.00
## CBCL_85    85 71 1.45 0.60  0.95    -0.15 0.07     1  2.00
## CBCL_86    86 71 1.14 0.35  2.02     2.12 0.04     1  1.00
## CBCL_87    87 71 1.38 0.59  1.27     0.54 0.07     1  2.00
## CBCL_88    88 71 1.28 0.51  1.56     1.51 0.06     1  1.50
## CBCL_89    89 71 1.08 0.33  4.04    17.01 0.04     1  1.00
## CBCL_90    90 71 1.07 0.26  3.29     8.93 0.03     1  1.00
## CBCL_91    91 71 1.21 0.50  2.30     4.45 0.06     1  1.00
## CBCL_92    92 71 1.61 0.69  0.67    -0.73 0.08     1  2.00
## CBCL_93    93 71 1.03 0.17  5.58    29.59 0.02     1  1.00
## CBCL_94    94 71 1.31 0.58  1.65     1.66 0.07     1  1.50
## CBCL_95    95 71 1.04 0.20  4.46    18.10 0.02     1  1.00
## CBCL_96    96 71 1.48 0.67  1.05    -0.17 0.08     1  2.00
## CBCL_97    97 71 1.77 0.68  0.30    -0.90 0.08     1  2.00
## CBCL_98    98 71 1.20 0.43  1.99     3.16 0.05     1  1.00
## CBCL_99    99 71 1.31 0.58  1.65     1.66 0.07     1  1.50
## Group.R*  100 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1      1 73 1.18 0.48  2.66     6.26 0.06     1  1.00
## CBCL_2      2 73 1.49 0.58  0.66    -0.61 0.07     1  2.00
## CBCL_3      3 73 2.04 0.65 -0.04    -0.70 0.08     2  2.00
## CBCL_4      4 73 1.77 0.66  0.27    -0.80 0.08     1  2.00
## CBCL_5      5 73 1.32 0.64  1.78     1.73 0.08     1  1.00
## CBCL_6      6 73 1.29 0.59  1.86     2.27 0.07     1  1.00
## CBCL_7      7 72 1.31 0.57  1.67     1.74 0.07     1  1.25
## CBCL_8      8 73 1.85 0.68  0.19    -0.89 0.08     1  2.00
## CBCL_9      9 73 1.34 0.58  1.45     1.05 0.07     1  2.00
## CBCL_10    10 73 2.08 0.68 -0.10    -0.89 0.08     2  3.00
## CBCL_11    11 73 1.64 0.69  0.59    -0.83 0.08     1  2.00
## CBCL_12    12 73 1.32 0.60  1.69     1.68 0.07     1  1.00
## CBCL_13    13 73 1.53 0.65  0.78    -0.49 0.08     1  2.00
## CBCL_14    14 73 1.03 0.16  5.67    30.59 0.02     1  1.00
## CBCL_15    15 73 1.58 0.64  0.65    -0.63 0.08     1  2.00
## CBCL_16    16 72 1.68 0.62  0.33    -0.73 0.07     1  2.00
## CBCL_17    17 73 1.14 0.35  2.07     2.31 0.04     1  1.00
## CBCL_18    18 73 1.11 0.36  3.31    11.12 0.04     1  1.00
## CBCL_19    19 73 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_20    20 73 1.56 0.58  0.40    -0.82 0.07     1  2.00
## CBCL_21    21 73 1.51 0.58  0.60    -0.67 0.07     1  2.00
## CBCL_22    22 72 1.72 0.77  0.51    -1.18 0.09     1  2.00
## CBCL_23    23 73 1.99 0.63  0.01    -0.55 0.07     2  2.00
## CBCL_24    24 71 1.38 0.64  1.41     0.72 0.08     1  2.00
```

```
## CBCL_25    25 73 1.21 0.47  2.18     4.07 0.06     1  1.00
## CBCL_26    26 73 1.12 0.37  3.01     9.02 0.04     1  1.00
## CBCL_27    27 73 1.21 0.44  1.90     2.74 0.05     1  1.00
## CBCL_28    28 73 1.32 0.60  1.69     1.68 0.07     1  1.00
## CBCL_29    29 73 1.79 0.71  0.30    -1.01 0.08     1  2.00
## CBCL_30    30 73 1.49 0.69  1.03    -0.26 0.08     1  2.00
## CBCL_31    31 73 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_32    32 73 1.48 0.71  1.11    -0.19 0.08     1  2.00
## CBCL_33    33 73 1.64 0.65  0.50    -0.75 0.08     1  2.00
## CBCL_34    34 73 1.10 0.38  4.02    15.84 0.04     1  1.00
## CBCL_35    35 73 1.08 0.32  4.11    17.63 0.04     1  1.00
## CBCL_36    36 73 1.16 0.44  2.67     6.62 0.05     1  1.00
## CBCL_37    37 73 1.63 0.74  0.69    -0.89 0.09     1  2.00
## CBCL_38    38 73 1.48 0.71  1.11    -0.19 0.08     1  2.00
## CBCL_39    39 73 1.04 0.20  4.53    18.77 0.02     1  1.00
## CBCL_40    40 73 1.26 0.47  1.45     1.00 0.06     1  1.00
## CBCL_41    41 73 1.04 0.20  4.53    18.77 0.02     1  1.00
## CBCL_42    42 73 1.07 0.25  3.35     9.33 0.03     1  1.00
## CBCL_43    43 73 1.11 0.31  2.45     4.05 0.04     1  1.00
## CBCL_44    44 73 1.40 0.55  0.91    -0.28 0.06     1  2.00
## CBCL_45    45 73 1.08 0.28  2.98     6.98 0.03     1  1.00
## CBCL_46    46 72 1.12 0.37  2.99     8.83 0.04     1  1.00
## CBCL_47    47 73 1.23 0.46  1.66     1.74 0.05     1  1.00
## CBCL_48    48 73 1.33 0.58  1.53     1.28 0.07     1  2.00
## CBCL_49    49 72 1.03 0.17  5.63    30.09 0.02     1  1.00
## CBCL_50    50 73 1.23 0.43  1.24    -0.47 0.05     1  1.00
## CBCL_51    51 73 1.07 0.25  3.35     9.33 0.03     1  1.00
## CBCL_52    52 73 1.10 0.30  2.69     5.30 0.03     1  1.00
## CBCL_53    53 73 1.10 0.34  3.67    13.88 0.04     1  1.00
## CBCL_54    54 73 1.38 0.57  1.13     0.24 0.07     1  2.00
## CBCL_55    55 73 1.07 0.25  3.35     9.33 0.03     1  1.00
## CBCL_56    56 73 1.11 0.39  3.67    13.11 0.05     1  1.00
## CBCL_57    57 73 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_58    58 73 1.29 0.54  1.67     1.85 0.06     1  1.00
## CBCL_59    59 73 1.36 0.59  1.38     0.84 0.07     1  2.00
## CBCL_60    60 72 1.06 0.29  5.40    30.32 0.03     1  1.00
## CBCL_61    61 73 1.08 0.28  2.98     6.98 0.03     1  1.00
## CBCL_62    62 73 1.14 0.38  2.76     7.37 0.04     1  1.00
## CBCL_63    63 73 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_64    64 73 1.60 0.70  0.71    -0.75 0.08     1  2.00
## CBCL_65    65 72 1.19 0.52  2.57     5.50 0.06     1  1.00
## CBCL_66    66 73 1.26 0.53  1.87     2.59 0.06     1  1.00
## CBCL_67    67 73 1.03 0.16  5.67    30.59 0.02     1  1.00
## CBCL_68    68 73 1.59 0.70  0.75    -0.71 0.08     1  2.00
## CBCL_69    69 73 1.29 0.54  1.67     1.85 0.06     1  1.00
## CBCL_70    70 73 1.08 0.28  2.98     6.98 0.03     1  1.00
## CBCL_71    71 73 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_72    72 73 1.04 0.20  4.53    18.77 0.02     1  1.00
## CBCL_73    73 73 2.26 0.50  0.39    -0.48 0.06     2  3.00
## CBCL_74    74 73 1.19 0.46  2.33     4.79 0.05     1  1.00
## CBCL_75    75 73 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_76    76 73 1.16 0.47  2.84     7.24 0.06     1  1.00
## CBCL_77    77 73 1.15 0.40  2.55     6.06 0.05     1  1.00
## CBCL_78    78 73 1.11 0.31  2.45     4.05 0.04     1  1.00
## CBCL_79    79 73 1.07 0.25  3.35     9.33 0.03     1  1.00
## CBCL_80    80 72 1.04 0.26  6.47    42.81 0.03     1  1.00
## CBCL_81    81 73 1.36 0.54  1.11     0.17 0.06     1  2.00
## CBCL_82    82 73 1.16 0.41  2.36     4.99 0.05     1  1.00
## CBCL_83    83 73 1.12 0.33  2.24     3.08 0.04     1  1.00
## CBCL_84    84 73 1.26 0.47  1.45     1.00 0.06     1  1.00
## CBCL_85    85 73 1.56 0.67  0.75    -0.58 0.08     1  2.00
```

```
## CBCL_86    86 73 1.14 0.42  3.10     9.22 0.05     1  1.00
## CBCL_87    87 73 1.56 0.69  0.80    -0.59 0.08     1  2.00
## CBCL_88    88 73 1.44 0.55  0.73    -0.61 0.06     1  2.00
## CBCL_89    89 73 1.05 0.28  5.44    30.82 0.03     1  1.00
## CBCL_90    90 72 1.10 0.30  2.66     5.16 0.04     1  1.00
## CBCL_91    91 73 1.18 0.45  2.49     5.63 0.05     1  1.00
## CBCL_92    92 73 1.71 0.70  0.44    -0.93 0.08     1  2.00
## CBCL_93    93 73 1.05 0.28  5.44    30.82 0.03     1  1.00
## CBCL_94    94 73 1.32 0.60  1.69     1.68 0.07     1  1.00
## CBCL_95    95 72 1.03 0.17  5.63    30.09 0.02     1  1.00
## CBCL_96    96 73 1.52 0.69  0.93    -0.41 0.08     1  2.00
## CBCL_97    97 73 1.81 0.62  0.13    -0.56 0.07     1  2.00
## CBCL_98    98 73 1.27 0.48  1.36     0.69 0.06     1  2.00
## CBCL_99    99 73 1.45 0.58  0.82    -0.37 0.07     1  2.00
## Group.R*  100 75  NaN   NA    NA       NA   NA    NA    NA
```

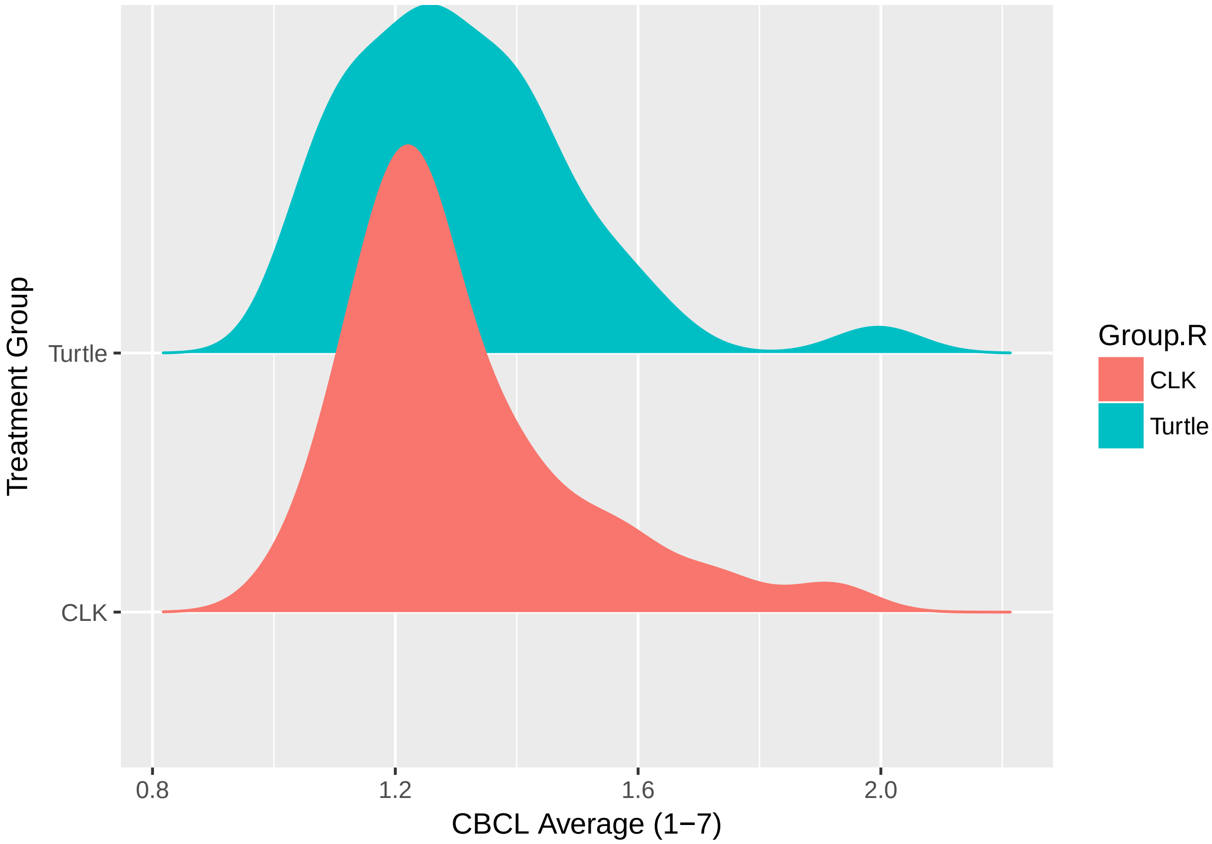
```
psych::describeBy(CBCL.all_T1[,c(102,105,106,107)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot        1 65 129.32 19.24 1.29     1.56 2.39 117.00 136.00
## CBCL_avg        2 65   1.31  0.19 1.29     1.56 0.02   1.18   1.37
## CBCL_avg_MR85   3 71   1.31  0.19 1.28     1.43 0.02   1.18   1.37
## Group.R*        4 76    NaN    NA   NA       NA   NA     NA     NA
## ---------------------------------------------------------
## group: Turtle
##              vars  n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot        1 63 129.62 17.53 0.89     1.41 2.21 116.50 140.00
## CBCL_avg        2 63   1.31  0.18 0.89     1.41 0.02   1.18   1.41
## CBCL_avg_MR85   3 73   1.31  0.19 1.20     2.35 0.02   1.16   1.41
## Group.R*        4 75    NaN    NA   NA       NA   NA     NA     NA
```

4.1.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CBCL scores
t.test(CBCL.all_T1$CBCL_avg_MR85~CBCL.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CBCL.all_T1$CBCL_avg_MR85 by CBCL.all_T1$Group
## t = -0.053082, df = 141.84, p-value = 0.9577
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.06566896  0.06223446
## sample estimates:
## mean in group 0 mean in group 1
##        1.305741        1.307458
```


Turtle
CLK
Treatment Group
0.8
1.2
1.6
2.0
CBCL Average (1−7)
Group.R
CLK
Turtle

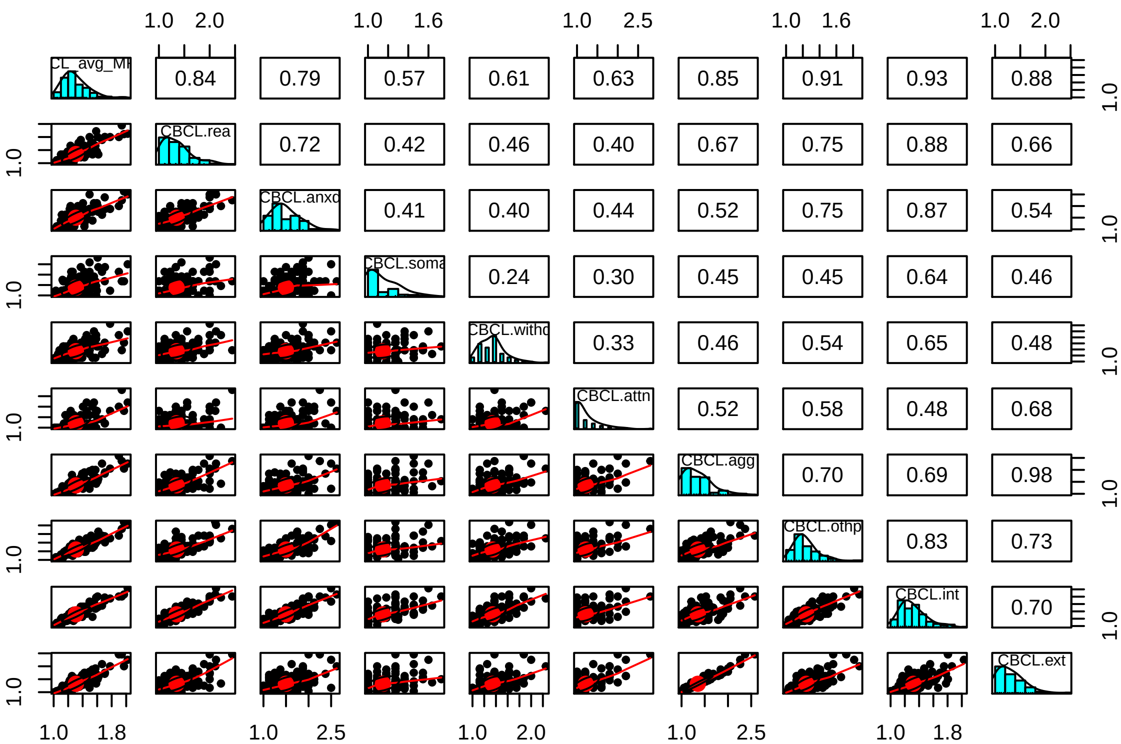
4.1.6 TIME 1: SUBSCALES

4.1.7 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CBCL.all_T1[,c(108:116)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##             vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## CBCL.rea       1 144 1.35 0.30 1.14     1.13 0.02  1.11  1.44
## CBCL.anxd      2 144 1.50 0.34 0.84     0.67 0.03  1.25  1.66
## CBCL.soma      3 144 1.15 0.16 1.11     0.73 0.01  1.00  1.27
## CBCL.withd     4 144 1.34 0.23 1.01     1.58 0.02  1.12  1.38
## CBCL.attn      5 142 1.21 0.32 1.95     4.30 0.03  1.00  1.40
## CBCL.agg       6 144 1.35 0.32 1.24     1.63 0.03  1.11  1.53
## CBCL.othp      7 142 1.24 0.16 1.37     2.47 0.01  1.13  1.31
## CBCL.int       8 144 1.32 0.19 1.02     0.98 0.02  1.19  1.42
## CBCL.ext       9 144 1.32 0.29 1.37     2.35 0.02  1.08  1.46
```

```
psych::pairs.panels(CBCL.all_T1[,c(106,108:116)])
```



4.1.8 CRONBACH'S ALPHA: REACTIVITY SUBSCALE

```
psych::alpha(CBCL.all_T1[CBCL.rea])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.rea])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.73      0.74    0.76      0.24 2.9 0.032  1.3 0.3     0.21
##
##  lower alpha upper     95% confidence boundaries
## 0.66 0.73 0.79
##
##  Reliability if an item is dropped:
##          raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CBCL_21       0.69      0.72    0.73      0.24 2.5    0.037 0.0164  0.21
```

```
## CBCL_46      0.73      0.75    0.76      0.27 2.9    0.033 0.0149  0.27
## CBCL_51      0.71      0.72    0.74      0.25 2.6    0.035 0.0161  0.26
## CBCL_79      0.71      0.71    0.71      0.24 2.5    0.035 0.0096  0.21
## CBCL_82      0.70      0.71    0.70      0.23 2.4    0.035 0.0104  0.24
## CBCL_83      0.70      0.71    0.73      0.24 2.5    0.036 0.0156  0.20
## CBCL_92      0.71      0.73    0.74      0.25 2.7    0.034 0.0144  0.24
## CBCL_97      0.69      0.71    0.73      0.23 2.4    0.037 0.0181  0.20
## CBCL_99      0.68      0.70    0.72      0.23 2.4    0.037 0.0160  0.20
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean   sd
## CBCL_21 145  0.65  0.58  0.51   0.46  1.6 0.66
## CBCL_46 143  0.41  0.42  0.28   0.25  1.2 0.45
## CBCL_51 144  0.49  0.54  0.45   0.39  1.1 0.30
## CBCL_79 143  0.52  0.59  0.56   0.42  1.1 0.34
## CBCL_82 144  0.58  0.63  0.61   0.44  1.2 0.48
## CBCL_83 144  0.57  0.60  0.53   0.44  1.2 0.43
## CBCL_92 144  0.58  0.50  0.40   0.37  1.7 0.69
## CBCL_97 144  0.65  0.61  0.53   0.47  1.8 0.65
## CBCL_99 144  0.65  0.64  0.59   0.49  1.4 0.58
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_21 0.54 0.37 0.09 0.04
## CBCL_46 0.85 0.12 0.03 0.05
## CBCL_51 0.92 0.07 0.01 0.05
## CBCL_79 0.92 0.07 0.01 0.05
## CBCL_82 0.81 0.17 0.03 0.05
## CBCL_83 0.85 0.12 0.02 0.05
## CBCL_92 0.47 0.41 0.12 0.05
## CBCL_97 0.33 0.54 0.12 0.05
## CBCL_99 0.67 0.28 0.05 0.05
```

4.1.9 CRONBACH'S ALPHA: ANXIETY/DEPRESSION SUBSCALE

```r
psych::alpha(CBCL.all_T1[CBCL.anxd])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.anxd])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.72      0.72    0.73      0.24 2.6 0.033  1.5 0.33     0.24
##
##  lower alpha upper     95% confidence boundaries
## 0.65 0.72 0.78
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_10      0.69      0.71    0.70      0.26 2.4    0.036 0.014  0.29
## CBCL_33      0.66      0.67    0.68      0.22 2.0    0.039 0.019  0.24
## CBCL_37      0.69      0.70    0.70      0.25 2.3    0.037 0.014  0.29
## CBCL_43      0.70      0.70    0.70      0.25 2.3    0.035 0.016  0.24
## CBCL_47      0.68      0.68    0.70      0.23 2.1    0.037 0.020  0.24
## CBCL_68      0.67      0.69    0.69      0.24 2.2    0.039 0.018  0.24
## CBCL_87      0.67      0.67    0.69      0.23 2.0    0.038 0.021  0.24
## CBCL_90      0.71      0.71    0.72      0.26 2.5    0.035 0.015  0.29
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean   sd
```

```
## CBCL_10 145  0.57  0.51  0.42   0.38  2.1 0.62
## CBCL_33 145  0.67  0.67  0.61   0.50  1.7 0.66
## CBCL_37 145  0.62  0.55  0.46   0.42  1.7 0.71
## CBCL_43 145  0.44  0.55  0.46   0.33  1.1 0.35
## CBCL_47 144  0.59  0.62  0.54   0.44  1.2 0.52
## CBCL_68 144  0.66  0.60  0.53   0.48  1.6 0.68
## CBCL_87 144  0.65  0.65  0.58   0.47  1.5 0.65
## CBCL_90 143  0.36  0.49  0.37   0.27  1.1 0.28
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_10 0.14 0.60 0.26 0.04
## CBCL_33 0.45 0.45 0.10 0.04
## CBCL_37 0.46 0.40 0.14 0.04
## CBCL_43 0.88 0.11 0.01 0.04
## CBCL_47 0.79 0.17 0.04 0.05
## CBCL_68 0.53 0.36 0.11 0.05
## CBCL_87 0.61 0.31 0.08 0.05
## CBCL_90 0.92 0.08 0.00 0.05
```

4.1.10 CRONBACH'S ALPHA: SOMATIC SUBSCALE

```
psych::alpha(CBCL.all_T1[CBCL.soma])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.soma])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.5      0.52     0.6     0.089 1.1 0.058  1.2 0.18    0.036
##
##  lower alpha upper     95% confidence boundaries
## 0.39 0.5 0.61
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r  med.r
## CBCL_1       0.45      0.48    0.56     0.083 0.91    0.064 0.026 0.0322
## CBCL_7       0.51      0.53    0.59     0.100 1.11    0.056 0.024 0.0567
## CBCL_12      0.45      0.47    0.54     0.083 0.90    0.064 0.022 0.0365
## CBCL_19      0.50      0.53    0.61     0.101 1.12    0.059 0.028 0.0365
## CBCL_24      0.47      0.49    0.58     0.087 0.96    0.062 0.028 0.0322
## CBCL_39      0.51      0.53    0.61     0.101 1.12    0.058 0.026 0.0399
## CBCL_45      0.44      0.42    0.50     0.068 0.72    0.064 0.023 0.0087
## CBCL_52      0.45      0.46    0.54     0.079 0.86    0.064 0.022 0.0365
## CBCL_78      0.46      0.46    0.55     0.080 0.87    0.062 0.024 0.0188
## CBCL_86      0.47      0.51    0.58     0.093 1.02    0.061 0.026 0.0508
## CBCL_93      0.52      0.55    0.63     0.108 1.21    0.057 0.028 0.0567
##
##  Item statistics
##           n raw.r std.r r.cor  r.drop mean   sd
## CBCL_1  146  0.58  0.47 0.402  0.2843  1.2 0.49
## CBCL_7  145  0.43  0.31 0.197  0.1371  1.3 0.56
## CBCL_12 146  0.48  0.48 0.451  0.2801  1.3 0.53
## CBCL_19 145  0.20  0.30 0.131  0.0896  1.0 0.20
## CBCL_24 143  0.57  0.43 0.320  0.2351  1.4 0.65
## CBCL_39 145  0.15  0.30 0.151  0.0360  1.0 0.20
## CBCL_45 144  0.51  0.63 0.645  0.3903  1.1 0.27
## CBCL_52 144  0.48  0.51 0.489  0.3569  1.1 0.27
## CBCL_78 143  0.43  0.51 0.461  0.2744  1.1 0.31
## CBCL_86 144  0.42  0.38 0.278  0.2164  1.1 0.39
```

```
## CBCL_93 144  0.12  0.23 0.024 -0.0093  1.0 0.23
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_1  0.85 0.11 0.04 0.03
## CBCL_7  0.74 0.21 0.05 0.04
## CBCL_12 0.77 0.19 0.04 0.03
## CBCL_19 0.98 0.01 0.01 0.04
## CBCL_24 0.73 0.18 0.09 0.05
## CBCL_39 0.96 0.04 0.00 0.04
## CBCL_45 0.92 0.08 0.00 0.05
## CBCL_52 0.92 0.08 0.00 0.05
## CBCL_78 0.90 0.10 0.00 0.05
## CBCL_86 0.88 0.11 0.01 0.05
## CBCL_93 0.97 0.03 0.01 0.05
```

NOTE: The reliability for the somatic subscale is particularly low.

4.1.11 CRONBACH'S ALPHA: WITHDRAWAL SUBSCALE

```r
psych::alpha(CBCL.all_T1[CBCL.withd])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.withd])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.55      0.61    0.65      0.16 1.5 0.051  1.4 0.24     0.14
##
##  lower alpha upper     95% confidence boundaries
## 0.45 0.55 0.65
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_2       0.52      0.59    0.64      0.17 1.5    0.053 0.025  0.15
## CBCL_4       0.52      0.59    0.62      0.17 1.4    0.056 0.025  0.16
## CBCL_23      0.44      0.56    0.59      0.15 1.3    0.066 0.025  0.13
## CBCL_62      0.53      0.63    0.65      0.19 1.7    0.054 0.019  0.15
## CBCL_67      0.54      0.58    0.60      0.17 1.4    0.054 0.018  0.14
## CBCL_70      0.51      0.52    0.53      0.14 1.1    0.055 0.010  0.13
## CBCL_71      0.52      0.55    0.56      0.15 1.2    0.055 0.015  0.13
## CBCL_98      0.51      0.56    0.61      0.16 1.3    0.054 0.026  0.13
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_2  146  0.56  0.46  0.30   0.25  1.4 0.56
## CBCL_4  146  0.57  0.48  0.34   0.29  1.8 0.69
## CBCL_23 145  0.67  0.56  0.46   0.42  2.0 0.64
## CBCL_62 143  0.37  0.36  0.18   0.19  1.1 0.34
## CBCL_67 144  0.32  0.49  0.40   0.23  1.0 0.18
## CBCL_70 144  0.46  0.65  0.65   0.33  1.1 0.29
## CBCL_71 144  0.43  0.59  0.56   0.34  1.0 0.18
## CBCL_98 144  0.50  0.55  0.43   0.27  1.2 0.46
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_2  0.60 0.36 0.03 0.03
## CBCL_4  0.33 0.50 0.17 0.03
## CBCL_23 0.22 0.59 0.19 0.04
## CBCL_62 0.90 0.10 0.01 0.05
## CBCL_67 0.97 0.03 0.00 0.05
```

```
## CBCL_70 0.91 0.09 0.00 0.05
## CBCL_71 0.97 0.03 0.00 0.05
## CBCL_98 0.78 0.21 0.01 0.05
```

NOTE: Reliability for the withdrawal subscale is particularly low

4.1.12 CRONBACH'S ALPHA: ATTENTION SUBSCALE

```
psych::alpha(CBCL.all_T1[CBCL.attn])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.attn])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.72      0.71    0.73      0.33 2.4 0.028  1.2 0.35     0.29
##
##  lower alpha upper     95% confidence boundaries
## 0.67 0.72 0.78
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_5       0.56      0.58    0.57      0.26 1.4    0.047 0.038  0.19
## CBCL_6       0.54      0.55    0.55      0.24 1.2    0.050 0.044  0.19
## CBCL_56      0.78      0.79    0.77      0.48 3.7    0.021 0.033  0.49
## CBCL_59      0.63      0.64    0.66      0.31 1.8    0.038 0.065  0.26
## CBCL_95      0.73      0.68    0.71      0.35 2.2    0.031 0.098  0.35
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_5  146  0.85  0.80  0.80   0.71  1.3 0.59
## CBCL_6  146  0.88  0.84  0.85   0.74  1.3 0.59
## CBCL_56 144  0.32  0.41  0.15   0.10  1.1 0.37
## CBCL_59 143  0.78  0.71  0.62   0.57  1.3 0.56
## CBCL_95 143  0.51  0.64  0.47   0.41  1.0 0.18
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_5  0.74 0.20 0.06 0.03
## CBCL_6  0.76 0.17 0.07 0.03
## CBCL_56 0.92 0.06 0.02 0.05
## CBCL_59 0.70 0.26 0.04 0.05
## CBCL_95 0.97 0.03 0.00 0.05
```

4.1.13 CRONBACH'S ALPHA: AGGRESSION SUBSCALE

```
psych::alpha(CBCL.all_T1[CBCL.agg])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.agg])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.9       0.9    0.92      0.32 8.9 0.011  1.3 0.32     0.34
##
##  lower alpha upper     95% confidence boundaries
## 0.88 0.9 0.92
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
```

```
## CBCL_8       0.89      0.89    0.92      0.32 8.3    0.012 0.018  0.34
## CBCL_15      0.89      0.89    0.92      0.31 8.3    0.012 0.017  0.33
## CBCL_16      0.89      0.89    0.92      0.32 8.3    0.012 0.018  0.33
## CBCL_18      0.90      0.90    0.92      0.33 8.7    0.011 0.018  0.35
## CBCL_20      0.89      0.89    0.92      0.31 8.0    0.012 0.017  0.33
## CBCL_27      0.90      0.90    0.92      0.32 8.6    0.011 0.018  0.35
## CBCL_29      0.90      0.89    0.92      0.32 8.4    0.011 0.019  0.33
## CBCL_35      0.90      0.90    0.92      0.33 8.7    0.011 0.018  0.35
## CBCL_40      0.90      0.90    0.92      0.32 8.6    0.011 0.019  0.35
## CBCL_42      0.90      0.90    0.93      0.34 9.3    0.011 0.014  0.35
## CBCL_44      0.89      0.89    0.92      0.32 8.3    0.012 0.018  0.33
## CBCL_53      0.90      0.90    0.92      0.33 8.9    0.011 0.018  0.35
## CBCL_58      0.89      0.89    0.92      0.31 8.2    0.012 0.018  0.33
## CBCL_66      0.89      0.89    0.92      0.31 8.1    0.012 0.018  0.33
## CBCL_69      0.89      0.89    0.92      0.31 8.2    0.012 0.019  0.33
## CBCL_81      0.89      0.89    0.92      0.31 8.1    0.012 0.018  0.33
## CBCL_85      0.89      0.89    0.92      0.31 8.1    0.012 0.018  0.33
## CBCL_88      0.89      0.89    0.92      0.31 8.1    0.012 0.017  0.33
## CBCL_96      0.90      0.89    0.92      0.32 8.5    0.011 0.019  0.33
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_8  145  0.66  0.63  0.61   0.58  1.8 0.71
## CBCL_15 145  0.67  0.65  0.64   0.61  1.5 0.61
## CBCL_16 144  0.66  0.63  0.61   0.60  1.6 0.65
## CBCL_18 145  0.45  0.49  0.45   0.41  1.1 0.30
## CBCL_20 145  0.75  0.74  0.73   0.70  1.5 0.58
## CBCL_27 145  0.52  0.53  0.50   0.47  1.2 0.44
## CBCL_29 145  0.61  0.59  0.55   0.53  1.8 0.71
## CBCL_35 145  0.43  0.49  0.46   0.40  1.0 0.23
## CBCL_40 145  0.51  0.54  0.51   0.45  1.2 0.45
## CBCL_42 145  0.24  0.29  0.23   0.20  1.1 0.28
## CBCL_44 144  0.65  0.64  0.62   0.59  1.4 0.55
## CBCL_53 144  0.37  0.43  0.39   0.33  1.1 0.28
## CBCL_58 143  0.65  0.66  0.65   0.60  1.2 0.48
## CBCL_66 144  0.71  0.72  0.71   0.67  1.2 0.50
## CBCL_69 144  0.65  0.66  0.63   0.60  1.3 0.51
## CBCL_81 143  0.69  0.69  0.68   0.65  1.3 0.53
## CBCL_85 144  0.70  0.69  0.68   0.64  1.5 0.64
## CBCL_88 144  0.71  0.69  0.68   0.66  1.4 0.54
## CBCL_96 144  0.59  0.57  0.54   0.51  1.5 0.68
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_8  0.41 0.43 0.16 0.04
## CBCL_15 0.57 0.37 0.06 0.04
## CBCL_16 0.46 0.44 0.10 0.05
## CBCL_18 0.92 0.07 0.01 0.04
## CBCL_20 0.55 0.41 0.04 0.04
## CBCL_27 0.83 0.14 0.02 0.04
## CBCL_29 0.37 0.46 0.17 0.04
## CBCL_35 0.97 0.03 0.01 0.04
## CBCL_40 0.76 0.23 0.01 0.04
## CBCL_42 0.94 0.06 0.01 0.04
## CBCL_44 0.67 0.29 0.03 0.05
## CBCL_53 0.94 0.06 0.01 0.05
## CBCL_58 0.80 0.17 0.03 0.05
## CBCL_66 0.80 0.17 0.03 0.05
## CBCL_69 0.78 0.19 0.03 0.05
## CBCL_81 0.69 0.29 0.03 0.05
## CBCL_85 0.57 0.35 0.08 0.05
```

```
## CBCL_88 0.67 0.31 0.03 0.05
## CBCL_96 0.60 0.29 0.10 0.05
```

4.1.14 CRONBACH'S ALPHA: OTHER PROBLEMS SUBSCALE

```
psych::alpha(CBCL.all_T1[CBCL.othp])
```

```
## Some items ( CBCL_14 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.othp])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.79      0.76    0.84     0.094 3.2 0.023  1.3 0.16    0.085
##
##  lower alpha upper     95% confidence boundaries
## 0.74 0.79 0.83
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_3       0.78      0.76    0.83     0.094 3.1    0.024 0.015 0.084
## CBCL_9       0.78      0.75    0.83     0.092 3.0    0.024 0.014 0.084
## CBCL_11      0.77      0.75    0.82     0.089 2.9    0.026 0.014 0.081
## CBCL_13      0.77      0.75    0.82     0.089 2.9    0.025 0.014 0.082
## CBCL_14      0.79      0.77    0.84     0.101 3.4    0.023 0.014 0.090
## CBCL_17      0.78      0.75    0.83     0.092 3.0    0.024 0.015 0.084
## CBCL_25      0.78      0.76    0.83     0.094 3.1    0.024 0.015 0.085
## CBCL_26      0.78      0.76    0.83     0.095 3.1    0.024 0.015 0.084
## CBCL_28      0.78      0.75    0.83     0.093 3.1    0.024 0.015 0.082
## CBCL_30      0.77      0.75    0.83     0.089 2.9    0.025 0.014 0.079
## CBCL_31      0.79      0.77    0.84     0.100 3.3    0.023 0.014 0.089
## CBCL_32      0.79      0.76    0.83     0.095 3.1    0.023 0.015 0.085
## CBCL_34      0.78      0.75    0.82     0.091 3.0    0.024 0.014 0.082
## CBCL_36      0.77      0.74    0.82     0.089 2.9    0.025 0.014 0.081
## CBCL_41      0.78      0.76    0.83     0.096 3.2    0.024 0.015 0.087
## CBCL_49      0.79      0.76    0.84     0.097 3.2    0.023 0.015 0.087
## CBCL_50      0.77      0.75    0.82     0.089 2.9    0.025 0.014 0.081
## CBCL_54      0.77      0.75    0.83     0.091 3.0    0.025 0.014 0.081
## CBCL_55      0.78      0.76    0.83     0.095 3.2    0.024 0.015 0.087
## CBCL_57      0.79      0.76    0.83     0.095 3.1    0.024 0.014 0.087
## CBCL_60      0.79      0.77    0.84     0.100 3.3    0.023 0.014 0.089
## CBCL_61      0.78      0.75    0.83     0.092 3.0    0.024 0.015 0.084
## CBCL_56      0.78      0.75    0.82     0.093 3.1    0.024 0.014 0.085
## CBCL_72      0.79      0.76    0.84     0.097 3.2    0.023 0.015 0.087
## CBCL_73      0.78      0.76    0.83     0.095 3.1    0.024 0.015 0.087
## CBCL_75      0.79      0.77    0.84     0.100 3.3    0.023 0.014 0.090
## CBCL_76      0.79      0.76    0.83     0.097 3.2    0.023 0.014 0.088
## CBCL_77      0.78      0.75    0.83     0.092 3.1    0.024 0.014 0.087
## CBCL_80      0.78      0.76    0.83     0.094 3.1    0.024 0.015 0.085
## CBCL_89      0.78      0.76    0.83     0.094 3.1    0.024 0.015 0.085
## CBCL_91      0.77      0.75    0.82     0.090 3.0    0.024 0.014 0.081
##
##  Item statistics
##           n  raw.r std.r  r.cor r.drop mean    sd
## CBCL_3  146  0.415 0.354  0.316  0.321  2.0 0.569
## CBCL_9  146  0.404 0.418  0.400  0.315  1.4 0.596
## CBCL_11 146  0.616 0.551  0.550  0.524  1.6 0.675
## CBCL_13 146  0.584 0.538  0.528  0.482  1.6 0.665
```

```
## CBCL_14 146 -0.034 0.045 -0.030 -0.065  1.0 0.164
## CBCL_17 145  0.432 0.439  0.418  0.379  1.1 0.323
## CBCL_25 145  0.323 0.330  0.296  0.239  1.2 0.459
## CBCL_26 145  0.306 0.318  0.276  0.239  1.1 0.363
## CBCL_28 145  0.424 0.387  0.358  0.318  1.3 0.605
## CBCL_30 145  0.557 0.536  0.522  0.463  1.4 0.617
## CBCL_31 145  0.044 0.098  0.036  0.020  1.0 0.117
## CBCL_32 145  0.387 0.316  0.266  0.261  1.5 0.698
## CBCL_34 145  0.467 0.475  0.473  0.404  1.1 0.377
## CBCL_36 145  0.516 0.562  0.576  0.443  1.2 0.481
## CBCL_41 145  0.234 0.277  0.238  0.200  1.0 0.183
## CBCL_49 142  0.147 0.208  0.152  0.115  1.0 0.166
## CBCL_50 144  0.528 0.526  0.523  0.454  1.3 0.473
## CBCL_54 144  0.510 0.484  0.465  0.414  1.4 0.591
## CBCL_55 143  0.248 0.294  0.260  0.193  1.1 0.293
## CBCL_57 143  0.259 0.321  0.299  0.244  1.0 0.084
## CBCL_60 142  0.079 0.122  0.072  0.020  1.1 0.294
## CBCL_61 143  0.436 0.444  0.421  0.369  1.1 0.393
## CBCL_56 144  0.376 0.401  0.400  0.303  1.1 0.369
## CBCL_72 143  0.174 0.205  0.152  0.133  1.0 0.201
## CBCL_73 143  0.368 0.312  0.271  0.267  2.3 0.552
## CBCL_75 143  0.039 0.100  0.031  0.023  1.0 0.084
## CBCL_76 143  0.237 0.241  0.204  0.143  1.2 0.474
## CBCL_77 143  0.425 0.407  0.384  0.361  1.1 0.380
## CBCL_80 142  0.313 0.330  0.294  0.261  1.0 0.263
## CBCL_89 144  0.304 0.332  0.299  0.246  1.1 0.305
## CBCL_91 144  0.478 0.505  0.498  0.404  1.2 0.477
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_3  0.15 0.68 0.17 0.03
## CBCL_9  0.71 0.23 0.06 0.03
## CBCL_11 0.48 0.41 0.11 0.03
## CBCL_13 0.54 0.36 0.10 0.03
## CBCL_14 0.97 0.03 0.00 0.03
## CBCL_17 0.88 0.12 0.00 0.04
## CBCL_25 0.81 0.17 0.02 0.04
## CBCL_26 0.90 0.09 0.01 0.04
## CBCL_28 0.72 0.21 0.07 0.04
## CBCL_30 0.67 0.26 0.07 0.04
## CBCL_31 0.99 0.01 0.00 0.04
## CBCL_32 0.64 0.24 0.12 0.04
## CBCL_34 0.88 0.10 0.01 0.04
## CBCL_36 0.86 0.10 0.04 0.04
## CBCL_41 0.97 0.03 0.00 0.04
## CBCL_49 0.97 0.03 0.00 0.06
## CBCL_50 0.75 0.24 0.01 0.05
## CBCL_54 0.67 0.27 0.06 0.05
## CBCL_55 0.93 0.06 0.01 0.05
## CBCL_57 0.99 0.01 0.00 0.05
## CBCL_60 0.93 0.06 0.01 0.06
## CBCL_61 0.87 0.12 0.01 0.05
## CBCL_56 0.92 0.06 0.02 0.05
## CBCL_72 0.96 0.04 0.00 0.05
## CBCL_73 0.05 0.62 0.34 0.05
## CBCL_75 0.99 0.01 0.00 0.05
## CBCL_76 0.85 0.12 0.03 0.05
## CBCL_77 0.88 0.10 0.01 0.05
## CBCL_80 0.97 0.01 0.01 0.06
## CBCL_89 0.94 0.04 0.01 0.05
## CBCL_91 0.84 0.12 0.03 0.05
```

4.1.15 CRONBACH'S ALPHA: INTERNALIZING SUBSCALE (reactivity, anxiety/depression, withdrawal, somatic)

```r
psych::alpha(CBCL.all_T1[CBCL.int])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.int])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.85      0.84    0.91      0.13 5.3 0.017  1.3 0.2     0.12
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.88
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_21      0.84      0.83    0.90      0.13 5.1    0.018 0.017  0.11
## CBCL_46      0.84      0.84    0.90      0.13 5.2    0.017 0.017  0.12
## CBCL_51      0.84      0.83    0.90      0.13 5.0    0.018 0.016  0.11
## CBCL_79      0.84      0.84    0.90      0.13 5.1    0.017 0.016  0.12
## CBCL_82      0.84      0.83    0.90      0.13 5.1    0.018 0.016  0.11
## CBCL_83      0.84      0.83    0.90      0.13 5.0    0.018 0.016  0.11
## CBCL_92      0.84      0.84    0.90      0.13 5.1    0.018 0.017  0.11
## CBCL_97      0.84      0.83    0.90      0.12 5.0    0.018 0.016  0.11
## CBCL_99      0.84      0.83    0.90      0.12 5.0    0.018 0.016  0.11
## CBCL_10      0.84      0.84    0.90      0.13 5.2    0.018 0.016  0.11
## CBCL_33      0.84      0.83    0.90      0.13 5.0    0.018 0.016  0.11
## CBCL_37      0.84      0.84    0.90      0.13 5.2    0.017 0.016  0.12
## CBCL_43      0.84      0.83    0.90      0.13 5.0    0.018 0.016  0.11
## CBCL_47      0.83      0.83    0.90      0.12 4.9    0.018 0.016  0.11
## CBCL_68      0.84      0.84    0.90      0.13 5.1    0.018 0.016  0.11
## CBCL_87      0.84      0.83    0.90      0.12 5.0    0.018 0.016  0.11
## CBCL_90      0.84      0.84    0.90      0.13 5.2    0.017 0.016  0.12
## CBCL_1       0.84      0.84    0.90      0.13 5.3    0.017 0.017  0.12
## CBCL_7       0.84      0.84    0.90      0.13 5.2    0.017 0.017  0.11
## CBCL_12      0.84      0.84    0.90      0.13 5.2    0.017 0.016  0.12
## CBCL_19      0.85      0.84    0.91      0.13 5.4    0.017 0.016  0.12
## CBCL_24      0.85      0.84    0.91      0.13 5.3    0.017 0.017  0.12
## CBCL_39      0.85      0.85    0.91      0.13 5.5    0.017 0.016  0.12
## CBCL_45      0.84      0.84    0.90      0.13 5.3    0.017 0.016  0.12
## CBCL_52      0.84      0.84    0.90      0.13 5.3    0.017 0.016  0.12
## CBCL_78      0.85      0.84    0.90      0.13 5.3    0.017 0.016  0.12
## CBCL_86      0.84      0.84    0.90      0.13 5.2    0.017 0.016  0.11
## CBCL_93      0.85      0.85    0.91      0.13 5.5    0.017 0.016  0.12
## CBCL_2       0.84      0.84    0.90      0.13 5.1    0.018 0.017  0.11
## CBCL_4       0.85      0.84    0.91      0.13 5.3    0.017 0.017  0.12
## CBCL_23      0.84      0.84    0.90      0.13 5.2    0.017 0.017  0.11
## CBCL_62      0.84      0.84    0.90      0.13 5.2    0.017 0.017  0.12
## CBCL_67      0.85      0.84    0.90      0.13 5.4    0.017 0.016  0.12
## CBCL_70      0.84      0.84    0.90      0.13 5.2    0.017 0.016  0.11
## CBCL_71      0.84      0.84    0.90      0.13 5.3    0.017 0.016  0.12
## CBCL_98      0.84      0.84    0.90      0.13 5.2    0.017 0.017  0.12
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_21 145 0.535  0.51 0.494  0.465  1.6 0.66
## CBCL_46 143 0.352  0.35 0.323  0.279  1.2 0.45
## CBCL_51 144 0.497  0.51 0.506  0.461  1.1 0.30
## CBCL_79 143 0.424  0.45 0.449  0.387  1.1 0.34
## CBCL_82 144 0.485  0.51 0.503  0.433  1.2 0.48
```

```
## CBCL_83 144 0.541  0.56 0.546  0.496  1.2 0.43
## CBCL_92 144 0.497  0.45 0.425  0.419  1.7 0.69
## CBCL_97 144 0.595  0.57 0.561  0.531  1.8 0.65
## CBCL_99 144 0.585  0.57 0.566  0.525  1.4 0.58
## CBCL_10 145 0.462  0.39 0.376  0.391  2.1 0.62
## CBCL_33 145 0.561  0.55 0.536  0.489  1.7 0.66
## CBCL_37 145 0.447  0.38 0.365  0.361  1.7 0.71
## CBCL_43 145 0.467  0.53 0.527  0.431  1.1 0.35
## CBCL_47 144 0.641  0.65 0.662  0.592  1.2 0.52
## CBCL_68 144 0.544  0.49 0.477  0.469  1.6 0.68
## CBCL_87 144 0.592  0.57 0.561  0.527  1.5 0.65
## CBCL_90 143 0.341  0.39 0.368  0.308  1.1 0.28
## CBCL_1  146 0.377  0.32 0.293  0.246  1.2 0.49
## CBCL_7  145 0.404  0.37 0.352  0.323  1.3 0.56
## CBCL_12 146 0.329  0.35 0.338  0.289  1.3 0.53
## CBCL_19 145 0.143  0.18 0.143  0.115  1.0 0.20
## CBCL_24 143 0.264  0.24 0.202  0.165  1.4 0.65
## CBCL_39 145 0.084  0.14 0.098  0.046  1.0 0.20
## CBCL_45 144 0.255  0.31 0.294  0.222  1.1 0.27
## CBCL_52 144 0.298  0.31 0.292  0.265  1.1 0.27
## CBCL_78 143 0.193  0.24 0.214  0.152  1.1 0.31
## CBCL_86 144 0.379  0.39 0.368  0.325  1.1 0.39
## CBCL_93 144 0.090  0.14 0.100  0.058  1.0 0.23
## CBCL_2  146 0.513  0.45 0.421  0.405  1.4 0.56
## CBCL_4  146 0.276  0.29 0.255  0.218  1.8 0.69
## CBCL_23 145 0.422  0.37 0.350  0.341  2.0 0.64
## CBCL_62 143 0.337  0.34 0.317  0.290  1.1 0.34
## CBCL_67 144 0.155  0.21 0.176  0.130  1.0 0.18
## CBCL_70 144 0.279  0.36 0.353  0.243  1.1 0.29
## CBCL_71 144 0.253  0.31 0.298  0.229  1.0 0.18
## CBCL_98 144 0.314  0.33 0.303  0.252  1.2 0.46
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_21 0.54 0.37 0.09 0.04
## CBCL_46 0.85 0.12 0.03 0.05
## CBCL_51 0.92 0.07 0.01 0.05
## CBCL_79 0.92 0.07 0.01 0.05
## CBCL_82 0.81 0.17 0.03 0.05
## CBCL_83 0.85 0.12 0.02 0.05
## CBCL_92 0.47 0.41 0.12 0.05
## CBCL_97 0.33 0.54 0.12 0.05
## CBCL_99 0.67 0.28 0.05 0.05
## CBCL_10 0.14 0.60 0.26 0.04
## CBCL_33 0.45 0.45 0.10 0.04
## CBCL_37 0.46 0.40 0.14 0.04
## CBCL_43 0.88 0.11 0.01 0.04
## CBCL_47 0.79 0.17 0.04 0.05
## CBCL_68 0.53 0.36 0.11 0.05
## CBCL_87 0.61 0.31 0.08 0.05
## CBCL_90 0.92 0.08 0.00 0.05
## CBCL_1  0.85 0.11 0.04 0.03
## CBCL_7  0.74 0.21 0.05 0.04
## CBCL_12 0.77 0.19 0.04 0.03
## CBCL_19 0.98 0.01 0.01 0.04
## CBCL_24 0.73 0.18 0.09 0.05
## CBCL_39 0.96 0.04 0.00 0.04
## CBCL_45 0.92 0.08 0.00 0.05
## CBCL_52 0.92 0.08 0.00 0.05
## CBCL_78 0.90 0.10 0.00 0.05
## CBCL_86 0.88 0.11 0.01 0.05
```

```
## CBCL_93 0.97 0.03 0.01 0.05
## CBCL_2  0.60 0.36 0.03 0.03
## CBCL_4  0.33 0.50 0.17 0.03
## CBCL_23 0.22 0.59 0.19 0.04
## CBCL_62 0.90 0.10 0.01 0.05
## CBCL_67 0.97 0.03 0.00 0.05
## CBCL_70 0.91 0.09 0.00 0.05
## CBCL_71 0.97 0.03 0.00 0.05
## CBCL_98 0.78 0.21 0.01 0.05
```

4.1.16 CRONBACH'S ALPHA: EXTERNALIZING SUBSCALE (attention, aggression)

```r
psych::alpha(CBCL.all_T1[CBCL.ext])
```

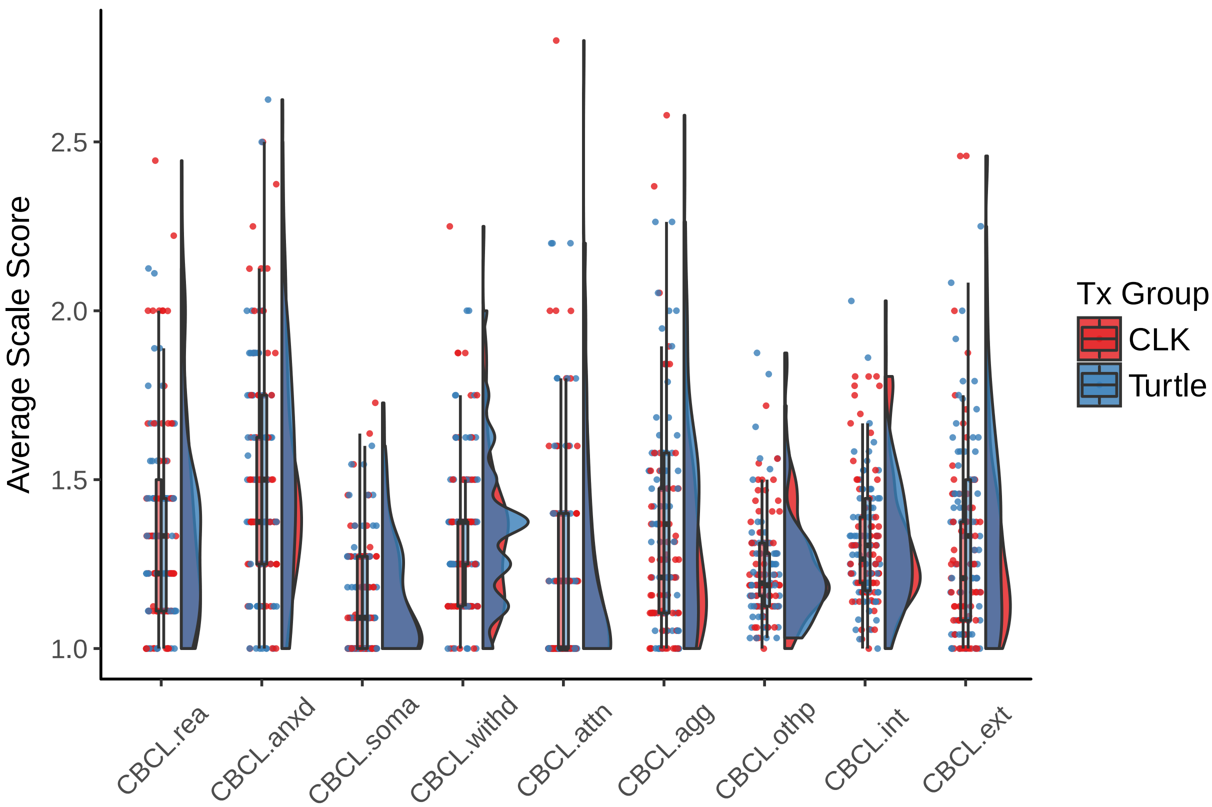
```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T1[CBCL.ext])
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.91       0.9    0.94      0.28 9.5 0.01  1.3 0.29     0.28
##
##  lower alpha upper     95% confidence boundaries
## 0.89 0.91 0.93
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_5       0.90      0.90    0.93      0.29 9.2    0.010 0.018  0.29
## CBCL_6       0.90      0.90    0.93      0.29 9.2    0.011 0.018  0.29
## CBCL_56      0.91      0.91    0.94      0.30 9.7    0.010 0.018  0.30
## CBCL_59      0.90      0.90    0.93      0.28 9.1    0.011 0.019  0.28
## CBCL_95      0.90      0.90    0.93      0.29 9.3    0.010 0.020  0.29
## CBCL_8       0.90      0.90    0.93      0.28 8.9    0.011 0.019  0.28
## CBCL_15      0.90      0.90    0.93      0.28 9.0    0.011 0.019  0.28
## CBCL_16      0.90      0.90    0.93      0.28 9.0    0.011 0.019  0.28
## CBCL_18      0.90      0.90    0.93      0.29 9.3    0.010 0.020  0.29
## CBCL_20      0.90      0.90    0.93      0.27 8.7    0.011 0.018  0.27
## CBCL_27      0.90      0.90    0.93      0.29 9.2    0.011 0.019  0.29
## CBCL_29      0.90      0.90    0.93      0.28 9.1    0.011 0.020  0.28
## CBCL_35      0.90      0.90    0.93      0.29 9.3    0.010 0.019  0.29
## CBCL_40      0.90      0.90    0.93      0.29 9.3    0.010 0.020  0.29
## CBCL_42      0.91      0.91    0.94      0.30 9.8    0.010 0.017  0.30
## CBCL_44      0.90      0.90    0.93      0.28 8.9    0.011 0.019  0.28
## CBCL_53      0.91      0.90    0.93      0.29 9.5    0.010 0.019  0.29
## CBCL_58      0.90      0.90    0.93      0.28 8.9    0.011 0.019  0.28
## CBCL_66      0.90      0.90    0.93      0.28 8.7    0.011 0.019  0.27
## CBCL_69      0.90      0.90    0.93      0.28 8.9    0.011 0.020  0.28
## CBCL_81      0.90      0.90    0.93      0.28 8.8    0.011 0.019  0.28
## CBCL_85      0.90      0.90    0.93      0.28 8.8    0.011 0.019  0.28
## CBCL_88      0.90      0.90    0.93      0.28 8.8    0.011 0.019  0.28
## CBCL_96      0.90      0.90    0.93      0.28 9.1    0.011 0.020  0.28
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_5  146  0.54  0.51  0.50   0.47  1.3 0.59
## CBCL_6  146  0.55  0.52  0.52   0.48  1.3 0.59
## CBCL_56 144  0.28  0.30  0.25   0.23  1.1 0.37
## CBCL_59 143  0.57  0.56  0.54   0.51  1.3 0.56
## CBCL_95 143  0.46  0.50  0.47   0.44  1.0 0.18
## CBCL_8  145  0.65  0.64  0.63   0.60  1.8 0.71
## CBCL_15 145  0.64  0.62  0.61   0.58  1.5 0.61
```

```
## CBCL_16 144  0.65  0.62  0.61   0.59  1.6 0.65
## CBCL_18 145  0.45  0.48  0.46   0.42  1.1 0.30
## CBCL_20 145  0.74  0.74  0.73   0.70  1.5 0.58
## CBCL_27 145  0.50  0.52  0.49   0.45  1.2 0.44
## CBCL_29 145  0.61  0.58  0.55   0.54  1.8 0.71
## CBCL_35 145  0.42  0.46  0.44   0.39  1.0 0.23
## CBCL_40 145  0.47  0.49  0.47   0.41  1.2 0.45
## CBCL_42 145  0.22  0.26  0.21   0.18  1.1 0.28
## CBCL_44 144  0.65  0.64  0.63   0.60  1.4 0.55
## CBCL_53 144  0.35  0.40  0.38   0.31  1.1 0.28
## CBCL_58 143  0.63  0.65  0.64   0.59  1.2 0.48
## CBCL_66 144  0.70  0.72  0.72   0.67  1.2 0.50
## CBCL_69 144  0.63  0.64  0.62   0.59  1.3 0.51
## CBCL_81 143  0.67  0.67  0.66   0.63  1.3 0.53
## CBCL_85 144  0.68  0.67  0.66   0.63  1.5 0.64
## CBCL_88 144  0.69  0.68  0.67   0.65  1.4 0.54
## CBCL_96 144  0.60  0.58  0.55   0.53  1.5 0.68
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_5  0.74 0.20 0.06 0.03
## CBCL_6  0.76 0.17 0.07 0.03
## CBCL_56 0.92 0.06 0.02 0.05
## CBCL_59 0.70 0.26 0.04 0.05
## CBCL_95 0.97 0.03 0.00 0.05
## CBCL_8  0.41 0.43 0.16 0.04
## CBCL_15 0.57 0.37 0.06 0.04
## CBCL_16 0.46 0.44 0.10 0.05
## CBCL_18 0.92 0.07 0.01 0.04
## CBCL_20 0.55 0.41 0.04 0.04
## CBCL_27 0.83 0.14 0.02 0.04
## CBCL_29 0.37 0.46 0.17 0.04
## CBCL_35 0.97 0.03 0.01 0.04
## CBCL_40 0.76 0.23 0.01 0.04
## CBCL_42 0.94 0.06 0.01 0.04
## CBCL_44 0.67 0.29 0.03 0.05
## CBCL_53 0.94 0.06 0.01 0.05
## CBCL_58 0.80 0.17 0.03 0.05
## CBCL_66 0.80 0.17 0.03 0.05
## CBCL_69 0.78 0.19 0.03 0.05
## CBCL_81 0.69 0.29 0.03 0.05
## CBCL_85 0.57 0.35 0.08 0.05
## CBCL_88 0.67 0.31 0.03 0.05
## CBCL_96 0.60 0.29 0.10 0.05
```

4.1.17 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(CBCL.all_T1[,107:116], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
```

```
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
        color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T1 Folder:
`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:
- `/CBCL_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CBCL_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CBCL
- `/CBCL_T1_Summary_wo_Raw_items.txt`: The processed summary scores for CBCL wo raw items

4.2 TIME 2: COMPLETE SCALE

4.2.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(CBCL.all_T2[,c(3:101)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##         vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1     1 129 1.21 0.49  2.31     4.53 0.04     1     1
## CBCL_2     2 129 1.43 0.65  1.22     0.27 0.06     1     2
## CBCL_3     3 129 1.95 0.58  0.00    -0.05 0.05     2     2
## CBCL_4     4 129 2.11 0.63 -0.08    -0.53 0.06     2     3
## CBCL_5     5 129 1.28 0.54  1.80     2.26 0.05     1     1
## CBCL_6     6 129 1.29 0.58  1.80     2.12 0.05     1     1
## CBCL_7     7 129 1.28 0.53  1.72     2.06 0.05     1     1
## CBCL_8     8 129 1.67 0.73  0.60    -0.95 0.06     1     2
## CBCL_9     9 129 1.36 0.60  1.40     0.86 0.05     1     2
## CBCL_10   10 129 2.09 0.57  0.02     0.02 0.05     2     2
## CBCL_11   11 129 1.62 0.68  0.62    -0.72 0.06     1     2
## CBCL_12   12 128 1.25 0.53  2.02     3.13 0.05     1     1
## CBCL_13   13 129 1.59 0.70  0.76    -0.68 0.06     1     2
## CBCL_14   14 129 1.02 0.12  7.75    58.55 0.01     1     1
## CBCL_15   15 129 1.42 0.63  1.22     0.32 0.06     1     2
## CBCL_16   16 129 1.59 0.69  0.74    -0.66 0.06     1     2
## CBCL_17   17 129 1.19 0.39  1.59     0.55 0.03     1     1
## CBCL_18   18 129 1.12 0.33  2.25     3.11 0.03     1     1
## CBCL_19   19 129 1.05 0.26  5.13    28.34 0.02     1     1
## CBCL_20   20 129 1.47 0.63  0.95    -0.17 0.06     1     2
## CBCL_21   21 129 1.42 0.57  0.95    -0.13 0.05     1     2
## CBCL_22   22 128 1.82 0.74  0.29    -1.13 0.07     1     2
## CBCL_23   23 129 1.99 0.68  0.01    -0.85 0.06     2     2
## CBCL_24   24 129 1.26 0.55  1.97     2.83 0.05     1     1
## CBCL_25   25 129 1.20 0.40  1.47     0.16 0.04     1     1
## CBCL_26   26 129 1.11 0.31  2.49     4.22 0.03     1     1
## CBCL_27   27 129 1.25 0.52  1.96     2.97 0.05     1     1
## CBCL_28   28 129 1.27 0.48  1.43     0.96 0.04     1     2
## CBCL_29   29 129 1.75 0.64  0.26    -0.71 0.06     1     2
## CBCL_30   30 129 1.43 0.61  1.10     0.15 0.05     1     2
## CBCL_31   31 129 1.03 0.25  7.75    58.55 0.02     1     1
## CBCL_32   32 129 1.43 0.62  1.15     0.20 0.05     1     2
## CBCL_33   33 129 1.67 0.68  0.51    -0.80 0.06     1     2
## CBCL_34   34 129 1.13 0.38  2.94     8.47 0.03     1     1
## CBCL_35   35 129 1.08 0.32  4.40    20.00 0.03     1     1
## CBCL_36   36 129 1.14 0.43  3.14     9.30 0.04     1     1
## CBCL_37   37 129 1.49 0.63  0.89    -0.26 0.06     1     2
## CBCL_38   38 129 1.49 0.70  1.07    -0.21 0.06     1     2
## CBCL_39   39 129 1.07 0.31  4.74    23.15 0.03     1     1
## CBCL_40   40 129 1.20 0.42  1.78     2.00 0.04     1     1
## CBCL_41   41 129 1.02 0.12  7.75    58.55 0.01     1     1
## CBCL_42   42 129 1.05 0.26  5.13    28.34 0.02     1     1
## CBCL_43   43 129 1.16 0.44  2.89     7.76 0.04     1     1
## CBCL_44   44 129 1.36 0.57  1.32     0.75 0.05     1     2
## CBCL_45   45 128 1.05 0.21  4.24    16.08 0.02     1     1
## CBCL_46   46 129 1.13 0.40  3.14     9.62 0.04     1     1
## CBCL_47   47 129 1.24 0.51  2.02     3.24 0.05     1     1
## CBCL_48   48 129 1.26 0.47  1.54     1.33 0.04     1     1
## CBCL_49   49 129 1.05 0.26  5.13    28.34 0.02     1     1
## CBCL_50   50 129 1.25 0.50  1.87     2.65 0.04     1     1
## CBCL_51   51 129 1.11 0.38  3.65    13.16 0.03     1     1
## CBCL_52   52 129 1.09 0.34  3.86    15.27 0.03     1     1
## CBCL_53   53 129 1.06 0.24  3.59    10.97 0.02     1     1
```

```
## CBCL_54   54 129 1.29 0.53  1.67     1.86 0.05     1     1
## CBCL_55   55 129 1.11 0.31  2.49     4.22 0.03     1     1
## CBCL_56   56 129 1.09 0.32  3.47    12.30 0.03     1     1
## CBCL_57   57 129 1.02 0.20  8.87    81.54 0.02     1     1
## CBCL_58   58 129 1.22 0.50  2.23     4.17 0.04     1     1
## CBCL_59   59 129 1.27 0.53  1.78     2.26 0.05     1     1
## CBCL_60   60 129 1.06 0.24  3.59    10.97 0.02     1     1
## CBCL_61   61 129 1.16 0.44  2.89     7.76 0.04     1     1
## CBCL_62   62 129 1.09 0.32  3.47    12.30 0.03     1     1
## CBCL_63   63 129 1.02 0.18 11.10   122.05 0.02     1     1
## CBCL_64   64 129 1.57 0.67  0.76    -0.57 0.06     1     2
## CBCL_65   65 129 1.11 0.36  3.43    11.93 0.03     1     1
## CBCL_66   66 128 1.26 0.55  2.01     3.01 0.05     1     1
## CBCL_67   67 129 1.04 0.19  4.72    20.47 0.02     1     1
## CBCL_68   68 129 1.54 0.68  0.86    -0.49 0.06     1     2
## CBCL_69   69 129 1.26 0.51  1.74     2.18 0.04     1     1
## CBCL_70   70 129 1.09 0.32  3.47    12.30 0.03     1     1
## CBCL_71   71 129 1.02 0.12  7.75    58.55 0.01     1     1
## CBCL_72   72 129 1.05 0.25  5.71    35.07 0.02     1     1
## CBCL_73   73 128 2.16 0.54  0.09     0.00 0.05     2     2
## CBCL_74   74 128 1.23 0.57  2.28     3.90 0.05     1     1
## CBCL_75   75 129 1.01 0.09 11.10   122.05 0.01     1     1
## CBCL_76   76 128 1.13 0.42  3.26    10.09 0.04     1     1
## CBCL_77   77 129 1.11 0.31  2.49     4.22 0.03     1     1
## CBCL_78   78 129 1.21 0.46  2.09     3.67 0.04     1     1
## CBCL_79   79 129 1.13 0.42  3.28    10.21 0.04     1     1
## CBCL_80   80 128 1.00 0.00   NaN      NaN 0.00     1     1
## CBCL_81   81 129 1.37 0.56  1.17     0.36 0.05     1     2
## CBCL_82   82 129 1.24 0.51  2.02     3.24 0.05     1     1
## CBCL_83   83 129 1.20 0.51  2.46     5.12 0.04     1     1
## CBCL_84   84 129 1.23 0.49  2.00     3.20 0.04     1     1
## CBCL_85   85 129 1.47 0.65  1.06    -0.05 0.06     1     2
## CBCL_86   86 129 1.09 0.34  3.86    15.27 0.03     1     1
## CBCL_87   87 129 1.47 0.61  0.91    -0.22 0.05     1     2
## CBCL_88   88 129 1.38 0.59  1.27     0.56 0.05     1     2
## CBCL_89   89 129 1.06 0.30  5.13    27.05 0.03     1     1
## CBCL_90   90 128 1.12 0.37  3.24    10.49 0.03     1     1
## CBCL_91   91 129 1.17 0.45  2.67     6.50 0.04     1     1
## CBCL_92   92 129 1.49 0.63  0.89    -0.26 0.06     1     2
## CBCL_93   93 129 1.01 0.09 11.10   122.05 0.01     1     1
## CBCL_94   94 129 1.26 0.54  1.91     2.69 0.05     1     1
## CBCL_95   95 129 1.05 0.25  5.71    35.07 0.02     1     1
## CBCL_96   96 129 1.50 0.67  1.00    -0.24 0.06     1     2
## CBCL_97   97 129 1.70 0.63  0.34    -0.72 0.06     1     2
## CBCL_98   98 129 1.16 0.38  2.29     4.41 0.03     1     1
## CBCL_99   99 129 1.35 0.55  1.29     0.68 0.05     1     2
```

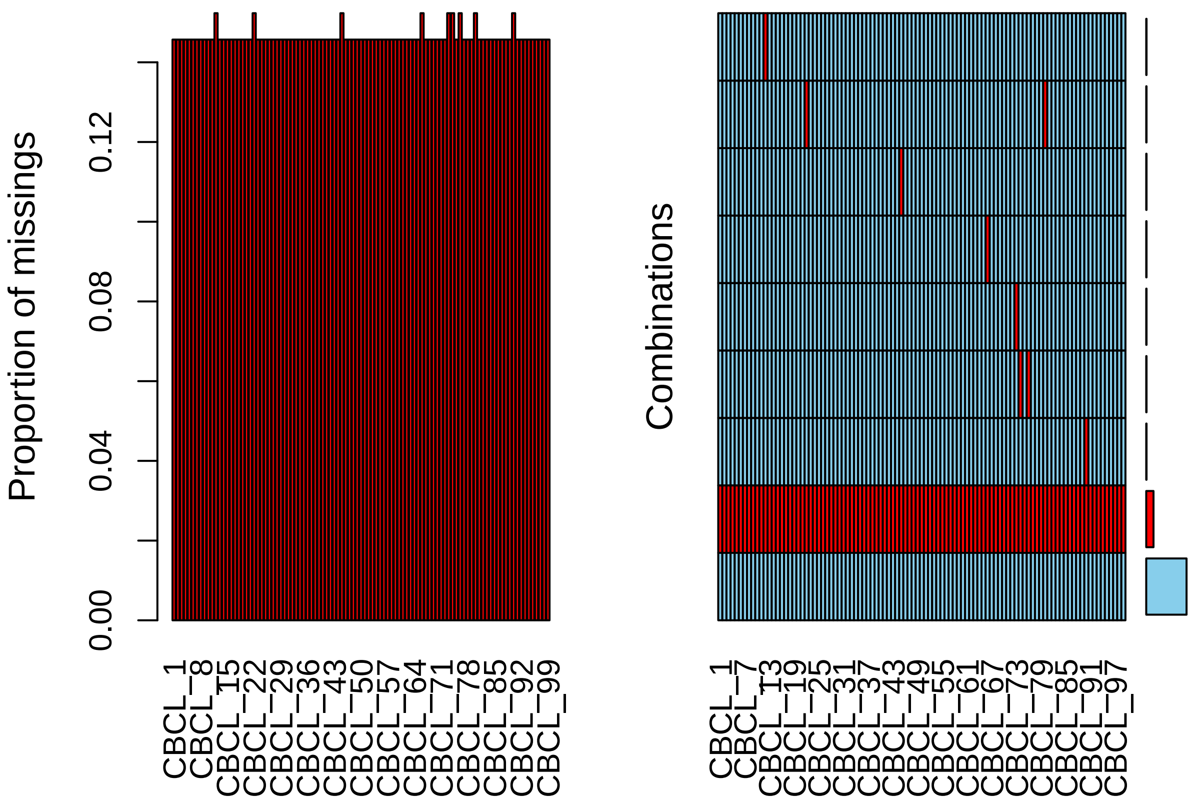
```
#Calculating Summary Scores:
CBCL.all_T2$CBCL_tot<-rowSums(CBCL.all_T2[,3:101])  #inclunding na.rm=T results in 0's

CBCL.all_T2$Miss_tot<-rep(NA, nrow(CBCL.all_T2))
for(n in 1:nrow(CBCL.all_T2)){
  CBCL.all_T2$Miss_tot[n]<-sum(is.na(CBCL.all_T2[n,3:101])==TRUE)
}

CBCL.all_T2$Miss_per<-rep(NA, nrow(CBCL.all_T2))
for(n in 1:nrow(CBCL.all_T2)){
  CBCL.all_T2$Miss_per[n]<-round(sum(is.na(CBCL.all_T2[n,3:101])==TRUE)/ncol(CBCL.all_T2[3:101])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
```

```r
CBCL.all_T2$CBCL_avg<-rowMeans(CBCL.all_T2[,3:101])

#Creating variable with individual mean replacement if respondent completed >85% of items
CBCL.all_T2$CBCL_avg_MR85<-ifelse(CBCL.all_T2$Miss_per<15, rowMeans(CBCL.all_T2[,3:101],
                                                                   na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(CBCL.all_T2[,c(102,105,106)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##                vars   n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot          1 122 126.80 21.30 1.47     2.72 1.93 112.00 136.75
## CBCL_avg          2 122   1.28  0.22 1.47     2.72 0.02   1.13   1.38
## CBCL_avg_MR85     3 129   1.29  0.22 1.46     2.58 0.02   1.13   1.39
```

4.2.2 MISSING DATA

```r
VIM::aggr(CBCL.all_T2[,3:101])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will complete at future date - lots of missing patterns]

The variable `CBCL_tot` is the vector of individual summed CBCL scores - cases with any missing are dropped from this score (see above)

The varaible `CBCL_avg` is the vector of individual mean CBCL scores - cases with any missing are dropped from this score (see above)

The variable `CBCL_avg_MR85` is a vector of individual mean CBCL scores that includes estimated averages when at least 85% of the necessary data is available - note 064 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T2 to report.

4.2.3 CRONBACH'S ALPHA

```
psych::alpha(CBCL.all_T2[,3:101])
```

```
## Some items ( CBCL_63 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option

##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[, 3:101])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.96      0.96       1      0.19  23 0.0042  1.3 0.22     0.18
##
##  lower alpha upper     95% confidence boundaries
## 0.95 0.96 0.97
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_1       0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_2       0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_3       0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_4       0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_5       0.96      0.96       1      0.19  22   0.0043 0.023  0.18
## CBCL_6       0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_7       0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_8       0.96      0.96       1      0.19  22   0.0043 0.023  0.18
## CBCL_9       0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_10      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_11      0.96      0.96       1      0.19  22   0.0043 0.023  0.18
## CBCL_12      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_13      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_14      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_15      0.96      0.96       1      0.19  22   0.0043 0.023  0.18
## CBCL_16      0.96      0.96       1      0.19  22   0.0043 0.023  0.18
## CBCL_17      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_18      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_19      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_20      0.96      0.96       1      0.19  22   0.0043 0.023  0.18
## CBCL_21      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_22      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_23      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_24      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_25      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_26      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_27      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_28      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_29      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_30      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_31      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_32      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_33      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_34      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_35      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_36      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_37      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_38      0.96      0.96       1      0.19  23   0.0043 0.023  0.18
## CBCL_39      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
## CBCL_40      0.96      0.96       1      0.19  23   0.0042 0.023  0.18
## CBCL_41      0.96      0.96       1      0.19  23   0.0042 0.023  0.19
```

```
## CBCL_42      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_43      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_44      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_45      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_46      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_47      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_48      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_49      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_50      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_51      0.96      0.96       1      0.19   23   0.0043 0.023  0.18
## CBCL_52      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_53      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_54      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_55      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_56      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_57      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_58      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_59      0.96      0.96       1      0.19   23   0.0043 0.023  0.18
## CBCL_60      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_61      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_62      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_63      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_64      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_65      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_66      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_67      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_68      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_69      0.96      0.96       1      0.19   23   0.0043 0.023  0.18
## CBCL_70      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_71      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_72      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_73      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_74      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_75      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_76      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_77      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_78      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_79      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_81      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_82      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_83      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_84      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_85      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_86      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_87      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_88      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_89      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_90      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_91      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_92      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_93      0.96      0.96       1      0.19   23   0.0042 0.023  0.19
## CBCL_94      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_95      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_96      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_97      0.96      0.96       1      0.19   22   0.0043 0.023  0.18
## CBCL_98      0.96      0.96       1      0.19   23   0.0042 0.023  0.18
## CBCL_99      0.96      0.96       1      0.19   23   0.0043 0.023  0.18
##
##  Item statistics
##            n  raw.r std.r r.cor  r.drop mean    sd
## CBCL_1  129 0.2470 0.239 0.237  0.2254  1.2 0.495
```

```
## CBCL_2  129 0.4166 0.382 0.380  0.3911  1.4 0.647
## CBCL_3  129 0.4643 0.450 0.448  0.4434  1.9 0.577
## CBCL_4  129 0.4305 0.411 0.408  0.4066  2.1 0.628
## CBCL_5  129 0.6179 0.627 0.626  0.6019  1.3 0.545
## CBCL_6  129 0.5671 0.577 0.577  0.5489  1.3 0.578
## CBCL_7  129 0.4466 0.469 0.468  0.4268  1.3 0.530
## CBCL_8  129 0.6858 0.668 0.667  0.6673  1.7 0.732
## CBCL_9  129 0.4010 0.415 0.413  0.3778  1.4 0.599
## CBCL_10 129 0.4264 0.385 0.382  0.4050  2.1 0.565
## CBCL_11 129 0.6449 0.623 0.621  0.6263  1.6 0.675
## CBCL_12 128 0.3524 0.346 0.345  0.3319  1.2 0.532
## CBCL_13 129 0.6245 0.602 0.599  0.6042  1.6 0.703
## CBCL_14 129 0.1008 0.116 0.111  0.0952  1.0 0.124
## CBCL_15 129 0.6828 0.664 0.665  0.6668  1.4 0.634
## CBCL_16 129 0.7463 0.722 0.723  0.7316  1.6 0.692
## CBCL_17 129 0.4736 0.481 0.482  0.4593  1.2 0.391
## CBCL_18 129 0.4149 0.424 0.424  0.4017  1.1 0.331
## CBCL_19 129 0.2753 0.309 0.307  0.2642  1.1 0.260
## CBCL_20 129 0.6606 0.644 0.644  0.6438  1.5 0.626
## CBCL_21 129 0.4597 0.447 0.445  0.4390  1.4 0.569
## CBCL_22 128 0.4988 0.445 0.443  0.4542  1.8 0.736
## CBCL_23 129 0.4283 0.408 0.405  0.4021  2.0 0.679
## CBCL_24 129 0.3390 0.321 0.320  0.3162  1.3 0.552
## CBCL_25 129 0.2250 0.234 0.232  0.2066  1.2 0.403
## CBCL_26 129 0.3212 0.337 0.335  0.3089  1.1 0.312
## CBCL_27 129 0.5633 0.570 0.571  0.5463  1.2 0.516
## CBCL_28 129 0.3881 0.388 0.387  0.3695  1.3 0.480
## CBCL_29 129 0.6100 0.590 0.587  0.5908  1.8 0.638
## CBCL_30 129 0.6144 0.595 0.594  0.5964  1.4 0.609
## CBCL_31 129 0.1443 0.142 0.141  0.1331  1.0 0.248
## CBCL_32 129 0.2650 0.246 0.243  0.2385  1.4 0.622
## CBCL_33 129 0.6063 0.589 0.588  0.5864  1.7 0.677
## CBCL_34 129 0.5082 0.515 0.515  0.4944  1.1 0.383
## CBCL_35 129 0.3588 0.360 0.359  0.3459  1.1 0.321
## CBCL_36 129 0.5839 0.604 0.604  0.5704  1.1 0.428
## CBCL_37 129 0.3929 0.352 0.351  0.3687  1.5 0.626
## CBCL_38 129 0.6352 0.613 0.612  0.6156  1.5 0.697
## CBCL_39 129 0.2342 0.227 0.224  0.2206  1.1 0.311
## CBCL_40 129 0.3915 0.410 0.409  0.3753  1.2 0.422
## CBCL_41 129 0.1732 0.198 0.197  0.1677  1.0 0.124
## CBCL_42 129 0.3417 0.384 0.383  0.3311  1.1 0.260
## CBCL_43 129 0.5222 0.555 0.556  0.5069  1.2 0.441
## CBCL_44 129 0.6280 0.633 0.633  0.6115  1.4 0.570
## CBCL_45 128 0.2402 0.244 0.243  0.2320  1.0 0.212
## CBCL_46 129 0.2898 0.323 0.322  0.2728  1.1 0.403
## CBCL_47 129 0.5060 0.529 0.528  0.4887  1.2 0.512
## CBCL_48 129 0.3009 0.272 0.271  0.2813  1.3 0.472
## CBCL_49 129 0.3680 0.381 0.381  0.3572  1.1 0.260
## CBCL_50 129 0.4843 0.482 0.482  0.4672  1.2 0.500
## CBCL_51 129 0.5750 0.596 0.597  0.5634  1.1 0.380
## CBCL_52 129 0.4160 0.418 0.417  0.4030  1.1 0.341
## CBCL_53 129 0.3468 0.354 0.354  0.3379  1.1 0.242
## CBCL_54 129 0.4010 0.411 0.409  0.3799  1.3 0.533
## CBCL_55 129 0.4103 0.433 0.432  0.3981  1.1 0.312
## CBCL_56 129 0.3472 0.396 0.394  0.3338  1.1 0.317
## CBCL_57 129 0.4635 0.519 0.520  0.4563  1.0 0.196
## CBCL_58 129 0.6746 0.682 0.683  0.6618  1.2 0.499
## CBCL_59 129 0.5745 0.564 0.563  0.5580  1.3 0.527
## CBCL_60 129 0.3564 0.382 0.381  0.3467  1.1 0.242
## CBCL_61 129 0.5336 0.554 0.555  0.5189  1.2 0.441
## CBCL_62 129 0.4086 0.437 0.437  0.3964  1.1 0.317
```

```
## CBCL_63 129 0.0017 0.018 0.015 -0.0064  1.0 0.176
## CBCL_64 129 0.6687 0.623 0.623  0.6511  1.6 0.671
## CBCL_65 129 0.3080 0.311 0.309  0.2931  1.1 0.359
## CBCL_66 128 0.6981 0.713 0.714  0.6860  1.3 0.551
## CBCL_67 129 0.2540 0.296 0.295  0.2457  1.0 0.194
## CBCL_68 129 0.4535 0.431 0.428  0.4279  1.5 0.685
## CBCL_69 129 0.5381 0.551 0.551  0.5205  1.3 0.508
## CBCL_70 129 0.2376 0.272 0.270  0.2238  1.1 0.317
## CBCL_71 129 0.3354 0.389 0.390  0.3303  1.0 0.124
## CBCL_72 129 0.3999 0.449 0.449  0.3904  1.0 0.246
## CBCL_73 128 0.3815 0.349 0.347  0.3591  2.2 0.544
## CBCL_74 128 0.4957 0.483 0.481  0.4776  1.2 0.568
## CBCL_75 129 0.0261 0.040 0.038  0.0221  1.0 0.088
## CBCL_76 128 0.0690 0.064 0.060  0.0498  1.1 0.423
## CBCL_77 129 0.4184 0.453 0.452  0.4063  1.1 0.312
## CBCL_78 129 0.2745 0.276 0.274  0.2548  1.2 0.462
## CBCL_79 129 0.6277 0.655 0.656  0.6155  1.1 0.422
## CBCL_81 129 0.7213 0.708 0.708  0.7086  1.4 0.560
## CBCL_82 129 0.6779 0.693 0.695  0.6651  1.2 0.512
## CBCL_83 129 0.6498 0.655 0.656  0.6363  1.2 0.506
## CBCL_84 129 0.3654 0.347 0.345  0.3459  1.2 0.492
## CBCL_85 129 0.6738 0.662 0.662  0.6566  1.5 0.650
## CBCL_86 129 0.3038 0.316 0.316  0.2899  1.1 0.341
## CBCL_87 129 0.5355 0.521 0.521  0.5156  1.5 0.613
## CBCL_88 129 0.7078 0.700 0.701  0.6937  1.4 0.589
## CBCL_89 129 0.4289 0.441 0.442  0.4168  1.1 0.300
## CBCL_90 128 0.5024 0.537 0.538  0.4913  1.1 0.368
## CBCL_91 129 0.5021 0.507 0.507  0.4863  1.2 0.453
## CBCL_92 129 0.3760 0.347 0.346  0.3513  1.5 0.626
## CBCL_93 129 0.0465 0.052 0.050  0.0426  1.0 0.088
## CBCL_94 129 0.3919 0.379 0.377  0.3708  1.3 0.538
## CBCL_95 129 0.4482 0.490 0.490  0.4391  1.0 0.246
## CBCL_96 129 0.7113 0.696 0.697  0.6950  1.5 0.675
## CBCL_97 129 0.6721 0.649 0.649  0.6554  1.7 0.633
## CBCL_98 129 0.2677 0.284 0.282  0.2508  1.2 0.384
## CBCL_99 129 0.5708 0.569 0.567  0.5533  1.3 0.554
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_1  0.83 0.13 0.04 0.15
## CBCL_2  0.66 0.26 0.09 0.15
## CBCL_3  0.19 0.67 0.14 0.15
## CBCL_4  0.15 0.60 0.26 0.15
## CBCL_5  0.77 0.19 0.05 0.15
## CBCL_6  0.77 0.17 0.06 0.15
## CBCL_7  0.76 0.20 0.04 0.15
## CBCL_8  0.49 0.36 0.16 0.15
## CBCL_9  0.70 0.24 0.06 0.15
## CBCL_10 0.12 0.67 0.21 0.15
## CBCL_11 0.49 0.40 0.11 0.15
## CBCL_12 0.80 0.16 0.05 0.15
## CBCL_13 0.53 0.34 0.12 0.15
## CBCL_14 0.98 0.02 0.00 0.15
## CBCL_15 0.66 0.26 0.08 0.15
## CBCL_16 0.53 0.36 0.12 0.15
## CBCL_17 0.81 0.19 0.00 0.15
## CBCL_18 0.88 0.12 0.00 0.15
## CBCL_19 0.95 0.04 0.01 0.15
## CBCL_20 0.60 0.33 0.07 0.15
## CBCL_21 0.62 0.34 0.04 0.15
## CBCL_22 0.38 0.43 0.20 0.15
```

```
## CBCL_23 0.23 0.54 0.22 0.15
## CBCL_24 0.79 0.16 0.05 0.15
## CBCL_25 0.80 0.20 0.00 0.15
## CBCL_26 0.89 0.11 0.00 0.15
## CBCL_27 0.79 0.17 0.04 0.15
## CBCL_28 0.74 0.24 0.02 0.15
## CBCL_29 0.36 0.53 0.11 0.15
## CBCL_30 0.64 0.30 0.06 0.15
## CBCL_31 0.98 0.00 0.02 0.15
## CBCL_32 0.64 0.29 0.07 0.15
## CBCL_33 0.45 0.43 0.12 0.15
## CBCL_34 0.88 0.10 0.02 0.15
## CBCL_35 0.94 0.05 0.02 0.15
## CBCL_36 0.89 0.08 0.03 0.15
## CBCL_37 0.58 0.35 0.07 0.15
## CBCL_38 0.63 0.26 0.12 0.15
## CBCL_39 0.95 0.04 0.02 0.15
## CBCL_40 0.81 0.19 0.01 0.15
## CBCL_41 0.98 0.02 0.00 0.15
## CBCL_42 0.95 0.04 0.01 0.15
## CBCL_43 0.88 0.09 0.03 0.15
## CBCL_44 0.69 0.26 0.05 0.15
## CBCL_45 0.95 0.05 0.00 0.15
## CBCL_46 0.89 0.09 0.02 0.15
## CBCL_47 0.80 0.16 0.04 0.15
## CBCL_48 0.76 0.22 0.02 0.15
## CBCL_49 0.95 0.04 0.01 0.15
## CBCL_50 0.78 0.19 0.03 0.15
## CBCL_51 0.91 0.06 0.02 0.15
## CBCL_52 0.92 0.06 0.02 0.15
## CBCL_53 0.94 0.06 0.00 0.15
## CBCL_54 0.75 0.21 0.04 0.15
## CBCL_55 0.89 0.11 0.00 0.15
## CBCL_56 0.91 0.08 0.01 0.15
## CBCL_57 0.98 0.01 0.01 0.15
## CBCL_58 0.82 0.14 0.04 0.15
## CBCL_59 0.77 0.19 0.04 0.15
## CBCL_60 0.94 0.06 0.00 0.15
## CBCL_61 0.88 0.09 0.03 0.15
## CBCL_62 0.91 0.08 0.01 0.15
## CBCL_63 0.99 0.00 0.01 0.15
## CBCL_64 0.53 0.36 0.10 0.15
## CBCL_65 0.91 0.08 0.02 0.15
## CBCL_66 0.80 0.15 0.05 0.15
## CBCL_67 0.96 0.04 0.00 0.15
## CBCL_68 0.57 0.33 0.11 0.15
## CBCL_69 0.77 0.20 0.03 0.15
## CBCL_70 0.91 0.08 0.01 0.15
## CBCL_71 0.98 0.02 0.00 0.15
## CBCL_72 0.96 0.03 0.01 0.15
## CBCL_73 0.08 0.68 0.24 0.15
## CBCL_74 0.84 0.09 0.07 0.15
## CBCL_75 0.99 0.01 0.00 0.15
## CBCL_76 0.90 0.07 0.03 0.15
## CBCL_77 0.89 0.11 0.00 0.15
## CBCL_78 0.81 0.16 0.02 0.15
## CBCL_79 0.90 0.07 0.03 0.15
## CBCL_81 0.67 0.29 0.04 0.15
## CBCL_82 0.80 0.16 0.04 0.15
## CBCL_83 0.84 0.11 0.05 0.15
## CBCL_84 0.80 0.17 0.03 0.15
```

```
## CBCL_85 0.62 0.29 0.09 0.15
## CBCL_86 0.92 0.06 0.02 0.15
## CBCL_87 0.59 0.35 0.06 0.15
## CBCL_88 0.67 0.27 0.05 0.15
## CBCL_89 0.95 0.03 0.02 0.15
## CBCL_90 0.90 0.09 0.02 0.15
## CBCL_91 0.86 0.11 0.03 0.15
## CBCL_92 0.58 0.35 0.07 0.15
## CBCL_93 0.99 0.01 0.00 0.15
## CBCL_94 0.78 0.17 0.05 0.15
## CBCL_95 0.96 0.03 0.01 0.15
## CBCL_96 0.60 0.29 0.10 0.15
## CBCL_97 0.40 0.51 0.09 0.15
## CBCL_98 0.85 0.14 0.01 0.15
## CBCL_99 0.69 0.27 0.04 0.15
```

Note - unable to take resampling approach to calculating CI_{95} for α as several variables had 0 variability.

4.2.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CBCL.all_T2$Group.R<-ifelse(CBCL.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(CBCL.all_T2[,c(3:101,107)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##         vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1     1 63 1.16 0.41  2.49     5.74 0.05     1     1
## CBCL_2     2 63 1.35 0.60  1.47     1.03 0.08     1     2
## CBCL_3     3 63 1.94 0.54 -0.06     0.37 0.07     2     2
## CBCL_4     4 63 2.00 0.54  0.00     0.39 0.07     2     2
## CBCL_5     5 63 1.22 0.49  2.07     3.54 0.06     1     1
## CBCL_6     6 63 1.29 0.55  1.74     2.04 0.07     1     1
## CBCL_7     7 63 1.22 0.46  1.79     2.33 0.06     1     1
## CBCL_8     8 63 1.59 0.75  0.82    -0.81 0.10     1     2
## CBCL_9     9 63 1.33 0.54  1.29     0.64 0.07     1     2
## CBCL_10   10 63 2.05 0.46  0.19     1.65 0.06     2     2
## CBCL_11   11 63 1.57 0.64  0.64    -0.63 0.08     1     2
## CBCL_12   12 62 1.26 0.54  1.94     2.80 0.07     1     1
## CBCL_13   13 63 1.57 0.71  0.81    -0.67 0.09     1     2
## CBCL_14   14 63 1.02 0.13  7.56    56.09 0.02     1     1
## CBCL_15   15 63 1.37 0.63  1.46     0.89 0.08     1     2
## CBCL_16   16 63 1.56 0.67  0.76    -0.57 0.08     1     2
## CBCL_17   17 63 1.11 0.32  2.42     3.90 0.04     1     1
## CBCL_18   18 63 1.06 0.25  3.50    10.38 0.03     1     1
## CBCL_19   19 63 1.06 0.30  5.00    25.83 0.04     1     1
## CBCL_20   20 63 1.40 0.61  1.23     0.40 0.08     1     2
## CBCL_21   21 63 1.43 0.53  0.60    -0.99 0.07     1     2
## CBCL_22   22 63 1.90 0.71  0.13    -1.06 0.09     1     2
## CBCL_23   23 63 1.89 0.67  0.13    -0.85 0.09     1     2
## CBCL_24   24 63 1.29 0.58  1.84     2.26 0.07     1     1
## CBCL_25   25 63 1.17 0.38  1.67     0.81 0.05     1     1
## CBCL_26   26 63 1.10 0.30  2.69     5.33 0.04     1     1
## CBCL_27   27 63 1.17 0.42  2.28     4.62 0.05     1     1
## CBCL_28   28 63 1.29 0.49  1.33     0.62 0.06     1     2
## CBCL_29   29 63 1.67 0.67  0.49    -0.82 0.08     1     2
## CBCL_30   30 63 1.40 0.55  0.96    -0.15 0.07     1     2
## CBCL_31   31 63 1.03 0.25  7.56    56.09 0.03     1     1
## CBCL_32   32 63 1.41 0.64  1.24     0.33 0.08     1     2
## CBCL_33   33 63 1.65 0.65  0.47    -0.77 0.08     1     2
## CBCL_34   34 63 1.16 0.41  2.49     5.74 0.05     1     1
```

```
## CBCL_35    35 63 1.02 0.13  7.56    56.09 0.02      1      1
## CBCL_36    36 63 1.11 0.41  3.68    12.97 0.05      1      1
## CBCL_37    37 63 1.49 0.56  0.56    -0.79 0.07      1      2
## CBCL_38    38 63 1.51 0.69  0.98    -0.36 0.09      1      2
## CBCL_39    39 63 1.02 0.13  7.56    56.09 0.02      1      1
## CBCL_40    40 63 1.14 0.35  1.99     2.00 0.04      1      1
## CBCL_41    41 63 1.00 0.00   NaN      NaN 0.00      1      1
## CBCL_42    42 63 1.06 0.25  3.50    10.38 0.03      1      1
## CBCL_43    43 63 1.11 0.36  3.34    11.31 0.05      1      1
## CBCL_44    44 63 1.30 0.53  1.47     1.21 0.07      1      2
## CBCL_45    45 62 1.06 0.25  3.46    10.13 0.03      1      1
## CBCL_46    46 63 1.17 0.42  2.28     4.62 0.05      1      1
## CBCL_47    47 63 1.25 0.51  1.81     2.41 0.06      1      1
## CBCL_48    48 63 1.24 0.43  1.20    -0.57 0.05      1      1
## CBCL_49    49 63 1.02 0.13  7.56    56.09 0.02      1      1
## CBCL_50    50 63 1.29 0.55  1.74     2.04 0.07      1      1
## CBCL_51    51 63 1.10 0.35  3.76    14.52 0.04      1      1
## CBCL_52    52 63 1.10 0.35  3.76    14.52 0.04      1      1
## CBCL_53    53 63 1.08 0.27  3.04     7.35 0.03      1      1
## CBCL_54    54 63 1.22 0.46  1.79     2.33 0.06      1      1
## CBCL_55    55 63 1.08 0.27  3.04     7.35 0.03      1      1
## CBCL_56    56 63 1.13 0.38  3.01     8.95 0.05      1      1
## CBCL_57    57 63 1.05 0.28  6.01    36.71 0.04      1      1
## CBCL_58    58 63 1.21 0.45  1.94     2.95 0.06      1      1
## CBCL_59    59 63 1.29 0.58  1.84     2.26 0.07      1      1
## CBCL_60    60 63 1.10 0.30  2.69     5.33 0.04      1      1
## CBCL_61    61 63 1.17 0.49  2.75     6.57 0.06      1      1
## CBCL_62    62 63 1.06 0.25  3.50    10.38 0.03      1      1
## CBCL_63    63 63 1.00 0.00   NaN      NaN 0.00      1      1
## CBCL_64    64 63 1.54 0.64  0.75    -0.52 0.08      1      2
## CBCL_65    65 63 1.11 0.36  3.34    11.31 0.05      1      1
## CBCL_66    66 63 1.24 0.53  2.10     3.45 0.07      1      1
## CBCL_67    67 63 1.03 0.18  5.21    25.60 0.02      1      1
## CBCL_68    68 63 1.51 0.64  0.86    -0.38 0.08      1      2
## CBCL_69    69 63 1.24 0.50  1.93     2.93 0.06      1      1
## CBCL_70    70 63 1.13 0.34  2.19     2.83 0.04      1      1
## CBCL_71    71 63 1.02 0.13  7.56    56.09 0.02      1      1
## CBCL_72    72 63 1.08 0.33  4.29    19.06 0.04      1      1
## CBCL_73    73 62 2.13 0.56  0.05    -0.03 0.07      2      2
## CBCL_74    74 62 1.27 0.63  2.03     2.56 0.08      1      1
## CBCL_75    75 63 1.02 0.13  7.56    56.09 0.02      1      1
## CBCL_76    76 62 1.19 0.51  2.53     5.44 0.06      1      1
## CBCL_77    77 63 1.10 0.30  2.69     5.33 0.04      1      1
## CBCL_78    78 63 1.14 0.35  1.99     2.00 0.04      1      1
## CBCL_79    79 63 1.11 0.41  3.68    12.97 0.05      1      1
## CBCL_80    80 63 1.00 0.00   NaN      NaN 0.00      1      1
## CBCL_81    81 63 1.37 0.58  1.27     0.59 0.07      1      2
## CBCL_82    82 63 1.22 0.52  2.24     4.06 0.07      1      1
## CBCL_83    83 63 1.21 0.51  2.39     4.77 0.06      1      1
## CBCL_84    84 63 1.24 0.47  1.66     1.80 0.06      1      1
## CBCL_85    85 63 1.41 0.66  1.30     0.36 0.08      1      2
## CBCL_86    86 63 1.05 0.21  4.15    15.45 0.03      1      1
## CBCL_87    87 63 1.43 0.61  1.09     0.09 0.08      1      2
## CBCL_88    88 63 1.27 0.54  1.85     2.45 0.07      1      1
## CBCL_89    89 63 1.05 0.21  4.15    15.45 0.03      1      1
## CBCL_90    90 62 1.11 0.37  3.31    11.06 0.05      1      1
## CBCL_91    91 63 1.25 0.57  2.07     3.12 0.07      1      1
## CBCL_92    92 63 1.52 0.64  0.80    -0.46 0.08      1      2
## CBCL_93    93 63 1.02 0.13  7.56    56.09 0.02      1      1
## CBCL_94    94 63 1.27 0.54  1.85     2.45 0.07      1      1
## CBCL_95    95 63 1.06 0.30  5.00    25.83 0.04      1      1
```

```
## CBCL_96    96 63 1.51 0.67  0.93    -0.35 0.08     1     2
## CBCL_97    97 63 1.71 0.63  0.30    -0.74 0.08     1     2
## CBCL_98    98 63 1.16 0.37  1.82     1.35 0.05     1     1
## CBCL_99    99 63 1.25 0.47  1.54     1.34 0.06     1     1
## Group.R*  100 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1      1 66 1.26 0.56  2.03     3.00 0.07     1  1.00
## CBCL_2      2 66 1.50 0.69  0.99    -0.31 0.08     1  2.00
## CBCL_3      3 66 1.95 0.62  0.03    -0.44 0.08     2  2.00
## CBCL_4      4 66 2.21 0.69 -0.29    -0.95 0.09     2  3.00
## CBCL_5      5 66 1.33 0.59  1.54     1.26 0.07     1  2.00
## CBCL_6      6 66 1.30 0.61  1.79     1.94 0.07     1  1.00
## CBCL_7      7 66 1.33 0.59  1.54     1.26 0.07     1  2.00
## CBCL_8      8 66 1.74 0.71  0.40    -0.99 0.09     1  2.00
## CBCL_9      9 66 1.39 0.65  1.37     0.57 0.08     1  2.00
## CBCL_10    10 66 2.14 0.65 -0.14    -0.74 0.08     2  3.00
## CBCL_11    11 66 1.67 0.71  0.56    -0.91 0.09     1  2.00
## CBCL_12    12 66 1.24 0.53  2.05     3.26 0.06     1  1.00
## CBCL_13    13 66 1.61 0.70  0.69    -0.76 0.09     1  2.00
## CBCL_14    14 66 1.02 0.12  7.76    59.09 0.02     1  1.00
## CBCL_15    15 66 1.47 0.64  0.99    -0.16 0.08     1  2.00
## CBCL_16    16 66 1.62 0.72  0.68    -0.83 0.09     1  2.00
## CBCL_17    17 66 1.26 0.44  1.08    -0.84 0.05     1  1.75
## CBCL_18    18 66 1.18 0.39  1.61     0.61 0.05     1  1.00
## CBCL_19    19 66 1.05 0.21  4.27    16.44 0.03     1  1.00
## CBCL_20    20 66 1.55 0.64  0.71    -0.55 0.08     1  2.00
## CBCL_21    21 66 1.41 0.61  1.16     0.25 0.07     1  2.00
## CBCL_22    22 65 1.74 0.76  0.46    -1.15 0.09     1  2.00
## CBCL_23    23 66 2.09 0.67 -0.10    -0.84 0.08     2  3.00
## CBCL_24    24 66 1.24 0.53  2.05     3.26 0.06     1  1.00
## CBCL_25    25 66 1.23 0.42  1.27    -0.39 0.05     1  1.00
## CBCL_26    26 66 1.12 0.33  2.27     3.20 0.04     1  1.00
## CBCL_27    27 66 1.32 0.59  1.62     1.54 0.07     1  1.75
## CBCL_28    28 66 1.26 0.47  1.50     1.19 0.06     1  1.00
## CBCL_29    29 66 1.83 0.60  0.06    -0.41 0.07     1  2.00
## CBCL_30    30 66 1.45 0.66  1.11    -0.01 0.08     1  2.00
## CBCL_31    31 66 1.03 0.25  7.76    59.09 0.03     1  1.00
## CBCL_32    32 66 1.44 0.61  1.03    -0.03 0.08     1  2.00
## CBCL_33    33 66 1.68 0.71  0.52    -0.92 0.09     1  2.00
## CBCL_34    34 66 1.11 0.36  3.44    12.08 0.04     1  1.00
## CBCL_35    35 66 1.14 0.43  3.15     9.44 0.05     1  1.00
## CBCL_36    36 66 1.17 0.45  2.68     6.61 0.06     1  1.00
## CBCL_37    37 66 1.48 0.68  1.04    -0.22 0.08     1  2.00
## CBCL_38    38 66 1.47 0.71  1.14    -0.13 0.09     1  2.00
## CBCL_39    39 66 1.12 0.41  3.44    11.37 0.05     1  1.00
## CBCL_40    40 66 1.26 0.47  1.50     1.19 0.06     1  1.00
## CBCL_41    41 66 1.03 0.17  5.36    27.10 0.02     1  1.00
## CBCL_42    42 66 1.05 0.27  6.17    38.74 0.03     1  1.00
## CBCL_43    43 66 1.20 0.50  2.48     5.22 0.06     1  1.00
## CBCL_44    44 66 1.41 0.61  1.16     0.25 0.07     1  2.00
## CBCL_45    45 66 1.03 0.17  5.36    27.10 0.02     1  1.00
## CBCL_46    46 66 1.09 0.38  4.20    17.01 0.05     1  1.00
## CBCL_47    47 66 1.23 0.52  2.18     3.82 0.06     1  1.00
## CBCL_48    48 66 1.27 0.51  1.65     1.82 0.06     1  1.00
## CBCL_49    49 66 1.09 0.34  3.87    15.45 0.04     1  1.00
## CBCL_50    50 66 1.21 0.45  1.87     2.64 0.06     1  1.00
## CBCL_51    51 66 1.12 0.41  3.44    11.37 0.05     1  1.00
## CBCL_52    52 66 1.09 0.34  3.87    15.45 0.04     1  1.00
## CBCL_53    53 66 1.05 0.21  4.27    16.44 0.03     1  1.00
```

```
## CBCL_54    54 66 1.35 0.59  1.45     1.02 0.07     1  2.00
## CBCL_55    55 66 1.14 0.35  2.07     2.33 0.04     1  1.00
## CBCL_56    56 66 1.06 0.24  3.60    11.13 0.03     1  1.00
## CBCL_57    57 66 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_58    58 66 1.23 0.55  2.28     4.03 0.07     1  1.00
## CBCL_59    59 66 1.26 0.47  1.50     1.19 0.06     1  1.00
## CBCL_60    60 66 1.03 0.17  5.36    27.10 0.02     1  1.00
## CBCL_61    61 66 1.14 0.39  2.82     7.71 0.05     1  1.00
## CBCL_62    62 66 1.12 0.37  3.10     9.60 0.05     1  1.00
## CBCL_63    63 66 1.03 0.25  7.76    59.09 0.03     1  1.00
## CBCL_64    64 66 1.59 0.70  0.74    -0.71 0.09     1  2.00
## CBCL_65    65 66 1.11 0.36  3.44    12.08 0.04     1  1.00
## CBCL_66    66 65 1.28 0.57  1.89     2.46 0.07     1  1.00
## CBCL_67    67 66 1.05 0.21  4.27    16.44 0.03     1  1.00
## CBCL_68    68 66 1.58 0.72  0.82    -0.70 0.09     1  2.00
## CBCL_69    69 66 1.29 0.52  1.55     1.45 0.06     1  1.75
## CBCL_70    70 66 1.06 0.30  5.14    27.33 0.04     1  1.00
## CBCL_71    71 66 1.02 0.12  7.76    59.09 0.02     1  1.00
## CBCL_72    72 66 1.02 0.12  7.76    59.09 0.02     1  1.00
## CBCL_73    73 66 2.20 0.53  0.16    -0.11 0.07     2  2.75
## CBCL_74    74 66 1.20 0.50  2.48     5.22 0.06     1  1.00
## CBCL_75    75 66 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_76    76 66 1.08 0.32  4.41    20.22 0.04     1  1.00
## CBCL_77    77 66 1.12 0.33  2.27     3.20 0.04     1  1.00
## CBCL_78    78 66 1.27 0.54  1.81     2.33 0.07     1  1.00
## CBCL_79    79 66 1.15 0.44  2.90     7.88 0.05     1  1.00
## CBCL_80    80 65 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_81    81 66 1.38 0.55  1.03    -0.01 0.07     1  2.00
## CBCL_82    82 66 1.26 0.51  1.76     2.24 0.06     1  1.00
## CBCL_83    83 66 1.20 0.50  2.48     5.22 0.06     1  1.00
## CBCL_84    84 66 1.23 0.52  2.18     3.82 0.06     1  1.00
## CBCL_85    85 66 1.52 0.64  0.82    -0.42 0.08     1  2.00
## CBCL_86    86 66 1.14 0.43  3.15     9.44 0.05     1  1.00
## CBCL_87    87 66 1.52 0.61  0.73    -0.50 0.08     1  2.00
## CBCL_88    88 66 1.48 0.61  0.84    -0.34 0.08     1  2.00
## CBCL_89    89 66 1.08 0.36  4.71    21.25 0.04     1  1.00
## CBCL_90    90 66 1.12 0.37  3.10     9.60 0.05     1  1.00
## CBCL_91    91 66 1.09 0.29  2.78     5.83 0.04     1  1.00
## CBCL_92    92 66 1.45 0.61  0.96    -0.14 0.08     1  2.00
## CBCL_93    93 66 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_94    94 66 1.26 0.54  1.93     2.76 0.07     1  1.00
## CBCL_95    95 66 1.03 0.17  5.36    27.10 0.02     1  1.00
## CBCL_96    96 66 1.48 0.68  1.04    -0.22 0.08     1  2.00
## CBCL_97    97 66 1.68 0.64  0.37    -0.76 0.08     1  2.00
## CBCL_98    98 66 1.15 0.40  2.57     6.23 0.05     1  1.00
## CBCL_99    99 66 1.44 0.61  1.03    -0.03 0.08     1  2.00
## Group.R*  100 75  NaN   NA    NA       NA   NA    NA    NA
```

```r
psych::describeBy(CBCL.all_T2[,c(102,105,106,107)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

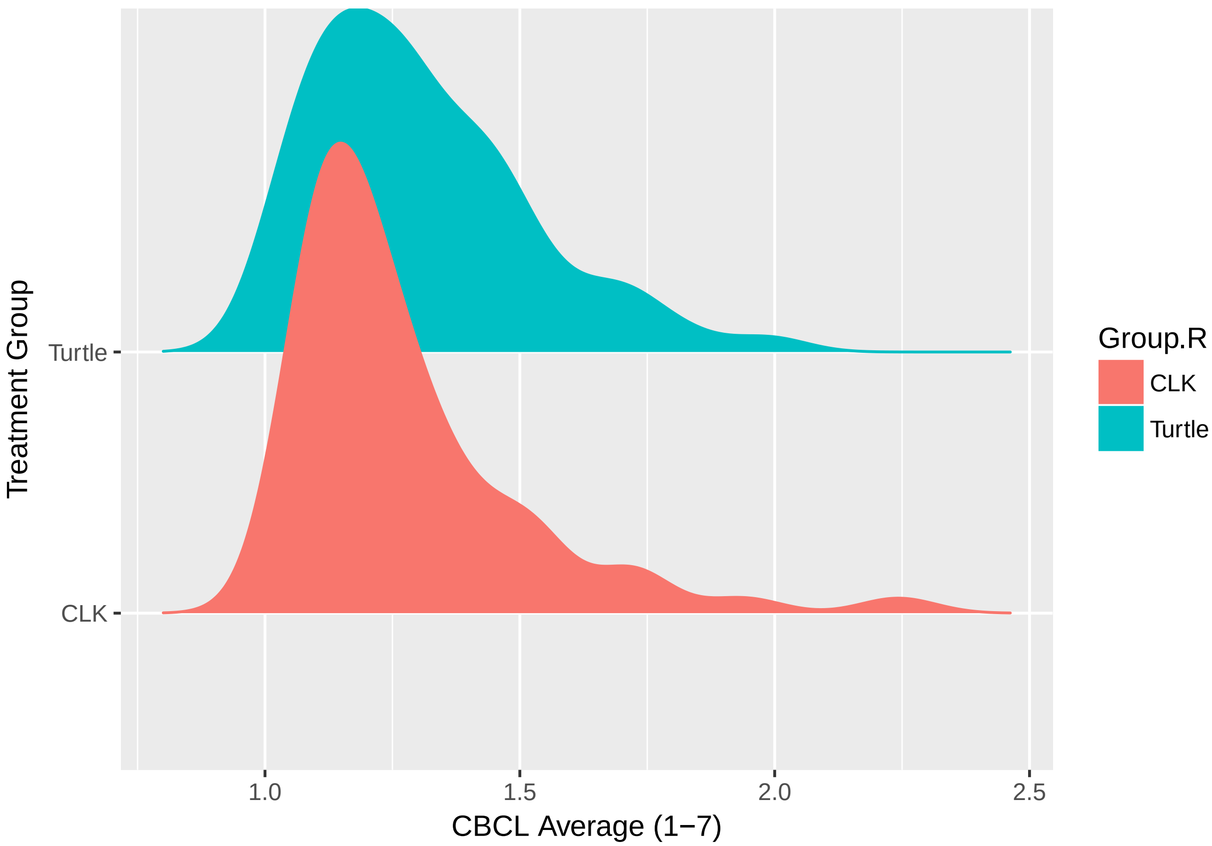
```
##
##  Descriptive statistics by group
## group: CLK
##                vars  n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot          1 58 125.64 23.24 1.94     4.21 3.05 110.25 132.50
## CBCL_avg          2 58   1.27  0.23 1.94     4.21 0.03   1.11   1.34
## CBCL_avg_MR85     3 63   1.27  0.23 1.93     4.37 0.03   1.13   1.35
## Group.R*          4 76    NaN    NA   NA       NA   NA     NA     NA
## ------------------------------------------------------------
## group: Turtle
##                vars  n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot          1 64 127.86 19.49 0.74    -0.15 2.44 113.75 140.25
```

```
## CBCL_avg         2 64    1.29  0.20 0.74    -0.15 0.02    1.15    1.42
## CBCL_avg_MR85    3 66    1.30  0.21 0.93     0.54 0.03    1.15    1.43
## Group.R*         4 75     NaN    NA   NA       NA   NA      NA      NA
```

4.2.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CBCL scores
t.test(CBCL.all_T2$CBCL_avg_MR85~CBCL.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CBCL.all_T2$CBCL_avg_MR85 by CBCL.all_T2$Group
## t = -0.81338, df = 125.33, p-value = 0.4175
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.10849325  0.04528992
## sample estimates:
## mean in group 0 mean in group 1
##        1.272717        1.304319
```



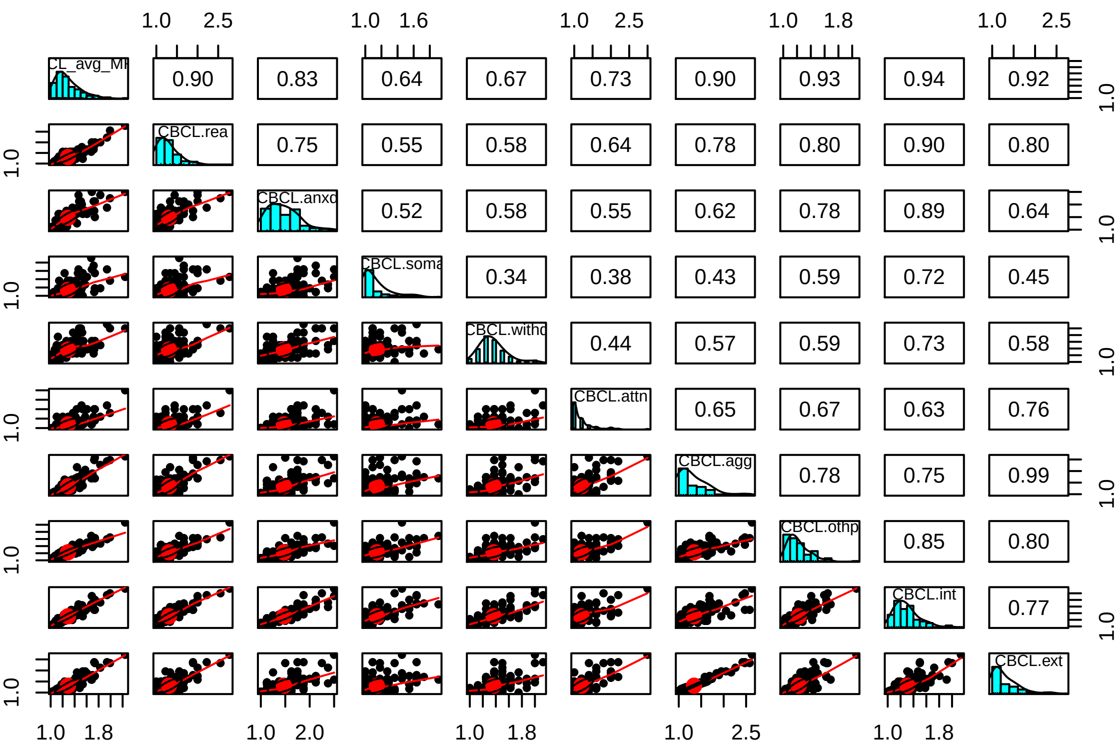
4.2.6 TIME 2: SUBSCALES

4.2.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CBCL.all_T2[,c(108:116)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##             vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## CBCL.rea       1 129 1.31 0.31 1.85     4.78 0.03  1.11  1.44
## CBCL.anxd      2 129 1.47 0.33 0.90     0.63 0.03  1.25  1.62
## CBCL.soma      3 129 1.14 0.19 1.68     2.55 0.02  1.00  1.18
## CBCL.withd     4 129 1.37 0.23 1.05     1.16 0.02  1.25  1.50
## CBCL.attn      5 129 1.20 0.33 2.44     7.47 0.03  1.00  1.20
## CBCL.agg       6 129 1.34 0.37 1.55     2.27 0.03  1.05  1.58
## CBCL.othp      7 129 1.23 0.17 1.59     3.80 0.01  1.09  1.28
## CBCL.int       8 129 1.31 0.21 1.30     1.92 0.02  1.17  1.39
## CBCL.ext       9 129 1.31 0.34 1.70     3.05 0.03  1.08  1.46
```

```
psych::pairs.panels(CBCL.all_T2[,c(106,108:116)])
```



4.2.6.2 CRONBACH'S ALPHA: REACTIVITY SUBSCALE

```
psych::alpha(CBCL.all_T2[CBCL.rea])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.rea])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.77      0.79    0.81      0.29 3.7 0.027  1.3 0.31     0.26
##
##  lower alpha upper     95% confidence boundaries
## 0.72 0.77 0.83
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_21      0.76      0.77    0.80      0.30 3.4    0.029 0.032  0.26
## CBCL_46      0.78      0.80    0.82      0.33 4.0    0.027 0.024  0.33
## CBCL_51      0.74      0.75    0.77      0.27 2.9    0.031 0.024  0.24
```

```
## CBCL_79      0.74      0.75    0.76      0.27 3.0    0.031 0.020   0.24
## CBCL_82      0.72      0.74    0.74      0.26 2.8    0.033 0.017   0.24
## CBCL_83      0.74      0.76    0.78      0.28 3.1    0.032 0.027   0.24
## CBCL_92      0.79      0.80    0.81      0.33 3.9    0.026 0.027   0.33
## CBCL_97      0.74      0.76    0.79      0.28 3.2    0.031 0.030   0.22
## CBCL_99      0.76      0.77    0.78      0.30 3.4    0.030 0.028   0.27
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CBCL_21 129  0.57  0.56  0.46   0.41  1.4 0.57
## CBCL_46 129  0.35  0.39  0.24   0.21  1.1 0.40
## CBCL_51 129  0.69  0.72  0.70   0.60  1.1 0.38
## CBCL_79 129  0.68  0.70  0.71   0.58  1.1 0.42
## CBCL_82 129  0.75  0.77  0.80   0.65  1.2 0.51
## CBCL_83 129  0.67  0.67  0.62   0.55  1.2 0.51
## CBCL_92 129  0.47  0.43  0.29   0.27  1.5 0.63
## CBCL_97 129  0.68  0.64  0.58   0.52  1.7 0.63
## CBCL_99 129  0.60  0.59  0.52   0.45  1.3 0.55
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_21 0.62 0.34 0.04 0.15
## CBCL_46 0.89 0.09 0.02 0.15
## CBCL_51 0.91 0.06 0.02 0.15
## CBCL_79 0.90 0.07 0.03 0.15
## CBCL_82 0.80 0.16 0.04 0.15
## CBCL_83 0.84 0.11 0.05 0.15
## CBCL_92 0.58 0.35 0.07 0.15
## CBCL_97 0.40 0.51 0.09 0.15
## CBCL_99 0.69 0.27 0.04 0.15
```

4.2.6.3 CRONBACH'S ALPHA: ANXIETY/DEPRESSION SUBSCALE

```r
psych::alpha(CBCL.all_T2[CBCL.anxd])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.anxd])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.72      0.73    0.75      0.25 2.6 0.033  1.5 0.33     0.27
##
##  lower alpha upper     95% confidence boundaries
## 0.66 0.72 0.79
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_10      0.70      0.71    0.73      0.26 2.5    0.036 0.020  0.28
## CBCL_33      0.65      0.66    0.69      0.22 2.0    0.043 0.024  0.21
## CBCL_37      0.71      0.72    0.73      0.27 2.6    0.034 0.018  0.29
## CBCL_43      0.69      0.69    0.70      0.24 2.2    0.037 0.018  0.28
## CBCL_47      0.69      0.69    0.71      0.24 2.2    0.038 0.022  0.26
## CBCL_68      0.71      0.71    0.73      0.26 2.5    0.036 0.025  0.29
## CBCL_87      0.67      0.68    0.70      0.23 2.1    0.039 0.026  0.22
## CBCL_90      0.71      0.72    0.72      0.26 2.5    0.035 0.016  0.28
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CBCL_10 129  0.55  0.52  0.42   0.37  2.1 0.57
## CBCL_33 129  0.74  0.72  0.67   0.58  1.7 0.68
## CBCL_37 129  0.53  0.48  0.37   0.32  1.5 0.63
```

```
## CBCL_43 129  0.56  0.62  0.57   0.43  1.2 0.44
## CBCL_47 129  0.60  0.62  0.55   0.45  1.2 0.51
## CBCL_68 129  0.58  0.54  0.42   0.37  1.5 0.68
## CBCL_87 129  0.67  0.67  0.61   0.50  1.5 0.61
## CBCL_90 128  0.43  0.52  0.44   0.31  1.1 0.37
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_10 0.12 0.67 0.21 0.15
## CBCL_33 0.45 0.43 0.12 0.15
## CBCL_37 0.58 0.35 0.07 0.15
## CBCL_43 0.88 0.09 0.03 0.15
## CBCL_47 0.80 0.16 0.04 0.15
## CBCL_68 0.57 0.33 0.11 0.15
## CBCL_87 0.59 0.35 0.06 0.15
## CBCL_90 0.90 0.09 0.02 0.15
```

4.2.6.4 CRONBACH'S ALPHA: SOMATIC SUBSCALE

```r
psych::alpha(CBCL.all_T2[CBCL.soma])
```

```
## Some items ( CBCL_93 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.soma])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.64      0.62    0.72      0.13 1.6 0.042  1.1 0.19    0.079
##
##  lower alpha upper     95% confidence boundaries
## 0.56 0.64 0.72
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_1       0.57      0.54    0.66      0.11 1.2    0.049 0.034 0.071
## CBCL_7       0.63      0.60    0.69      0.13 1.5    0.041 0.040 0.083
## CBCL_12      0.57      0.56    0.66      0.11 1.3    0.051 0.038 0.063
## CBCL_19      0.64      0.62    0.74      0.14 1.7    0.042 0.045 0.086
## CBCL_24      0.66      0.62    0.72      0.14 1.6    0.038 0.040 0.086
## CBCL_39      0.61      0.58    0.68      0.12 1.4    0.045 0.036 0.073
## CBCL_45      0.62      0.58    0.70      0.12 1.4    0.045 0.043 0.071
## CBCL_52      0.59      0.56    0.66      0.11 1.3    0.048 0.037 0.063
## CBCL_78      0.58      0.55    0.66      0.11 1.2    0.048 0.034 0.071
## CBCL_86      0.63      0.61    0.69      0.14 1.6    0.043 0.038 0.083
## CBCL_93      0.65      0.66    0.76      0.16 1.9    0.042 0.041 0.115
##
##  Item statistics
##           n  raw.r std.r  r.cor r.drop mean    sd
## CBCL_1  129  0.643  0.64  0.643  0.464  1.2 0.495
## CBCL_7  129  0.476  0.43  0.379  0.240  1.3 0.530
## CBCL_12 128  0.656  0.59  0.582  0.469  1.2 0.532
## CBCL_19 129  0.249  0.32  0.156  0.125  1.1 0.260
## CBCL_24 129  0.404  0.34  0.231  0.145  1.3 0.552
## CBCL_39 129  0.475  0.50  0.465  0.345  1.1 0.311
## CBCL_45 128  0.424  0.49  0.403  0.336  1.0 0.212
## CBCL_52 129  0.592  0.57  0.560  0.469  1.1 0.341
## CBCL_78 129  0.605  0.61  0.601  0.433  1.2 0.462
## CBCL_86 129  0.380  0.37  0.303  0.225  1.1 0.341
## CBCL_93 129 -0.025  0.14 -0.073 -0.068  1.0 0.088
```

```
##
## Non missing response frequency for each item
##           1    2    3 miss
## CBCL_1  0.83 0.13 0.04 0.15
## CBCL_7  0.76 0.20 0.04 0.15
## CBCL_12 0.80 0.16 0.05 0.15
## CBCL_19 0.95 0.04 0.01 0.15
## CBCL_24 0.79 0.16 0.05 0.15
## CBCL_39 0.95 0.04 0.02 0.15
## CBCL_45 0.95 0.05 0.00 0.15
## CBCL_52 0.92 0.06 0.02 0.15
## CBCL_78 0.81 0.16 0.02 0.15
## CBCL_86 0.92 0.06 0.02 0.15
## CBCL_93 0.99 0.01 0.00 0.15
```

NOTE: The reliability for the somatic subscale is particularly low.

4.2.6.5 CRONBACH'S ALPHA: WITHDRAWAL SUBSCALE

```
psych::alpha(CBCL.all_T2[CBCL.withd])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.withd])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.57      0.63    0.65      0.18 1.7 0.047  1.4 0.23     0.15
##
##  lower alpha upper     95% confidence boundaries
## 0.48 0.57 0.66
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CBCL_2       0.53      0.62    0.63      0.19 1.6    0.052 0.0166  0.16
## CBCL_4       0.48      0.59    0.60      0.17 1.4    0.058 0.0174  0.12
## CBCL_23      0.51      0.61    0.62      0.18 1.6    0.056 0.0144  0.15
## CBCL_62      0.54      0.61    0.62      0.18 1.6    0.050 0.0176  0.14
## CBCL_67      0.55      0.58    0.57      0.16 1.4    0.050 0.0088  0.14
## CBCL_70      0.55      0.59    0.58      0.17 1.5    0.048 0.0069  0.16
## CBCL_71      0.56      0.60    0.62      0.17 1.5    0.049 0.0161  0.14
## CBCL_98      0.55      0.62    0.64      0.19 1.6    0.049 0.0175  0.16
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_2  129  0.62  0.48  0.34   0.32  1.4 0.65
## CBCL_4  129  0.68  0.58  0.48   0.42  2.1 0.63
## CBCL_23 129  0.67  0.51  0.39   0.38  2.0 0.68
## CBCL_62 129  0.43  0.50  0.37   0.27  1.1 0.32
## CBCL_67 129  0.40  0.60  0.56   0.31  1.0 0.19
## CBCL_70 129  0.39  0.56  0.52   0.23  1.1 0.32
## CBCL_71 129  0.35  0.55  0.44   0.29  1.0 0.12
## CBCL_98 129  0.44  0.47  0.32   0.25  1.2 0.38
##
## Non missing response frequency for each item
##           1    2    3 miss
## CBCL_2  0.66 0.26 0.09 0.15
## CBCL_4  0.15 0.60 0.26 0.15
## CBCL_23 0.23 0.54 0.22 0.15
## CBCL_62 0.91 0.08 0.01 0.15
## CBCL_67 0.96 0.04 0.00 0.15
## CBCL_70 0.91 0.08 0.01 0.15
## CBCL_71 0.98 0.02 0.00 0.15
```

```
## CBCL_98 0.85 0.14 0.01 0.15
```

NOTE: Reliability for the withdrawal subscale is particularly low

4.2.6.6 CRONBACH'S ALPHA: ATTENTION SUBSCALE

```r
psych::alpha(CBCL.all_T2[CBCL.attn])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.attn])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.75      0.74    0.76      0.36 2.9 0.027  1.2 0.33      0.3
##
##  lower alpha upper     95% confidence boundaries
## 0.69 0.75 0.8
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_5       0.63      0.66    0.65      0.33 1.9    0.042 0.024  0.30
## CBCL_6       0.62      0.64    0.63      0.31 1.8    0.045 0.027  0.29
## CBCL_56      0.77      0.76    0.74      0.44 3.1    0.025 0.037  0.44
## CBCL_59      0.67      0.68    0.69      0.35 2.1    0.036 0.040  0.26
## CBCL_95      0.75      0.72    0.72      0.40 2.6    0.028 0.057  0.41
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_5  129  0.83  0.76  0.72   0.67  1.3 0.54
## CBCL_6  129  0.86  0.79  0.76   0.70  1.3 0.58
## CBCL_56 129  0.46  0.57  0.41   0.28  1.1 0.32
## CBCL_59 129  0.78  0.73  0.64   0.59  1.3 0.53
## CBCL_95 129  0.51  0.64  0.50   0.38  1.0 0.25
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_5  0.77 0.19 0.05 0.15
## CBCL_6  0.77 0.17 0.06 0.15
## CBCL_56 0.91 0.08 0.01 0.15
## CBCL_59 0.77 0.19 0.04 0.15
## CBCL_95 0.96 0.03 0.01 0.15
```

4.2.6.7 CRONBACH'S ALPHA: AGGRESSION SUBSCALE

```r
psych::alpha(CBCL.all_T2[CBCL.agg])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.agg])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.93      0.93    0.95      0.41  13 0.0074  1.3 0.37      0.4
##
##  lower alpha upper     95% confidence boundaries
## 0.92 0.93 0.95
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_8       0.93      0.93    0.95      0.41  13   0.0077 0.020  0.40
## CBCL_15      0.92      0.93    0.94      0.41  12   0.0080 0.018  0.40
## CBCL_16      0.92      0.93    0.94      0.41  12   0.0081 0.019  0.39
## CBCL_18      0.93      0.93    0.95      0.43  13   0.0075 0.019  0.43
```

```
## CBCL_20      0.92      0.92    0.94      0.41  12   0.0080 0.018  0.40
## CBCL_27      0.93      0.93    0.94      0.41  13   0.0078 0.018  0.40
## CBCL_29      0.93      0.93    0.95      0.42  13   0.0076 0.020  0.41
## CBCL_35      0.93      0.93    0.95      0.43  13   0.0075 0.019  0.43
## CBCL_40      0.93      0.93    0.95      0.42  13   0.0074 0.020  0.42
## CBCL_42      0.93      0.93    0.95      0.43  14   0.0074 0.018  0.43
## CBCL_44      0.93      0.93    0.95      0.41  13   0.0078 0.019  0.40
## CBCL_53      0.93      0.93    0.95      0.43  14   0.0075 0.018  0.43
## CBCL_58      0.93      0.92    0.94      0.40  12   0.0080 0.019  0.39
## CBCL_66      0.93      0.93    0.94      0.41  12   0.0079 0.019  0.39
## CBCL_69      0.93      0.93    0.95      0.42  13   0.0076 0.020  0.40
## CBCL_81      0.92      0.92    0.95      0.41  12   0.0080 0.019  0.40
## CBCL_85      0.93      0.93    0.95      0.41  13   0.0078 0.020  0.40
## CBCL_88      0.92      0.92    0.94      0.40  12   0.0081 0.018  0.40
## CBCL_96      0.93      0.93    0.95      0.42  13   0.0076 0.020  0.40
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_8  129  0.70  0.67  0.67   0.64  1.7 0.73
## CBCL_15 129  0.78  0.76  0.76   0.74  1.4 0.63
## CBCL_16 129  0.79  0.77  0.77   0.75  1.6 0.69
## CBCL_18 129  0.50  0.52  0.47   0.46  1.1 0.33
## CBCL_20 129  0.79  0.77  0.77   0.75  1.5 0.63
## CBCL_27 129  0.71  0.71  0.70   0.67  1.2 0.52
## CBCL_29 129  0.64  0.62  0.59   0.58  1.8 0.64
## CBCL_35 129  0.49  0.53  0.49   0.45  1.1 0.32
## CBCL_40 129  0.51  0.56  0.53   0.47  1.2 0.42
## CBCL_42 129  0.43  0.48  0.45   0.40  1.1 0.26
## CBCL_44 129  0.71  0.71  0.69   0.67  1.4 0.57
## CBCL_53 129  0.44  0.48  0.45   0.41  1.1 0.24
## CBCL_58 129  0.78  0.79  0.79   0.75  1.2 0.50
## CBCL_66 128  0.77  0.76  0.76   0.72  1.3 0.55
## CBCL_69 129  0.63  0.64  0.61   0.59  1.3 0.51
## CBCL_81 129  0.78  0.77  0.76   0.75  1.4 0.56
## CBCL_85 129  0.73  0.72  0.71   0.68  1.5 0.65
## CBCL_88 129  0.81  0.80  0.80   0.78  1.4 0.59
## CBCL_96 129  0.65  0.62  0.60   0.59  1.5 0.67
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_8  0.49 0.36 0.16 0.15
## CBCL_15 0.66 0.26 0.08 0.15
## CBCL_16 0.53 0.36 0.12 0.15
## CBCL_18 0.88 0.12 0.00 0.15
## CBCL_20 0.60 0.33 0.07 0.15
## CBCL_27 0.79 0.17 0.04 0.15
## CBCL_29 0.36 0.53 0.11 0.15
## CBCL_35 0.94 0.05 0.02 0.15
## CBCL_40 0.81 0.19 0.01 0.15
## CBCL_42 0.95 0.04 0.01 0.15
## CBCL_44 0.69 0.26 0.05 0.15
## CBCL_53 0.94 0.06 0.00 0.15
## CBCL_58 0.82 0.14 0.04 0.15
## CBCL_66 0.80 0.15 0.05 0.15
## CBCL_69 0.77 0.20 0.03 0.15
## CBCL_81 0.67 0.29 0.04 0.15
## CBCL_85 0.62 0.29 0.09 0.15
## CBCL_88 0.67 0.27 0.05 0.15
## CBCL_96 0.60 0.29 0.10 0.15
```

4.2.6.8 CRONBACH'S ALPHA: OTHER PROBLEMS SUBSCALE

```r
psych::alpha(CBCL.all_T2[CBCL.othp])
```

```
## Some items ( CBCL_63 CBCL_75 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.othp])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.84      0.83     0.9      0.14   5 0.017  1.2 0.17     0.14
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.84 0.87
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_3       0.83      0.83    0.89      0.14 4.8    0.018 0.021  0.14
## CBCL_9       0.83      0.83    0.89      0.14 4.7    0.018 0.021  0.14
## CBCL_11      0.82      0.82    0.89      0.13 4.6    0.019 0.020  0.13
## CBCL_13      0.83      0.82    0.89      0.13 4.7    0.019 0.020  0.13
## CBCL_14      0.84      0.84    0.90      0.15 5.2    0.017 0.020  0.15
## CBCL_17      0.83      0.83    0.89      0.14 4.8    0.018 0.021  0.14
## CBCL_25      0.84      0.83    0.90      0.14 5.0    0.017 0.021  0.14
## CBCL_26      0.84      0.83    0.89      0.14 4.9    0.018 0.021  0.14
## CBCL_28      0.83      0.83    0.89      0.14 4.8    0.018 0.021  0.14
## CBCL_30      0.83      0.82    0.89      0.13 4.7    0.019 0.021  0.13
## CBCL_31      0.84      0.84    0.90      0.14 5.1    0.017 0.020  0.15
## CBCL_32      0.84      0.83    0.90      0.14 5.0    0.017 0.021  0.15
## CBCL_34      0.83      0.82    0.89      0.14 4.7    0.018 0.020  0.14
## CBCL_36      0.83      0.82    0.89      0.13 4.6    0.018 0.019  0.14
## CBCL_41      0.84      0.83    0.89      0.14 5.0    0.017 0.020  0.14
## CBCL_49      0.84      0.83    0.89      0.14 4.9    0.018 0.020  0.14
## CBCL_50      0.83      0.83    0.89      0.14 4.8    0.018 0.021  0.14
## CBCL_54      0.83      0.83    0.89      0.14 4.8    0.018 0.021  0.14
## CBCL_55      0.83      0.83    0.89      0.14 4.8    0.018 0.021  0.14
## CBCL_57      0.83      0.83    0.89      0.14 4.7    0.018 0.020  0.14
## CBCL_60      0.84      0.83    0.89      0.14 4.8    0.018 0.020  0.14
## CBCL_61      0.83      0.82    0.89      0.14 4.7    0.018 0.020  0.14
## CBCL_63      0.84      0.84    0.90      0.15 5.3    0.017 0.020  0.15
## CBCL_56      0.83      0.83    0.89      0.14 4.7    0.018 0.020  0.14
## CBCL_72      0.83      0.83    0.89      0.14 4.8    0.018 0.020  0.14
## CBCL_73      0.84      0.83    0.90      0.14 4.9    0.018 0.021  0.14
## CBCL_75      0.84      0.84    0.90      0.15 5.3    0.017 0.020  0.15
## CBCL_76      0.84      0.84    0.90      0.15 5.2    0.017 0.020  0.15
## CBCL_77      0.83      0.83    0.89      0.14 4.7    0.018 0.021  0.13
## CBCL_89      0.83      0.83    0.89      0.14 4.8    0.018 0.020  0.14
## CBCL_91      0.83      0.83    0.89      0.14 4.7    0.018 0.020  0.14
##
##  Item statistics
##           n raw.r std.r  r.cor  r.drop mean   sd
## CBCL_3  129 0.517 0.461  0.4426  0.4344  1.9 0.577
## CBCL_9  129 0.507 0.500  0.4897  0.4195  1.4 0.599
## CBCL_11 129 0.690 0.627  0.6252  0.6156  1.6 0.675
## CBCL_13 129 0.624 0.565  0.5569  0.5344  1.6 0.703
## CBCL_14 129 0.053 0.114  0.0656  0.0303  1.0 0.124
## CBCL_17 129 0.458 0.475  0.4567  0.3972  1.2 0.391
## CBCL_25 129 0.312 0.315  0.2719  0.2407  1.2 0.403
## CBCL_26 129 0.348 0.369  0.3330  0.2997  1.1 0.312
## CBCL_28 129 0.449 0.430  0.4131  0.3750  1.3 0.480
```

```
## CBCL_30 129 0.599 0.556  0.5487  0.5202  1.4 0.609
## CBCL_31 129 0.228 0.213  0.1794  0.1836  1.0 0.248
## CBCL_32 129 0.329 0.268  0.2289  0.2225  1.4 0.622
## CBCL_34 129 0.534 0.544  0.5436  0.4792  1.1 0.383
## CBCL_36 129 0.580 0.612  0.6148  0.5229  1.1 0.428
## CBCL_41 129 0.239 0.275  0.2487  0.2173  1.0 0.124
## CBCL_49 129 0.309 0.351  0.3413  0.2640  1.1 0.260
## CBCL_50 129 0.483 0.479  0.4585  0.4103  1.2 0.500
## CBCL_54 129 0.483 0.474  0.4513  0.4009  1.3 0.533
## CBCL_55 129 0.462 0.492  0.4757  0.4145  1.1 0.312
## CBCL_57 129 0.480 0.524  0.5255  0.4512  1.0 0.196
## CBCL_60 129 0.377 0.426  0.4114  0.3374  1.1 0.242
## CBCL_61 129 0.522 0.528  0.5166  0.4589  1.2 0.441
## CBCL_63 129 0.029 0.064 -0.0035 -0.0031  1.0 0.176
## CBCL_56 129 0.477 0.522  0.5129  0.4277  1.1 0.317
## CBCL_72 129 0.433 0.492  0.4923  0.3946  1.0 0.246
## CBCL_73 128 0.394 0.338  0.3002  0.3042  2.2 0.544
## CBCL_75 129 0.013 0.067 -0.0014 -0.0034  1.0 0.088
## CBCL_76 128 0.104 0.102  0.0511  0.0256  1.1 0.423
## CBCL_77 129 0.476 0.504  0.4787  0.4291  1.1 0.312
## CBCL_89 129 0.441 0.472  0.4650  0.3933  1.1 0.300
## CBCL_91 129 0.508 0.508  0.5023  0.4410  1.2 0.453
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_3  0.19 0.67 0.14 0.15
## CBCL_9  0.70 0.24 0.06 0.15
## CBCL_11 0.49 0.40 0.11 0.15
## CBCL_13 0.53 0.34 0.12 0.15
## CBCL_14 0.98 0.02 0.00 0.15
## CBCL_17 0.81 0.19 0.00 0.15
## CBCL_25 0.80 0.20 0.00 0.15
## CBCL_26 0.89 0.11 0.00 0.15
## CBCL_28 0.74 0.24 0.02 0.15
## CBCL_30 0.64 0.30 0.06 0.15
## CBCL_31 0.98 0.00 0.02 0.15
## CBCL_32 0.64 0.29 0.07 0.15
## CBCL_34 0.88 0.10 0.02 0.15
## CBCL_36 0.89 0.08 0.03 0.15
## CBCL_41 0.98 0.02 0.00 0.15
## CBCL_49 0.95 0.04 0.01 0.15
## CBCL_50 0.78 0.19 0.03 0.15
## CBCL_54 0.75 0.21 0.04 0.15
## CBCL_55 0.89 0.11 0.00 0.15
## CBCL_57 0.98 0.01 0.01 0.15
## CBCL_60 0.94 0.06 0.00 0.15
## CBCL_61 0.88 0.09 0.03 0.15
## CBCL_63 0.99 0.00 0.01 0.15
## CBCL_56 0.91 0.08 0.01 0.15
## CBCL_72 0.96 0.03 0.01 0.15
## CBCL_73 0.08 0.68 0.24 0.15
## CBCL_75 0.99 0.01 0.00 0.15
## CBCL_76 0.90 0.07 0.03 0.15
## CBCL_77 0.89 0.11 0.00 0.15
## CBCL_89 0.95 0.03 0.02 0.15
## CBCL_91 0.86 0.11 0.03 0.15
```

4.2.6.9 CRONBACH'S ALPHA: INTERNALIZING SUBSCALE (reactivity, anxiety/depression, withdrawal, somatic)

```r
psych::alpha(CBCL.all_T2[CBCL.int])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.int])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.88    0.94      0.17 7.5 0.013  1.3 0.21     0.16
##
##  lower alpha upper     95% confidence boundaries
## 0.86 0.88 0.91
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_21      0.88      0.88    0.94      0.17 7.3    0.014 0.022  0.16
## CBCL_46      0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_51      0.88      0.88    0.94      0.17 7.1    0.014 0.021  0.16
## CBCL_79      0.88      0.88    0.94      0.17 7.2    0.014 0.021  0.16
## CBCL_82      0.88      0.88    0.94      0.17 7.1    0.014 0.021  0.16
## CBCL_83      0.87      0.88    0.94      0.17 7.0    0.014 0.021  0.16
## CBCL_92      0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_97      0.88      0.88    0.94      0.17 7.2    0.014 0.022  0.16
## CBCL_99      0.88      0.88    0.94      0.17 7.1    0.014 0.021  0.16
## CBCL_10      0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_33      0.87      0.88    0.94      0.17 7.1    0.014 0.021  0.16
## CBCL_37      0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_43      0.88      0.88    0.94      0.17 7.1    0.014 0.020  0.16
## CBCL_47      0.88      0.88    0.94      0.17 7.2    0.014 0.021  0.16
## CBCL_68      0.88      0.88    0.94      0.17 7.3    0.014 0.022  0.16
## CBCL_87      0.88      0.88    0.94      0.17 7.2    0.014 0.022  0.16
## CBCL_90      0.88      0.88    0.94      0.17 7.2    0.014 0.021  0.16
## CBCL_1       0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_7       0.88      0.88    0.94      0.17 7.3    0.013 0.021  0.16
## CBCL_12      0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_19      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_24      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_39      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_45      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_52      0.88      0.88    0.94      0.17 7.3    0.013 0.021  0.16
## CBCL_78      0.88      0.88    0.94      0.18 7.4    0.013 0.021  0.16
## CBCL_86      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_93      0.88      0.89    0.94      0.18 7.8    0.013 0.020  0.17
## CBCL_2       0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_4       0.88      0.88    0.94      0.17 7.3    0.014 0.022  0.16
## CBCL_23      0.88      0.88    0.94      0.17 7.4    0.013 0.022  0.16
## CBCL_62      0.88      0.88    0.94      0.17 7.3    0.013 0.022  0.16
## CBCL_67      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
## CBCL_70      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.17
## CBCL_71      0.88      0.88    0.94      0.17 7.4    0.013 0.021  0.16
## CBCL_98      0.88      0.88    0.94      0.18 7.5    0.013 0.021  0.16
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean    sd
## CBCL_21 129 0.500 0.479 0.455  0.442  1.4 0.569
## CBCL_46 129 0.345 0.383 0.362  0.298  1.1 0.403
## CBCL_51 129 0.587 0.613 0.610  0.553  1.1 0.380
## CBCL_79 129 0.560 0.579 0.584  0.521  1.1 0.422
## CBCL_82 129 0.622 0.633 0.642  0.579  1.2 0.512
## CBCL_83 129 0.656 0.666 0.667  0.616  1.2 0.506
## CBCL_92 129 0.455 0.405 0.385  0.387  1.5 0.626
## CBCL_97 129 0.593 0.556 0.546  0.536  1.7 0.633
```

```
## CBCL_99 129 0.599 0.592 0.588  0.550  1.3 0.554
## CBCL_10 129 0.441 0.398 0.380  0.379  2.1 0.565
## CBCL_33 129 0.648 0.629 0.622  0.592  1.7 0.677
## CBCL_37 129 0.438 0.396 0.376  0.369  1.5 0.626
## CBCL_43 129 0.560 0.597 0.601  0.519  1.2 0.441
## CBCL_47 129 0.519 0.541 0.533  0.468  1.2 0.512
## CBCL_68 129 0.508 0.474 0.451  0.438  1.5 0.685
## CBCL_87 129 0.587 0.565 0.557  0.531  1.5 0.613
## CBCL_90 128 0.494 0.530 0.527  0.459  1.1 0.368
## CBCL_1  129 0.331 0.328 0.315  0.272  1.2 0.495
## CBCL_7  129 0.430 0.445 0.436  0.372  1.3 0.530
## CBCL_12 128 0.433 0.432 0.424  0.377  1.2 0.532
## CBCL_19 129 0.295 0.349 0.331  0.264  1.1 0.260
## CBCL_24 129 0.344 0.313 0.288  0.279  1.3 0.552
## CBCL_39 129 0.314 0.311 0.296  0.277  1.1 0.311
## CBCL_45 128 0.281 0.291 0.271  0.256  1.0 0.212
## CBCL_52 129 0.467 0.475 0.468  0.432  1.1 0.341
## CBCL_78 129 0.366 0.375 0.365  0.312  1.2 0.462
## CBCL_86 129 0.322 0.332 0.327  0.282  1.1 0.341
## CBCL_93 129 0.045 0.085 0.047  0.034  1.0 0.088
## CBCL_2  129 0.447 0.406 0.386  0.376  1.4 0.647
## CBCL_4  129 0.507 0.483 0.460  0.443  2.1 0.628
## CBCL_23 129 0.433 0.395 0.370  0.357  2.0 0.679
## CBCL_62 129 0.461 0.494 0.482  0.428  1.1 0.317
## CBCL_67 129 0.286 0.350 0.331  0.263  1.0 0.194
## CBCL_70 129 0.250 0.298 0.279  0.211  1.1 0.317
## CBCL_71 129 0.342 0.415 0.403  0.328  1.0 0.124
## CBCL_98 129 0.312 0.337 0.315  0.265  1.2 0.384
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_21 0.62 0.34 0.04 0.15
## CBCL_46 0.89 0.09 0.02 0.15
## CBCL_51 0.91 0.06 0.02 0.15
## CBCL_79 0.90 0.07 0.03 0.15
## CBCL_82 0.80 0.16 0.04 0.15
## CBCL_83 0.84 0.11 0.05 0.15
## CBCL_92 0.58 0.35 0.07 0.15
## CBCL_97 0.40 0.51 0.09 0.15
## CBCL_99 0.69 0.27 0.04 0.15
## CBCL_10 0.12 0.67 0.21 0.15
## CBCL_33 0.45 0.43 0.12 0.15
## CBCL_37 0.58 0.35 0.07 0.15
## CBCL_43 0.88 0.09 0.03 0.15
## CBCL_47 0.80 0.16 0.04 0.15
## CBCL_68 0.57 0.33 0.11 0.15
## CBCL_87 0.59 0.35 0.06 0.15
## CBCL_90 0.90 0.09 0.02 0.15
## CBCL_1  0.83 0.13 0.04 0.15
## CBCL_7  0.76 0.20 0.04 0.15
## CBCL_12 0.80 0.16 0.05 0.15
## CBCL_19 0.95 0.04 0.01 0.15
## CBCL_24 0.79 0.16 0.05 0.15
## CBCL_39 0.95 0.04 0.02 0.15
## CBCL_45 0.95 0.05 0.00 0.15
## CBCL_52 0.92 0.06 0.02 0.15
## CBCL_78 0.81 0.16 0.02 0.15
## CBCL_86 0.92 0.06 0.02 0.15
## CBCL_93 0.99 0.01 0.00 0.15
## CBCL_2  0.66 0.26 0.09 0.15
## CBCL_4  0.15 0.60 0.26 0.15
```

```
## CBCL_23 0.23 0.54 0.22 0.15
## CBCL_62 0.91 0.08 0.01 0.15
## CBCL_67 0.96 0.04 0.00 0.15
## CBCL_70 0.91 0.08 0.01 0.15
## CBCL_71 0.98 0.02 0.00 0.15
## CBCL_98 0.85 0.14 0.01 0.15
```

4.2.6.10 CRONBACH'S ALPHA: EXTERNALIZING SUBSCALE (attention, aggression)

```
psych::alpha(CBCL.all_T2[CBCL.ext])
```

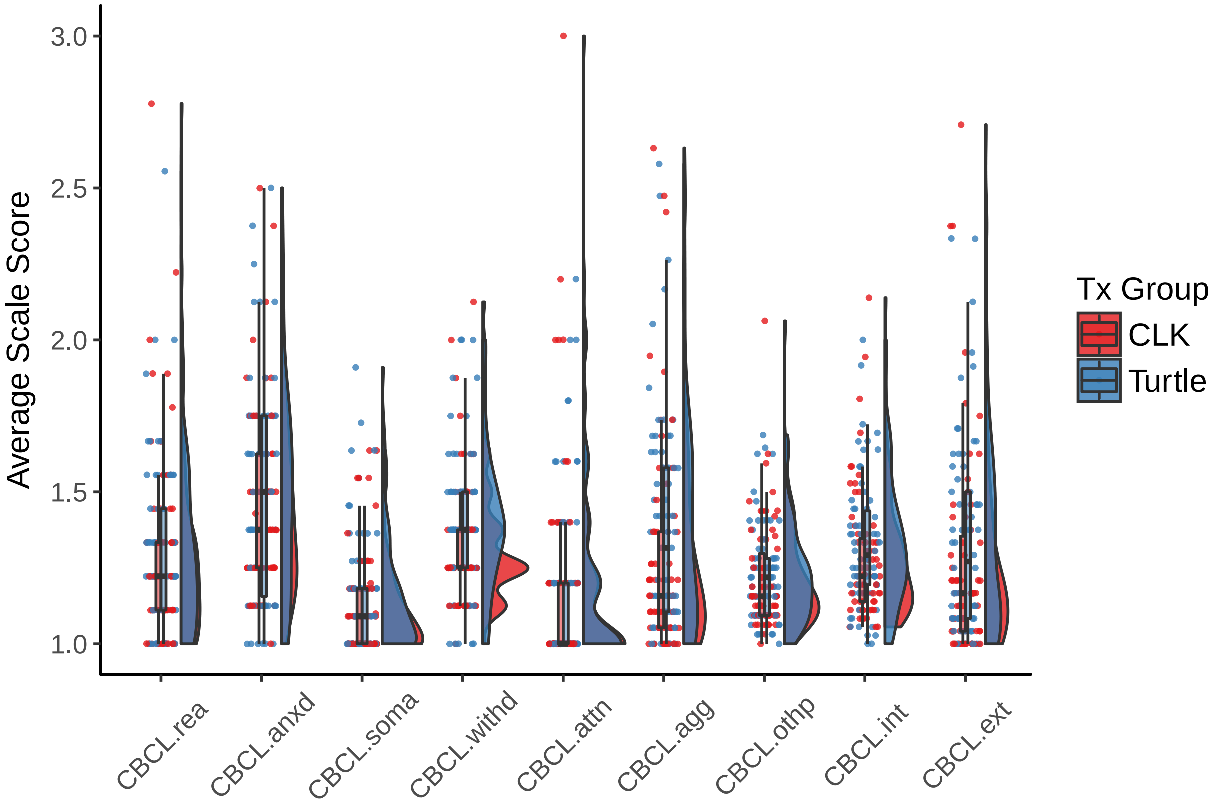
```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T2[CBCL.ext])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.94      0.93    0.96      0.37  14 0.0067  1.3 0.34     0.37
##
##  lower alpha upper     95% confidence boundaries
## 0.92 0.94 0.95
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_5       0.93      0.93    0.95      0.37  14   0.0070 0.021  0.36
## CBCL_6       0.93      0.93    0.95      0.37  14   0.0069 0.021  0.37
## CBCL_56      0.94      0.94    0.96      0.39  15   0.0067 0.019  0.38
## CBCL_59      0.93      0.93    0.95      0.38  14   0.0069 0.021  0.36
## CBCL_95      0.94      0.93    0.96      0.38  14   0.0068 0.021  0.38
## CBCL_8       0.93      0.93    0.95      0.37  13   0.0071 0.021  0.36
## CBCL_15      0.93      0.93    0.95      0.37  13   0.0073 0.020  0.36
## CBCL_16      0.93      0.93    0.95      0.36  13   0.0073 0.021  0.36
## CBCL_18      0.94      0.93    0.96      0.38  14   0.0069 0.022  0.38
## CBCL_20      0.93      0.93    0.95      0.36  13   0.0073 0.020  0.36
## CBCL_27      0.93      0.93    0.95      0.37  13   0.0071 0.020  0.36
## CBCL_29      0.93      0.93    0.96      0.37  14   0.0069 0.022  0.36
## CBCL_35      0.94      0.93    0.96      0.38  14   0.0068 0.021  0.38
## CBCL_40      0.94      0.93    0.95      0.38  14   0.0068 0.021  0.37
## CBCL_42      0.94      0.93    0.96      0.38  14   0.0068 0.021  0.37
## CBCL_44      0.93      0.93    0.95      0.37  13   0.0071 0.021  0.36
## CBCL_53      0.94      0.93    0.96      0.38  14   0.0068 0.020  0.37
## CBCL_58      0.93      0.93    0.95      0.36  13   0.0072 0.020  0.36
## CBCL_66      0.93      0.93    0.95      0.37  13   0.0072 0.021  0.36
## CBCL_69      0.93      0.93    0.96      0.37  14   0.0070 0.022  0.36
## CBCL_81      0.93      0.93    0.95      0.36  13   0.0073 0.020  0.36
## CBCL_85      0.93      0.93    0.95      0.37  13   0.0071 0.021  0.36
## CBCL_88      0.93      0.93    0.95      0.36  13   0.0073 0.020  0.36
## CBCL_96      0.93      0.93    0.96      0.37  14   0.0070 0.022  0.36
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_5  129  0.63  0.61  0.60   0.59  1.3 0.54
## CBCL_6  129  0.62  0.62  0.61   0.58  1.3 0.58
## CBCL_56 129  0.34  0.38  0.35   0.30  1.1 0.32
## CBCL_59 129  0.60  0.58  0.56   0.56  1.3 0.53
## CBCL_95 129  0.44  0.48  0.45   0.42  1.0 0.25
## CBCL_8  129  0.70  0.68  0.67   0.65  1.7 0.73
## CBCL_15 129  0.77  0.75  0.75   0.73  1.4 0.63
## CBCL_16 129  0.78  0.76  0.76   0.75  1.6 0.69
## CBCL_18 129  0.50  0.51  0.48   0.46  1.1 0.33
## CBCL_20 129  0.78  0.77  0.77   0.75  1.5 0.63
## CBCL_27 129  0.69  0.69  0.68   0.65  1.2 0.52
```

```
## CBCL_29 129  0.63  0.61  0.59   0.58  1.8 0.64
## CBCL_35 129  0.46  0.49  0.46   0.43  1.1 0.32
## CBCL_40 129  0.49  0.53  0.51   0.45  1.2 0.42
## CBCL_42 129  0.42  0.48  0.45   0.39  1.1 0.26
## CBCL_44 129  0.70  0.70  0.69   0.67  1.4 0.57
## CBCL_53 129  0.42  0.45  0.42   0.39  1.1 0.24
## CBCL_58 129  0.77  0.78  0.78   0.74  1.2 0.50
## CBCL_66 128  0.75  0.75  0.75   0.71  1.3 0.55
## CBCL_69 129  0.63  0.64  0.61   0.59  1.3 0.51
## CBCL_81 129  0.78  0.77  0.76   0.75  1.4 0.56
## CBCL_85 129  0.72  0.71  0.70   0.68  1.5 0.65
## CBCL_88 129  0.79  0.78  0.78   0.76  1.4 0.59
## CBCL_96 129  0.66  0.64  0.62   0.61  1.5 0.67
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_5  0.77 0.19 0.05 0.15
## CBCL_6  0.77 0.17 0.06 0.15
## CBCL_56 0.91 0.08 0.01 0.15
## CBCL_59 0.77 0.19 0.04 0.15
## CBCL_95 0.96 0.03 0.01 0.15
## CBCL_8  0.49 0.36 0.16 0.15
## CBCL_15 0.66 0.26 0.08 0.15
## CBCL_16 0.53 0.36 0.12 0.15
## CBCL_18 0.88 0.12 0.00 0.15
## CBCL_20 0.60 0.33 0.07 0.15
## CBCL_27 0.79 0.17 0.04 0.15
## CBCL_29 0.36 0.53 0.11 0.15
## CBCL_35 0.94 0.05 0.02 0.15
## CBCL_40 0.81 0.19 0.01 0.15
## CBCL_42 0.95 0.04 0.01 0.15
## CBCL_44 0.69 0.26 0.05 0.15
## CBCL_53 0.94 0.06 0.00 0.15
## CBCL_58 0.82 0.14 0.04 0.15
## CBCL_66 0.80 0.15 0.05 0.15
## CBCL_69 0.77 0.20 0.03 0.15
## CBCL_81 0.67 0.29 0.04 0.15
## CBCL_85 0.62 0.29 0.09 0.15
## CBCL_88 0.67 0.27 0.05 0.15
## CBCL_96 0.60 0.29 0.10 0.15
```

4.2.6.11 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(CBCL.all_T2[,107:116], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))
```

```r
g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T2 Folder:
`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:
- `/CBCL_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CBCL_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CBCL
- `/CBCL_T2_Summary_wo_Raw_items.txt`: The processed summary scores for CBCL wo raw items

4.3 TIME 3: COMPLETE SCALE

4.3.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(CBCL.all_T3[,c(3:101)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##          vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1      1 127 1.17 0.42  2.32     4.81 0.04     1   1.0
## CBCL_2      2 127 1.42 0.57  0.96    -0.10 0.05     1   2.0
## CBCL_3      3 127 1.83 0.56 -0.02    -0.19 0.05     1   2.0
## CBCL_4      4 126 1.89 0.64  0.09    -0.58 0.06     1   2.0
## CBCL_5      5 126 1.21 0.50  2.27     4.32 0.04     1   1.0
## CBCL_6      6 127 1.31 0.57  1.63     1.60 0.05     1   2.0
## CBCL_7      7 127 1.17 0.37  1.78     1.18 0.03     1   1.0
## CBCL_8      8 127 1.65 0.71  0.62    -0.84 0.06     1   2.0
## CBCL_9      9 127 1.38 0.59  1.28     0.59 0.05     1   2.0
## CBCL_10    10 127 1.78 0.59  0.09    -0.46 0.05     1   2.0
## CBCL_11    11 127 1.43 0.56  0.84    -0.36 0.05     1   2.0
## CBCL_12    12 127 1.19 0.47  2.44     5.30 0.04     1   1.0
## CBCL_13    13 127 1.41 0.55  0.91    -0.23 0.05     1   2.0
## CBCL_14    14 127 1.02 0.15  6.20    36.72 0.01     1   1.0
## CBCL_15    15 127 1.40 0.58  1.11     0.20 0.05     1   2.0
## CBCL_16    16 127 1.51 0.65  0.89    -0.34 0.06     1   2.0
## CBCL_17    17 127 1.11 0.31  2.46     4.08 0.03     1   1.0
## CBCL_18    18 127 1.08 0.27  3.09     7.62 0.02     1   1.0
## CBCL_19    19 127 1.05 0.25  5.66    34.45 0.02     1   1.0
## CBCL_20    20 127 1.47 0.57  0.73    -0.50 0.05     1   2.0
## CBCL_21    21 127 1.29 0.52  1.55     1.49 0.05     1   2.0
## CBCL_22    22 127 1.77 0.75  0.39    -1.14 0.07     1   2.0
## CBCL_23    23 126 1.78 0.63  0.21    -0.66 0.06     1   2.0
## CBCL_24    24 127 1.26 0.52  1.87     2.61 0.05     1   1.0
## CBCL_25    25 127 1.15 0.36  1.94     1.78 0.03     1   1.0
## CBCL_26    26 127 1.06 0.24  3.56    10.72 0.02     1   1.0
## CBCL_27    27 127 1.17 0.40  2.07     3.31 0.04     1   1.0
## CBCL_28    28 127 1.24 0.46  1.70     1.92 0.04     1   1.0
## CBCL_29    29 127 1.61 0.67  0.64    -0.68 0.06     1   2.0
## CBCL_30    30 127 1.31 0.51  1.34     0.79 0.05     1   2.0
## CBCL_31    31 127 1.04 0.23  6.39    43.81 0.02     1   1.0
## CBCL_32    32 127 1.40 0.59  1.17     0.32 0.05     1   2.0
## CBCL_33    33 127 1.57 0.62  0.59    -0.62 0.06     1   2.0
## CBCL_34    34 127 1.16 0.39  2.26     4.27 0.03     1   1.0
## CBCL_35    35 127 1.06 0.23  3.85    12.95 0.02     1   1.0
## CBCL_36    36 127 1.17 0.46  2.64     6.33 0.04     1   1.0
## CBCL_37    37 127 1.32 0.53  1.36     0.87 0.05     1   2.0
## CBCL_38    38 127 1.41 0.63  1.26     0.42 0.06     1   2.0
## CBCL_39    39 127 1.06 0.26  5.09    27.82 0.02     1   1.0
## CBCL_40    40 127 1.15 0.36  1.94     1.78 0.03     1   1.0
## CBCL_41    41 127 1.01 0.09 11.00   120.05 0.01     1   1.0
## CBCL_42    42 127 1.04 0.20  4.68    20.07 0.02     1   1.0
## CBCL_43    43 127 1.09 0.28  2.90     6.49 0.03     1   1.0
## CBCL_44    44 126 1.23 0.44  1.54     1.10 0.04     1   1.0
## CBCL_45    45 127 1.07 0.26  3.31     9.00 0.02     1   1.0
## CBCL_46    46 127 1.11 0.36  3.40    11.67 0.03     1   1.0
## CBCL_47    47 127 1.19 0.39  1.57     0.47 0.03     1   1.0
## CBCL_48    48 126 1.25 0.52  1.98     3.07 0.05     1   1.0
## CBCL_49    49 126 1.04 0.20  4.66    19.87 0.02     1   1.0
## CBCL_50    50 127 1.20 0.40  1.51     0.27 0.04     1   1.0
## CBCL_51    51 127 1.04 0.20  4.68    20.07 0.02     1   1.0
## CBCL_52    52 127 1.08 0.32  4.36    19.61 0.03     1   1.0
## CBCL_53    53 127 1.05 0.21  4.22    15.91 0.02     1   1.0
```

```
## CBCL_54   54 127 1.28 0.57  1.93     2.60 0.05     1   1.0
## CBCL_55   55 127 1.06 0.29  5.55    31.41 0.03     1   1.0
## CBCL_56   56 127 1.09 0.37  4.04    16.16 0.03     1   1.0
## CBCL_57   57 127 1.01 0.09 11.00   120.05 0.01     1   1.0
## CBCL_58   58 127 1.14 0.41  2.97     8.50 0.04     1   1.0
## CBCL_59   59 127 1.24 0.50  1.97     3.08 0.04     1   1.0
## CBCL_60   60 127 1.04 0.23  6.39    43.81 0.02     1   1.0
## CBCL_61   61 127 1.09 0.34  3.82    14.96 0.03     1   1.0
## CBCL_62   62 127 1.02 0.15  6.20    36.72 0.01     1   1.0
## CBCL_63   63 126 1.01 0.09 10.96   119.05 0.01     1   1.0
## CBCL_64   64 127 1.50 0.68  1.00    -0.24 0.06     1   2.0
## CBCL_65   65 127 1.06 0.24  3.56    10.72 0.02     1   1.0
## CBCL_66   66 127 1.18 0.43  2.23     4.32 0.04     1   1.0
## CBCL_67   67 127 1.02 0.15  6.20    36.72 0.01     1   1.0
## CBCL_68   68 127 1.46 0.59  0.86    -0.27 0.05     1   2.0
## CBCL_69   69 127 1.20 0.42  1.75     1.90 0.04     1   1.0
## CBCL_70   70 127 1.02 0.15  6.20    36.72 0.01     1   1.0
## CBCL_71   71 127 1.01 0.09 11.00   120.05 0.01     1   1.0
## CBCL_72   72 127 1.02 0.12  7.69    57.55 0.01     1   1.0
## CBCL_73   73 127 1.99 0.58  0.00    -0.09 0.05     2   2.0
## CBCL_74   74 127 1.19 0.47  2.44     5.30 0.04     1   1.0
## CBCL_75   75 126 1.00 0.00   NaN      NaN 0.00     1   1.0
## CBCL_76   76 127 1.13 0.40  3.27    10.42 0.04     1   1.0
## CBCL_77   77 127 1.09 0.29  2.74     5.55 0.03     1   1.0
## CBCL_78   78 126 1.14 0.37  2.46     5.40 0.03     1   1.0
## CBCL_79   79 127 1.06 0.24  3.56    10.72 0.02     1   1.0
## CBCL_80   80 127 1.01 0.09 11.00   120.05 0.01     1   1.0
## CBCL_81   81 126 1.30 0.51  1.38     0.90 0.05     1   2.0
## CBCL_82   82 127 1.17 0.37  1.78     1.18 0.03     1   1.0
## CBCL_83   83 127 1.14 0.35  2.03     2.14 0.03     1   1.0
## CBCL_84   84 127 1.24 0.46  1.70     1.92 0.04     1   1.0
## CBCL_85   85 127 1.39 0.55  0.99    -0.08 0.05     1   2.0
## CBCL_86   86 127 1.05 0.21  4.22    15.91 0.02     1   1.0
## CBCL_87   87 127 1.29 0.47  1.13    -0.17 0.04     1   2.0
## CBCL_88   88 127 1.28 0.52  1.61     1.68 0.05     1   1.5
## CBCL_89   89 127 1.06 0.26  5.09    27.82 0.02     1   1.0
## CBCL_90   90 127 1.09 0.29  2.74     5.55 0.03     1   1.0
## CBCL_91   91 127 1.19 0.47  2.44     5.30 0.04     1   1.0
## CBCL_92   92 127 1.46 0.60  0.93    -0.17 0.05     1   2.0
## CBCL_93   93 127 1.02 0.20  8.80    80.18 0.02     1   1.0
## CBCL_94   94 127 1.21 0.48  2.19     4.06 0.04     1   1.0
## CBCL_95   95 127 1.04 0.23  6.39    43.81 0.02     1   1.0
## CBCL_96   96 127 1.40 0.65  1.33     0.53 0.06     1   2.0
## CBCL_97   97 127 1.63 0.64  0.50    -0.70 0.06     1   2.0
## CBCL_98   98 127 1.12 0.32  2.34     3.50 0.03     1   1.0
## CBCL_99   99 127 1.33 0.54  1.31     0.73 0.05     1   2.0
```

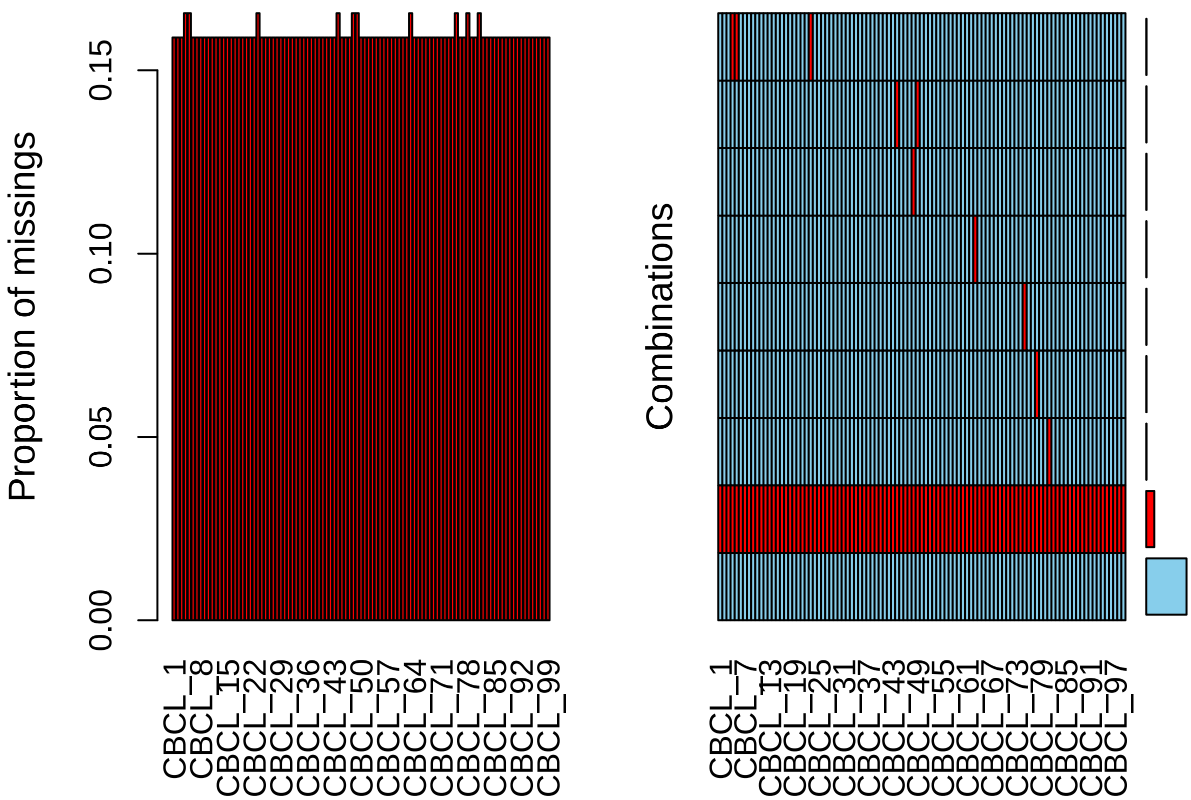
```r
#Calculating Summary Scores:
CBCL.all_T3$CBCL_tot<-rowSums(CBCL.all_T3[,3:101])  #inclunding na.rm=T results in 0's

CBCL.all_T3$Miss_tot<-rep(NA, nrow(CBCL.all_T3))
for(n in 1:nrow(CBCL.all_T3)){
  CBCL.all_T3$Miss_tot[n]<-sum(is.na(CBCL.all_T3[n,3:101])==TRUE)
}

CBCL.all_T3$Miss_per<-rep(NA, nrow(CBCL.all_T3))
for(n in 1:nrow(CBCL.all_T3)){
  CBCL.all_T3$Miss_per[n]<-round(sum(is.na(CBCL.all_T3[n,3:101])==TRUE)/ncol(CBCL.all_T3[3:101])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
```

```
CBCL.all_T3$CBCL_avg<-rowMeans(CBCL.all_T3[,3:101])

#Creating variable with individual mean replacement if respondent completed >85% of items
CBCL.all_T3$CBCL_avg_MR85<-ifelse(CBCL.all_T3$Miss_per<15, rowMeans(CBCL.all_T3[,3:101],
                                                              na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(CBCL.all_T3[,c(102,105,106)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##               vars   n   mean    sd skew kurtosis   se  Q0.25  Q0.75
## CBCL_tot         1 120 121.93 18.33 1.11     0.76 1.67 108.75 130.50
## CBCL_avg         2 120   1.23  0.19 1.11     0.76 0.02   1.10   1.32
## CBCL_avg_MR85    3 127   1.24  0.19 1.15     0.84 0.02   1.10   1.32
```

4.3.2 MISSING DATA

```
VIM::aggr(CBCL.all_T3[,3:101])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will complete at future date - lots of missing patterns]

The variable `CBCL_tot` is the vector of individual summed CBCL scores - cases with any missing are dropped from this score (see above)

The varaible `CBCL_avg` is the vector of individual mean CBCL scores - cases with any missing are dropped from this score (see above)

The variable `CBCL_avg_MR85` is a vector of individual mean CBCL scores that includes estimated averages when at least 85% of the necessary data is available - note 064 is included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T3 to report.

4.3.3 CRONBACH'S ALPHA

```r
psych::alpha(CBCL.all_T3[,3:101])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[, 3:101])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.96      0.95       1      0.17  20 0.0047  1.2 0.19     0.16
##
##  lower alpha upper     95% confidence boundaries
## 0.95 0.96 0.96
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_1       0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_2       0.95      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_3       0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_4       0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_5       0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_6       0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_7       0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_8       0.95      0.95       1      0.17  19   0.0049 0.021  0.16
## CBCL_9       0.95      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_10      0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_11      0.95      0.95       1      0.17  19   0.0048 0.021  0.16
## CBCL_12      0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_13      0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_14      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_15      0.95      0.95       1      0.17  19   0.0048 0.021  0.16
## CBCL_16      0.95      0.95       1      0.17  19   0.0048 0.021  0.16
## CBCL_17      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_18      0.95      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_19      0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_20      0.95      0.95       1      0.17  19   0.0048 0.021  0.16
## CBCL_21      0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_22      0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_23      0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_24      0.95      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_25      0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_26      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_27      0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_28      0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_29      0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_30      0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_31      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_32      0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_33      0.95      0.95       1      0.17  20   0.0048 0.022  0.16
## CBCL_34      0.96      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_35      0.95      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_36      0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_37      0.95      0.95       1      0.17  20   0.0047 0.022  0.16
## CBCL_38      0.95      0.95       1      0.17  19   0.0048 0.021  0.16
## CBCL_39      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_40      0.95      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_41      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_42      0.96      0.95       1      0.17  20   0.0047 0.021  0.16
## CBCL_43      0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_44      0.95      0.95       1      0.17  20   0.0048 0.021  0.16
## CBCL_45      0.95      0.95       1      0.17  20   0.0047 0.022  0.16
```

```
## CBCL_46      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_47      0.95      0.95       1      0.17  20   0.0048 0.022   0.16
## CBCL_48      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_49      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_50      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_51      0.96      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_52      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_53      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_54      0.96      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_55      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_56      0.95      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_57      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_58      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_59      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_60      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_61      0.95      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_62      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_63      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_64      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_65      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_66      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_67      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_68      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_69      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_70      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_71      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_72      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_73      0.96      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_74      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_76      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_77      0.95      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_78      0.96      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_79      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_80      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_81      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_82      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_83      0.95      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_84      0.95      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_85      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_86      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_87      0.95      0.95       1      0.17  20   0.0048 0.022   0.16
## CBCL_88      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_89      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_90      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_91      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
## CBCL_92      0.95      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_93      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_94      0.95      0.95       1      0.17  20   0.0048 0.021   0.16
## CBCL_95      0.96      0.95       1      0.17  20   0.0047 0.021   0.16
## CBCL_96      0.95      0.95       1      0.17  19   0.0049 0.021   0.16
## CBCL_97      0.95      0.95       1      0.17  19   0.0049 0.021   0.16
## CBCL_98      0.95      0.95       1      0.17  20   0.0047 0.022   0.16
## CBCL_99      0.95      0.95       1      0.17  19   0.0048 0.021   0.16
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean    sd
## CBCL_1  127 0.158 0.150 0.147  0.136  1.2 0.420
## CBCL_2  127 0.430 0.410 0.407  0.405  1.4 0.570
## CBCL_3  127 0.481 0.436 0.432  0.457  1.8 0.565
## CBCL_4  126 0.349 0.325 0.322  0.307  1.9 0.635
## CBCL_5  126 0.507 0.489 0.489  0.471  1.2 0.500
```

```
## CBCL_6  127 0.563 0.543 0.543  0.541  1.3 0.573
## CBCL_7  127 0.281 0.287 0.284  0.262  1.2 0.373
## CBCL_8  127 0.723 0.701 0.702  0.704  1.6 0.707
## CBCL_9  127 0.424 0.420 0.417  0.398  1.4 0.590
## CBCL_10 127 0.548 0.527 0.526  0.525  1.8 0.590
## CBCL_11 127 0.602 0.596 0.594  0.582  1.4 0.557
## CBCL_12 127 0.471 0.472 0.472  0.451  1.2 0.467
## CBCL_13 127 0.493 0.465 0.464  0.470  1.4 0.554
## CBCL_14 127 0.104 0.134 0.133  0.096  1.0 0.152
## CBCL_15 127 0.692 0.683 0.683  0.675  1.4 0.581
## CBCL_16 127 0.655 0.633 0.633  0.634  1.5 0.653
## CBCL_17 127 0.308 0.313 0.311  0.292  1.1 0.314
## CBCL_18 127 0.399 0.406 0.406  0.387  1.1 0.270
## CBCL_19 127 0.234 0.270 0.269  0.220  1.0 0.247
## CBCL_20 127 0.656 0.638 0.637  0.638  1.5 0.575
## CBCL_21 127 0.531 0.534 0.533  0.510  1.3 0.521
## CBCL_22 127 0.463 0.431 0.428  0.431  1.8 0.747
## CBCL_23 126 0.512 0.486 0.483  0.471  1.8 0.631
## CBCL_24 127 0.426 0.426 0.425  0.402  1.3 0.523
## CBCL_25 127 0.340 0.373 0.373  0.323  1.1 0.358
## CBCL_26 127 0.197 0.219 0.218  0.185  1.1 0.244
## CBCL_27 127 0.513 0.524 0.524  0.497  1.2 0.400
## CBCL_28 127 0.297 0.287 0.285  0.273  1.2 0.462
## CBCL_29 127 0.586 0.553 0.552  0.562  1.6 0.669
## CBCL_30 127 0.580 0.563 0.562  0.561  1.3 0.512
## CBCL_31 127 0.346 0.357 0.357  0.335  1.0 0.232
## CBCL_32 127 0.300 0.253 0.249  0.270  1.4 0.594
## CBCL_33 127 0.544 0.544 0.544  0.519  1.6 0.624
## CBCL_34 127 0.341 0.344 0.343  0.322  1.2 0.387
## CBCL_35 127 0.460 0.507 0.507  0.450  1.1 0.229
## CBCL_36 127 0.578 0.570 0.571  0.562  1.2 0.456
## CBCL_37 127 0.444 0.425 0.423  0.419  1.3 0.533
## CBCL_38 127 0.665 0.643 0.643  0.645  1.4 0.634
## CBCL_39 127 0.231 0.240 0.239  0.218  1.1 0.261
## CBCL_40 127 0.418 0.440 0.437  0.403  1.1 0.358
## CBCL_41 127 0.071 0.082 0.082  0.066  1.0 0.089
## CBCL_42 127 0.226 0.276 0.274  0.216  1.0 0.195
## CBCL_43 127 0.487 0.519 0.520  0.476  1.1 0.282
## CBCL_44 126 0.573 0.580 0.580  0.558  1.2 0.441
## CBCL_45 127 0.373 0.406 0.406  0.361  1.1 0.258
## CBCL_46 127 0.214 0.231 0.230  0.195  1.1 0.361
## CBCL_47 127 0.469 0.470 0.469  0.453  1.2 0.393
## CBCL_48 126 0.554 0.558 0.558  0.536  1.2 0.517
## CBCL_49 126 0.117 0.123 0.119  0.107  1.0 0.196
## CBCL_50 127 0.623 0.633 0.633  0.610  1.2 0.399
## CBCL_51 127 0.373 0.406 0.406  0.364  1.0 0.195
## CBCL_52 127 0.314 0.325 0.324  0.296  1.1 0.324
## CBCL_53 127 0.251 0.260 0.259  0.240  1.0 0.213
## CBCL_54 127 0.381 0.364 0.362  0.354  1.3 0.573
## CBCL_55 127 0.315 0.369 0.369  0.301  1.1 0.290
## CBCL_56 127 0.411 0.433 0.433  0.395  1.1 0.366
## CBCL_57 127 0.080 0.078 0.076  0.076  1.0 0.089
## CBCL_58 127 0.594 0.595 0.595  0.580  1.1 0.413
## CBCL_59 127 0.529 0.513 0.513  0.509  1.2 0.495
## CBCL_60 127 0.194 0.212 0.212  0.182  1.0 0.232
## CBCL_61 127 0.420 0.427 0.426  0.404  1.1 0.343
## CBCL_62 127 0.118 0.136 0.134  0.110  1.0 0.152
## CBCL_63 126 0.105 0.126 0.126  0.101  1.0 0.089
## CBCL_64 127 0.638 0.609 0.609  0.615  1.5 0.677
## CBCL_65 127 0.241 0.245 0.241  0.228  1.1 0.244
## CBCL_66 127 0.540 0.549 0.549  0.524  1.2 0.426
```

```
## CBCL_67 127 0.252 0.300 0.300  0.245  1.0 0.152
## CBCL_68 127 0.546 0.516 0.514  0.523  1.5 0.588
## CBCL_69 127 0.573 0.554 0.554  0.557  1.2 0.424
## CBCL_70 127 0.123 0.181 0.180  0.115  1.0 0.152
## CBCL_71 127 0.273 0.340 0.341  0.268  1.0 0.089
## CBCL_72 127 0.182 0.176 0.175  0.176  1.0 0.125
## CBCL_73 127 0.310 0.288 0.285  0.281  2.0 0.584
## CBCL_74 127 0.541 0.534 0.533  0.523  1.2 0.467
## CBCL_76 127 0.070 0.072 0.066  0.049  1.1 0.398
## CBCL_77 127 0.468 0.516 0.516  0.455  1.1 0.294
## CBCL_78 126 0.332 0.366 0.366  0.316  1.1 0.373
## CBCL_79 127 0.545 0.565 0.565  0.536  1.1 0.244
## CBCL_80 127 0.273 0.340 0.341  0.268  1.0 0.089
## CBCL_81 126 0.649 0.641 0.641  0.635  1.3 0.510
## CBCL_82 127 0.503 0.504 0.504  0.488  1.2 0.373
## CBCL_83 127 0.446 0.462 0.461  0.430  1.1 0.350
## CBCL_84 127 0.440 0.437 0.436  0.420  1.2 0.462
## CBCL_85 127 0.645 0.626 0.626  0.628  1.4 0.551
## CBCL_86 127 0.183 0.201 0.199  0.171  1.0 0.213
## CBCL_87 127 0.533 0.531 0.530  0.514  1.3 0.473
## CBCL_88 127 0.665 0.652 0.653  0.649  1.3 0.518
## CBCL_89 127 0.296 0.317 0.317  0.282  1.1 0.261
## CBCL_90 127 0.483 0.514 0.514  0.471  1.1 0.294
## CBCL_91 127 0.604 0.603 0.604  0.588  1.2 0.467
## CBCL_92 127 0.419 0.392 0.391  0.392  1.5 0.601
## CBCL_93 127 0.224 0.238 0.238  0.212  1.0 0.198
## CBCL_94 127 0.458 0.434 0.433  0.436  1.2 0.482
## CBCL_95 127 0.362 0.380 0.380  0.350  1.0 0.232
## CBCL_96 127 0.712 0.684 0.684  0.694  1.4 0.646
## CBCL_97 127 0.680 0.640 0.640  0.661  1.6 0.640
## CBCL_98 127 0.441 0.474 0.474  0.427  1.1 0.324
## CBCL_99 127 0.643 0.655 0.655  0.626  1.3 0.535
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_1  0.84 0.14 0.02 0.16
## CBCL_2  0.62 0.34 0.04 0.16
## CBCL_3  0.26 0.65 0.09 0.16
## CBCL_4  0.26 0.59 0.15 0.17
## CBCL_5  0.83 0.13 0.04 0.17
## CBCL_6  0.74 0.20 0.06 0.16
## CBCL_7  0.83 0.17 0.00 0.16
## CBCL_8  0.49 0.38 0.13 0.16
## CBCL_9  0.68 0.27 0.06 0.16
## CBCL_10 0.31 0.61 0.09 0.16
## CBCL_11 0.61 0.36 0.03 0.16
## CBCL_12 0.84 0.13 0.03 0.16
## CBCL_13 0.62 0.35 0.03 0.16
## CBCL_14 0.98 0.02 0.00 0.16
## CBCL_15 0.65 0.31 0.05 0.16
## CBCL_16 0.57 0.34 0.09 0.16
## CBCL_17 0.89 0.11 0.00 0.16
## CBCL_18 0.92 0.08 0.00 0.16
## CBCL_19 0.96 0.03 0.01 0.16
## CBCL_20 0.57 0.39 0.04 0.16
## CBCL_21 0.74 0.23 0.03 0.16
## CBCL_22 0.42 0.39 0.19 0.16
## CBCL_23 0.33 0.56 0.11 0.17
## CBCL_24 0.78 0.18 0.04 0.16
## CBCL_25 0.85 0.15 0.00 0.16
## CBCL_26 0.94 0.06 0.00 0.16
```

```
## CBCL_27 0.83 0.16 0.01 0.16
## CBCL_28 0.78 0.20 0.02 0.16
## CBCL_29 0.50 0.40 0.10 0.16
## CBCL_30 0.72 0.26 0.02 0.16
## CBCL_31 0.97 0.02 0.01 0.16
## CBCL_32 0.65 0.29 0.06 0.16
## CBCL_33 0.50 0.43 0.07 0.16
## CBCL_34 0.85 0.14 0.01 0.16
## CBCL_35 0.94 0.06 0.00 0.16
## CBCL_36 0.86 0.11 0.03 0.16
## CBCL_37 0.71 0.26 0.03 0.16
## CBCL_38 0.67 0.25 0.08 0.16
## CBCL_39 0.95 0.04 0.01 0.16
## CBCL_40 0.85 0.15 0.00 0.16
## CBCL_41 0.99 0.01 0.00 0.16
## CBCL_42 0.96 0.04 0.00 0.16
## CBCL_43 0.91 0.09 0.00 0.16
## CBCL_44 0.78 0.21 0.01 0.17
## CBCL_45 0.93 0.07 0.00 0.16
## CBCL_46 0.91 0.08 0.02 0.16
## CBCL_47 0.81 0.19 0.00 0.16
## CBCL_48 0.79 0.17 0.04 0.17
## CBCL_49 0.96 0.04 0.00 0.17
## CBCL_50 0.80 0.20 0.00 0.16
## CBCL_51 0.96 0.04 0.00 0.16
## CBCL_52 0.94 0.05 0.02 0.16
## CBCL_53 0.95 0.05 0.00 0.16
## CBCL_54 0.79 0.15 0.06 0.16
## CBCL_55 0.96 0.02 0.02 0.16
## CBCL_56 0.93 0.05 0.02 0.16
## CBCL_57 0.99 0.01 0.00 0.16
## CBCL_58 0.88 0.09 0.02 0.16
## CBCL_59 0.80 0.17 0.03 0.16
## CBCL_60 0.97 0.02 0.01 0.16
## CBCL_61 0.92 0.06 0.02 0.16
## CBCL_62 0.98 0.02 0.00 0.16
## CBCL_63 0.99 0.01 0.00 0.17
## CBCL_64 0.61 0.29 0.10 0.16
## CBCL_65 0.94 0.06 0.00 0.16
## CBCL_66 0.83 0.15 0.02 0.16
## CBCL_67 0.98 0.02 0.00 0.16
## CBCL_68 0.59 0.36 0.05 0.16
## CBCL_69 0.80 0.19 0.01 0.16
## CBCL_70 0.98 0.02 0.00 0.16
## CBCL_71 0.99 0.01 0.00 0.16
## CBCL_72 0.98 0.02 0.00 0.16
## CBCL_73 0.17 0.66 0.17 0.16
## CBCL_74 0.84 0.13 0.03 0.16
## CBCL_76 0.90 0.08 0.02 0.16
## CBCL_77 0.91 0.09 0.00 0.16
## CBCL_78 0.87 0.13 0.01 0.17
## CBCL_79 0.94 0.06 0.00 0.16
## CBCL_80 0.99 0.01 0.00 0.16
## CBCL_81 0.72 0.25 0.02 0.17
## CBCL_82 0.83 0.17 0.00 0.16
## CBCL_83 0.86 0.14 0.00 0.16
## CBCL_84 0.78 0.20 0.02 0.16
## CBCL_85 0.64 0.33 0.03 0.16
## CBCL_86 0.95 0.05 0.00 0.16
## CBCL_87 0.72 0.28 0.01 0.16
## CBCL_88 0.75 0.22 0.03 0.16
```

```
## CBCL_89 0.95 0.04 0.01 0.16
## CBCL_90 0.91 0.09 0.00 0.16
## CBCL_91 0.84 0.13 0.03 0.16
## CBCL_92 0.60 0.35 0.06 0.16
## CBCL_93 0.98 0.01 0.01 0.16
## CBCL_94 0.82 0.15 0.03 0.16
## CBCL_95 0.97 0.02 0.01 0.16
## CBCL_96 0.69 0.23 0.09 0.16
## CBCL_97 0.46 0.46 0.09 0.16
## CBCL_98 0.88 0.12 0.00 0.16
## CBCL_99 0.70 0.27 0.03 0.16
```

Note - unable to take resampling approach to calculating CI_{95} for α as several variables had 0 variability.

4.3.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CBCL.all_T3$Group.R<-ifelse(CBCL.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(CBCL.all_T3[,c(3:101,107)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##         vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CBCL_1     1 60 1.23 0.46  1.72     2.02 0.06     1  1.00
## CBCL_2     2 60 1.40 0.53  0.74    -0.77 0.07     1  2.00
## CBCL_3     3 60 1.78 0.52 -0.22    -0.19 0.07     1  2.00
## CBCL_4     4 59 1.85 0.64  0.13    -0.66 0.08     1  2.00
## CBCL_5     5 59 1.24 0.54  2.13     3.52 0.07     1  1.00
## CBCL_6     6 60 1.32 0.60  1.66     1.61 0.08     1  1.25
## CBCL_7     7 60 1.17 0.38  1.74     1.06 0.05     1  1.00
## CBCL_8     8 60 1.65 0.76  0.65    -1.00 0.10     1  2.00
## CBCL_9     9 60 1.32 0.47  0.77    -1.43 0.06     1  2.00
## CBCL_10   10 60 1.80 0.55 -0.10    -0.21 0.07     1  2.00
## CBCL_11   11 60 1.37 0.52  0.89    -0.48 0.07     1  2.00
## CBCL_12   12 60 1.17 0.42  2.40     5.26 0.05     1  1.00
## CBCL_13   13 60 1.45 0.57  0.75    -0.54 0.07     1  2.00
## CBCL_14   14 60 1.05 0.22  4.03    14.46 0.03     1  1.00
## CBCL_15   15 60 1.40 0.59  1.12     0.21 0.08     1  2.00
## CBCL_16   16 60 1.50 0.68  0.97    -0.31 0.09     1  2.00
## CBCL_17   17 60 1.08 0.28  2.94     6.76 0.04     1  1.00
## CBCL_18   18 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_19   19 60 1.07 0.31  4.86    24.34 0.04     1  1.00
## CBCL_20   20 60 1.43 0.62  1.08     0.06 0.08     1  2.00
## CBCL_21   21 60 1.32 0.54  1.40     0.97 0.07     1  2.00
## CBCL_22   22 60 1.92 0.72  0.12    -1.10 0.09     1  2.00
## CBCL_23   23 59 1.76 0.65  0.27    -0.79 0.08     1  2.00
## CBCL_24   24 60 1.30 0.53  1.50     1.30 0.07     1  2.00
## CBCL_25   25 60 1.15 0.36  1.91     1.68 0.05     1  1.00
## CBCL_26   26 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_27   27 60 1.15 0.36  1.91     1.68 0.05     1  1.00
## CBCL_28   28 60 1.25 0.47  1.59     1.52 0.06     1  1.00
## CBCL_29   29 60 1.63 0.66  0.54    -0.77 0.09     1  2.00
## CBCL_30   30 60 1.25 0.44  1.13    -0.74 0.06     1  1.25
## CBCL_31   31 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_32   32 60 1.40 0.62  1.23     0.39 0.08     1  2.00
## CBCL_33   33 60 1.57 0.62  0.59    -0.65 0.08     1  2.00
## CBCL_34   34 60 1.20 0.44  2.02     3.33 0.06     1  1.00
## CBCL_35   35 60 1.05 0.22  4.03    14.46 0.03     1  1.00
## CBCL_36   36 60 1.20 0.51  2.47     5.11 0.07     1  1.00
## CBCL_37   37 60 1.37 0.49  0.54    -1.74 0.06     1  2.00
## CBCL_38   38 60 1.53 0.70  0.90    -0.50 0.09     1  2.00
```

```
## CBCL_39    39 60 1.02 0.13  7.36    53.10 0.02     1  1.00
## CBCL_40    40 60 1.12 0.32  2.33     3.48 0.04     1  1.00
## CBCL_41    41 60 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_42    42 60 1.05 0.22  4.03    14.46 0.03     1  1.00
## CBCL_43    43 60 1.08 0.28  2.94     6.76 0.04     1  1.00
## CBCL_44    44 59 1.20 0.45  1.99     3.20 0.06     1  1.00
## CBCL_45    45 60 1.10 0.30  2.60     4.84 0.04     1  1.00
## CBCL_46    46 60 1.12 0.32  2.33     3.48 0.04     1  1.00
## CBCL_47    47 60 1.18 0.39  1.60     0.56 0.05     1  1.00
## CBCL_48    48 59 1.24 0.50  1.97     3.05 0.07     1  1.00
## CBCL_49    49 59 1.02 0.13  7.29    52.10 0.02     1  1.00
## CBCL_50    50 60 1.22 0.42  1.34    -0.20 0.05     1  1.00
## CBCL_51    51 60 1.05 0.22  4.03    14.46 0.03     1  1.00
## CBCL_52    52 60 1.05 0.29  5.84    34.67 0.04     1  1.00
## CBCL_53    53 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_54    54 60 1.28 0.56  1.77     2.13 0.07     1  1.00
## CBCL_55    55 60 1.05 0.29  5.84    34.67 0.04     1  1.00
## CBCL_56    56 60 1.10 0.40  3.96    14.98 0.05     1  1.00
## CBCL_57    57 60 1.02 0.13  7.36    53.10 0.02     1  1.00
## CBCL_58    58 60 1.17 0.46  2.71     6.74 0.06     1  1.00
## CBCL_59    59 60 1.23 0.53  2.15     3.66 0.07     1  1.00
## CBCL_60    60 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_61    61 60 1.13 0.43  3.24     9.89 0.06     1  1.00
## CBCL_62    62 60 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_63    63 60 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_64    64 60 1.58 0.74  0.82    -0.78 0.10     1  2.00
## CBCL_65    65 60 1.08 0.28  2.94     6.76 0.04     1  1.00
## CBCL_66    66 60 1.22 0.49  2.15     3.84 0.06     1  1.00
## CBCL_67    67 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_68    68 60 1.40 0.56  0.96    -0.14 0.07     1  2.00
## CBCL_69    69 60 1.22 0.42  1.34    -0.20 0.05     1  1.00
## CBCL_70    70 60 1.02 0.13  7.36    53.10 0.02     1  1.00
## CBCL_71    71 60 1.02 0.13  7.36    53.10 0.02     1  1.00
## CBCL_72    72 60 1.03 0.18  5.07    24.11 0.02     1  1.00
## CBCL_73    73 60 1.98 0.60  0.00    -0.24 0.08     2  2.00
## CBCL_74    74 60 1.27 0.55  1.89     2.57 0.07     1  1.00
## CBCL_75    75 59 1.00 0.00   NaN      NaN 0.00     1  1.00
## CBCL_76    76 60 1.17 0.46  2.71     6.74 0.06     1  1.00
## CBCL_77    77 60 1.10 0.30  2.60     4.84 0.04     1  1.00
## CBCL_78    78 59 1.10 0.30  2.57     4.68 0.04     1  1.00
## CBCL_79    79 60 1.05 0.22  4.03    14.46 0.03     1  1.00
## CBCL_80    80 60 1.02 0.13  7.36    53.10 0.02     1  1.00
## CBCL_81    81 60 1.32 0.54  1.40     0.97 0.07     1  2.00
## CBCL_82    82 60 1.13 0.34  2.10     2.47 0.04     1  1.00
## CBCL_83    83 60 1.15 0.36  1.91     1.68 0.05     1  1.00
## CBCL_84    84 60 1.28 0.49  1.35     0.73 0.06     1  2.00
## CBCL_85    85 60 1.35 0.52  0.98    -0.30 0.07     1  2.00
## CBCL_86    86 60 1.07 0.25  3.39     9.64 0.03     1  1.00
## CBCL_87    87 60 1.25 0.44  1.13    -0.74 0.06     1  1.25
## CBCL_88    88 60 1.25 0.51  1.85     2.59 0.07     1  1.00
## CBCL_89    89 60 1.08 0.28  2.94     6.76 0.04     1  1.00
## CBCL_90    90 60 1.08 0.28  2.94     6.76 0.04     1  1.00
## CBCL_91    91 60 1.23 0.53  2.15     3.66 0.07     1  1.00
## CBCL_92    92 60 1.45 0.59  0.90    -0.24 0.08     1  2.00
## CBCL_93    93 60 1.03 0.26  7.36    53.10 0.03     1  1.00
## CBCL_94    94 60 1.17 0.46  2.71     6.74 0.06     1  1.00
## CBCL_95    95 60 1.05 0.29  5.84    34.67 0.04     1  1.00
## CBCL_96    96 60 1.40 0.67  1.36     0.49 0.09     1  2.00
## CBCL_97    97 60 1.62 0.64  0.52    -0.72 0.08     1  2.00
## CBCL_98    98 60 1.10 0.30  2.60     4.84 0.04     1  1.00
## CBCL_99    99 60 1.27 0.52  1.73     2.10 0.07     1  1.00
```

```
## Group.R*  100 76  NaN   NA    NA       NA   NA    NA    NA
## ----------------------------------------------------
## group: Turtle
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## CBCL_1      1 67 1.12 0.37 3.13     9.82 0.05   1.0   1.0
## CBCL_2      2 67 1.43 0.61 1.05     0.02 0.07   1.0   2.0
## CBCL_3      3 67 1.87 0.60 0.05    -0.38 0.07   1.5   2.0
## CBCL_4      4 67 1.93 0.64 0.06    -0.58 0.08   2.0   2.0
## CBCL_5      5 67 1.19 0.47 2.34     4.80 0.06   1.0   1.0
## CBCL_6      6 67 1.31 0.56 1.54     1.38 0.07   1.0   2.0
## CBCL_7      7 67 1.16 0.37 1.77     1.16 0.05   1.0   1.0
## CBCL_8      8 67 1.64 0.67 0.54    -0.78 0.08   1.0   2.0
## CBCL_9      9 67 1.43 0.68 1.24     0.18 0.08   1.0   2.0
## CBCL_10    10 67 1.76 0.63 0.22    -0.69 0.08   1.0   2.0
## CBCL_11    11 67 1.48 0.59 0.75    -0.48 0.07   1.0   2.0
## CBCL_12    12 67 1.21 0.51 2.35     4.61 0.06   1.0   1.0
## CBCL_13    13 67 1.37 0.55 1.05     0.04 0.07   1.0   2.0
## CBCL_14    14 67 1.00 0.00  NaN      NaN 0.00   1.0   1.0
## CBCL_15    15 67 1.40 0.58 1.07     0.10 0.07   1.0   2.0
## CBCL_16    16 67 1.52 0.64 0.79    -0.46 0.08   1.0   2.0
## CBCL_17    17 67 1.13 0.34 2.10     2.43 0.04   1.0   1.0
## CBCL_18    18 67 1.12 0.33 2.30     3.32 0.04   1.0   1.0
## CBCL_19    19 67 1.03 0.17 5.40    27.60 0.02   1.0   1.0
## CBCL_20    20 67 1.51 0.53 0.27    -1.32 0.07   1.0   2.0
## CBCL_21    21 67 1.27 0.51 1.67     1.91 0.06   1.0   1.0
## CBCL_22    22 67 1.64 0.75 0.67    -0.97 0.09   1.0   2.0
## CBCL_23    23 67 1.79 0.62 0.15    -0.60 0.08   1.0   2.0
## CBCL_24    24 67 1.22 0.52 2.20     3.95 0.06   1.0   1.0
## CBCL_25    25 67 1.15 0.36 1.92     1.73 0.04   1.0   1.0
## CBCL_26    26 67 1.09 0.29 2.81     5.99 0.04   1.0   1.0
## CBCL_27    27 67 1.19 0.43 2.04     3.41 0.05   1.0   1.0
## CBCL_28    28 67 1.22 0.45 1.76     2.17 0.06   1.0   1.0
## CBCL_29    29 67 1.58 0.68 0.71    -0.66 0.08   1.0   2.0
## CBCL_30    30 67 1.36 0.57 1.29     0.63 0.07   1.0   2.0
## CBCL_31    31 67 1.04 0.27 6.22    39.42 0.03   1.0   1.0
## CBCL_32    32 67 1.40 0.58 1.07     0.10 0.07   1.0   2.0
## CBCL_33    33 67 1.58 0.63 0.59    -0.66 0.08   1.0   2.0
## CBCL_34    34 67 1.12 0.33 2.30     3.32 0.04   1.0   1.0
## CBCL_35    35 67 1.06 0.24 3.63    11.37 0.03   1.0   1.0
## CBCL_36    36 67 1.15 0.40 2.60     6.39 0.05   1.0   1.0
## CBCL_37    37 67 1.28 0.57 1.84     2.28 0.07   1.0   1.0
## CBCL_38    38 67 1.30 0.55 1.63     1.69 0.07   1.0   1.5
## CBCL_39    39 67 1.09 0.34 3.90    15.76 0.04   1.0   1.0
## CBCL_40    40 67 1.18 0.39 1.64     0.69 0.05   1.0   1.0
## CBCL_41    41 67 1.01 0.12 7.82    60.09 0.01   1.0   1.0
## CBCL_42    42 67 1.03 0.17 5.40    27.60 0.02   1.0   1.0
## CBCL_43    43 67 1.09 0.29 2.81     5.99 0.04   1.0   1.0
## CBCL_44    44 67 1.25 0.44 1.11    -0.79 0.05   1.0   1.5
## CBCL_45    45 67 1.04 0.21 4.30    16.78 0.03   1.0   1.0
## CBCL_46    46 67 1.10 0.39 3.82    14.11 0.05   1.0   1.0
## CBCL_47    47 67 1.19 0.40 1.51     0.29 0.05   1.0   1.0
## CBCL_48    48 67 1.25 0.53 1.95     2.87 0.07   1.0   1.0
## CBCL_49    49 67 1.06 0.24 3.63    11.37 0.03   1.0   1.0
## CBCL_50    50 67 1.18 0.39 1.64     0.69 0.05   1.0   1.0
## CBCL_51    51 67 1.03 0.17 5.40    27.60 0.02   1.0   1.0
## CBCL_52    52 67 1.10 0.35 3.48    12.34 0.04   1.0   1.0
## CBCL_53    53 67 1.06 0.24 3.63    11.37 0.03   1.0   1.0
## CBCL_54    54 67 1.27 0.59 2.01     2.75 0.07   1.0   1.0
## CBCL_55    55 67 1.06 0.30 5.18    27.83 0.04   1.0   1.0
## CBCL_56    56 67 1.09 0.34 3.90    15.76 0.04   1.0   1.0
## CBCL_57    57 67 1.00 0.00  NaN      NaN 0.00   1.0   1.0
```

```
## CBCL_58    58 67 1.12 0.37 3.13     9.82 0.05   1.0   1.0
## CBCL_59    59 67 1.24 0.46 1.64     1.69 0.06   1.0   1.0
## CBCL_60    60 67 1.04 0.27 6.22    39.42 0.03   1.0   1.0
## CBCL_61    61 67 1.06 0.24 3.63    11.37 0.03   1.0   1.0
## CBCL_62    62 67 1.04 0.21 4.30    16.78 0.03   1.0   1.0
## CBCL_63    63 66 1.02 0.12 7.76    59.09 0.02   1.0   1.0
## CBCL_64    64 67 1.42 0.61 1.11     0.16 0.07   1.0   2.0
## CBCL_65    65 67 1.04 0.21 4.30    16.78 0.03   1.0   1.0
## CBCL_66    66 67 1.15 0.36 1.92     1.73 0.04   1.0   1.0
## CBCL_67    67 67 1.01 0.12 7.82    60.09 0.01   1.0   1.0
## CBCL_68    68 67 1.51 0.61 0.75    -0.47 0.07   1.0   2.0
## CBCL_69    69 67 1.19 0.43 2.04     3.41 0.05   1.0   1.0
## CBCL_70    70 67 1.03 0.17 5.40    27.60 0.02   1.0   1.0
## CBCL_71    71 67 1.00 0.00  NaN      NaN 0.00   1.0   1.0
## CBCL_72    72 67 1.00 0.00  NaN      NaN 0.00   1.0   1.0
## CBCL_73    73 67 2.00 0.58 0.00    -0.04 0.07   2.0   2.0
## CBCL_74    74 67 1.12 0.37 3.13     9.82 0.05   1.0   1.0
## CBCL_75    75 67 1.00 0.00  NaN      NaN 0.00   1.0   1.0
## CBCL_76    76 67 1.09 0.34 3.90    15.76 0.04   1.0   1.0
## CBCL_77    77 67 1.09 0.29 2.81     5.99 0.04   1.0   1.0
## CBCL_78    78 67 1.18 0.42 2.21     4.22 0.05   1.0   1.0
## CBCL_79    79 67 1.07 0.26 3.17     8.14 0.03   1.0   1.0
## CBCL_80    80 67 1.00 0.00  NaN      NaN 0.00   1.0   1.0
## CBCL_81    81 66 1.29 0.49 1.30     0.53 0.06   1.0   2.0
## CBCL_82    82 67 1.19 0.40 1.51     0.29 0.05   1.0   1.0
## CBCL_83    83 67 1.13 0.34 2.10     2.43 0.04   1.0   1.0
## CBCL_84    84 67 1.19 0.43 2.04     3.41 0.05   1.0   1.0
## CBCL_85    85 67 1.43 0.58 0.93    -0.17 0.07   1.0   2.0
## CBCL_86    86 67 1.03 0.17 5.40    27.60 0.02   1.0   1.0
## CBCL_87    87 67 1.33 0.50 1.06    -0.13 0.06   1.0   2.0
## CBCL_88    88 67 1.31 0.53 1.38     0.91 0.06   1.0   2.0
## CBCL_89    89 67 1.03 0.24 7.82    60.09 0.03   1.0   1.0
## CBCL_90    90 67 1.10 0.31 2.53     4.46 0.04   1.0   1.0
## CBCL_91    91 67 1.15 0.40 2.60     6.39 0.05   1.0   1.0
## CBCL_92    92 67 1.46 0.61 0.92    -0.21 0.07   1.0   2.0
## CBCL_93    93 67 1.01 0.12 7.82    60.09 0.01   1.0   1.0
## CBCL_94    94 67 1.25 0.50 1.79     2.33 0.06   1.0   1.0
## CBCL_95    95 67 1.03 0.17 5.40    27.60 0.02   1.0   1.0
## CBCL_96    96 67 1.40 0.63 1.26     0.42 0.08   1.0   2.0
## CBCL_97    97 67 1.64 0.64 0.48    -0.75 0.08   1.0   2.0
## CBCL_98    98 67 1.13 0.34 2.10     2.43 0.04   1.0   1.0
## CBCL_99    99 67 1.39 0.55 0.98    -0.12 0.07   1.0   2.0
## Group.R*  100 75  NaN   NA   NA       NA   NA    NA    NA
```

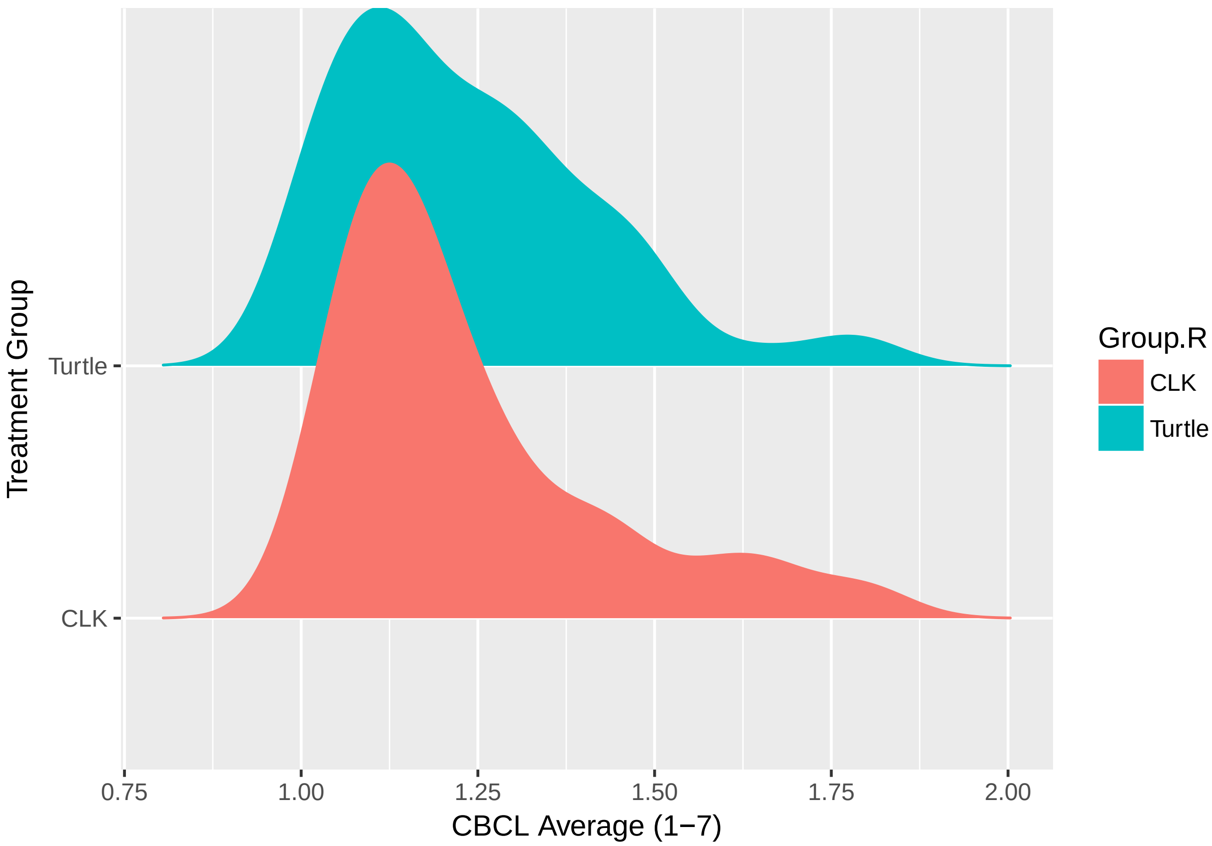
```
psych::describeBy(CBCL.all_T3[,c(102,105,106,107)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##                vars  n   mean    sd skew kurtosis   se Q0.25  Q0.75
## CBCL_tot          1 55 122.09 18.74 1.19     0.62 2.53 108.5 130.00
## CBCL_avg          2 55   1.23  0.19 1.19     0.62 0.03   1.1   1.31
## CBCL_avg_MR85     3 60   1.24  0.20 1.29     0.83 0.03   1.1   1.31
## Group.R*          4 76    NaN    NA   NA       NA   NA    NA     NA
## ------------------------------------------------------------
## group: Turtle
##                vars  n   mean    sd skew kurtosis   se Q0.25  Q0.75
## CBCL_tot          1 65 121.80 18.12 1.01     0.74 2.25 109.0 132.00
## CBCL_avg          2 65   1.23  0.18 1.01     0.74 0.02   1.1   1.33
## CBCL_avg_MR85     3 67   1.23  0.18 0.96     0.66 0.02   1.1   1.33
## Group.R*          4 75    NaN    NA   NA       NA   NA    NA     NA
```

4.3.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CBCL scores
t.test(CBCL.all_T3$CBCL_avg_MR85~CBCL.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CBCL.all_T3$CBCL_avg_MR85 by CBCL.all_T3$Group
## t = 0.097568, df = 120.92, p-value = 0.9224
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.06334756  0.06991504
## sample estimates:
## mean in group 0 mean in group 1
##        1.237221        1.233937
```



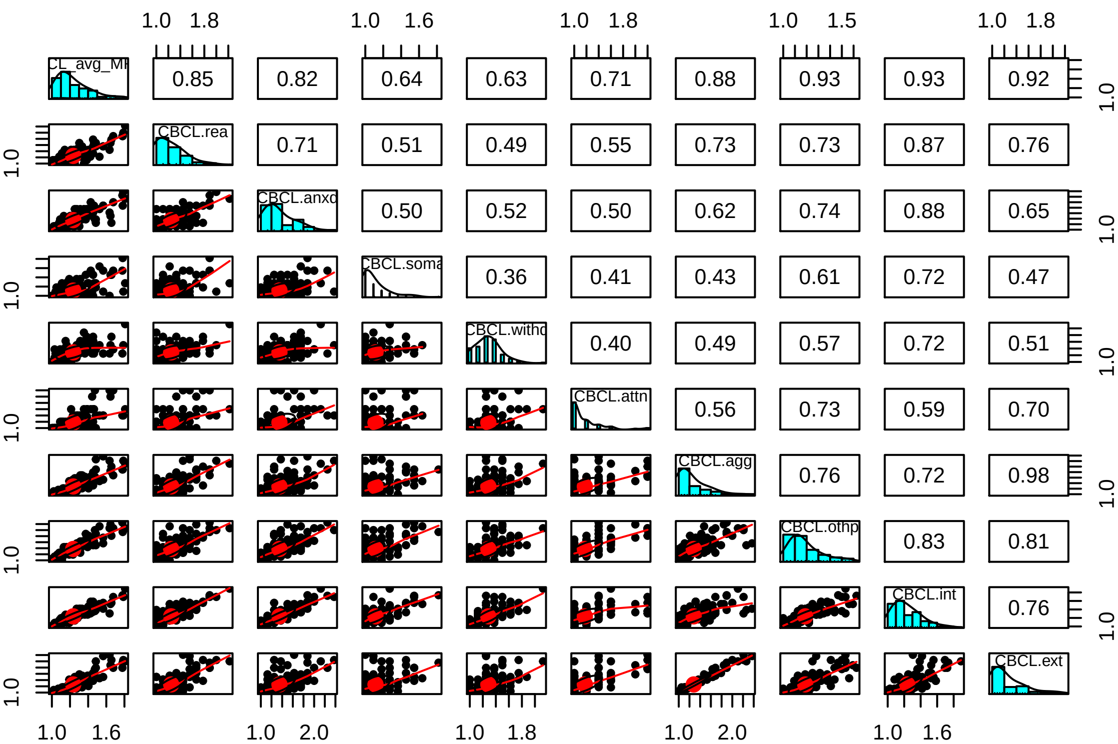
4.3.6 TIME 3: SUBSCALES

4.3.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CBCL.all_T3[,c(108:116)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##            vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## CBCL.rea      1 127 1.25 0.25 1.19     1.35 0.02  1.00  1.33
## CBCL.anxd     2 127 1.35 0.29 1.02     0.69 0.03  1.12  1.50
## CBCL.soma     3 127 1.11 0.16 1.84     3.38 0.01  1.00  1.18
## CBCL.withd    4 126 1.28 0.21 0.87     1.49 0.02  1.12  1.38
## CBCL.attn     5 126 1.17 0.28 2.07     4.21 0.03  1.00  1.20
## CBCL.agg      6 127 1.28 0.31 1.44     1.63 0.03  1.05  1.45
## CBCL.othp     7 127 1.19 0.14 1.09     0.67 0.01  1.09  1.25
## CBCL.int      8 127 1.24 0.18 1.05     0.95 0.02  1.10  1.33
## CBCL.ext      9 127 1.26 0.29 1.41     1.37 0.03  1.04  1.42
```

```
psych::pairs.panels(CBCL.all_T3[,c(106,108:116)])
```



4.3.6.2 CRONBACH'S ALPHA: REACTIVITY SUBSCALE

```
psych::alpha(CBCL.all_T3[CBCL.rea])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.rea])
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.73      0.75    0.77      0.25   3 0.03  1.2 0.25     0.26
##
##  lower alpha upper     95% confidence boundaries
## 0.67 0.73 0.79
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_21      0.69      0.73    0.74      0.25 2.7    0.034 0.015  0.26
## CBCL_46      0.74      0.76    0.77      0.28 3.2    0.030 0.013  0.28
## CBCL_51      0.72      0.73    0.75      0.26 2.7    0.032 0.021  0.27
```

```
## CBCL_79      0.70      0.71    0.73      0.24 2.5    0.033 0.018  0.25
## CBCL_82      0.71      0.72    0.73      0.25 2.6    0.033 0.012  0.26
## CBCL_83      0.71      0.73    0.74      0.25 2.7    0.033 0.017  0.26
## CBCL_92      0.71      0.73    0.75      0.26 2.8    0.032 0.018  0.27
## CBCL_97      0.68      0.71    0.74      0.24 2.5    0.037 0.018  0.25
## CBCL_99      0.67      0.71    0.73      0.23 2.4    0.037 0.018  0.25
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CBCL_21 127  0.63  0.57  0.51   0.45  1.3 0.52
## CBCL_46 127  0.34  0.39  0.26   0.19  1.1 0.36
## CBCL_51 127  0.44  0.55  0.45   0.37  1.0 0.20
## CBCL_79 127  0.58  0.65  0.60   0.50  1.1 0.24
## CBCL_82 127  0.54  0.59  0.55   0.40  1.2 0.37
## CBCL_83 127  0.54  0.58  0.51   0.41  1.1 0.35
## CBCL_92 127  0.61  0.54  0.45   0.40  1.5 0.60
## CBCL_97 127  0.72  0.66  0.60   0.53  1.6 0.64
## CBCL_99 127  0.71  0.67  0.63   0.56  1.3 0.54
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_21 0.74 0.23 0.03 0.16
## CBCL_46 0.91 0.08 0.02 0.16
## CBCL_51 0.96 0.04 0.00 0.16
## CBCL_79 0.94 0.06 0.00 0.16
## CBCL_82 0.83 0.17 0.00 0.16
## CBCL_83 0.86 0.14 0.00 0.16
## CBCL_92 0.60 0.35 0.06 0.16
## CBCL_97 0.46 0.46 0.09 0.16
## CBCL_99 0.70 0.27 0.03 0.16
```

4.3.6.3 CRONBACH'S ALPHA: ANXIETY/DEPRESSION SUBSCALE

```
psych::alpha(CBCL.all_T3[CBCL.anxd])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.anxd])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.75      0.76    0.75      0.28 3.1 0.029  1.3 0.29      0.3
##
##  lower alpha upper     95% confidence boundaries
## 0.69 0.75 0.81
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CBCL_10      0.71      0.73    0.72      0.28 2.7    0.034 0.0072  0.30
## CBCL_33      0.70      0.72    0.71      0.26 2.5    0.035 0.0114  0.28
## CBCL_37      0.72      0.74    0.73      0.29 2.8    0.032 0.0078  0.30
## CBCL_43      0.73      0.74    0.73      0.28 2.8    0.031 0.0121  0.32
## CBCL_47      0.73      0.73    0.73      0.28 2.7    0.032 0.0121  0.30
## CBCL_68      0.73      0.74    0.73      0.28 2.8    0.032 0.0125  0.30
## CBCL_87      0.70      0.71    0.70      0.26 2.4    0.035 0.0108  0.28
## CBCL_90      0.74      0.75    0.73      0.30 3.0    0.030 0.0055  0.30
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CBCL_10 127  0.67  0.61  0.55   0.49  1.8 0.59
## CBCL_33 127  0.71  0.68  0.61   0.54  1.6 0.62
## CBCL_37 127  0.62  0.57  0.48   0.44  1.3 0.53
```

```
## CBCL_43 127  0.51  0.59  0.50   0.41  1.1 0.28
## CBCL_47 127  0.56  0.60  0.51   0.43  1.2 0.39
## CBCL_68 127  0.63  0.59  0.49   0.43  1.5 0.59
## CBCL_87 127  0.70  0.70  0.66   0.57  1.3 0.47
## CBCL_90 127  0.42  0.52  0.43   0.31  1.1 0.29
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_10 0.31 0.61 0.09 0.16
## CBCL_33 0.50 0.43 0.07 0.16
## CBCL_37 0.71 0.26 0.03 0.16
## CBCL_43 0.91 0.09 0.00 0.16
## CBCL_47 0.81 0.19 0.00 0.16
## CBCL_68 0.59 0.36 0.05 0.16
## CBCL_87 0.72 0.28 0.01 0.16
## CBCL_90 0.91 0.09 0.00 0.16
```

4.3.6.4 CRONBACH'S ALPHA: SOMATIC SUBSCALE

```
psych::alpha(CBCL.all_T3[CBCL.soma])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.soma])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.63      0.64    0.71      0.14 1.8 0.043  1.1 0.16     0.12
##
##  lower alpha upper     95% confidence boundaries
## 0.55 0.63 0.72
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_1       0.62      0.64    0.70      0.15 1.7    0.044 0.024  0.12
## CBCL_7       0.63      0.64    0.70      0.15 1.7    0.043 0.024  0.12
## CBCL_12      0.55      0.58    0.65      0.12 1.4    0.053 0.022  0.10
## CBCL_19      0.62      0.63    0.70      0.15 1.7    0.044 0.024  0.13
## CBCL_24      0.61      0.62    0.69      0.14 1.6    0.046 0.024  0.12
## CBCL_39      0.62      0.63    0.69      0.15 1.7    0.044 0.021  0.12
## CBCL_45      0.61      0.62    0.69      0.14 1.7    0.046 0.022  0.12
## CBCL_52      0.59      0.60    0.65      0.13 1.5    0.048 0.019  0.11
## CBCL_78      0.61      0.62    0.67      0.14 1.6    0.045 0.019  0.13
## CBCL_86      0.62      0.62    0.69      0.14 1.7    0.044 0.024  0.14
## CBCL_93      0.62      0.62    0.68      0.14 1.7    0.044 0.020  0.13
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_1  127  0.46  0.40  0.28   0.25  1.2 0.42
## CBCL_7  127  0.41  0.40  0.28   0.21  1.2 0.37
## CBCL_12 127  0.68  0.63  0.61   0.50  1.2 0.47
## CBCL_19 127  0.37  0.43  0.32   0.24  1.0 0.25
## CBCL_24 127  0.57  0.46  0.37   0.32  1.3 0.52
## CBCL_39 127  0.36  0.40  0.33   0.23  1.1 0.26
## CBCL_45 127  0.45  0.45  0.38   0.32  1.1 0.26
## CBCL_52 127  0.55  0.57  0.57   0.40  1.1 0.32
## CBCL_78 126  0.48  0.48  0.45   0.29  1.1 0.37
## CBCL_86 127  0.37  0.45  0.36   0.26  1.0 0.21
## CBCL_93 127  0.35  0.45  0.39   0.24  1.0 0.20
##
## Non missing response frequency for each item
##            1    2    3 miss
```

```
## CBCL_1  0.84 0.14 0.02 0.16
## CBCL_7  0.83 0.17 0.00 0.16
## CBCL_12 0.84 0.13 0.03 0.16
## CBCL_19 0.96 0.03 0.01 0.16
## CBCL_24 0.78 0.18 0.04 0.16
## CBCL_39 0.95 0.04 0.01 0.16
## CBCL_45 0.93 0.07 0.00 0.16
## CBCL_52 0.94 0.05 0.02 0.16
## CBCL_78 0.87 0.13 0.01 0.17
## CBCL_86 0.95 0.05 0.00 0.16
## CBCL_93 0.98 0.01 0.01 0.16
```

NOTE: The reliability for the somatic subscale is low.

4.3.6.5 CRONBACH'S ALPHA: WITHDRAWAL SUBSCALE

```r
psych::alpha(CBCL.all_T3[CBCL.withd])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.withd])
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean  sd median_r
##       0.59      0.66     0.7       0.2   2 0.04  1.3 0.2     0.16
##
##  lower alpha upper     95% confidence boundaries
## 0.51 0.59 0.67
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_2       0.56      0.66    0.70      0.22 1.9    0.040 0.041  0.16
## CBCL_4       0.50      0.64    0.67      0.20 1.8    0.049 0.040  0.16
## CBCL_23      0.46      0.62    0.65      0.19 1.6    0.055 0.040  0.11
## CBCL_62      0.60      0.71    0.74      0.26 2.5    0.041 0.029  0.22
## CBCL_67      0.57      0.59    0.61      0.17 1.4    0.042 0.024  0.14
## CBCL_70      0.58      0.62    0.63      0.19 1.6    0.042 0.023  0.17
## CBCL_71      0.58      0.60    0.64      0.18 1.5    0.042 0.028  0.14
## CBCL_98      0.52      0.62    0.66      0.19 1.6    0.046 0.042  0.14
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean    sd
## CBCL_2  127  0.61  0.46 0.310   0.31  1.4 0.570
## CBCL_4  126  0.72  0.54 0.432   0.43  1.9 0.635
## CBCL_23 126  0.76  0.60 0.524   0.51  1.8 0.631
## CBCL_62 127  0.13  0.25 0.032   0.04  1.0 0.152
## CBCL_67 127  0.42  0.68 0.678   0.34  1.0 0.152
## CBCL_70 127  0.32  0.60 0.581   0.24  1.0 0.152
## CBCL_71 127  0.37  0.64 0.604   0.32  1.0 0.089
## CBCL_98 127  0.57  0.60 0.503   0.44  1.1 0.324
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_2  0.62 0.34 0.04 0.16
## CBCL_4  0.26 0.59 0.15 0.17
## CBCL_23 0.33 0.56 0.11 0.17
## CBCL_62 0.98 0.02 0.00 0.16
## CBCL_67 0.98 0.02 0.00 0.16
## CBCL_70 0.98 0.02 0.00 0.16
## CBCL_71 0.99 0.01 0.00 0.16
## CBCL_98 0.88 0.12 0.00 0.16
```

NOTE: Internal consistency for the withdrawal subscale is low

4.3.6.6 CRONBACH'S ALPHA: ATTENTION SUBSCALE

```
psych::alpha(CBCL.all_T3[CBCL.attn])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.attn])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.66      0.62    0.62      0.24 1.6 0.038  1.2 0.3     0.15
##
##  lower alpha upper     95% confidence boundaries
## 0.58 0.66 0.73
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r med.r
## CBCL_5       0.51      0.48    0.47      0.19 0.94    0.056 0.027  0.13
## CBCL_6       0.50      0.47    0.45      0.18 0.90    0.060 0.023  0.12
## CBCL_56      0.69      0.66    0.65      0.33 1.98    0.033 0.047  0.36
## CBCL_59      0.54      0.48    0.49      0.19 0.94    0.050 0.043  0.12
## CBCL_95      0.68      0.66    0.64      0.33 1.93    0.038 0.047  0.31
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_5  126  0.81  0.73  0.69   0.58  1.2 0.50
## CBCL_6  127  0.81  0.74  0.71   0.60  1.3 0.57
## CBCL_56 127  0.40  0.46  0.20   0.17  1.1 0.37
## CBCL_59 127  0.76  0.73  0.66   0.53  1.2 0.50
## CBCL_95 127  0.37  0.47  0.23   0.17  1.0 0.23
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_5  0.83 0.13 0.04 0.17
## CBCL_6  0.74 0.20 0.06 0.16
## CBCL_56 0.93 0.05 0.02 0.16
## CBCL_59 0.80 0.17 0.03 0.16
## CBCL_95 0.97 0.02 0.01 0.16
```

NOTE: Internal consistency is low for the attention subscale

4.3.6.7 CRONBACH'S ALPHA: AGGRESSION SUBSCALE

```
psych::alpha(CBCL.all_T3[CBCL.agg])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.agg])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.92      0.92    0.94      0.38  12 0.0083  1.3 0.31     0.39
##
##  lower alpha upper     95% confidence boundaries
## 0.9 0.92 0.94
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_8       0.92      0.92    0.94      0.38  11   0.0089 0.024  0.39
## CBCL_15      0.91      0.91    0.94      0.37  11   0.0093 0.022  0.37
## CBCL_16      0.91      0.92    0.94      0.38  11   0.0090 0.024  0.39
## CBCL_18      0.92      0.92    0.94      0.40  12   0.0084 0.022  0.41
## CBCL_20      0.91      0.92    0.94      0.38  11   0.0090 0.024  0.37
## CBCL_27      0.92      0.92    0.94      0.38  11   0.0087 0.024  0.39
## CBCL_29      0.92      0.92    0.94      0.39  11   0.0084 0.025  0.40
```

```
## CBCL_35      0.92      0.92    0.94      0.38   11   0.0085 0.026  0.39
## CBCL_40      0.92      0.92    0.94      0.38   11   0.0085 0.026  0.40
## CBCL_42      0.92      0.92    0.95      0.41   12   0.0084 0.020  0.42
## CBCL_44      0.91      0.92    0.94      0.38   11   0.0088 0.024  0.38
## CBCL_53      0.92      0.92    0.94      0.40   12   0.0084 0.022  0.41
## CBCL_58      0.91      0.91    0.94      0.37   11   0.0089 0.024  0.37
## CBCL_66      0.92      0.92    0.94      0.38   11   0.0087 0.024  0.38
## CBCL_69      0.91      0.92    0.94      0.38   11   0.0089 0.024  0.37
## CBCL_81      0.91      0.92    0.94      0.38   11   0.0088 0.023  0.39
## CBCL_85      0.91      0.92    0.94      0.38   11   0.0089 0.025  0.37
## CBCL_88      0.91      0.91    0.94      0.37   10   0.0092 0.022  0.37
## CBCL_96      0.91      0.92    0.94      0.38   11   0.0089 0.024  0.38
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CBCL_8  127  0.73  0.69  0.68   0.66  1.6 0.71
## CBCL_15 127  0.81  0.80  0.80   0.77  1.4 0.58
## CBCL_16 127  0.74  0.71  0.70   0.69  1.5 0.65
## CBCL_18 127  0.39  0.42  0.39   0.35  1.1 0.27
## CBCL_20 127  0.73  0.71  0.69   0.68  1.5 0.57
## CBCL_27 127  0.66  0.69  0.68   0.62  1.2 0.40
## CBCL_29 127  0.62  0.58  0.54   0.54  1.6 0.67
## CBCL_35 127  0.54  0.61  0.58   0.51  1.1 0.23
## CBCL_40 127  0.56  0.61  0.59   0.51  1.1 0.36
## CBCL_42 127  0.28  0.34  0.29   0.25  1.0 0.20
## CBCL_44 126  0.70  0.70  0.69   0.66  1.2 0.44
## CBCL_53 127  0.35  0.40  0.36   0.31  1.0 0.21
## CBCL_58 127  0.74  0.76  0.75   0.70  1.1 0.41
## CBCL_66 127  0.65  0.64  0.62   0.60  1.2 0.43
## CBCL_69 127  0.71  0.72  0.70   0.67  1.2 0.42
## CBCL_81 126  0.69  0.68  0.67   0.65  1.3 0.51
## CBCL_85 127  0.71  0.69  0.67   0.66  1.4 0.55
## CBCL_88 127  0.81  0.80  0.80   0.77  1.3 0.52
## CBCL_96 127  0.72  0.68  0.66   0.66  1.4 0.65
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_8  0.49 0.38 0.13 0.16
## CBCL_15 0.65 0.31 0.05 0.16
## CBCL_16 0.57 0.34 0.09 0.16
## CBCL_18 0.92 0.08 0.00 0.16
## CBCL_20 0.57 0.39 0.04 0.16
## CBCL_27 0.83 0.16 0.01 0.16
## CBCL_29 0.50 0.40 0.10 0.16
## CBCL_35 0.94 0.06 0.00 0.16
## CBCL_40 0.85 0.15 0.00 0.16
## CBCL_42 0.96 0.04 0.00 0.16
## CBCL_44 0.78 0.21 0.01 0.17
## CBCL_53 0.95 0.05 0.00 0.16
## CBCL_58 0.88 0.09 0.02 0.16
## CBCL_66 0.83 0.15 0.02 0.16
## CBCL_69 0.80 0.19 0.01 0.16
## CBCL_81 0.72 0.25 0.02 0.17
## CBCL_85 0.64 0.33 0.03 0.16
## CBCL_88 0.75 0.22 0.03 0.16
## CBCL_96 0.69 0.23 0.09 0.16
```

4.3.6.8 CRONBACH'S ALPHA: OTHER PROBLEMS SUBSCALE

```
psych::alpha(CBCL.all_T3[CBCL.othp])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.othp])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.8      0.79    0.88      0.11 3.8 0.022  1.2 0.15     0.11
##
##  lower alpha upper     95% confidence boundaries
## 0.76 0.8 0.84
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_3       0.79      0.78    0.87      0.11 3.5    0.023 0.018  0.10
## CBCL_9       0.78      0.78    0.87      0.10 3.5    0.024 0.018  0.10
## CBCL_11      0.78      0.77    0.87      0.10 3.4    0.024 0.018  0.10
## CBCL_13      0.79      0.78    0.86      0.11 3.5    0.023 0.018  0.11
## CBCL_14      0.80      0.79    0.88      0.11 3.8    0.022 0.018  0.11
## CBCL_17      0.79      0.78    0.87      0.11 3.6    0.022 0.018  0.11
## CBCL_25      0.79      0.78    0.87      0.11 3.6    0.023 0.018  0.10
## CBCL_26      0.80      0.79    0.87      0.11 3.7    0.022 0.018  0.11
## CBCL_28      0.80      0.79    0.88      0.11 3.7    0.022 0.018  0.11
## CBCL_30      0.79      0.78    0.87      0.10 3.5    0.023 0.018  0.10
## CBCL_31      0.79      0.78    0.87      0.11 3.6    0.023 0.017  0.10
## CBCL_32      0.80      0.79    0.88      0.11 3.8    0.021 0.018  0.11
## CBCL_34      0.79      0.78    0.87      0.11 3.6    0.023 0.018  0.10
## CBCL_36      0.78      0.77    0.86      0.10 3.4    0.024 0.017  0.10
## CBCL_41      0.80      0.79    0.87      0.11 3.8    0.022 0.018  0.11
## CBCL_49      0.80      0.79    0.88      0.11 3.9    0.022 0.018  0.11
## CBCL_50      0.78      0.77    0.86      0.10 3.4    0.023 0.018  0.10
## CBCL_54      0.79      0.78    0.87      0.11 3.6    0.022 0.018  0.11
## CBCL_55      0.79      0.78    0.87      0.11 3.6    0.022 0.017  0.11
## CBCL_57      0.80      0.79    0.88      0.11 3.8    0.022 0.018  0.11
## CBCL_60      0.80      0.78    0.87      0.11 3.7    0.022 0.018  0.11
## CBCL_61      0.79      0.78    0.87      0.11 3.6    0.022 0.018  0.11
## CBCL_63      0.80      0.79    0.87      0.11 3.8    0.022 0.018  0.11
## CBCL_56      0.79      0.78    0.87      0.10 3.5    0.023 0.017  0.10
## CBCL_72      0.80      0.79    0.88      0.11 3.8    0.022 0.018  0.11
## CBCL_73      0.80      0.79    0.88      0.11 3.7    0.022 0.018  0.11
## CBCL_76      0.81      0.80    0.88      0.12 3.9    0.021 0.018  0.11
## CBCL_77      0.79      0.78    0.86      0.10 3.5    0.023 0.017  0.10
## CBCL_80      0.80      0.79    0.87      0.11 3.7    0.022 0.018  0.11
## CBCL_89      0.80      0.79    0.87      0.11 3.7    0.022 0.017  0.11
## CBCL_91      0.79      0.78    0.87      0.10 3.5    0.023 0.018  0.10
##
##  Item statistics
##           n raw.r std.r r.cor  r.drop mean    sd
## CBCL_3  127 0.537 0.463 0.440  0.4382  1.8 0.565
## CBCL_9  127 0.575 0.537 0.522  0.4783  1.4 0.590
## CBCL_11 127 0.616 0.592 0.584  0.5308  1.4 0.557
## CBCL_13 127 0.543 0.483 0.480  0.4479  1.4 0.554
## CBCL_14 127 0.138 0.188 0.141  0.1045  1.0 0.152
## CBCL_17 127 0.378 0.376 0.354  0.3167  1.1 0.314
## CBCL_25 127 0.405 0.438 0.411  0.3365  1.1 0.358
## CBCL_26 127 0.287 0.350 0.324  0.2365  1.1 0.244
## CBCL_28 127 0.307 0.277 0.237  0.2103  1.2 0.462
## CBCL_30 127 0.536 0.502 0.489  0.4488  1.3 0.512
## CBCL_31 127 0.429 0.447 0.443  0.3860  1.0 0.232
## CBCL_32 127 0.330 0.249 0.196  0.2060  1.4 0.594
## CBCL_34 127 0.411 0.428 0.410  0.3371  1.2 0.387
## CBCL_36 127 0.637 0.633 0.651  0.5713  1.2 0.456
## CBCL_41 127 0.118 0.164 0.128  0.0989  1.0 0.089
```

```
## CBCL_49 126 0.107 0.129 0.062  0.0643  1.0 0.196
## CBCL_50 127 0.582 0.578 0.579  0.5203  1.2 0.399
## CBCL_54 127 0.427 0.377 0.342  0.3162  1.3 0.573
## CBCL_55 127 0.337 0.376 0.372  0.2791  1.1 0.290
## CBCL_57 127 0.138 0.172 0.116  0.1188  1.0 0.089
## CBCL_60 127 0.286 0.354 0.338  0.2382  1.0 0.232
## CBCL_61 127 0.353 0.380 0.360  0.2826  1.1 0.343
## CBCL_63 126 0.119 0.191 0.163  0.1000  1.0 0.089
## CBCL_56 127 0.489 0.517 0.520  0.4227  1.1 0.366
## CBCL_72 127 0.168 0.214 0.173  0.1410  1.0 0.125
## CBCL_73 127 0.357 0.311 0.267  0.2368  2.0 0.584
## CBCL_76 127 0.079 0.089 0.020 -0.0087  1.1 0.398
## CBCL_77 127 0.482 0.537 0.544  0.4306  1.1 0.294
## CBCL_80 127 0.217 0.283 0.259  0.1981  1.0 0.089
## CBCL_89 127 0.314 0.341 0.338  0.2612  1.1 0.261
## CBCL_91 127 0.498 0.493 0.479  0.4151  1.2 0.467
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_3  0.26 0.65 0.09 0.16
## CBCL_9  0.68 0.27 0.06 0.16
## CBCL_11 0.61 0.36 0.03 0.16
## CBCL_13 0.62 0.35 0.03 0.16
## CBCL_14 0.98 0.02 0.00 0.16
## CBCL_17 0.89 0.11 0.00 0.16
## CBCL_25 0.85 0.15 0.00 0.16
## CBCL_26 0.94 0.06 0.00 0.16
## CBCL_28 0.78 0.20 0.02 0.16
## CBCL_30 0.72 0.26 0.02 0.16
## CBCL_31 0.97 0.02 0.01 0.16
## CBCL_32 0.65 0.29 0.06 0.16
## CBCL_34 0.85 0.14 0.01 0.16
## CBCL_36 0.86 0.11 0.03 0.16
## CBCL_41 0.99 0.01 0.00 0.16
## CBCL_49 0.96 0.04 0.00 0.17
## CBCL_50 0.80 0.20 0.00 0.16
## CBCL_54 0.79 0.15 0.06 0.16
## CBCL_55 0.96 0.02 0.02 0.16
## CBCL_57 0.99 0.01 0.00 0.16
## CBCL_60 0.97 0.02 0.01 0.16
## CBCL_61 0.92 0.06 0.02 0.16
## CBCL_63 0.99 0.01 0.00 0.17
## CBCL_56 0.93 0.05 0.02 0.16
## CBCL_72 0.98 0.02 0.00 0.16
## CBCL_73 0.17 0.66 0.17 0.16
## CBCL_76 0.90 0.08 0.02 0.16
## CBCL_77 0.91 0.09 0.00 0.16
## CBCL_80 0.99 0.01 0.00 0.16
## CBCL_89 0.95 0.04 0.01 0.16
## CBCL_91 0.84 0.13 0.03 0.16
```

4.3.6.9 CRONBACH'S ALPHA: INTERNALIZING SUBSCALE (reactivity, anxiety/depression, withdrawal, somatic)

```
psych::alpha(CBCL.all_T3[CBCL.int])
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.int])
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
```

```
##       0.87      0.87    0.93      0.16   7 0.014  1.2 0.18     0.16
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.87 0.9
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_21      0.87      0.87    0.93      0.16 6.6    0.014 0.017  0.16
## CBCL_46      0.87      0.87    0.93      0.17 7.0    0.014 0.017  0.17
## CBCL_51      0.87      0.87    0.93      0.16 6.8    0.014 0.017  0.16
## CBCL_79      0.87      0.87    0.93      0.16 6.6    0.014 0.016  0.16
## CBCL_82      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_83      0.87      0.87    0.93      0.16 6.6    0.014 0.017  0.16
## CBCL_92      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_97      0.86      0.87    0.93      0.16 6.6    0.015 0.017  0.16
## CBCL_99      0.86      0.87    0.93      0.16 6.5    0.015 0.016  0.16
## CBCL_10      0.86      0.87    0.93      0.16 6.6    0.015 0.017  0.16
## CBCL_33      0.87      0.87    0.93      0.16 6.6    0.014 0.017  0.16
## CBCL_37      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_43      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_47      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_68      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_87      0.87      0.87    0.93      0.16 6.6    0.014 0.017  0.16
## CBCL_90      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_1       0.87      0.88    0.93      0.17 7.1    0.014 0.017  0.17
## CBCL_7       0.87      0.87    0.93      0.17 6.9    0.014 0.017  0.16
## CBCL_12      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_19      0.87      0.87    0.93      0.17 7.0    0.014 0.017  0.17
## CBCL_24      0.87      0.87    0.93      0.16 6.8    0.014 0.017  0.16
## CBCL_39      0.87      0.87    0.93      0.16 6.9    0.014 0.017  0.16
## CBCL_45      0.87      0.87    0.93      0.16 6.8    0.014 0.017  0.16
## CBCL_52      0.87      0.87    0.93      0.16 6.8    0.014 0.016  0.16
## CBCL_78      0.87      0.87    0.93      0.16 6.8    0.014 0.017  0.16
## CBCL_86      0.87      0.87    0.93      0.17 7.0    0.014 0.016  0.17
## CBCL_93      0.87      0.87    0.93      0.17 7.0    0.014 0.016  0.17
## CBCL_2       0.87      0.87    0.93      0.16 6.8    0.014 0.017  0.16
## CBCL_4       0.87      0.87    0.93      0.16 6.8    0.014 0.017  0.16
## CBCL_23      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
## CBCL_62      0.87      0.88    0.93      0.17 7.1    0.014 0.016  0.17
## CBCL_67      0.87      0.87    0.93      0.16 6.8    0.014 0.016  0.16
## CBCL_70      0.87      0.87    0.93      0.17 6.9    0.014 0.016  0.17
## CBCL_71      0.87      0.87    0.93      0.16 6.8    0.014 0.016  0.16
## CBCL_98      0.87      0.87    0.93      0.16 6.7    0.014 0.017  0.16
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean    sd
## CBCL_21 127  0.54  0.53  0.52   0.48  1.3 0.521
## CBCL_46 127  0.26  0.26  0.24   0.21  1.1 0.361
## CBCL_51 127  0.41  0.44  0.42   0.38  1.0 0.195
## CBCL_79 127  0.50  0.55  0.55   0.47  1.1 0.244
## CBCL_82 127  0.47  0.48  0.47   0.42  1.2 0.373
## CBCL_83 127  0.50  0.53  0.52   0.45  1.1 0.350
## CBCL_92 127  0.52  0.47  0.46   0.45  1.5 0.601
## CBCL_97 127  0.64  0.59  0.58   0.57  1.6 0.640
## CBCL_99 127  0.62  0.62  0.61   0.57  1.3 0.535
## CBCL_10 127  0.62  0.57  0.57   0.56  1.8 0.590
## CBCL_33 127  0.58  0.56  0.55   0.51  1.6 0.624
## CBCL_37 127  0.54  0.49  0.48   0.48  1.3 0.533
## CBCL_43 127  0.44  0.48  0.47   0.41  1.1 0.282
## CBCL_47 127  0.48  0.45  0.43   0.43  1.2 0.393
## CBCL_68 127  0.57  0.51  0.49   0.50  1.5 0.588
```

```
## CBCL_87 127  0.59  0.57  0.56   0.53  1.3 0.473
## CBCL_90 127  0.45  0.51  0.51   0.42  1.1 0.294
## CBCL_1  127  0.24  0.21  0.18   0.18  1.2 0.420
## CBCL_7  127  0.30  0.31  0.28   0.25  1.2 0.373
## CBCL_12 127  0.50  0.49  0.48   0.45  1.2 0.467
## CBCL_19 127  0.25  0.29  0.27   0.22  1.0 0.247
## CBCL_24 127  0.44  0.42  0.40   0.37  1.3 0.523
## CBCL_39 127  0.29  0.32  0.30   0.25  1.1 0.261
## CBCL_45 127  0.39  0.43  0.42   0.35  1.1 0.258
## CBCL_52 127  0.38  0.39  0.38   0.34  1.1 0.324
## CBCL_78 126  0.38  0.42  0.41   0.33  1.1 0.373
## CBCL_86 127  0.21  0.26  0.23   0.18  1.0 0.213
## CBCL_93 127  0.22  0.26  0.24   0.20  1.0 0.198
## CBCL_2  127  0.46  0.42  0.40   0.38  1.4 0.570
## CBCL_4  126  0.44  0.37  0.34   0.34  1.9 0.635
## CBCL_23 126  0.57  0.50  0.49   0.48  1.8 0.631
## CBCL_62 127  0.16  0.20  0.17   0.13  1.0 0.152
## CBCL_67 127  0.29  0.38  0.37   0.27  1.0 0.152
## CBCL_70 127  0.19  0.30  0.28   0.16  1.0 0.152
## CBCL_71 127  0.32  0.43  0.42   0.31  1.0 0.089
## CBCL_98 127  0.45  0.49  0.47   0.41  1.1 0.324
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_21 0.74 0.23 0.03 0.16
## CBCL_46 0.91 0.08 0.02 0.16
## CBCL_51 0.96 0.04 0.00 0.16
## CBCL_79 0.94 0.06 0.00 0.16
## CBCL_82 0.83 0.17 0.00 0.16
## CBCL_83 0.86 0.14 0.00 0.16
## CBCL_92 0.60 0.35 0.06 0.16
## CBCL_97 0.46 0.46 0.09 0.16
## CBCL_99 0.70 0.27 0.03 0.16
## CBCL_10 0.31 0.61 0.09 0.16
## CBCL_33 0.50 0.43 0.07 0.16
## CBCL_37 0.71 0.26 0.03 0.16
## CBCL_43 0.91 0.09 0.00 0.16
## CBCL_47 0.81 0.19 0.00 0.16
## CBCL_68 0.59 0.36 0.05 0.16
## CBCL_87 0.72 0.28 0.01 0.16
## CBCL_90 0.91 0.09 0.00 0.16
## CBCL_1  0.84 0.14 0.02 0.16
## CBCL_7  0.83 0.17 0.00 0.16
## CBCL_12 0.84 0.13 0.03 0.16
## CBCL_19 0.96 0.03 0.01 0.16
## CBCL_24 0.78 0.18 0.04 0.16
## CBCL_39 0.95 0.04 0.01 0.16
## CBCL_45 0.93 0.07 0.00 0.16
## CBCL_52 0.94 0.05 0.02 0.16
## CBCL_78 0.87 0.13 0.01 0.17
## CBCL_86 0.95 0.05 0.00 0.16
## CBCL_93 0.98 0.01 0.01 0.16
## CBCL_2  0.62 0.34 0.04 0.16
## CBCL_4  0.26 0.59 0.15 0.17
## CBCL_23 0.33 0.56 0.11 0.17
## CBCL_62 0.98 0.02 0.00 0.16
## CBCL_67 0.98 0.02 0.00 0.16
## CBCL_70 0.98 0.02 0.00 0.16
## CBCL_71 0.99 0.01 0.00 0.16
## CBCL_98 0.88 0.12 0.00 0.16
```

4.3.6.10 CRONBACH'S ALPHA: EXTERNALIZING SUBSCALE (attention, aggression)

```
psych::alpha(CBCL.all_T3[CBCL.ext])
```

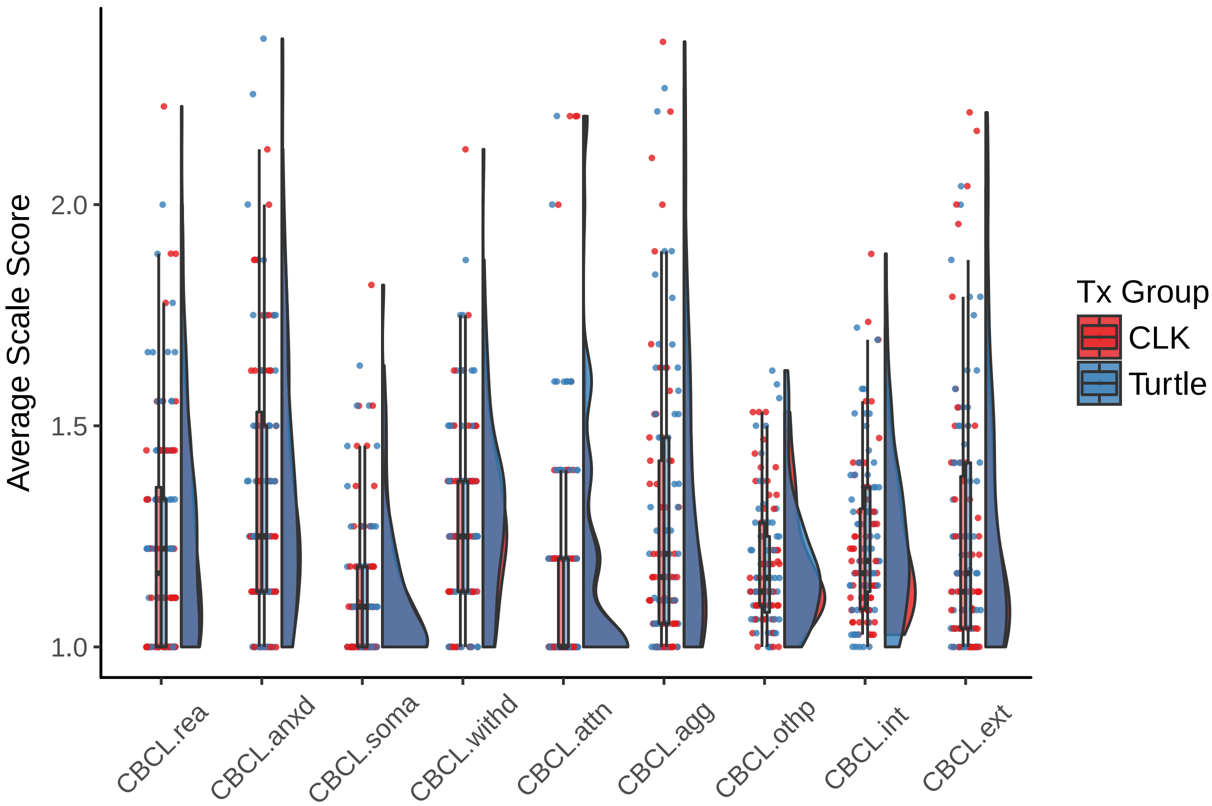
```
##
## Reliability analysis
## Call: psych::alpha(x = CBCL.all_T3[CBCL.ext])
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##       0.92      0.92    0.95      0.32  12 0.0081  1.3 0.29     0.32
##
##  lower alpha upper     95% confidence boundaries
## 0.91 0.92 0.94
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CBCL_5       0.92      0.92    0.95      0.33  11   0.0083 0.026  0.32
## CBCL_6       0.92      0.92    0.95      0.33  11   0.0083 0.026  0.33
## CBCL_56      0.92      0.92    0.95      0.34  12   0.0081 0.024  0.33
## CBCL_59      0.92      0.92    0.95      0.33  11   0.0082 0.026  0.33
## CBCL_95      0.92      0.92    0.95      0.34  12   0.0082 0.026  0.33
## CBCL_8       0.92      0.91    0.94      0.32  11   0.0088 0.026  0.31
## CBCL_15      0.91      0.91    0.94      0.31  11   0.0089 0.024  0.31
## CBCL_16      0.92      0.91    0.94      0.32  11   0.0088 0.026  0.31
## CBCL_18      0.92      0.92    0.95      0.33  12   0.0082 0.025  0.33
## CBCL_20      0.92      0.91    0.94      0.32  11   0.0087 0.025  0.31
## CBCL_27      0.92      0.92    0.94      0.32  11   0.0084 0.025  0.32
## CBCL_29      0.92      0.92    0.95      0.32  11   0.0084 0.027  0.32
## CBCL_35      0.92      0.92    0.95      0.32  11   0.0083 0.027  0.32
## CBCL_40      0.92      0.92    0.95      0.33  11   0.0083 0.026  0.32
## CBCL_42      0.92      0.92    0.95      0.34  12   0.0082 0.024  0.34
## CBCL_44      0.92      0.92    0.94      0.32  11   0.0086 0.025  0.32
## CBCL_53      0.92      0.92    0.95      0.34  12   0.0082 0.025  0.33
## CBCL_58      0.92      0.91    0.94      0.32  11   0.0086 0.025  0.31
## CBCL_66      0.92      0.92    0.94      0.32  11   0.0085 0.026  0.32
## CBCL_69      0.92      0.92    0.94      0.32  11   0.0086 0.026  0.31
## CBCL_81      0.92      0.92    0.94      0.32  11   0.0086 0.026  0.31
## CBCL_85      0.92      0.92    0.94      0.32  11   0.0087 0.026  0.31
## CBCL_88      0.91      0.91    0.94      0.31  11   0.0089 0.024  0.31
## CBCL_96      0.92      0.91    0.94      0.32  11   0.0088 0.026  0.31
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CBCL_5  126  0.56  0.53  0.51   0.49  1.2 0.50
## CBCL_6  127  0.56  0.53  0.51   0.50  1.3 0.57
## CBCL_56 127  0.32  0.31  0.28   0.27  1.1 0.37
## CBCL_59 127  0.50  0.47  0.45   0.44  1.2 0.50
## CBCL_95 127  0.36  0.39  0.35   0.32  1.0 0.23
## CBCL_8  127  0.74  0.71  0.71   0.69  1.6 0.71
## CBCL_15 127  0.78  0.77  0.78   0.74  1.4 0.58
## CBCL_16 127  0.73  0.71  0.70   0.68  1.5 0.65
## CBCL_18 127  0.38  0.41  0.39   0.35  1.1 0.27
## CBCL_20 127  0.72  0.70  0.70   0.68  1.5 0.57
## CBCL_27 127  0.62  0.65  0.64   0.58  1.2 0.40
## CBCL_29 127  0.63  0.60  0.57   0.57  1.6 0.67
## CBCL_35 127  0.53  0.60  0.58   0.51  1.1 0.23
## CBCL_40 127  0.50  0.55  0.54   0.46  1.1 0.36
## CBCL_42 127  0.27  0.32  0.28   0.24  1.0 0.20
## CBCL_44 126  0.67  0.69  0.68   0.63  1.2 0.44
## CBCL_53 127  0.33  0.38  0.34   0.30  1.0 0.21
## CBCL_58 127  0.71  0.74  0.73   0.68  1.1 0.41
## CBCL_66 127  0.64  0.64  0.62   0.60  1.2 0.43
```

```
## CBCL_69 127  0.68  0.69  0.68   0.64  1.2 0.42
## CBCL_81 126  0.69  0.68  0.68   0.65  1.3 0.51
## CBCL_85 127  0.71  0.70  0.69   0.67  1.4 0.55
## CBCL_88 127  0.78  0.78  0.79   0.75  1.3 0.52
## CBCL_96 127  0.74  0.71  0.70   0.69  1.4 0.65
##
## Non missing response frequency for each item
##            1    2    3 miss
## CBCL_5  0.83 0.13 0.04 0.17
## CBCL_6  0.74 0.20 0.06 0.16
## CBCL_56 0.93 0.05 0.02 0.16
## CBCL_59 0.80 0.17 0.03 0.16
## CBCL_95 0.97 0.02 0.01 0.16
## CBCL_8  0.49 0.38 0.13 0.16
## CBCL_15 0.65 0.31 0.05 0.16
## CBCL_16 0.57 0.34 0.09 0.16
## CBCL_18 0.92 0.08 0.00 0.16
## CBCL_20 0.57 0.39 0.04 0.16
## CBCL_27 0.83 0.16 0.01 0.16
## CBCL_29 0.50 0.40 0.10 0.16
## CBCL_35 0.94 0.06 0.00 0.16
## CBCL_40 0.85 0.15 0.00 0.16
## CBCL_42 0.96 0.04 0.00 0.16
## CBCL_44 0.78 0.21 0.01 0.17
## CBCL_53 0.95 0.05 0.00 0.16
## CBCL_58 0.88 0.09 0.02 0.16
## CBCL_66 0.83 0.15 0.02 0.16
## CBCL_69 0.80 0.19 0.01 0.16
## CBCL_81 0.72 0.25 0.02 0.17
## CBCL_85 0.64 0.33 0.03 0.16
## CBCL_88 0.75 0.22 0.03 0.16
## CBCL_96 0.69 0.23 0.09 0.16
```

4.3.6.11 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(CBCL.all_T3[,107:116], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
```

```
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T3 Folder:
`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:
- `/CBCL_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CBCL_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CBCL
- `/CBCL_T3_Summary_wo_Raw_items.txt`: The processed summary scores for CBCL wo raw items

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4.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

4.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(CBCL.wide)
```

```
##               vars   n  mean    sd median trimmed   mad min    max  range
## ID               1 151 86.11 49.12  88.00   86.21 62.27   1 170.00 169.00
## Group            2 151  0.50  0.50   0.00    0.50  0.00   0   1.00   1.00
## Group.R*         3 151  1.50  0.50   1.00    1.50  0.00   1   2.00   1.00
## CBCL.rea.0       4 144  1.35  0.30   1.33    1.31  0.33   1   2.44   1.44
## CBCL.anxd.0      5 144  1.50  0.34   1.38    1.47  0.37   1   2.62   1.62
## CBCL.soma.0      6 144  1.15  0.16   1.09    1.12  0.13   1   1.73   0.73
## CBCL.withd.0     7 144  1.34  0.23   1.38    1.32  0.19   1   2.25   1.25
## CBCL.attn.0      8 142  1.21  0.32   1.00    1.14  0.00   1   2.80   1.80
## CBCL.agg.0       9 144  1.35  0.32   1.26    1.31  0.31   1   2.58   1.58
## CBCL.othp.0     10 142  1.24  0.16   1.19    1.22  0.14   1   1.88   0.88
## CBCL.int.0      11 144  1.32  0.19   1.28    1.30  0.16   1   2.03   1.03
## CBCL.ext.0      12 144  1.32  0.29   1.25    1.28  0.25   1   2.46   1.46
## CBCL.rea.1      13 129  1.31  0.31   1.22    1.26  0.16   1   2.78   1.78
## CBCL.anxd.1     14 129  1.47  0.33   1.43    1.44  0.29   1   2.50   1.50
## CBCL.soma.1     15 129  1.14  0.19   1.09    1.11  0.13   1   1.91   0.91
## CBCL.withd.1    16 129  1.37  0.23   1.38    1.34  0.19   1   2.12   1.12
## CBCL.attn.1     17 129  1.20  0.33   1.00    1.13  0.00   1   3.00   2.00
## CBCL.agg.1      18 129  1.34  0.37   1.21    1.28  0.23   1   2.63   1.63
## CBCL.othp.1     19 129  1.23  0.17   1.19    1.20  0.14   1   2.06   1.06
## CBCL.int.1      20 129  1.31  0.21   1.26    1.28  0.18   1   2.14   1.14
## CBCL.ext.1      21 129  1.31  0.34   1.17    1.25  0.25   1   2.71   1.71
## CBCL.rea.2      22 127  1.25  0.25   1.22    1.21  0.33   1   2.22   1.22
## CBCL.anxd.2     23 127  1.35  0.29   1.25    1.32  0.19   1   2.38   1.38
## CBCL.soma.2     24 127  1.11  0.16   1.09    1.08  0.13   1   1.82   0.82
## CBCL.withd.2    25 126  1.28  0.21   1.25    1.27  0.19   1   2.12   1.12
## CBCL.attn.2     26 126  1.17  0.28   1.00    1.11  0.00   1   2.20   1.20
## CBCL.agg.2      27 127  1.28  0.31   1.16    1.23  0.23   1   2.37   1.37
## CBCL.othp.2     28 127  1.19  0.14   1.16    1.17  0.09   1   1.62   0.62
## CBCL.int.2      29 127  1.24  0.18   1.19    1.22  0.16   1   1.89   0.89
## CBCL.ext.2      30 127  1.26  0.29   1.17    1.21  0.19   1   2.21   1.21
##                skew kurtosis   se
## ID            -0.02    -1.21 4.00
## Group          0.01    -2.01 0.04
## Group.R*       0.01    -2.01 0.04
## CBCL.rea.0     1.14     1.13 0.02
## CBCL.anxd.0    0.84     0.67 0.03
## CBCL.soma.0    1.11     0.73 0.01
## CBCL.withd.0   1.01     1.58 0.02
## CBCL.attn.0    1.95     4.30 0.03
## CBCL.agg.0     1.24     1.63 0.03
## CBCL.othp.0    1.37     2.47 0.01
## CBCL.int.0     1.02     0.98 0.02
## CBCL.ext.0     1.37     2.35 0.02
## CBCL.rea.1     1.85     4.78 0.03
## CBCL.anxd.1    0.90     0.63 0.03
## CBCL.soma.1    1.68     2.55 0.02
```

```
## CBCL.withd.1  1.05     1.16 0.02
## CBCL.attn.1   2.44     7.47 0.03
## CBCL.agg.1    1.55     2.27 0.03
## CBCL.othp.1   1.59     3.80 0.01
## CBCL.int.1    1.30     1.92 0.02
## CBCL.ext.1    1.70     3.05 0.03
## CBCL.rea.2    1.19     1.35 0.02
## CBCL.anxd.2   1.02     0.69 0.03
## CBCL.soma.2   1.84     3.38 0.01
## CBCL.withd.2  0.87     1.49 0.02
## CBCL.attn.2   2.07     4.21 0.03
## CBCL.agg.2    1.44     1.63 0.03
## CBCL.othp.2   1.09     0.67 0.01
## CBCL.int.2    1.05     0.95 0.02
## CBCL.ext.2    1.41     1.37 0.03
```

LONG DATA SET

```
psych::describe(CBCL.long)
```

```
##             vars   n  mean    sd median trimmed   mad min    max  range
## ID             1 453 86.11 49.01  88.00   86.21 62.27   1 170.00 169.00
## Group          2 453  0.50  0.50   0.00    0.50  0.00   0   1.00   1.00
## Group.R*       3 453  1.50  0.50   1.00    1.50  0.00   1   2.00   1.00
## CBCL.rea       4 400  1.30  0.29   1.22    1.26  0.33   1   2.78   1.78
## CBCL.anxd      5 400  1.44  0.33   1.38    1.41  0.37   1   2.62   1.62
## CBCL.soma      6 400  1.14  0.17   1.09    1.10  0.13   1   1.91   0.91
## CBCL.withd     7 399  1.33  0.22   1.25    1.31  0.19   1   2.25   1.25
## CBCL.attn      8 397  1.19  0.31   1.00    1.13  0.00   1   3.00   2.00
## CBCL.agg       9 400  1.33  0.33   1.21    1.27  0.23   1   2.63   1.63
## CBCL.othp     10 398  1.22  0.16   1.19    1.20  0.14   1   2.06   1.06
## CBCL.int      11 400  1.29  0.20   1.25    1.27  0.16   1   2.14   1.14
## CBCL.ext      12 400  1.30  0.31   1.21    1.25  0.25   1   2.71   1.71
## Time          13 453  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##              skew kurtosis   se
## ID          -0.02    -1.20 2.30
## Group        0.01    -2.00 0.02
## Group.R*     0.01    -2.00 0.02
## CBCL.rea     1.47     2.92 0.01
## CBCL.anxd    0.92     0.73 0.02
## CBCL.soma    1.56     2.30 0.01
## CBCL.withd   1.00     1.52 0.01
## CBCL.attn    2.20     5.74 0.02
## CBCL.agg     1.44     2.09 0.02
## CBCL.othp    1.41     2.89 0.01
## CBCL.int     1.15     1.54 0.01
## CBCL.ext     1.54     2.63 0.02
## Time         0.00    -1.51 0.04
```

4.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```
psych::describeBy(CBCL.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##               vars  n  mean    sd median trimmed   mad  min    max  range
## ID               1 76 86.59 48.90  87.00   86.65 62.27 2.00 168.00 166.00
## Group            2 76  0.00  0.00   0.00    0.00  0.00 0.00   0.00   0.00
## Group.R*         3 76  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
```

```
## CBCL.rea.0      4 71  1.36  0.34   1.22    1.31  0.33 1.00   2.44   1.44
## CBCL.anxd.0     5 71  1.50  0.33   1.38    1.47  0.19 1.00   2.50   1.50
## CBCL.soma.0     6 71  1.14  0.17   1.09    1.11  0.13 1.00   1.73   0.73
## CBCL.withd.0    7 71  1.34  0.24   1.38    1.31  0.19 1.00   2.25   1.25
## CBCL.attn.0     8 70  1.22  0.34   1.00    1.15  0.00 1.00   2.80   1.80
## CBCL.agg.0      9 71  1.31  0.31   1.21    1.26  0.23 1.00   2.58   1.58
## CBCL.othp.0    10 69  1.25  0.15   1.19    1.24  0.13 1.00   1.72   0.72
## CBCL.int.0     11 71  1.32  0.20   1.26    1.30  0.15 1.00   1.81   0.81
## CBCL.ext.0     12 71  1.29  0.30   1.21    1.24  0.21 1.00   2.46   1.46
## CBCL.rea.1     13 63  1.30  0.33   1.22    1.25  0.16 1.00   2.78   1.78
## CBCL.anxd.1    14 63  1.45  0.31   1.38    1.41  0.19 1.00   2.50   1.50
## CBCL.soma.1    15 63  1.12  0.17   1.09    1.09  0.13 1.00   1.64   0.64
## CBCL.withd.1   16 63  1.33  0.22   1.25    1.30  0.19 1.00   2.12   1.12
## CBCL.attn.1    17 63  1.20  0.36   1.00    1.11  0.00 1.00   3.00   2.00
## CBCL.agg.1     18 63  1.30  0.36   1.16    1.23  0.16 1.00   2.63   1.63
## CBCL.othp.1    19 63  1.22  0.18   1.16    1.19  0.09 1.00   2.06   1.06
## CBCL.int.1     20 63  1.29  0.22   1.22    1.25  0.16 1.06   2.14   1.08
## CBCL.ext.1     21 63  1.28  0.35   1.17    1.21  0.19 1.00   2.71   1.71
## CBCL.rea.2     22 60  1.24  0.26   1.17    1.20  0.25 1.00   2.22   1.22
## CBCL.anxd.2    23 60  1.34  0.28   1.25    1.31  0.19 1.00   2.12   1.12
## CBCL.soma.2    24 60  1.12  0.17   1.09    1.08  0.13 1.00   1.82   0.82
## CBCL.withd.2   25 59  1.27  0.21   1.25    1.25  0.19 1.00   2.12   1.12
## CBCL.attn.2    26 59  1.17  0.31   1.00    1.10  0.00 1.00   2.20   1.20
## CBCL.agg.2     27 60  1.27  0.32   1.16    1.21  0.23 1.00   2.37   1.37
## CBCL.othp.2    28 60  1.19  0.14   1.12    1.17  0.09 1.00   1.53   0.53
## CBCL.int.2     29 60  1.23  0.18   1.17    1.20  0.12 1.03   1.89   0.86
## CBCL.ext.2     30 60  1.25  0.31   1.12    1.19  0.19 1.00   2.21   1.21
##              skew kurtosis   se
## ID           0.00    -1.28 5.61
## Group         NaN      NaN 0.00
## Group.R*      NaN      NaN 0.00
## CBCL.rea.0   1.12     0.66 0.04
## CBCL.anxd.0  0.97     0.51 0.04
## CBCL.soma.0  1.32     1.36 0.02
## CBCL.withd.0 1.20     2.07 0.03
## CBCL.attn.0  2.15     5.75 0.04
## CBCL.agg.0   1.79     3.75 0.04
## CBCL.othp.0  0.84     0.41 0.02
## CBCL.int.0   0.99     0.20 0.02
## CBCL.ext.0   1.98     4.80 0.04
## CBCL.rea.1   2.07     5.53 0.04
## CBCL.anxd.1  1.18     1.39 0.04
## CBCL.soma.1  1.61     1.77 0.02
## CBCL.withd.1 1.60     2.82 0.03
## CBCL.attn.1  2.75     8.75 0.05
## CBCL.agg.1   1.96     3.80 0.05
## CBCL.othp.1  1.99     5.69 0.02
## CBCL.int.1   1.71     3.32 0.03
## CBCL.ext.1   2.24     5.26 0.04
## CBCL.rea.2   1.46     2.32 0.03
## CBCL.anxd.2  0.85    -0.16 0.04
## CBCL.soma.2  1.92     3.78 0.02
## CBCL.withd.2 1.28     3.22 0.03
## CBCL.attn.2  2.26     4.61 0.04
## CBCL.agg.2   1.63     2.17 0.04
## CBCL.othp.2  0.96    -0.02 0.02
## CBCL.int.2   1.40     1.93 0.02
## CBCL.ext.2   1.63     1.88 0.04
## --------------------------------------------------------
## group: Turtle
##              vars  n  mean    sd median trimmed   mad  min    max  range
```

```
## ID              1 75 85.63 49.66  88.00   85.70 62.27 1.00 170.00 169.00
## Group           2 75  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## Group.R*        3 75  2.00  0.00   2.00    2.00  0.00 2.00   2.00   0.00
## CBCL.rea.0      4 73  1.34  0.25   1.33    1.31  0.16 1.00   2.12   1.12
## CBCL.anxd.0     5 73  1.49  0.34   1.50    1.48  0.37 1.00   2.62   1.62
## CBCL.soma.0     6 73  1.15  0.16   1.09    1.13  0.13 1.00   1.60   0.60
## CBCL.withd.0    7 73  1.35  0.22   1.38    1.33  0.19 1.00   2.00   1.00
## CBCL.attn.0     8 72  1.21  0.31   1.00    1.14  0.00 1.00   2.20   1.20
## CBCL.agg.0      9 73  1.39  0.32   1.37    1.36  0.31 1.00   2.26   1.26
## CBCL.othp.0    10 73  1.23  0.17   1.19    1.21  0.14 1.03   1.88   0.84
## CBCL.int.0     11 73  1.32  0.19   1.31    1.30  0.20 1.00   2.03   1.03
## CBCL.ext.0     12 73  1.35  0.29   1.33    1.33  0.31 1.00   2.25   1.25
## CBCL.rea.1     13 66  1.31  0.30   1.22    1.27  0.25 1.00   2.56   1.56
## CBCL.anxd.1    14 66  1.49  0.35   1.50    1.46  0.37 1.00   2.50   1.50
## CBCL.soma.1    15 66  1.16  0.20   1.09    1.12  0.13 1.00   1.91   0.91
## CBCL.withd.1   16 66  1.40  0.24   1.38    1.38  0.19 1.00   2.00   1.00
## CBCL.attn.1    17 66  1.20  0.29   1.00    1.14  0.00 1.00   2.20   1.20
## CBCL.agg.1     18 66  1.38  0.37   1.32    1.33  0.39 1.00   2.58   1.58
## CBCL.othp.1    19 66  1.23  0.16   1.22    1.21  0.14 1.00   1.69   0.69
## CBCL.int.1     20 66  1.33  0.21   1.29    1.31  0.16 1.00   2.00   1.00
## CBCL.ext.1     21 66  1.34  0.33   1.27    1.30  0.31 1.00   2.33   1.33
## CBCL.rea.2     22 67  1.26  0.25   1.22    1.23  0.33 1.00   2.00   1.00
## CBCL.anxd.2    23 67  1.36  0.31   1.25    1.32  0.19 1.00   2.38   1.38
## CBCL.soma.2    24 67  1.11  0.15   1.09    1.08  0.13 1.00   1.64   0.64
## CBCL.withd.2   25 67  1.30  0.20   1.25    1.28  0.19 1.00   1.88   0.88
## CBCL.attn.2    26 67  1.17  0.26   1.00    1.13  0.00 1.00   2.20   1.20
## CBCL.agg.2     27 67  1.29  0.31   1.21    1.24  0.23 1.00   2.26   1.26
## CBCL.othp.2    28 67  1.19  0.15   1.16    1.17  0.14 1.00   1.62   0.62
## CBCL.int.2     29 67  1.24  0.18   1.19    1.23  0.16 1.00   1.72   0.72
## CBCL.ext.2     30 67  1.26  0.27   1.17    1.23  0.25 1.00   2.04   1.04
##                 skew kurtosis   se
## ID             -0.04    -1.21 5.73
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## CBCL.rea.0      0.97     0.91 0.03
## CBCL.anxd.0     0.70     0.71 0.04
## CBCL.soma.0     0.87    -0.09 0.02
## CBCL.withd.0    0.75     0.71 0.03
## CBCL.attn.0     1.66     2.11 0.04
## CBCL.agg.0      0.74     0.08 0.04
## CBCL.othp.0     1.71     3.55 0.02
## CBCL.int.0      1.03     1.82 0.02
## CBCL.ext.0      0.76     0.21 0.03
## CBCL.rea.1      1.52     3.32 0.04
## CBCL.anxd.1     0.66     0.06 0.04
## CBCL.soma.1     1.63     2.46 0.02
## CBCL.withd.1    0.61     0.36 0.03
## CBCL.attn.1     1.64     2.05 0.04
## CBCL.agg.1      1.19     1.19 0.05
## CBCL.othp.1     0.99     0.58 0.02
## CBCL.int.1      0.89     0.71 0.03
## CBCL.ext.1      1.12     0.86 0.04
## CBCL.rea.2      0.88     0.19 0.03
## CBCL.anxd.2     1.11     1.05 0.04
## CBCL.soma.2     1.66     2.27 0.02
## CBCL.withd.2    0.47    -0.07 0.02
## CBCL.attn.2     1.71     2.85 0.03
## CBCL.agg.2      1.23     0.94 0.04
## CBCL.othp.2     1.18     1.09 0.02
## CBCL.int.2      0.66    -0.15 0.02
## CBCL.ext.2      1.07     0.30 0.03
```

LONG DATA SET

```r
psych::describeBy(CBCL.long, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##            vars   n  mean    sd median trimmed   mad min    max  range
## ID            1 228 86.59 48.69  87.00   86.63 62.27   2 168.00 166.00
## Group         2 228  0.00  0.00   0.00    0.00  0.00   0   0.00   0.00
## Group.R*      3 228  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## CBCL.rea      4 194  1.30  0.31   1.22    1.25  0.33   1   2.78   1.78
## CBCL.anxd     5 194  1.44  0.32   1.38    1.40  0.19   1   2.50   1.50
## CBCL.soma     6 194  1.13  0.17   1.09    1.10  0.13   1   1.82   0.82
## CBCL.withd    7 193  1.32  0.22   1.25    1.29  0.19   1   2.25   1.25
## CBCL.attn     8 192  1.20  0.34   1.00    1.12  0.00   1   3.00   2.00
## CBCL.agg      9 194  1.29  0.33   1.16    1.23  0.23   1   2.63   1.63
## CBCL.othp    10 192  1.22  0.16   1.19    1.20  0.14   1   2.06   1.06
## CBCL.int     11 194  1.28  0.20   1.22    1.25  0.16   1   2.14   1.14
## CBCL.ext     12 194  1.28  0.32   1.17    1.21  0.19   1   2.71   1.71
## Time         13 228  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##            skew kurtosis   se
## ID         0.00    -1.25 3.22
## Group       NaN      NaN 0.00
## Group.R*    NaN      NaN 0.00
## CBCL.rea   1.61     3.07 0.02
## CBCL.anxd  1.04     0.89 0.02
## CBCL.soma  1.61     2.28 0.01
## CBCL.withd 1.37     2.73 0.02
## CBCL.attn  2.48     7.23 0.02
## CBCL.agg   1.84     3.58 0.02
## CBCL.othp  1.45     3.57 0.01
## CBCL.int   1.38     1.92 0.01
## CBCL.ext   2.03     4.52 0.02
## Time       0.00    -1.51 0.05
## --------------------------------------------------------
## group: Turtle
##            vars   n  mean    sd median trimmed   mad min    max  range
## ID            1 225 85.63 49.44  88.00   85.72 62.27   1 170.00 169.00
## Group         2 225  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## Group.R*      3 225  2.00  0.00   2.00    2.00  0.00   2   2.00   0.00
## CBCL.rea      4 206  1.30  0.27   1.22    1.27  0.33   1   2.56   1.56
## CBCL.anxd     5 206  1.45  0.34   1.38    1.42  0.37   1   2.62   1.62
## CBCL.soma     6 206  1.14  0.17   1.09    1.11  0.13   1   1.91   0.91
## CBCL.withd    7 206  1.35  0.22   1.38    1.33  0.19   1   2.00   1.00
## CBCL.attn     8 205  1.19  0.29   1.00    1.13  0.00   1   2.20   1.20
## CBCL.agg      9 206  1.35  0.33   1.26    1.31  0.31   1   2.58   1.58
## CBCL.othp    10 206  1.22  0.16   1.19    1.20  0.14   1   1.88   0.88
## CBCL.int     11 206  1.30  0.20   1.28    1.28  0.16   1   2.03   1.03
## CBCL.ext     12 206  1.32  0.30   1.25    1.28  0.31   1   2.33   1.33
## Time         13 225  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##             skew kurtosis   se
## ID         -0.04    -1.17 3.30
## Group        NaN      NaN 0.00
## Group.R*     NaN      NaN 0.00
## CBCL.rea    1.20     2.14 0.02
## CBCL.anxd   0.81     0.55 0.02
## CBCL.soma   1.51     2.28 0.01
## CBCL.withd  0.67     0.57 0.02
## CBCL.attn   1.72     2.53 0.02
## CBCL.agg    1.09     0.98 0.02
## CBCL.othp   1.36     2.23 0.01
```

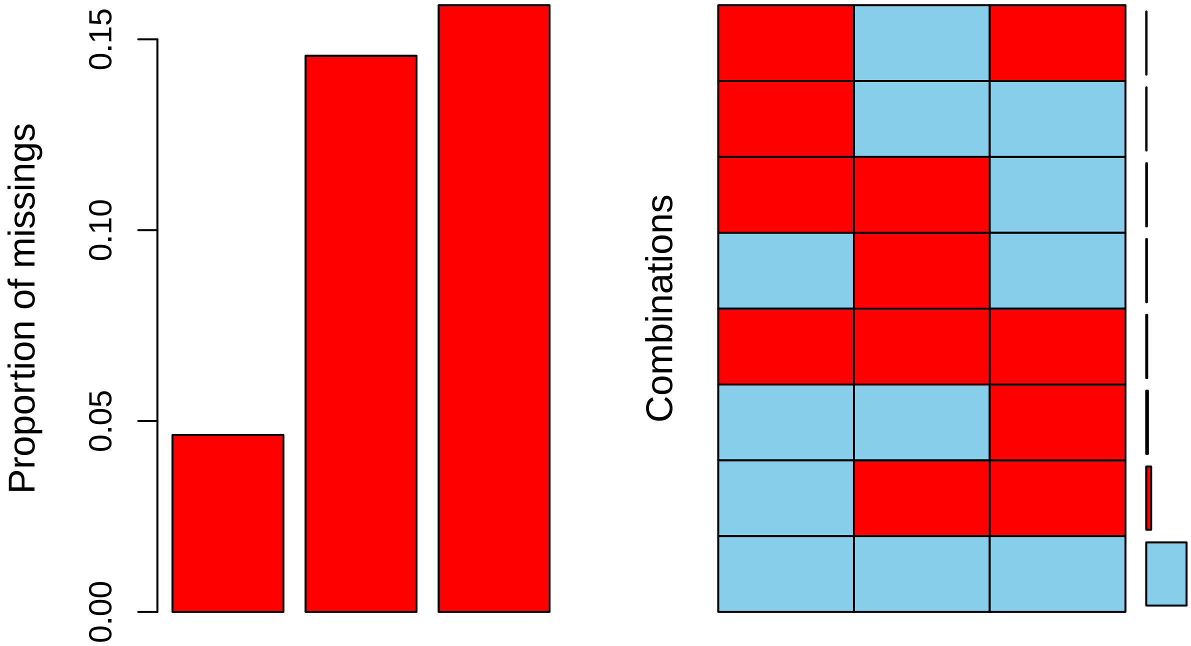
```
## CBCL.int     0.91      1.14 0.01
## CBCL.ext     1.03      0.71 0.02
## Time         0.00     -1.51 0.05
```

4.4.3 EXPLORATORY PLOTS

4.4.3.1 MISSING PATTERNS OVERALL SCALE

Using emotionally reactive subscale to index missingness.

```
VIM::aggr(CBCL.wide[,c(4,13,22)])
```



Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

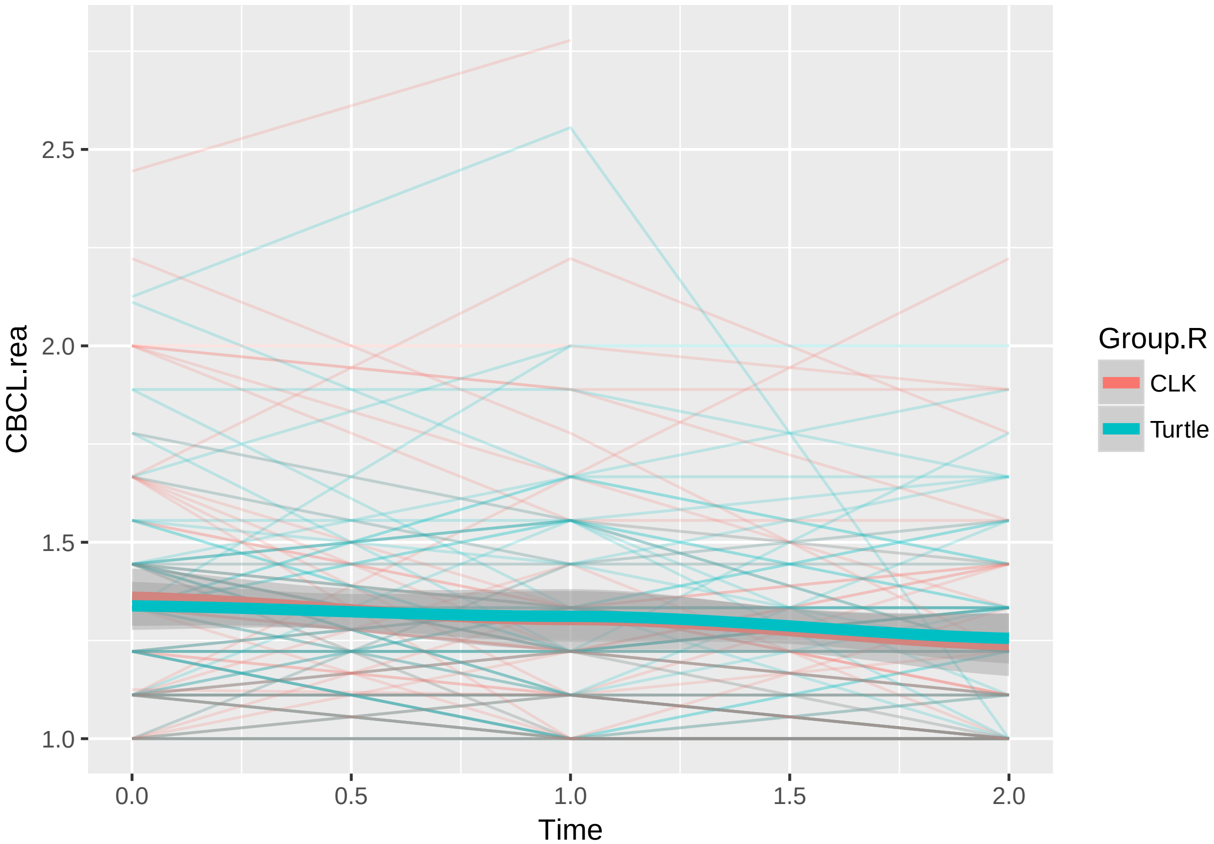
4.4.3.2 SPAGHETTI PLOTS

4.4.3.2.1 OVERALL SCALE

Did not compute a total score in the longitudinal data sets for the CBCL.

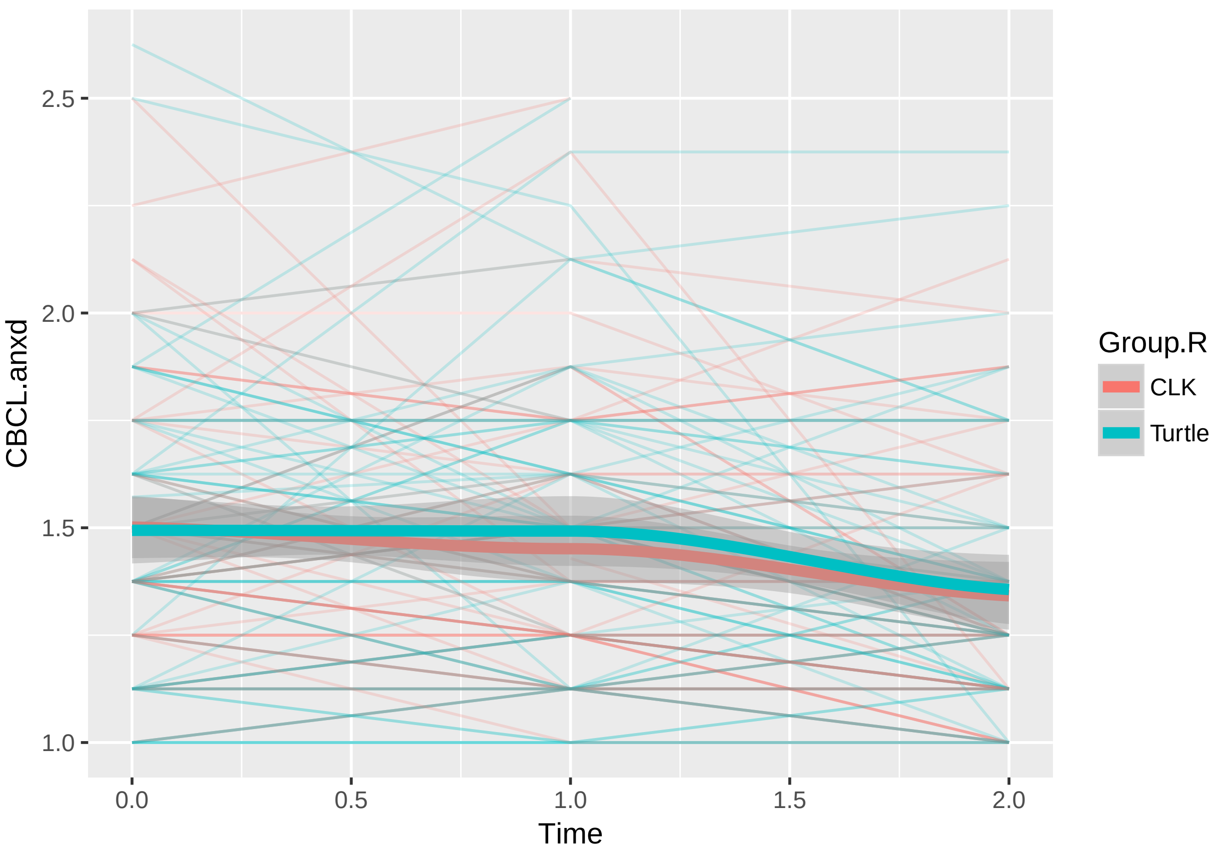
4.4.3.2.2 EMOTIONALLY REACTIVE

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.rea))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



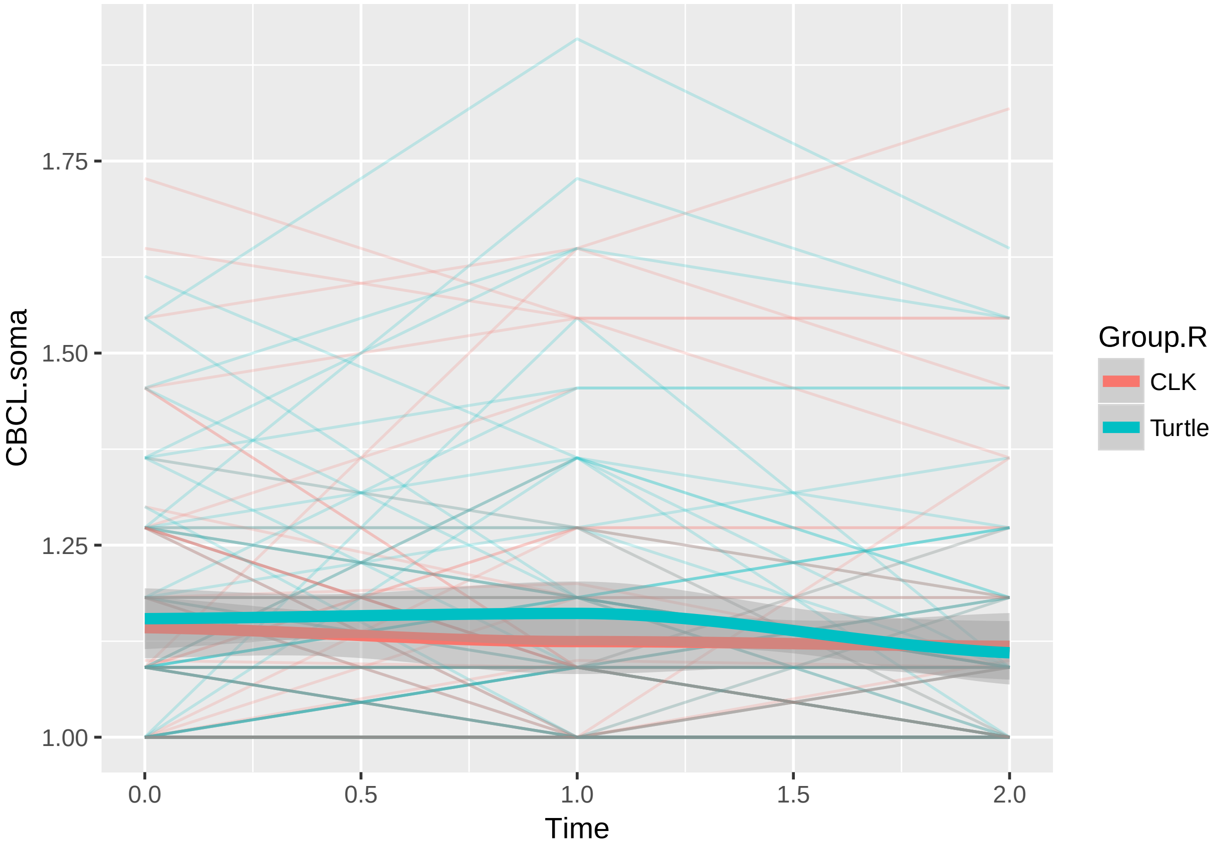
4.4.3.2.3 ANXIOUS/DEPRESSED

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.anxd))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



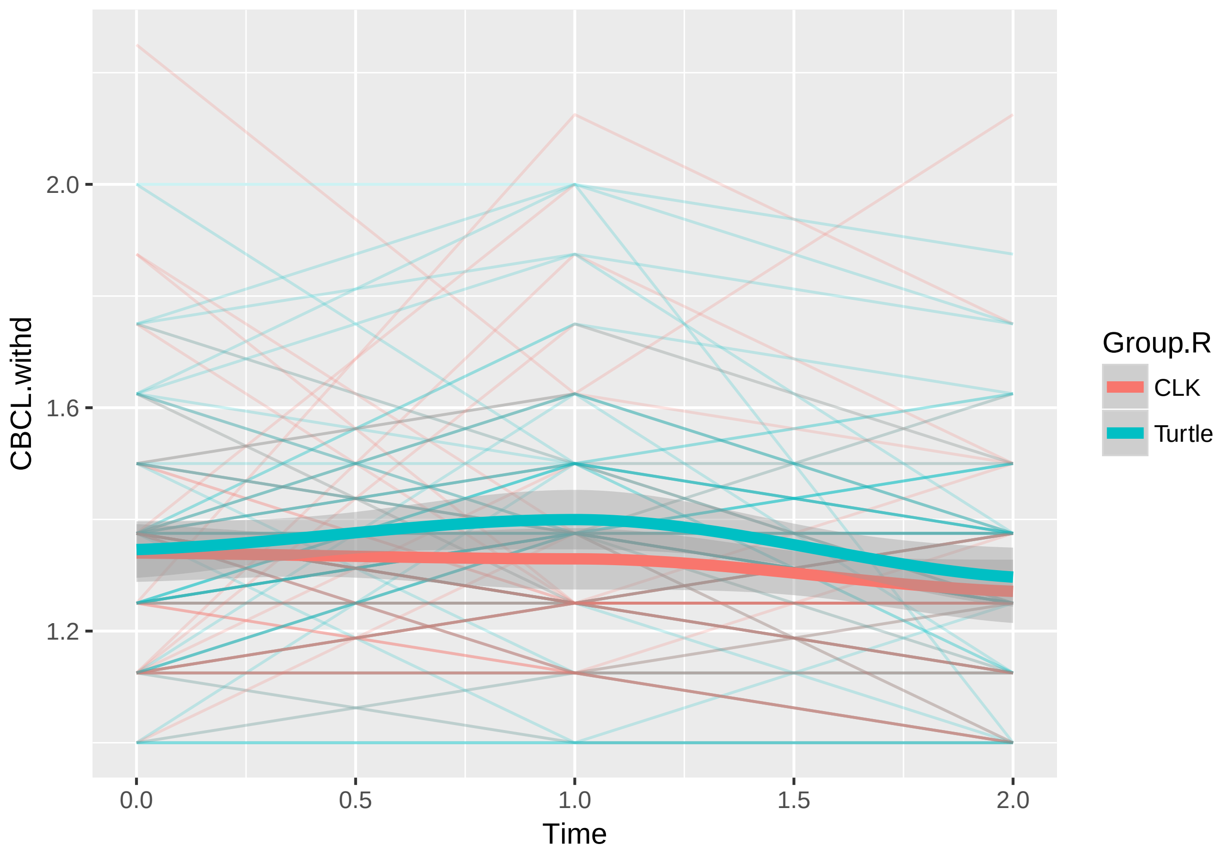
4.4.3.2.4 SOMATIC COMPLAINTS

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.soma))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



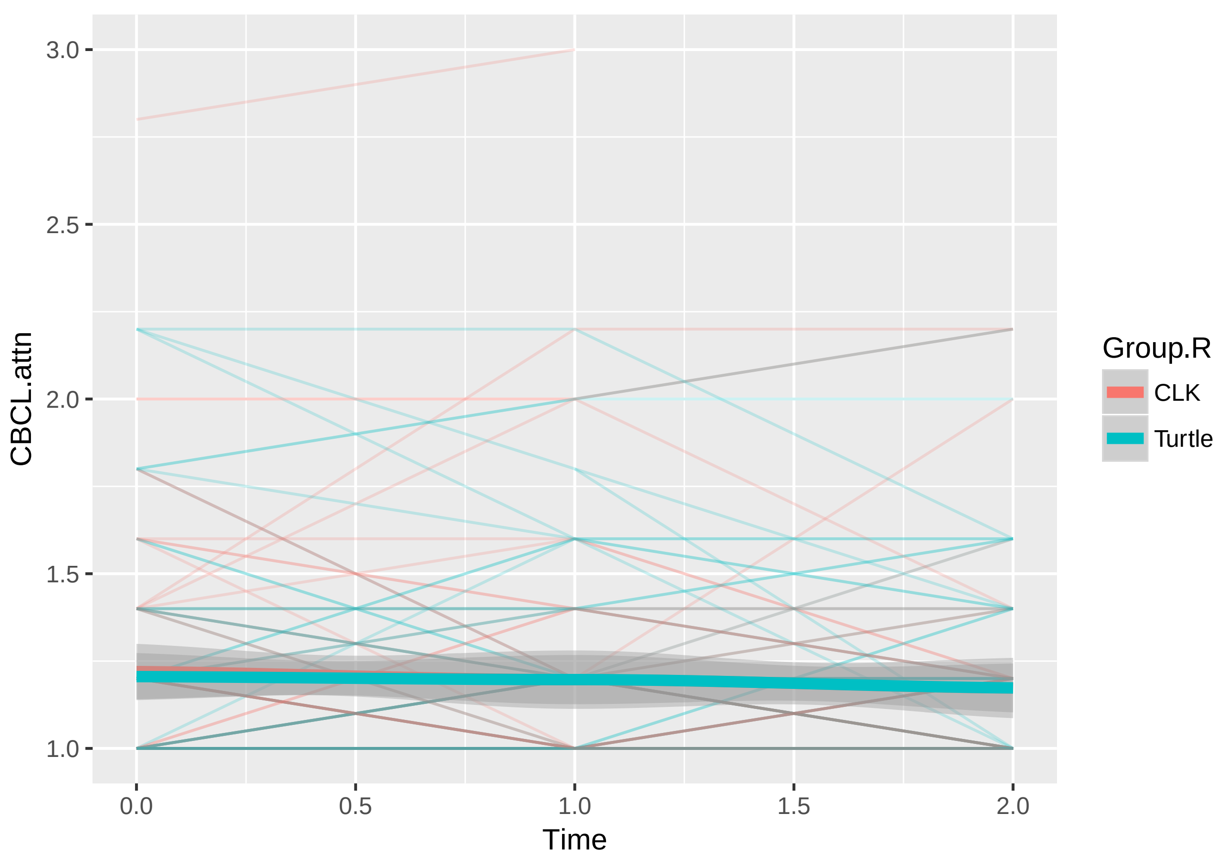
4.4.3.2.5 WITHDRAWN

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.withd))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



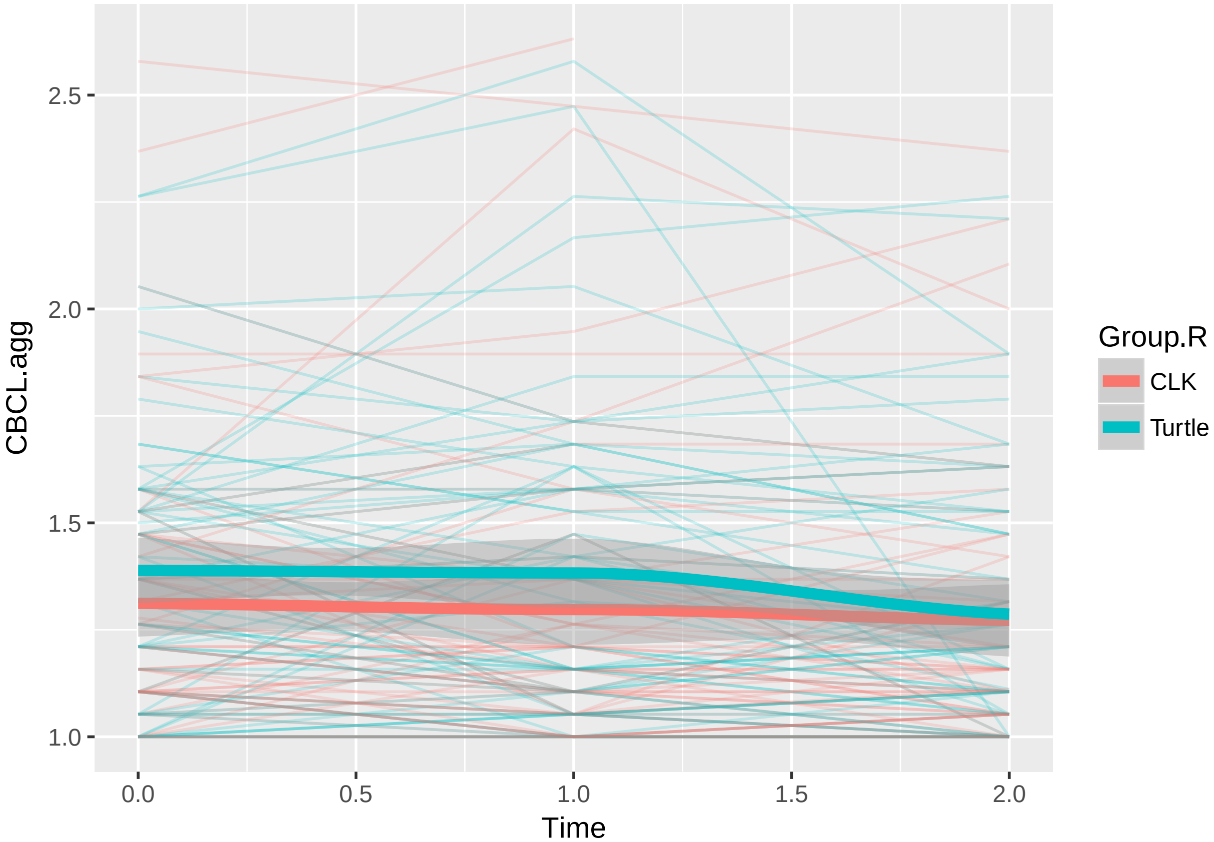
4.4.3.2.6 ATTENTION PROBLEMS

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.attn))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



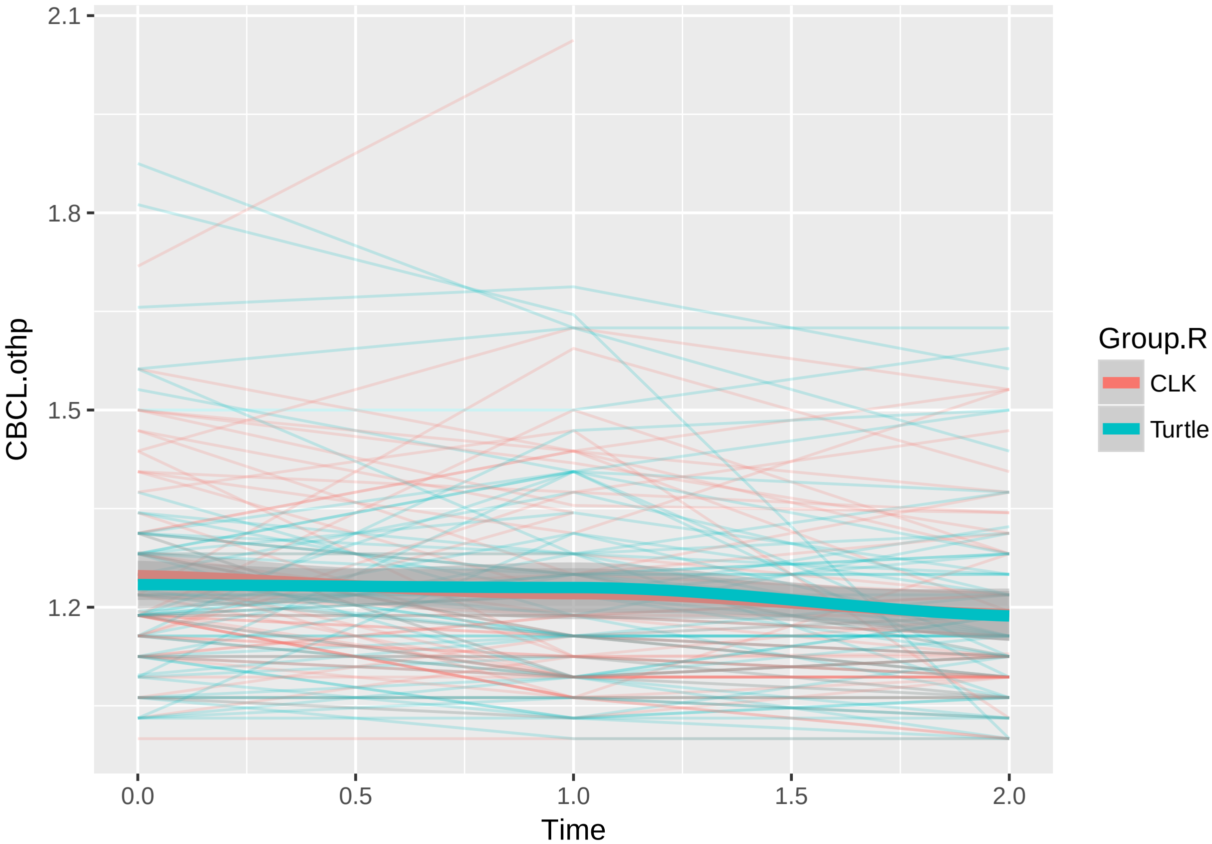
4.4.3.2.7 AGGRESSION

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.agg))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



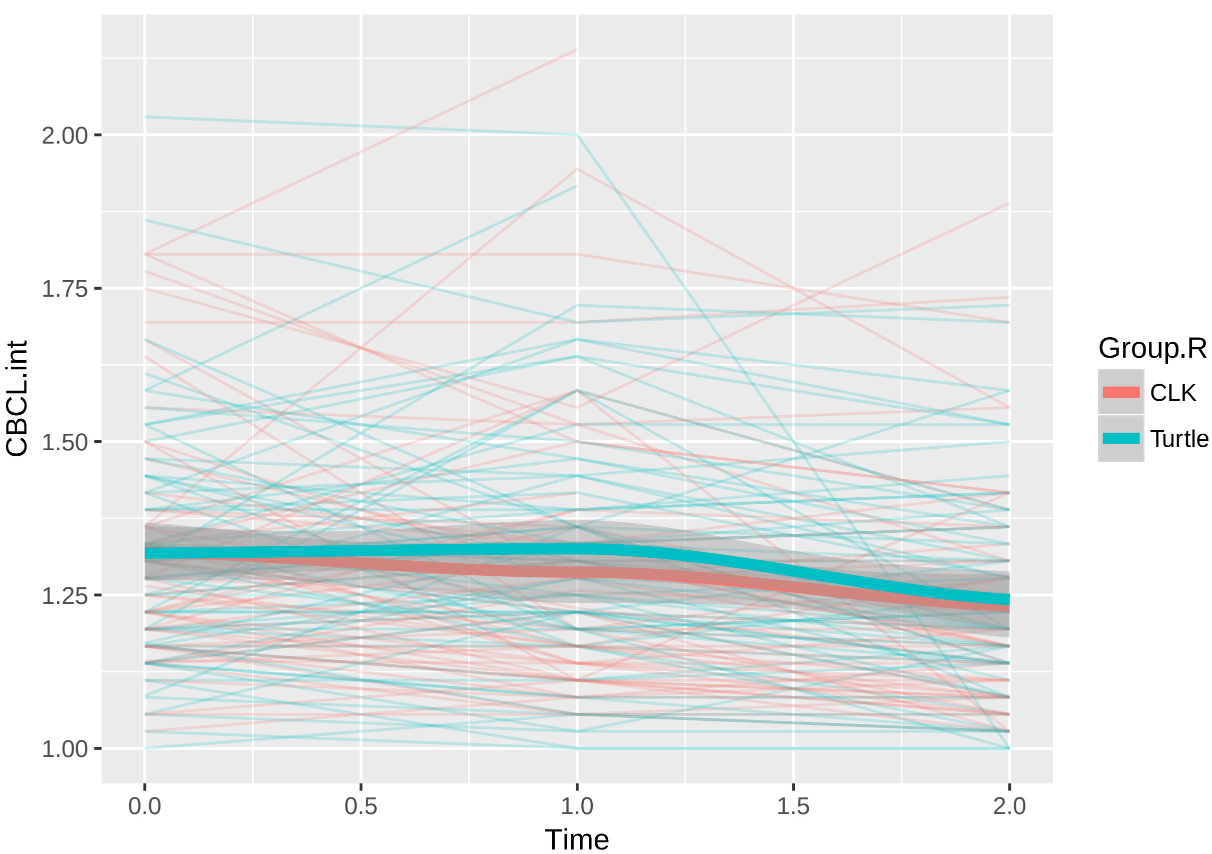
4.4.3.2.8 OTHER PROBLEMS

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.othp))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



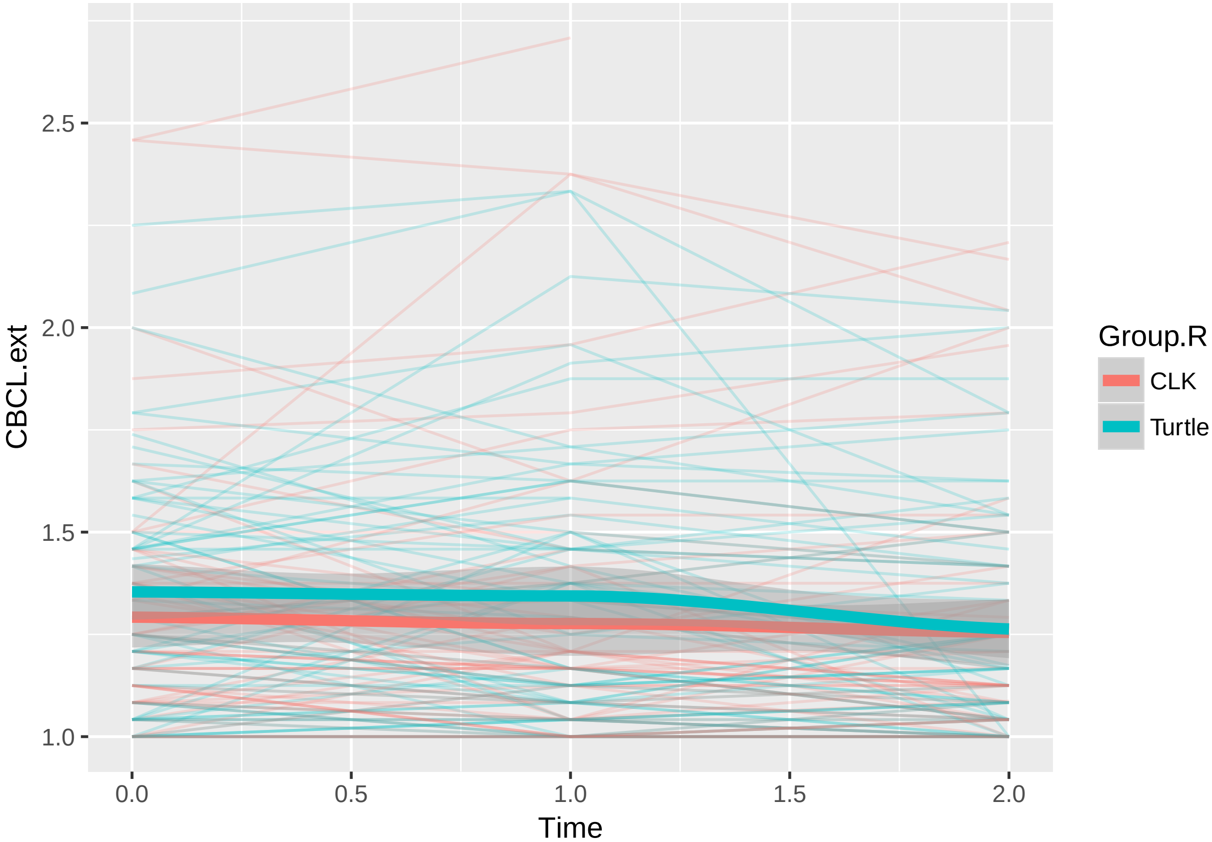
4.4.3.2.9 INTERNALIZING PROBLEMS

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.int))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



4.4.3.2.10 EXTERNALIZING PROBLEMS

```
g1<-ggplot(data=CBCL.long, aes(x=Time, y=CBCL.ext))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



5 Child-Rearing Practices Report (CRPR)

Citation:
Rickel, A. U., & Biasatti, L. L. (1982). Modification of the Block Child Rearing Practices Report. *Journal Of Clinical Psychology, 38*, 129-134. doi:10.1002/1097-4679(198201)38:1<129::AID-JCLP2270380120>3.0.CO;2-3

Measure Description:
The Child Rearing Practices Report (CRPR; Rickel & Biasatti, 1982) is a 36-item assessment that measures parent child-rearing values and attitudes. The 36 items form two factors: nurturance and restrictiveness. Initial reports of internal consistency were alpha = .84 and .85 for the nurturance and restrictiveness subscales respectively (Rickel & Biasatti, 1982). The measure has subsequently demonstrated acceptable internal consistencies of alpha = .74 and 83 for the nurturance and restrictiveness subscales in a sample of parents of primary school children (Deković, Janssens, & Gerris, 1991)

Additional Reference(s):
Deković, M., Janssens, J. M., & Gerris, J. R. (1991). Factor structure and construct validity of the Block Child Rearing Practices Report (CRPR). *Psychological Assessment: A Journal Of Consulting And Clinical Psychology, 3*, 182-187. doi: 10.1037/1040-3590.3.2.182

Response Options: 1 = Strongly Disagree
2 = Moderately Disagree 3 = Slightly Disagree
4 = Slightly Agree 5 = Moderately Agree
6 = Strongly Agree

Item Information: 1. CRPR_1: I respect my child's opinion and encourage him to express it.
2. CRPR_2: I feel that a child should be given comfort and understanding when he/she is scared or upset.
3. CRPR_3: I try to keep my child away from children or families who have different ideas or values from our own.
4. CRPR_4: I believe that a child should be seen and not heard.
5. CRPR_5: I express my affection by hugging, kissing, and holding my child.
6. **CRPR_6: I find some of my greatest satisfactions in my child.**
7. CRPR_7: I prefer my child not try things if there is a chance he/she might fail.
8. **CRPR_8: I find some of my greatest satisfactions in my child.**
9. CRPR_9: I usually take into account my child's preference when making plans for the family.
10. CRPR_10: I feel that a child should have time to daydream, think, and even loaf sometimes.
11. CRPR_11: I do not allow my child to say bad things about his teacher.
12. CRPR_12: I teach my child that in one way or another, punishment will find him/her when he is bad.
13. CRPR_13: I do not allow my child to get angry with me.
14. CRPR_14: I am easygoing and relaxed with my child.
15. CRPR_15: I talk it over and reason with my child when he misbehaves.
16. CRPR_16 I trust my child to behave as he/she should, even when I am not with him/her.
17. CRPR_17: I joke and play with my child.
18. CRPR_18: My child and I have warm intimate moments together.
19. CRPR_19: I encourage my child to be curious, to explore, and question things.
20. CRPR_20: I expect my child to be grateful and appreciate all advantages he/she has.
21. CRPR_21: I believe in praising a child when he/she is good and think it gets better results than punishing him/ her when he/she is bad.
22. CRPR_22: I make sure my child knows that I appreciate what he/she tries to accomplish.
23. CRPR_23: I encourage my child to talk about his/ her troubles.
24. CRPR_24: I believe children should not have secrets from their parents.
25. CRPR_25: I teach my child to keep control of his feelings at all times.
26. CRPR_26: When I am angry with my child, I let him know about it.
27. CRPR_27: I think a child should be encouraged to do things better than others.
28. CRPR_28: I believe that scolding and criticism make a child improve.
29. CRPR_29: I believe a child should be aware of how much I sacrifice for him/her.
30. CRPR_30: I do not allow my child to question my decisions.
31. CRPR_31: I let my child know how ashamed and disappointed I am when he/she misbehaves.
32. CRPR_32: I want my child to make a good impression on others.
33. CRPR_33: I find it interesting and educational to be with my child for long periods.
34. CRPR_34: I instruct my child not to get dirty when he is playing.
35. CRPR_35: I control my child by warning him about the bad things that can happen to him/her.
36. CRPR_36: I don't want my child to be looked upon as different from others.

Note: `CRPR_6` and `CRPR_8` are identical items. In all of the processed data, `CRPR_8` is dropped, including any summary variables created from the measure. The item remains in the raw dataset referenced at the end of the CRPR summary.

Subscale Information: *Restrictiveness*: 3, 4, 7, 11, 12, 13, 20, 24, 25, 27, 28, 29, 30, 31, 32, 34, 35, 36 *Nurturance*: 1, 2, 5, 6, 8, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 33

Adaptations:
The following four items (of the original 40) were not included in the questionnaire because they were inappropriate for the sample: * I dread answering my child's questions about sex.
* I don't think that children of different sexes should be allowed to see each other naked.
* I believe in toilet training a child as soon as possible.
* I don't think children should be given sexual information.

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

5.1 TIME 1: COMPLETE SCALE

5.1.1 OVERALL SCALE

There is no overall composite score to calculate for this measure. Instead, the CRPR returns two difference summary scores regarding parents' restrictive and nurturing practices/attitudes.

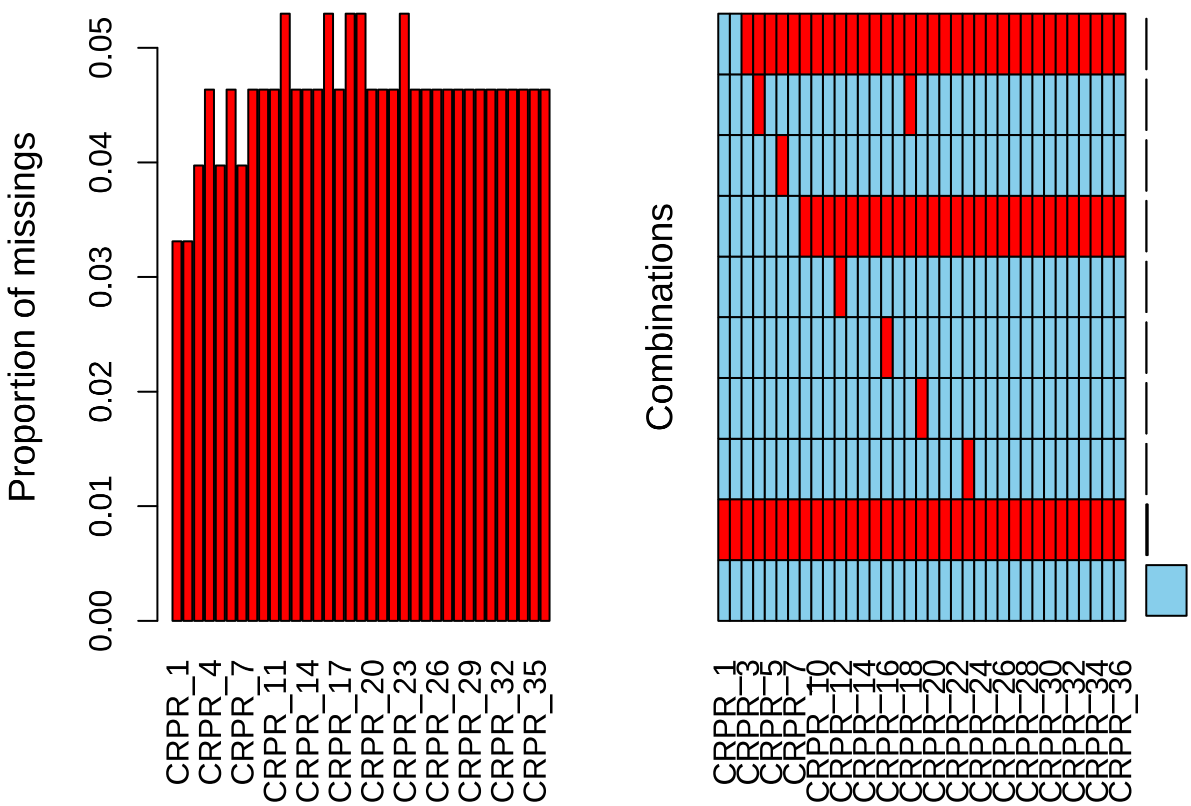
Missing data can still be computed for the measure overall:

```
#Calculating Missing Values:
CRPR.all_T1$Miss_tot<-rep(NA, nrow(CRPR.all_T1))
for(n in 1:nrow(CRPR.all_T1)){
  CRPR.all_T1$Miss_tot[n]<-sum(is.na(CRPR.all_T1[n,3:37])==TRUE)
}

CRPR.all_T1$Miss_per<-rep(NA, nrow(CRPR.all_T1))
for(n in 1:nrow(CRPR.all_T1)){
  CRPR.all_T1$Miss_per[n]<-round(sum(is.na(CRPR.all_T1[n,3:37])==TRUE)/ncol(CRPR.all_T1[3:37])*100,
                                 digits = 2)
}
```

5.1.2 MISSING DATA

```
VIM::aggr(CRPR.all_T1[,3:37])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 099 failed to respond to `CRPR_1` and `CRPR_2`; $N = 1$; 0.66%

2. Missing pattern 2: Subject 105 failed to respond to `CRPR_4` and `CRPR_18`; $N = 1$; 0.66%
3. Missing pattern 3: Subject 111 failed to respond to `CRPR_6`; $N = 1$; 0.66%
4. Missing pattern 4: Subject 028 failed to respond to `CRPR_9` through `CRPR_36`; $N = 1$; 0.66%
5. Missing pattern 5: Subject 109 failed to respond to `CRPR_12`; $N = 1$; 0.66%
6. Missing pattern 6: Subject 132 failed to respond to `CRPR_16`; $N = 1$; 0.66%

7. Missing pattern 7: Subject 011 failed to respond to `CRPR_19`; $N = 1$; 0.66%
8. Missing pattern 8: Subject 053 failed to respond to `CRPR_23`; $N = 1$; 0.66%
9. Missing pattern 9: Subjects 005, 038, 096, 116, and 125 failed to respond to any items; $N = 5$; 3.31%
10. Missing pattern 3: All items completed; $N = 139$; 92.05%

There is no information related to overall scores to report here (i.e., no overall average or total variables to describe here)

There is no additional information about parent missing data at T1 to report.

5.1.3 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CRPR.all_T1$Group.R<-ifelse(CRPR.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(CRPR.all_T1[,c(3:37,40)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR_1      1 72 5.68 0.60 -1.67     1.60 0.07  5.75   6.0
## CRPR_2      2 72 5.75 0.47 -1.53     1.27 0.06  6.00   6.0
## CRPR_3      3 71 2.76 1.45  0.53    -0.80 0.17  2.00   4.0
## CRPR_4      4 70 1.47 1.26  2.72     6.21 0.15  1.00   1.0
## CRPR_5      5 71 5.85 0.65 -6.09    41.56 0.08  6.00   6.0
## CRPR_6      6 71 5.69 0.77 -3.73    17.81 0.09  6.00   6.0
## CRPR_7      7 71 1.42 0.95  2.63     7.31 0.11  1.00   1.0
## CRPR_9      8 71 5.20 0.84 -1.95     7.16 0.10  5.00   6.0
## CRPR_10     9 71 5.56 0.92 -2.83     9.25 0.11  5.00   6.0
## CRPR_11    10 71 3.38 1.62  0.28    -1.19 0.19  2.00   5.0
## CRPR_12    11 71 2.66 1.65  0.52    -1.13 0.20  1.00   4.0
## CRPR_13    12 71 2.00 1.12  1.08     0.35 0.13  1.00   2.0
## CRPR_14    13 71 4.70 0.90 -0.79     0.78 0.11  4.00   5.0
## CRPR_15    14 71 5.03 1.01 -1.19     1.29 0.12  5.00   6.0
## CRPR_16    15 71 5.34 0.91 -1.49     1.96 0.11  5.00   6.0
## CRPR_17    16 71 5.85 0.47 -2.98     8.02 0.06  6.00   6.0
## CRPR_18    17 70 5.81 0.73 -4.82    26.00 0.09  6.00   6.0
## CRPR_19    18 70 5.89 0.36 -3.22    10.47 0.04  6.00   6.0
## CRPR_20    19 71 5.14 1.12 -1.46     2.02 0.13  5.00   6.0
## CRPR_21    20 71 5.41 0.84 -1.15     0.21 0.10  5.00   6.0
## CRPR_22    21 71 5.80 0.40 -1.49     0.22 0.05  6.00   6.0
## CRPR_23    22 70 5.79 0.45 -1.83     2.45 0.05  6.00   6.0
## CRPR_24    23 71 5.03 1.13 -1.27     1.27 0.13  5.00   6.0
## CRPR_25    24 71 3.18 1.34  0.09    -1.05 0.16  2.00   4.0
## CRPR_26    25 71 4.62 0.92 -0.62     0.38 0.11  4.00   5.0
## CRPR_27    26 71 2.82 1.37  0.43    -0.54 0.16  2.00   4.0
## CRPR_28    27 71 1.65 0.99  1.26     0.24 0.12  1.00   2.0
## CRPR_29    28 71 1.97 1.13  0.98    -0.09 0.13  1.00   2.5
## CRPR_30    29 71 2.38 1.22  0.60    -0.50 0.15  1.00   3.0
## CRPR_31    30 71 2.85 1.46  0.08    -1.34 0.17  1.00   4.0
## CRPR_32    31 71 4.55 0.97 -1.44     3.51 0.11  4.00   5.0
## CRPR_33    32 71 5.34 0.97 -2.09     5.51 0.12  5.00   6.0
## CRPR_34    33 71 2.21 1.38  0.81    -0.75 0.16  1.00   3.0
## CRPR_35    34 71 2.65 1.44  0.34    -1.17 0.17  1.00   4.0
## CRPR_36    35 71 3.52 1.53  0.09    -1.13 0.18  2.00   5.0
## Group.R*   36 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR_1      1 74 5.68 0.50 -1.06    -0.17 0.06     5  6.00
## CRPR_2      2 74 5.80 0.40 -1.45     0.10 0.05     6  6.00
## CRPR_3      3 74 2.57 1.27  0.68    -0.24 0.15     2  3.75
## CRPR_4      4 74 1.41 0.96  2.84     8.35 0.11     1  1.00
```

```
## CRPR_5       5 74 5.95 0.23 -3.86    13.11 0.03     6  6.00
## CRPR_6       6 73 5.38 1.04 -2.13     4.94 0.12     5  6.00
## CRPR_7       7 74 1.61 1.14  2.04     3.42 0.13     1  2.00
## CRPR_9       8 73 5.04 0.98 -1.22     1.64 0.11     5  6.00
## CRPR_10      9 73 5.60 0.62 -1.61     2.94 0.07     5  6.00
## CRPR_11     10 73 3.37 1.56  0.16    -1.17 0.18     2  5.00
## CRPR_12     11 72 2.89 1.56  0.49    -0.97 0.18     2  4.00
## CRPR_13     12 73 2.01 1.14  1.15     0.57 0.13     1  2.00
## CRPR_14     13 73 4.38 1.14 -0.78     0.56 0.13     4  5.00
## CRPR_15     14 73 4.97 0.94 -0.73     0.11 0.11     4  6.00
## CRPR_16     15 72 5.19 0.88 -1.47     2.91 0.10     5  6.00
## CRPR_17     16 73 5.81 0.43 -2.04     3.37 0.05     6  6.00
## CRPR_18     17 73 5.84 0.41 -2.36     4.99 0.05     6  6.00
## CRPR_19     18 73 5.84 0.37 -1.77     1.16 0.04     6  6.00
## CRPR_20     19 73 5.08 1.05 -1.01     0.34 0.12     4  6.00
## CRPR_21     20 73 5.47 0.69 -0.88    -0.48 0.08     5  6.00
## CRPR_22     21 73 5.82 0.42 -2.19     4.11 0.05     6  6.00
## CRPR_23     22 73 5.84 0.37 -1.77     1.16 0.04     6  6.00
## CRPR_24     23 73 4.99 1.25 -1.44     1.64 0.15     5  6.00
## CRPR_25     24 73 3.33 1.48  0.07    -1.01 0.17     2  4.00
## CRPR_26     25 73 4.81 1.00 -0.78     0.56 0.12     4  6.00
## CRPR_27     26 73 3.08 1.41  0.21    -0.92 0.17     2  4.00
## CRPR_28     27 73 2.07 1.23  1.02     0.30 0.14     1  3.00
## CRPR_29     28 73 2.42 1.38  0.50    -0.96 0.16     1  4.00
## CRPR_30     29 73 2.73 1.22  0.43    -0.41 0.14     2  3.00
## CRPR_31     30 73 3.19 1.65  0.01    -1.31 0.19     2  4.00
## CRPR_32     31 73 4.36 1.22 -0.88     0.78 0.14     4  5.00
## CRPR_33     32 73 5.03 1.22 -1.44     1.66 0.14     5  6.00
## CRPR_34     33 73 2.41 1.26  0.65    -0.31 0.15     1  3.00
## CRPR_35     34 73 3.05 1.43 -0.09    -1.11 0.17     2  4.00
## CRPR_36     35 73 3.77 1.46 -0.21    -1.03 0.17     2  5.00
## Group.R*    36 75  NaN   NA    NA       NA   NA    NA    NA
```

5.1.4 TIME 1: SUBSCALES

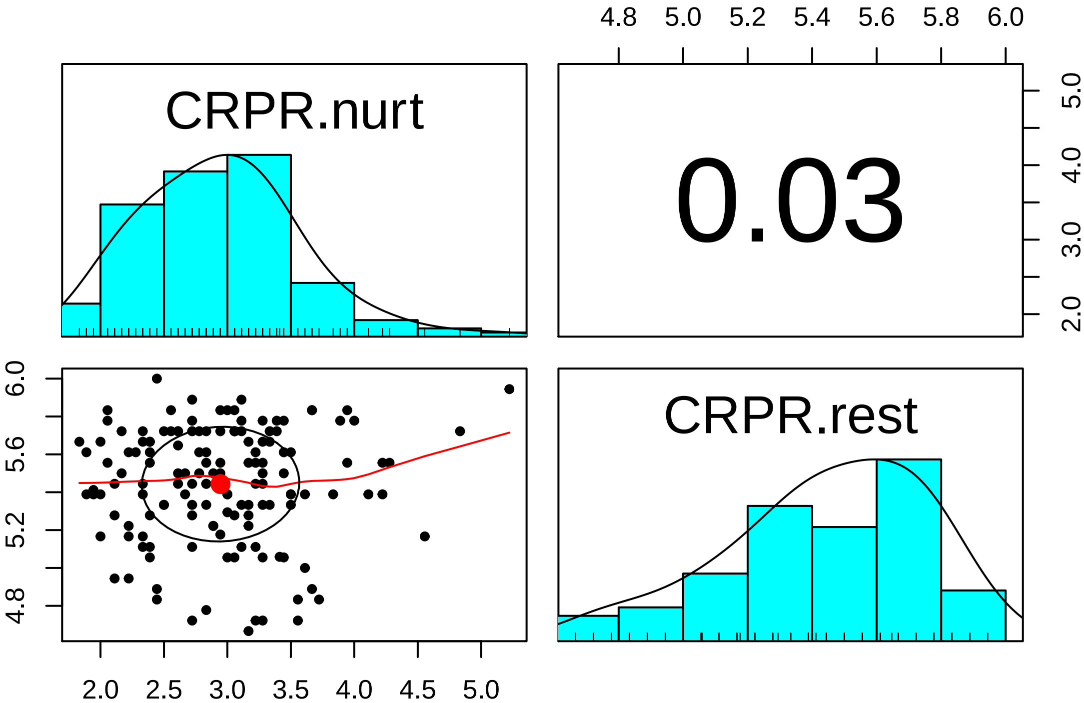
5.1.5 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CRPR.all_T1[,c(41:42)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##           vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR.nurt    1 144 2.95 0.62  0.63     0.73 0.05  2.44  3.28
## CRPR.rest    2 144 5.44 0.30 -0.64    -0.28 0.03  5.28  5.72
```

Note: Individual mean replacement was used to calculate average scores provided each case had at responded to at least 85% of the items that make up each subscale.

```
psych::pairs.panels(CRPR.all_T1[,c(41:42)])
```



5.1.6 CRONBACH'S ALPHA: NURTURANCE SUBSCALE

```
psych::alpha(CRPR.all_T1[CRPR.nurt], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CRPR.all_T1[CRPR.nurt], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.79      0.79    0.83      0.17 3.8 0.024  2.9 0.63     0.17
##
##  lower alpha upper     95% confidence boundaries
## 0.75 0.79 0.84
##
##  lower median upper bootstrapped confidence intervals
##  0.72 0.79 0.84
##  Reliability if an item is dropped:
##           raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CRPR_3         0.80      0.79    0.83      0.18 3.8    0.024 0.017  0.18
## CRPR_4         0.79      0.79    0.82      0.18 3.7    0.025 0.017  0.17
## CRPR_7         0.80      0.80    0.83      0.19 3.9    0.024 0.015  0.18
## CRPR_11        0.78      0.78    0.82      0.17 3.5    0.025 0.016  0.17
```

```
## CRPR_12      0.77      0.77    0.81      0.17 3.4    0.027 0.015  0.16
## CRPR_13      0.78      0.77    0.81      0.17 3.4    0.026 0.016  0.16
## CRPR_20      0.78      0.78    0.82      0.17 3.6    0.025 0.016  0.17
## CRPR_24      0.80      0.80    0.83      0.19 3.9    0.024 0.016  0.18
## CRPR_25      0.78      0.78    0.82      0.17 3.6    0.025 0.017  0.17
## CRPR_27      0.77      0.77    0.81      0.16 3.3    0.027 0.015  0.16
## CRPR_28      0.78      0.78    0.81      0.17 3.5    0.025 0.016  0.17
## CRPR_29      0.78      0.78    0.81      0.17 3.5    0.025 0.016  0.17
## CRPR_30      0.78      0.78    0.82      0.17 3.5    0.025 0.016  0.17
## CRPR_31      0.78      0.78    0.81      0.17 3.4    0.026 0.016  0.16
## CRPR_32      0.79      0.79    0.82      0.18 3.8    0.024 0.015  0.18
## CRPR_34      0.78      0.78    0.82      0.17 3.5    0.025 0.017  0.17
## CRPR_35      0.78      0.78    0.81      0.17 3.5    0.025 0.016  0.16
## CRPR_36      0.80      0.79    0.83      0.18 3.8    0.023 0.016  0.18
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean  sd
## CRPR_3  145  0.33  0.33  0.26   0.22  2.7 1.4
## CRPR_4  144  0.39  0.41  0.35   0.30  1.4 1.1
## CRPR_7  145  0.24  0.27  0.20   0.16  1.5 1.1
## CRPR_11 144  0.52  0.50  0.47   0.40  3.4 1.6
## CRPR_12 143  0.63  0.62  0.61   0.54  2.8 1.6
## CRPR_13 144  0.60  0.61  0.59   0.52  2.0 1.1
## CRPR_20 144  0.47  0.48  0.44   0.39  5.1 1.1
## CRPR_24 144  0.28  0.29  0.21   0.17  5.0 1.2
## CRPR_25 144  0.49  0.48  0.43   0.39  3.3 1.4
## CRPR_27 144  0.65  0.64  0.63   0.57  3.0 1.4
## CRPR_28 144  0.53  0.55  0.53   0.46  1.9 1.1
## CRPR_29 144  0.52  0.53  0.49   0.43  2.2 1.3
## CRPR_30 144  0.51  0.52  0.48   0.42  2.6 1.2
## CRPR_31 144  0.58  0.56  0.54   0.48  3.0 1.6
## CRPR_32 144  0.31  0.32  0.26   0.22  4.5 1.1
## CRPR_34 144  0.50  0.51  0.47   0.41  2.3 1.3
## CRPR_35 144  0.54  0.53  0.50   0.43  2.9 1.4
## CRPR_36 144  0.34  0.32  0.25   0.21  3.6 1.5
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CRPR_3  0.21 0.35 0.15 0.19 0.07 0.03 0.04
## CRPR_4  0.81 0.10 0.03 0.02 0.02 0.03 0.05
## CRPR_7  0.73 0.14 0.04 0.06 0.01 0.01 0.04
## CRPR_11 0.10 0.28 0.16 0.19 0.14 0.13 0.05
## CRPR_12 0.28 0.27 0.10 0.17 0.12 0.06 0.05
## CRPR_13 0.40 0.36 0.11 0.08 0.05 0.00 0.05
## CRPR_20 0.01 0.03 0.04 0.17 0.27 0.48 0.05
## CRPR_24 0.02 0.03 0.07 0.12 0.33 0.43 0.05
## CRPR_25 0.11 0.25 0.17 0.27 0.15 0.06 0.05
## CRPR_27 0.17 0.23 0.26 0.18 0.11 0.04 0.05
## CRPR_28 0.53 0.22 0.13 0.10 0.01 0.01 0.05
## CRPR_29 0.41 0.24 0.14 0.16 0.04 0.01 0.05
## CRPR_30 0.23 0.28 0.30 0.10 0.08 0.01 0.05
## CRPR_31 0.25 0.18 0.09 0.31 0.12 0.05 0.05
## CRPR_32 0.03 0.03 0.03 0.37 0.40 0.13 0.05
## CRPR_34 0.36 0.26 0.17 0.12 0.08 0.01 0.05
## CRPR_35 0.26 0.18 0.16 0.28 0.10 0.02 0.05
## CRPR_36 0.07 0.22 0.14 0.26 0.19 0.12 0.05
```

5.1.7 CRONBACH'S ALPHA: RESTRICTIVENESS SUBSCALE

```r
psych::alpha(CRPR.all_T1[CRPR.rest], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CRPR.all_T1[CRPR.rest], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.68      0.73    0.78      0.13 2.7 0.038  5.4 0.31     0.13
##
##  lower alpha upper     95% confidence boundaries
## 0.6 0.68 0.75
##
##  lower median upper bootstrapped confidence intervals
##  0.58 0.67 0.75
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CRPR_1       0.66      0.72    0.76      0.13 2.5    0.039 0.014  0.13
## CRPR_2       0.66      0.72    0.76      0.13 2.5    0.040 0.014  0.13
## CRPR_5       0.68      0.74    0.78      0.14 2.9    0.038 0.015  0.14
## CRPR_6       0.65      0.72    0.76      0.13 2.6    0.040 0.015  0.13
## CRPR_9       0.66      0.72    0.76      0.13 2.6    0.040 0.015  0.13
## CRPR_10      0.66      0.72    0.76      0.13 2.6    0.040 0.015  0.13
## CRPR_14      0.65      0.72    0.76      0.13 2.5    0.041 0.015  0.13
## CRPR_15      0.66      0.72    0.77      0.13 2.6    0.040 0.015  0.13
## CRPR_16      0.66      0.72    0.77      0.13 2.6    0.040 0.015  0.13
## CRPR_17      0.66      0.72    0.76      0.13 2.5    0.039 0.014  0.13
## CRPR_18      0.67      0.73    0.77      0.14 2.7    0.038 0.014  0.13
## CRPR_19      0.66      0.71    0.75      0.12 2.4    0.040 0.014  0.12
## CRPR_20      0.68      0.74    0.78      0.14 2.8    0.037 0.015  0.14
## CRPR_21      0.65      0.72    0.76      0.13 2.5    0.040 0.015  0.13
## CRPR_22      0.65      0.70    0.74      0.12 2.3    0.040 0.013  0.12
## CRPR_23      0.65      0.71    0.75      0.12 2.4    0.040 0.014  0.12
## CRPR_26      0.70      0.75    0.79      0.15 3.0    0.035 0.013  0.15
## CRPR_33      0.66      0.72    0.77      0.13 2.6    0.040 0.015  0.13
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CRPR_1  146  0.43  0.46 0.413  0.292  5.7 0.55
## CRPR_2  146  0.43  0.49 0.442  0.343  5.8 0.44
## CRPR_5  145  0.17  0.21 0.108  0.082  5.9 0.48
## CRPR_6  144  0.47  0.45 0.410  0.325  5.5 0.92
## CRPR_9  144  0.44  0.41 0.354  0.293  5.1 0.91
## CRPR_10 144  0.45  0.44 0.398  0.316  5.6 0.78
## CRPR_14 144  0.52  0.48 0.437  0.357  4.5 1.04
## CRPR_15 144  0.45  0.41 0.340  0.292  5.0 0.98
## CRPR_16 143  0.46  0.41 0.348  0.314  5.3 0.90
## CRPR_17 144  0.39  0.48 0.452  0.322  5.8 0.45
## CRPR_18 143  0.28  0.33 0.275  0.176  5.8 0.59
## CRPR_19 143  0.50  0.57 0.556  0.450  5.9 0.37
## CRPR_20 144  0.35  0.27 0.180  0.159  5.1 1.08
## CRPR_21 144  0.47  0.48 0.440  0.345  5.4 0.76
## CRPR_22 144  0.56  0.62 0.630  0.503  5.8 0.41
## CRPR_23 143  0.51  0.58 0.567  0.451  5.8 0.41
## CRPR_26 144  0.19  0.15 0.037  0.021  4.7 0.96
## CRPR_33 144  0.47  0.41 0.354  0.295  5.2 1.11
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CRPR_1  0.00 0.00 0.00 0.04 0.24 0.72 0.03
## CRPR_2  0.00 0.00 0.00 0.01 0.21 0.78 0.03
```

```
## CRPR_5  0.01 0.00 0.00 0.00 0.07 0.92 0.04
## CRPR_6  0.01 0.01 0.00 0.08 0.19 0.71 0.05
## CRPR_9  0.01 0.02 0.01 0.12 0.47 0.36 0.05
## CRPR_10 0.01 0.01 0.01 0.05 0.24 0.69 0.05
## CRPR_14 0.01 0.03 0.10 0.27 0.44 0.15 0.05
## CRPR_15 0.00 0.03 0.04 0.18 0.40 0.35 0.05
## CRPR_16 0.00 0.02 0.03 0.09 0.38 0.48 0.05
## CRPR_17 0.00 0.00 0.00 0.03 0.12 0.85 0.05
## CRPR_18 0.01 0.00 0.00 0.03 0.08 0.88 0.05
## CRPR_19 0.00 0.00 0.00 0.01 0.13 0.87 0.05
## CRPR_20 0.01 0.03 0.04 0.17 0.27 0.48 0.05
## CRPR_21 0.00 0.00 0.01 0.12 0.27 0.59 0.05
## CRPR_22 0.00 0.00 0.00 0.01 0.17 0.82 0.05
## CRPR_23 0.00 0.00 0.00 0.01 0.17 0.82 0.05
## CRPR_26 0.00 0.03 0.05 0.28 0.43 0.20 0.05
## CRPR_33 0.02 0.01 0.06 0.08 0.33 0.50 0.05
```

5.1.8 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CRPR Nurturance scores
t.test(CRPR.all_T1$CRPR.nurt~CRPR.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CRPR.all_T1$CRPR.nurt by CRPR.all_T1$Group
## t = -1.4451, df = 139.15, p-value = 0.1507
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.35199743  0.05471963
## sample estimates:
## mean in group 0 mean in group 1
##        2.870432        3.019071
```

```
#Groups do not differ on average CRPR Restrictiveness scores
t.test(CRPR.all_T1$CRPR.rest~CRPR.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CRPR.all_T1$CRPR.rest by CRPR.all_T1$Group
## t = 1.0469, df = 140.69, p-value = 0.2969
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.04686321  0.15236271
## sample estimates:
## mean in group 0 mean in group 1
##        5.469484        5.416734
```

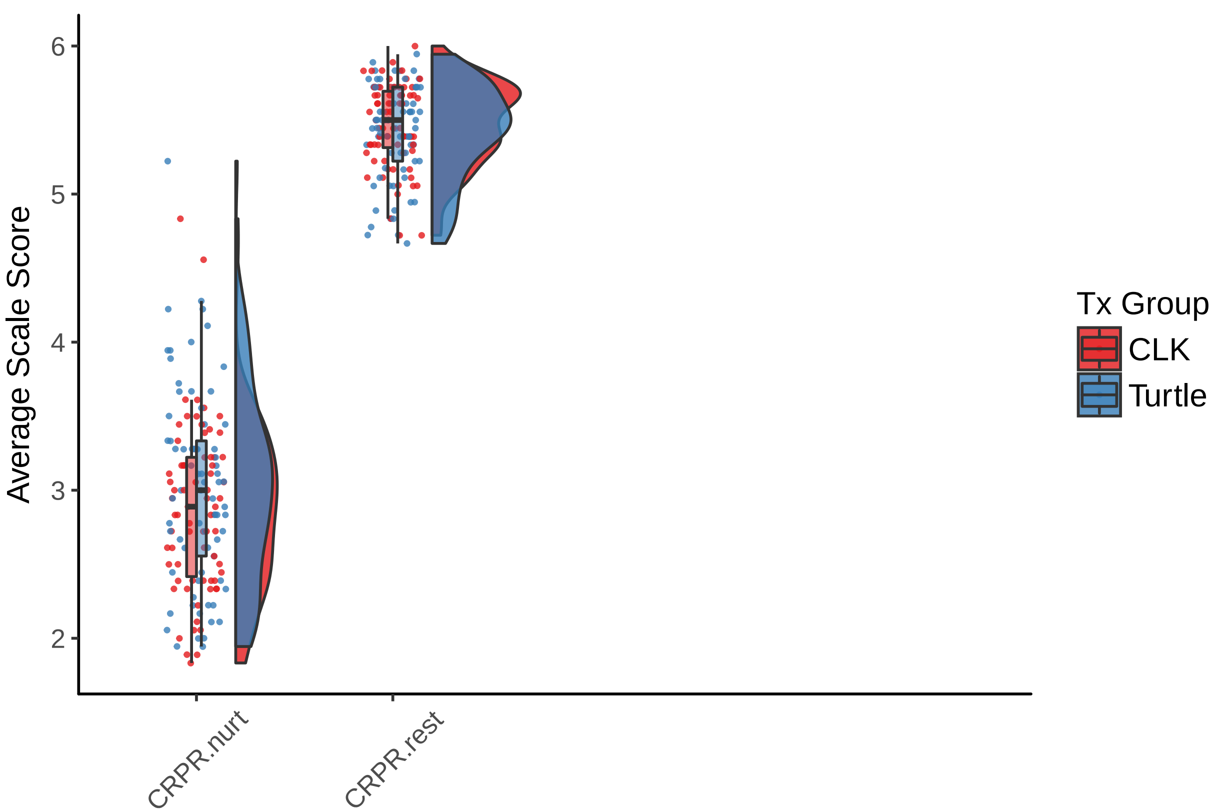
```
df.m<-reshape2::melt(CRPR.all_T1[40:42], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
```

```
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T1 Folder:

`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:

- `/CRPR_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CRPR_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CRPR
- `/CRPR_T1_Summary_wo_Raw_items.txt`: The processed summary scores for CRPR wo raw items

5.2 TIME 2: COMPLETE SCALE

5.2.1 OVERALL SCALE

There is no overall composite score to calculate for this measure. Instead, the CRPR returns two difference summary scores regarding parents' restrictive and nurturing practices/attitudes.

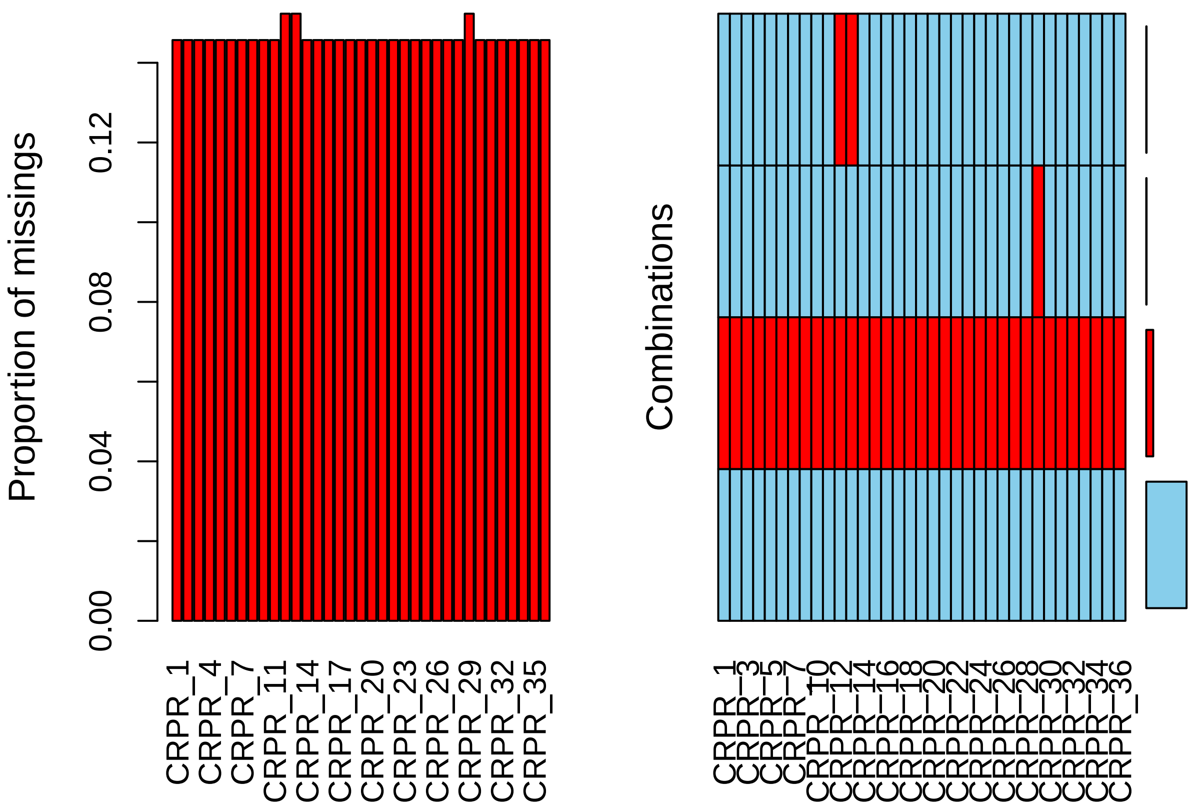
Missing data can still be computed for the measure overall:

```
#Calculating Missing Values:
CRPR.all_T2$Miss_tot<-rep(NA, nrow(CRPR.all_T2))
for(n in 1:nrow(CRPR.all_T2)){
  CRPR.all_T2$Miss_tot[n]<-sum(is.na(CRPR.all_T2[n,3:37])==TRUE)
}

CRPR.all_T2$Miss_per<-rep(NA, nrow(CRPR.all_T2))
for(n in 1:nrow(CRPR.all_T2)){
  CRPR.all_T2$Miss_per[n]<-round(sum(is.na(CRPR.all_T2[n,3:37])==TRUE)/ncol(CRPR.all_T2[3:37])*100,
                                digits = 2)
}
```

5.2.2 MISSING DATA

```
VIM::aggr(CRPR.all_T2[,3:37])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will complete at future date]

There is no information related to overall scores to report here (i.e., no overall average or total variables to describe here)

There is no additional information about parent missing data at T2 to report.

5.2.3 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CRPR.all_T2$Group.R<-ifelse(CRPR.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(CRPR.all_T2[,c(3:37,40)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##           vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR_1       1 63 5.65 0.54 -1.20     0.40 0.07   5.0   6.0
## CRPR_2       2 63 5.70 0.56 -1.63     1.67 0.07   5.5   6.0
## CRPR_3       3 63 2.59 1.32  0.52    -0.65 0.17   2.0   3.5
## CRPR_4       4 63 1.30 0.80  3.77    17.36 0.10   1.0   1.0
## CRPR_5       5 63 5.84 0.41 -2.49     5.74 0.05   6.0   6.0
## CRPR_6       6 63 5.49 0.80 -1.83     4.03 0.10   5.0   6.0
## CRPR_7       7 63 1.56 0.96  2.35     6.40 0.12   1.0   2.0
## CRPR_9       8 63 4.75 0.86 -0.85     1.44 0.11   4.0   5.0
## CRPR_10      9 63 5.44 0.80 -1.32     0.97 0.10   5.0   6.0
## CRPR_11     10 63 3.52 1.53  0.02    -1.16 0.19   2.0   5.0
## CRPR_12     11 62 2.65 1.55  0.51    -1.09 0.20   1.0   4.0
## CRPR_13     12 62 2.23 1.30  1.18     0.83 0.16   1.0   3.0
## CRPR_14     13 63 4.51 0.97 -0.60     1.21 0.12   4.0   5.0
## CRPR_15     14 63 4.90 0.93 -1.24     3.22 0.12   4.0   5.5
## CRPR_16     15 63 5.32 0.88 -1.49     2.40 0.11   5.0   6.0
## CRPR_17     16 63 5.87 0.42 -3.34    10.63 0.05   6.0   6.0
## CRPR_18     17 63 5.87 0.38 -3.01     8.95 0.05   6.0   6.0
## CRPR_19     18 63 5.84 0.41 -2.49     5.74 0.05   6.0   6.0
## CRPR_20     19 63 4.95 1.18 -1.00     0.15 0.15   4.0   6.0
## CRPR_21     20 63 5.46 0.71 -1.17     0.86 0.09   5.0   6.0
## CRPR_22     21 63 5.78 0.46 -1.79     2.33 0.06   6.0   6.0
## CRPR_23     22 63 5.76 0.56 -2.74     8.53 0.07   6.0   6.0
## CRPR_24     23 63 4.78 1.20 -0.96     0.04 0.15   4.0   6.0
## CRPR_25     24 63 3.13 1.28  0.04    -1.03 0.16   2.0   4.0
## CRPR_26     25 63 4.48 1.08 -0.70     0.07 0.14   4.0   5.0
## CRPR_27     26 63 2.92 1.34 -0.02    -1.03 0.17   2.0   4.0
## CRPR_28     27 63 1.86 1.11  1.34     1.60 0.14   1.0   2.0
## CRPR_29     28 62 2.29 1.38  0.98    -0.01 0.18   1.0   3.0
## CRPR_30     29 63 2.57 1.27  0.64    -0.07 0.16   2.0   3.0
## CRPR_31     30 63 2.57 1.42  0.87    -0.25 0.18   2.0   3.5
## CRPR_32     31 63 4.57 0.93 -0.98     1.43 0.12   4.0   5.0
## CRPR_33     32 63 5.27 0.88 -1.37     1.99 0.11   5.0   6.0
## CRPR_34     33 63 2.13 1.29  1.01     0.18 0.16   1.0   3.0
## CRPR_35     34 63 2.76 1.32  0.27    -1.02 0.17   2.0   4.0
## CRPR_36     35 63 3.46 1.46  0.08    -1.03 0.18   2.0   4.5
## Group.R*    36 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##           vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR_1       1 66 5.55 0.95 -3.39    13.22 0.12  5.00     6
## CRPR_2       2 66 5.53 0.77 -3.20    15.65 0.09  5.00     6
## CRPR_3       3 66 2.50 1.35  0.65    -0.51 0.17  1.00     4
## CRPR_4       4 66 1.47 1.06  2.55     6.37 0.13  1.00     1
## CRPR_5       5 66 5.79 0.69 -5.22    32.17 0.09  6.00     6
## CRPR_6       6 66 5.48 0.90 -1.71     2.42 0.11  5.00     6
## CRPR_7       7 66 1.45 0.66  1.43     1.99 0.08  1.00     2
## CRPR_9       8 66 4.79 0.98 -0.72     0.26 0.12  4.00     5
## CRPR_10      9 66 5.52 0.73 -1.11    -0.27 0.09  5.00     6
## CRPR_11     10 66 3.44 1.47  0.12    -1.19 0.18  2.00     5
## CRPR_12     11 66 2.94 1.53  0.30    -1.00 0.19  2.00     4
## CRPR_13     12 66 2.27 1.27  1.04     0.58 0.16  1.00     3
## CRPR_14     13 66 4.38 1.05 -0.31    -0.52 0.13  4.00     5
```

```
## CRPR_15    14 66 4.79 1.12 -1.02     0.57 0.14  4.00     6
## CRPR_16    15 66 5.18 0.84 -1.26     2.21 0.10  5.00     6
## CRPR_17    16 66 5.77 0.49 -2.01     3.27 0.06  6.00     6
## CRPR_18    17 66 5.82 0.43 -2.18     4.09 0.05  6.00     6
## CRPR_19    18 66 5.79 0.48 -2.15     3.91 0.06  6.00     6
## CRPR_20    19 66 4.97 1.10 -0.70    -0.62 0.13  4.00     6
## CRPR_21    20 66 5.39 0.78 -0.98    -0.07 0.10  5.00     6
## CRPR_22    21 66 5.71 0.52 -1.55     1.45 0.06  5.25     6
## CRPR_23    22 66 5.64 0.76 -3.70    18.79 0.09  5.00     6
## CRPR_24    23 66 4.82 1.05 -0.74    -0.09 0.13  4.00     6
## CRPR_25    24 66 3.20 1.35  0.13    -1.06 0.17  2.00     4
## CRPR_26    25 66 4.48 1.00 -1.06     1.43 0.12  4.00     5
## CRPR_27    26 66 3.21 1.26  0.06    -0.40 0.15  2.00     4
## CRPR_28    27 66 2.20 1.15  0.39    -1.34 0.14  1.00     3
## CRPR_29    28 66 2.48 1.26  0.47    -0.91 0.15  1.25     3
## CRPR_30    29 66 2.70 1.08  0.47     0.09 0.13  2.00     3
## CRPR_31    30 66 3.02 1.52  0.18    -1.24 0.19  2.00     4
## CRPR_32    31 66 4.30 1.12 -0.80     0.44 0.14  4.00     5
## CRPR_33    32 66 5.17 0.97 -1.03     0.46 0.12  5.00     6
## CRPR_34    33 66 2.21 1.18  1.02     0.51 0.15  1.00     3
## CRPR_35    34 66 2.92 1.38  0.10    -1.15 0.17  2.00     4
## CRPR_36    35 66 3.61 1.24 -0.38    -0.30 0.15  3.00     4
## Group.R*   36 75  NaN   NA    NA       NA   NA    NA    NA
```

5.2.4 TIME 2: SUBSCALES

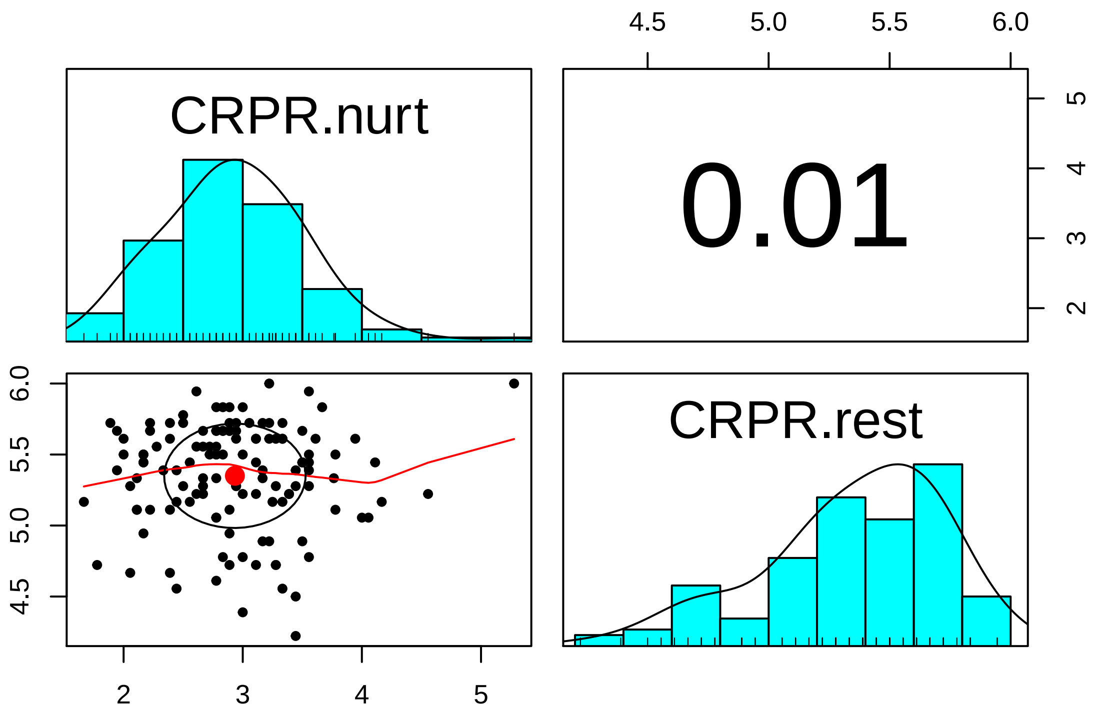
5.2.4.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CRPR.all_T2[,c(41:42)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##           vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR.nurt    1 129 2.93 0.59  0.50     1.01 0.05  2.56  3.33
## CRPR.rest    2 129 5.35 0.37 -0.73     0.04 0.03  5.17  5.61
```

Note: Individual mean replacement was used to calculate average scores provided each case had at responded to at least 85% of the items that make up each subscale.

```
psych::pairs.panels(CRPR.all_T2[,c(41:42)])
```



5.2.4.2 CRONBACH'S ALPHA: NURTURANCE SUBSCALE

```
psych::alpha(CRPR.all_T2[CRPR.nurt], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CRPR.all_T2[CRPR.nurt], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##         0.8      0.79    0.83      0.18 3.8 0.024  2.9 0.59     0.17
##
##  lower alpha upper     95% confidence boundaries
## 0.75 0.8 0.84
##
##  lower median upper bootstrapped confidence intervals
##  0.71 0.79 0.85
##  Reliability if an item is dropped:
##          raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CRPR_3        0.80      0.79    0.82      0.18 3.8    0.024 0.013  0.17
## CRPR_4        0.79      0.79    0.82      0.18 3.8    0.024 0.012  0.17
## CRPR_7        0.79      0.79    0.82      0.18 3.8    0.024 0.013  0.17
## CRPR_11       0.79      0.79    0.82      0.18 3.7    0.024 0.013  0.17
## CRPR_12       0.78      0.78    0.81      0.17 3.5    0.026 0.012  0.15
## CRPR_13       0.79      0.78    0.81      0.18 3.6    0.025 0.013  0.17
```

```
## CRPR_20      0.79      0.78    0.82      0.18 3.6    0.025 0.013  0.17
## CRPR_24      0.80      0.80    0.83      0.19 3.9    0.024 0.012  0.18
## CRPR_25      0.78      0.78    0.81      0.17 3.5    0.026 0.013  0.16
## CRPR_27      0.78      0.78    0.81      0.17 3.5    0.025 0.012  0.16
## CRPR_28      0.78      0.77    0.81      0.17 3.4    0.026 0.011  0.16
## CRPR_29      0.78      0.78    0.81      0.17 3.5    0.025 0.012  0.16
## CRPR_30      0.79      0.79    0.82      0.18 3.7    0.024 0.013  0.17
## CRPR_31      0.78      0.78    0.81      0.17 3.5    0.026 0.012  0.16
## CRPR_32      0.79      0.79    0.82      0.18 3.7    0.025 0.013  0.17
## CRPR_34      0.78      0.77    0.81      0.17 3.4    0.026 0.012  0.15
## CRPR_35      0.78      0.78    0.82      0.17 3.6    0.025 0.012  0.16
## CRPR_36      0.79      0.79    0.82      0.18 3.8    0.024 0.013  0.17
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CRPR_3  129  0.34  0.35  0.29   0.23  2.5 1.33
## CRPR_4  129  0.33  0.35  0.28   0.25  1.4 0.94
## CRPR_7  129  0.35  0.39  0.33   0.28  1.5 0.82
## CRPR_11 129  0.46  0.44  0.38   0.34  3.5 1.50
## CRPR_12 128  0.60  0.58  0.56   0.50  2.8 1.54
## CRPR_13 128  0.48  0.49  0.45   0.38  2.2 1.28
## CRPR_20 129  0.45  0.46  0.41   0.36  5.0 1.13
## CRPR_24 129  0.28  0.29  0.22   0.18  4.8 1.12
## CRPR_25 129  0.55  0.54  0.52   0.46  3.2 1.31
## CRPR_27 129  0.54  0.54  0.51   0.45  3.1 1.30
## CRPR_28 129  0.60  0.61  0.60   0.52  2.0 1.14
## CRPR_29 128  0.55  0.54  0.51   0.45  2.4 1.32
## CRPR_30 129  0.40  0.41  0.35   0.30  2.6 1.17
## CRPR_31 129  0.58  0.57  0.55   0.48  2.8 1.49
## CRPR_32 129  0.42  0.43  0.37   0.34  4.4 1.04
## CRPR_34 129  0.62  0.63  0.62   0.54  2.2 1.23
## CRPR_35 129  0.50  0.49  0.45   0.40  2.8 1.35
## CRPR_36 129  0.38  0.39  0.32   0.27  3.5 1.35
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CRPR_3  0.26 0.32 0.16 0.19 0.05 0.02 0.15
## CRPR_4  0.79 0.11 0.07 0.00 0.02 0.02 0.15
## CRPR_7  0.63 0.29 0.04 0.03 0.00 0.01 0.15
## CRPR_11 0.09 0.22 0.22 0.15 0.22 0.09 0.15
## CRPR_12 0.27 0.24 0.13 0.20 0.12 0.05 0.15
## CRPR_13 0.33 0.35 0.16 0.09 0.04 0.03 0.15
## CRPR_20 0.00 0.04 0.08 0.19 0.26 0.43 0.15
## CRPR_24 0.00 0.05 0.09 0.16 0.40 0.29 0.15
## CRPR_25 0.09 0.29 0.18 0.27 0.15 0.02 0.15
## CRPR_27 0.16 0.17 0.26 0.30 0.08 0.03 0.15
## CRPR_28 0.44 0.25 0.16 0.14 0.00 0.01 0.15
## CRPR_29 0.30 0.33 0.13 0.16 0.06 0.02 0.15
## CRPR_30 0.17 0.32 0.29 0.16 0.03 0.02 0.15
## CRPR_31 0.21 0.34 0.09 0.20 0.11 0.05 0.15
## CRPR_32 0.01 0.08 0.02 0.36 0.42 0.11 0.15
## CRPR_34 0.36 0.33 0.14 0.11 0.04 0.02 0.15
## CRPR_35 0.19 0.27 0.16 0.27 0.09 0.02 0.15
## CRPR_36 0.08 0.17 0.19 0.33 0.16 0.07 0.15
```

5.2.4.3 CRONBACH'S ALPHA: RESTRICTIVENESS SUBSCALE

```
psych::alpha(CRPR.all_T2[CRPR.rest], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = CRPR.all_T2[CRPR.rest], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.78      0.82    0.86       0.2 4.4 0.025  5.4 0.37     0.18
##
##  lower alpha upper     95% confidence boundaries
## 0.73 0.78 0.83
##
##  lower median upper bootstrapped confidence intervals
##  0.71 0.78 0.83
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CRPR_1       0.77      0.81    0.85      0.20 4.2    0.026 0.018  0.18
## CRPR_2       0.78      0.82    0.85      0.21 4.5    0.025 0.017  0.20
## CRPR_5       0.77      0.81    0.85      0.20 4.2    0.026 0.018  0.18
## CRPR_6       0.76      0.80    0.84      0.19 4.0    0.028 0.017  0.18
## CRPR_9       0.78      0.81    0.85      0.20 4.3    0.026 0.018  0.19
## CRPR_10      0.78      0.81    0.85      0.20 4.3    0.026 0.017  0.18
## CRPR_14      0.77      0.81    0.85      0.20 4.2    0.027 0.018  0.18
## CRPR_15      0.77      0.81    0.85      0.20 4.2    0.027 0.017  0.18
## CRPR_16      0.77      0.81    0.84      0.20 4.1    0.027 0.018  0.18
## CRPR_17      0.78      0.81    0.85      0.20 4.2    0.026 0.018  0.18
## CRPR_18      0.77      0.80    0.84      0.19 4.1    0.026 0.017  0.18
## CRPR_19      0.77      0.80    0.84      0.19 4.0    0.027 0.016  0.18
## CRPR_20      0.79      0.82    0.85      0.21 4.4    0.025 0.017  0.19
## CRPR_21      0.77      0.81    0.84      0.20 4.2    0.027 0.017  0.18
## CRPR_22      0.76      0.79    0.83      0.18 3.8    0.028 0.015  0.17
## CRPR_23      0.77      0.80    0.85      0.20 4.1    0.027 0.018  0.18
## CRPR_26      0.80      0.83    0.86      0.22 4.7    0.024 0.015  0.21
## CRPR_33      0.76      0.80    0.84      0.19 3.9    0.029 0.017  0.17
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CRPR_1  129  0.45  0.46  0.41  0.353  5.6 0.78
## CRPR_2  129  0.31  0.33  0.27  0.209  5.6 0.68
## CRPR_5  129  0.44  0.49  0.45  0.367  5.8 0.57
## CRPR_6  129  0.61  0.59  0.58  0.525  5.5 0.85
## CRPR_9  129  0.43  0.41  0.36  0.305  4.8 0.92
## CRPR_10 129  0.43  0.45  0.40  0.331  5.5 0.76
## CRPR_14 129  0.51  0.48  0.44  0.384  4.4 1.01
## CRPR_15 129  0.52  0.48  0.44  0.397  4.8 1.03
## CRPR_16 129  0.55  0.52  0.49  0.451  5.2 0.86
## CRPR_17 129  0.43  0.50  0.46  0.374  5.8 0.46
## CRPR_18 129  0.49  0.56  0.54  0.440  5.8 0.40
## CRPR_19 129  0.53  0.61  0.61  0.478  5.8 0.45
## CRPR_20 129  0.42  0.35  0.30  0.264  5.0 1.13
## CRPR_21 129  0.51  0.51  0.48  0.416  5.4 0.75
## CRPR_22 129  0.71  0.74  0.75  0.671  5.7 0.49
## CRPR_23 129  0.49  0.53  0.49  0.404  5.7 0.67
## CRPR_26 129  0.25  0.19  0.10  0.099  4.5 1.03
## CRPR_33 129  0.66  0.65  0.64  0.573  5.2 0.93
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CRPR_1  0.02 0.00 0.00 0.02 0.28 0.68 0.15
## CRPR_2  0.01 0.00 0.00 0.03 0.29 0.67 0.15
## CRPR_5  0.01 0.00 0.00 0.01 0.13 0.85 0.15
## CRPR_6  0.00 0.02 0.01 0.12 0.19 0.67 0.15
## CRPR_9  0.00 0.03 0.04 0.26 0.47 0.20 0.15
## CRPR_10 0.00 0.00 0.02 0.12 0.24 0.63 0.15
## CRPR_14 0.01 0.02 0.12 0.35 0.36 0.14 0.15
```

```
## CRPR_15 0.01 0.04 0.03 0.21 0.45 0.26 0.15
## CRPR_16 0.00 0.02 0.03 0.09 0.43 0.44 0.15
## CRPR_17 0.00 0.00 0.00 0.03 0.12 0.85 0.15
## CRPR_18 0.00 0.00 0.00 0.02 0.12 0.86 0.15
## CRPR_19 0.00 0.00 0.00 0.02 0.14 0.84 0.15
## CRPR_20 0.00 0.04 0.08 0.19 0.26 0.43 0.15
## CRPR_21 0.00 0.00 0.02 0.11 0.31 0.57 0.15
## CRPR_22 0.00 0.00 0.00 0.02 0.21 0.77 0.15
## CRPR_23 0.01 0.00 0.01 0.02 0.21 0.76 0.15
## CRPR_26 0.01 0.05 0.08 0.29 0.46 0.12 0.15
## CRPR_33 0.00 0.02 0.04 0.13 0.34 0.47 0.15
```

5.2.4.4 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CRPR Nurturance scores
t.test(CRPR.all_T2$CRPR.nurt~CRPR.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CRPR.all_T2$CRPR.nurt by CRPR.all_T2$Group
## t = -0.979, df = 124.39, p-value = 0.3295
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.3080275  0.1041493
## sample estimates:
## mean in group 0 mean in group 1
##        2.882068        2.984007
```

```
#Groups do not differ on average CRPR Restrictiveness scores
t.test(CRPR.all_T2$CRPR.rest~CRPR.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CRPR.all_T2$CRPR.rest by CRPR.all_T2$Group
## t = 0.98736, df = 125.57, p-value = 0.3254
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.06397096  0.19135592
## sample estimates:
## mean in group 0 mean in group 1
##        5.382716        5.319024
```

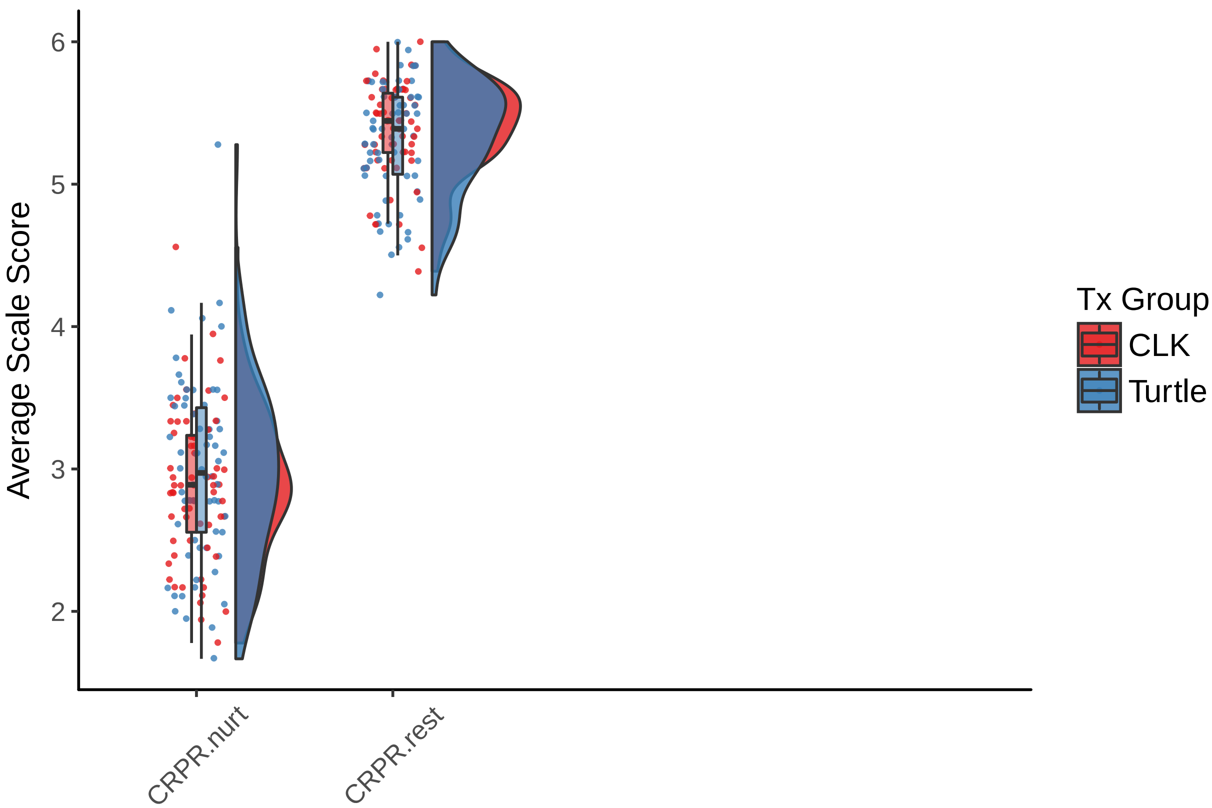
```
df.m<-reshape2::melt(CRPR.all_T2[40:42], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
```

```
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T2 Folder:

`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:

- `/CRPR_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CRPR_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CRPR
- `/CRPR_T2_Summary_wo_Raw_items.txt`: The processed summary scores for CRPR wo raw items

5.3 TIME 3: COMPLETE SCALE

5.3.1 OVERALL SCALE

There is no overall composite score to calculate for this measure. Instead, the CRPR returns two difference summary scores regarding parents' restrictive and nurturing practices/attitudes.

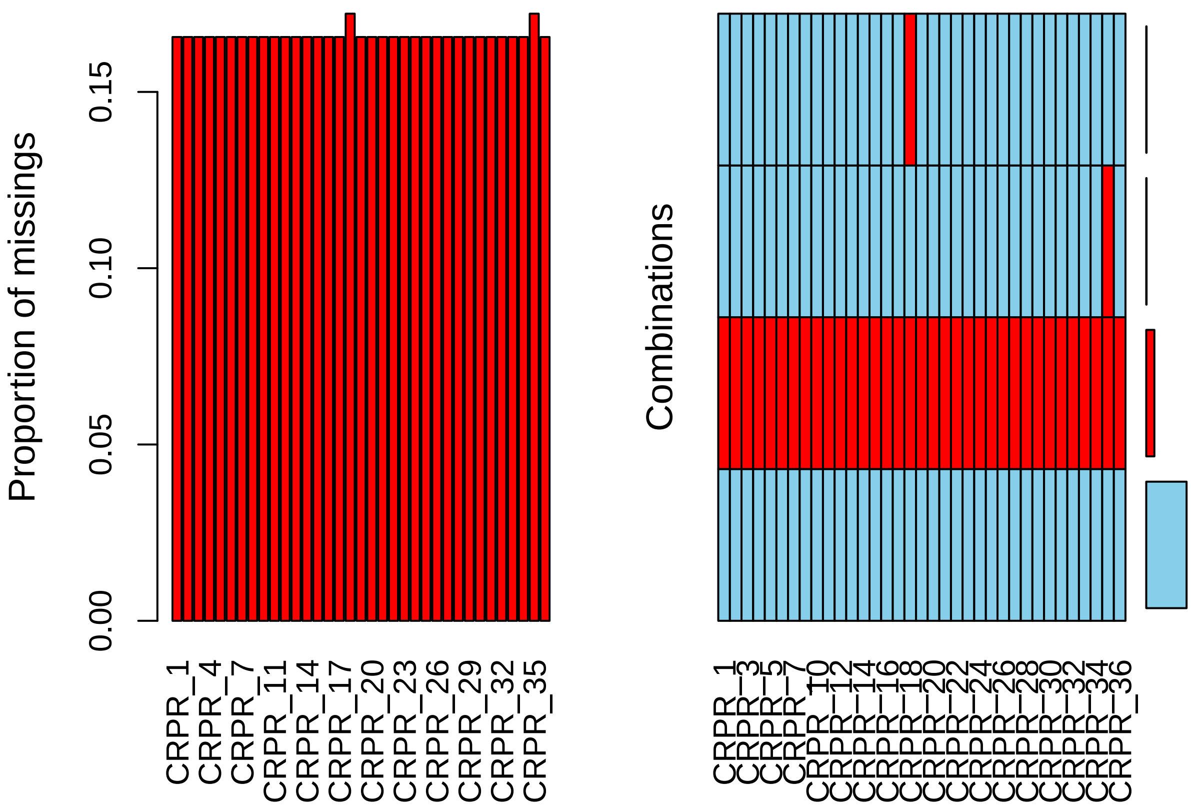
Missing data can still be computed for the measure overall:

```
#Calculating Missing Values:
CRPR.all_T3$Miss_tot<-rep(NA, nrow(CRPR.all_T3))
for(n in 1:nrow(CRPR.all_T3)){
  CRPR.all_T3$Miss_tot[n]<-sum(is.na(CRPR.all_T3[n,3:37])==TRUE)
}

CRPR.all_T3$Miss_per<-rep(NA, nrow(CRPR.all_T3))
for(n in 1:nrow(CRPR.all_T3)){
  CRPR.all_T3$Miss_per[n]<-round(sum(is.na(CRPR.all_T3[n,3:37])==TRUE)/ncol(CRPR.all_T3[3:37])*100,
                                 digits = 2)
}
```

5.3.2 MISSING DATA

```
VIM::aggr(CRPR.all_T3[,3:37])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will complete at future date]

There is no information related to overall scores to report here (i.e., no overall average or total variables to describe here)

There is no additional information about parent missing data at T3 to report.

5.3.3 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CRPR.all_T3$Group.R<-ifelse(CRPR.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(CRPR.all_T3[,c(3:37,40)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##           vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR_1       1 60 5.58 0.79 -3.45    16.54 0.10  5.00  6.00
## CRPR_2       2 60 5.50 0.87 -2.78    10.26 0.11  5.00  6.00
## CRPR_3       3 60 2.48 1.30  0.59    -0.57 0.17  1.00  3.25
## CRPR_4       4 60 1.30 0.65  2.24     4.74 0.08  1.00  1.00
## CRPR_5       5 60 5.78 0.72 -5.14    30.54 0.09  6.00  6.00
## CRPR_6       6 60 5.50 0.77 -1.97     5.23 0.10  5.00  6.00
## CRPR_7       7 60 1.88 1.08  1.52     2.64 0.14  1.00  2.00
## CRPR_9       8 60 4.67 1.11 -1.06     1.23 0.14  4.00  5.00
## CRPR_10      9 60 5.58 0.67 -1.62     2.46 0.09  5.00  6.00
## CRPR_11     10 60 3.73 1.47  0.02    -1.09 0.19  3.00  5.00
## CRPR_12     11 60 2.60 1.51  0.66    -0.68 0.19  1.00  4.00
## CRPR_13     12 60 2.22 1.32  1.01     0.36 0.17  1.00  3.00
## CRPR_14     13 60 4.48 1.02 -0.19    -0.79 0.13  4.00  5.00
## CRPR_15     14 60 5.00 0.84 -0.50    -0.43 0.11  4.75  6.00
## CRPR_16     15 60 5.28 0.98 -2.19     6.12 0.13  5.00  6.00
## CRPR_17     16 60 5.78 0.56 -2.39     4.45 0.07  6.00  6.00
## CRPR_18     17 59 5.88 0.38 -3.20    10.29 0.05  6.00  6.00
## CRPR_19     18 60 5.83 0.42 -2.40     5.26 0.05  6.00  6.00
## CRPR_20     19 60 4.97 1.15 -1.12     0.59 0.15  4.00  6.00
## CRPR_21     20 60 5.55 0.62 -1.02    -0.07 0.08  5.00  6.00
## CRPR_22     21 60 5.80 0.40 -1.46     0.14 0.05  6.00  6.00
## CRPR_23     22 60 5.70 0.67 -3.22    13.32 0.09  6.00  6.00
## CRPR_24     23 60 4.83 1.17 -1.07     0.89 0.15  4.00  6.00
## CRPR_25     24 60 3.48 1.28  0.20    -0.81 0.17  2.75  4.00
## CRPR_26     25 60 4.48 0.93 -0.82     0.64 0.12  4.00  5.00
## CRPR_27     26 60 3.08 1.25  0.05    -0.79 0.16  2.00  4.00
## CRPR_28     27 60 1.85 0.99  0.92    -0.29 0.13  1.00  2.00
## CRPR_29     28 60 2.27 1.27  0.37    -1.42 0.16  1.00  3.25
## CRPR_30     29 60 2.45 1.14  0.89     0.59 0.15  2.00  3.00
## CRPR_31     30 60 2.48 1.24  0.30    -1.12 0.16  1.00  3.25
## CRPR_32     31 60 4.52 0.97 -1.16     2.29 0.12  4.00  5.00
## CRPR_33     32 60 5.25 0.88 -1.24     1.69 0.11  5.00  6.00
## CRPR_34     33 60 2.18 1.24  0.60    -0.98 0.16  1.00  3.00
## CRPR_35     34 59 2.53 1.29  0.44    -1.03 0.17  1.50  4.00
## CRPR_36     35 60 3.57 1.42 -0.13    -0.91 0.18  2.00  5.00
## Group.R*    36 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##           vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR_1       1 66 5.59 0.78 -3.32    15.47 0.10  5.00  6.00
## CRPR_2       2 66 5.50 1.00 -3.03    10.36 0.12  5.00  6.00
## CRPR_3       3 66 2.45 1.22  0.56    -0.36 0.15  1.25  3.00
## CRPR_4       4 66 1.48 0.96  2.68     7.98 0.12  1.00  2.00
## CRPR_5       5 66 5.80 0.68 -5.41    34.00 0.08  6.00  6.00
## CRPR_6       6 66 5.45 1.17 -2.42     5.40 0.14  5.25  6.00
## CRPR_7       7 66 1.62 0.92  2.07     5.95 0.11  1.00  2.00
## CRPR_9       8 66 4.65 1.13 -1.38     2.15 0.14  4.00  5.00
## CRPR_10      9 66 5.52 0.85 -2.68    10.20 0.10  5.00  6.00
## CRPR_11     10 66 3.26 1.37  0.42    -0.58 0.17  2.00  4.00
## CRPR_12     11 66 3.09 1.57  0.04    -1.30 0.19  2.00  4.00
## CRPR_13     12 66 2.18 1.08  0.58    -0.69 0.13  1.00  3.00
## CRPR_14     13 66 4.45 1.17 -0.75    -0.04 0.14  4.00  5.00
```

```
## CRPR_15    14 66 4.67 1.19 -0.95     0.51 0.15  4.00  5.75
## CRPR_16    15 66 5.08 1.09 -1.85     4.09 0.13  5.00  6.00
## CRPR_17    16 66 5.70 0.76 -3.93    19.52 0.09  6.00  6.00
## CRPR_18    17 66 5.83 0.67 -5.85    38.29 0.08  6.00  6.00
## CRPR_19    18 66 5.79 0.71 -4.95    28.60 0.09  6.00  6.00
## CRPR_20    19 66 4.95 1.27 -1.07     0.38 0.16  4.00  6.00
## CRPR_21    20 66 5.45 0.91 -2.30     6.99 0.11  5.00  6.00
## CRPR_22    21 66 5.65 0.73 -3.98    21.69 0.09  5.00  6.00
## CRPR_23    22 66 5.70 0.78 -3.77    17.63 0.10  6.00  6.00
## CRPR_24    23 66 4.74 1.15 -0.86     0.30 0.14  4.00  6.00
## CRPR_25    24 66 3.33 1.48  0.10    -1.11 0.18  2.00  4.00
## CRPR_26    25 66 4.58 1.15 -0.99     1.27 0.14  4.00  5.00
## CRPR_27    26 66 3.15 1.34  0.03    -0.95 0.16  2.00  4.00
## CRPR_28    27 66 1.86 0.97  0.86    -0.37 0.12  1.00  2.00
## CRPR_29    28 66 2.52 1.32  0.49    -0.82 0.16  1.00  4.00
## CRPR_30    29 66 2.94 1.07  0.12    -0.71 0.13  2.00  4.00
## CRPR_31    30 66 2.92 1.51  0.21    -1.26 0.19  2.00  4.00
## CRPR_32    31 66 4.50 1.14 -1.04     1.36 0.14  4.00  5.00
## CRPR_33    32 66 5.21 1.07 -1.74     3.40 0.13  5.00  6.00
## CRPR_34    33 66 2.36 1.26  0.71    -0.26 0.16  1.00  3.00
## CRPR_35    34 66 2.82 1.40  0.25    -0.95 0.17  2.00  4.00
## CRPR_36    35 66 3.65 1.43 -0.22    -1.02 0.18  2.25  5.00
## Group.R*   36 75  NaN   NA    NA       NA   NA    NA    NA
```

5.3.4 TIME 3: SUBSCALES

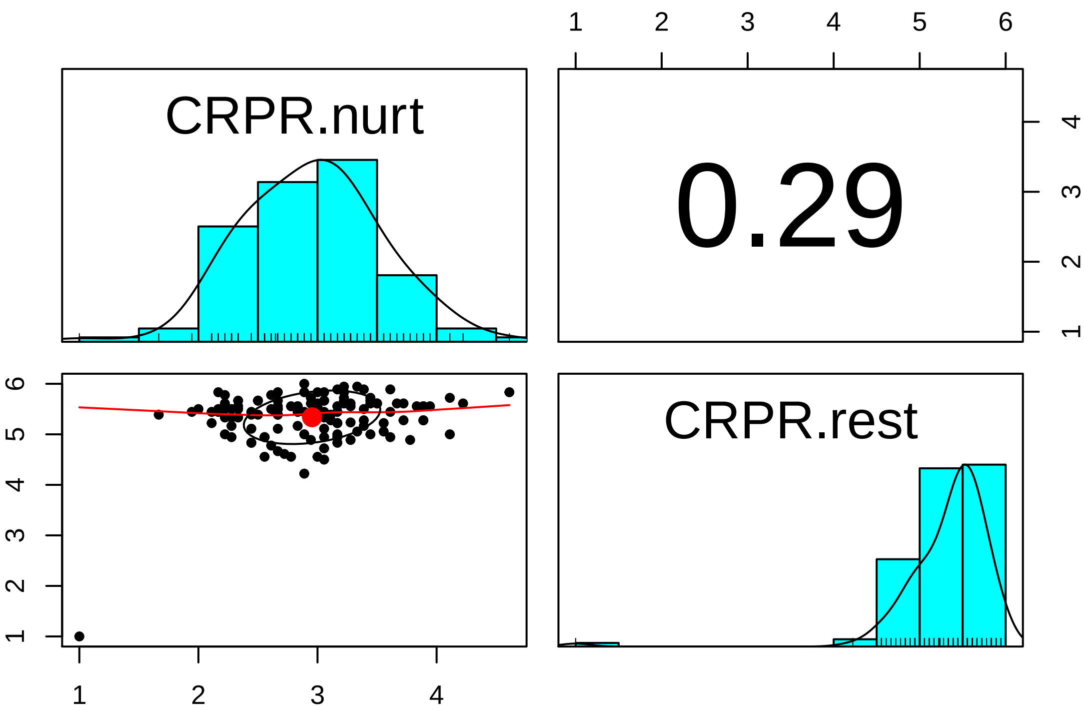
5.3.4.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CRPR.all_T3[,c(41:42)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##           vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CRPR.nurt    1 126 2.95 0.57 -0.02     0.39 0.05  2.56  3.28
## CRPR.rest    2 126 5.34 0.53 -4.50    33.32 0.05  5.12  5.61
```

Note: Individual mean replacement was used to calculate average scores provided each case had at responded to at least 85% of the items that make up each subscale.

```
psych::pairs.panels(CRPR.all_T3[,c(41:42)])
```



5.3.4.2 CRONBACH'S ALPHA: NURTURANCE SUBSCALE

```
psych::alpha(CRPR.all_T3[CRPR.nurt], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CRPR.all_T3[CRPR.nurt], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.78      0.78    0.82      0.17 3.6 0.026    3 0.57     0.16
##
##  lower alpha upper     95% confidence boundaries
## 0.73 0.78 0.83
##
##  lower median upper bootstrapped confidence intervals
##  0.71 0.78 0.84
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CRPR_3       0.77      0.78    0.82      0.17 3.5    0.026 0.015  0.16
## CRPR_4       0.78      0.78    0.82      0.17 3.5    0.026 0.015  0.16
## CRPR_7       0.78      0.78    0.82      0.17 3.5    0.026 0.016  0.17
## CRPR_11      0.78      0.78    0.82      0.18 3.6    0.025 0.014  0.17
## CRPR_12      0.75      0.76    0.80      0.15 3.1    0.029 0.014  0.15
## CRPR_13      0.76      0.77    0.81      0.16 3.3    0.027 0.015  0.15
```

```
## CRPR_20      0.77      0.77    0.81      0.17 3.4    0.027 0.015   0.16
## CRPR_24      0.78      0.78    0.82      0.17 3.6    0.026 0.014   0.17
## CRPR_25      0.77      0.77    0.81      0.17 3.4    0.027 0.014   0.16
## CRPR_27      0.77      0.77    0.81      0.17 3.4    0.027 0.014   0.16
## CRPR_28      0.77      0.77    0.81      0.16 3.3    0.027 0.014   0.15
## CRPR_29      0.77      0.77    0.81      0.16 3.3    0.027 0.013   0.15
## CRPR_30      0.77      0.77    0.82      0.17 3.4    0.026 0.015   0.16
## CRPR_31      0.76      0.76    0.80      0.16 3.1    0.029 0.014   0.15
## CRPR_32      0.77      0.77    0.81      0.16 3.3    0.027 0.015   0.16
## CRPR_34      0.77      0.77    0.81      0.16 3.3    0.027 0.015   0.15
## CRPR_35      0.78      0.78    0.82      0.17 3.5    0.026 0.014   0.16
## CRPR_36      0.78      0.78    0.82      0.17 3.5    0.026 0.015   0.17
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean   sd
## CRPR_3  126  0.41  0.42  0.36   0.30  2.5 1.25
## CRPR_4  126  0.34  0.37  0.30   0.27  1.4 0.83
## CRPR_7  126  0.38  0.40  0.34   0.30  1.7 1.00
## CRPR_11 126  0.34  0.32  0.25   0.21  3.5 1.44
## CRPR_12 126  0.67  0.65  0.64   0.58  2.9 1.55
## CRPR_13 126  0.54  0.54  0.51   0.45  2.2 1.19
## CRPR_20 126  0.47  0.47  0.43   0.37  5.0 1.21
## CRPR_24 126  0.33  0.33  0.27   0.23  4.8 1.16
## CRPR_25 126  0.48  0.46  0.42   0.36  3.4 1.39
## CRPR_27 126  0.45  0.45  0.41   0.34  3.1 1.29
## CRPR_28 126  0.49  0.51  0.47   0.41  1.9 0.98
## CRPR_29 126  0.53  0.53  0.52   0.43  2.4 1.30
## CRPR_30 126  0.41  0.43  0.37   0.31  2.7 1.12
## CRPR_31 126  0.64  0.63  0.62   0.55  2.7 1.40
## CRPR_32 126  0.54  0.53  0.51   0.46  4.5 1.06
## CRPR_34 126  0.49  0.49  0.45   0.39  2.3 1.25
## CRPR_35 125  0.41  0.41  0.35   0.29  2.7 1.35
## CRPR_36 126  0.37  0.36  0.30   0.24  3.6 1.42
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CRPR_3  0.26 0.31 0.20 0.17 0.04 0.02 0.17
## CRPR_4  0.74 0.18 0.05 0.02 0.01 0.01 0.17
## CRPR_7  0.52 0.31 0.13 0.02 0.01 0.02 0.17
## CRPR_11 0.06 0.21 0.27 0.20 0.13 0.12 0.17
## CRPR_12 0.26 0.22 0.13 0.21 0.13 0.05 0.17
## CRPR_13 0.35 0.32 0.17 0.13 0.02 0.02 0.17
## CRPR_20 0.01 0.06 0.05 0.19 0.25 0.44 0.17
## CRPR_24 0.02 0.02 0.10 0.18 0.37 0.31 0.17
## CRPR_25 0.07 0.24 0.21 0.24 0.17 0.07 0.17
## CRPR_27 0.12 0.23 0.23 0.28 0.12 0.02 0.17
## CRPR_28 0.46 0.32 0.13 0.10 0.00 0.00 0.17
## CRPR_29 0.34 0.24 0.15 0.23 0.03 0.01 0.17
## CRPR_30 0.13 0.35 0.29 0.16 0.06 0.01 0.17
## CRPR_31 0.25 0.25 0.17 0.21 0.10 0.02 0.17
## CRPR_32 0.02 0.04 0.03 0.35 0.42 0.13 0.17
## CRPR_34 0.36 0.26 0.18 0.15 0.04 0.01 0.17
## CRPR_35 0.24 0.27 0.17 0.22 0.08 0.02 0.17
## CRPR_36 0.08 0.18 0.17 0.27 0.22 0.08 0.17
```

5.3.4.3 CRONBACH'S ALPHA: RESTRICTIVENESS SUBSCALE

```
psych::alpha(CRPR.all_T3[CRPR.rest], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = CRPR.all_T3[CRPR.rest], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.89      0.91    0.93      0.37  10 0.013  5.3 0.53     0.35
##
##  lower alpha upper     95% confidence boundaries
## 0.87 0.89 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.71 0.89 0.95
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r med.r
## CRPR_1       0.88      0.91    0.92      0.36  9.6    0.014 0.022  0.35
## CRPR_2       0.88      0.91    0.92      0.36  9.7    0.014 0.022  0.35
## CRPR_5       0.88      0.91    0.93      0.36  9.7    0.014 0.023  0.34
## CRPR_6       0.89      0.91    0.93      0.37  9.9    0.014 0.023  0.35
## CRPR_9       0.89      0.91    0.93      0.38 10.6    0.013 0.021  0.37
## CRPR_10      0.88      0.91    0.93      0.36  9.7    0.014 0.022  0.34
## CRPR_14      0.89      0.91    0.93      0.37 10.2    0.013 0.022  0.35
## CRPR_15      0.89      0.91    0.93      0.37 10.2    0.013 0.023  0.35
## CRPR_16      0.89      0.91    0.93      0.37 10.2    0.013 0.023  0.35
## CRPR_17      0.88      0.90    0.92      0.36  9.4    0.014 0.021  0.34
## CRPR_18      0.88      0.90    0.92      0.35  9.1    0.014 0.019  0.34
## CRPR_19      0.88      0.90    0.92      0.35  9.1    0.014 0.018  0.34
## CRPR_20      0.89      0.91    0.93      0.38 10.3    0.013 0.022  0.37
## CRPR_21      0.89      0.91    0.93      0.37 10.0    0.014 0.022  0.35
## CRPR_22      0.88      0.90    0.92      0.35  9.3    0.014 0.020  0.34
## CRPR_23      0.88      0.91    0.92      0.36  9.5    0.014 0.022  0.34
## CRPR_26      0.90      0.91    0.93      0.39 10.7    0.013 0.019  0.37
## CRPR_33      0.89      0.91    0.93      0.37  9.9    0.014 0.023  0.35
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CRPR_1  126  0.68  0.70  0.69   0.63  5.6 0.78
## CRPR_2  126  0.66  0.66  0.65   0.59  5.5 0.94
## CRPR_5  126  0.65  0.67  0.65   0.61  5.8 0.70
## CRPR_6  126  0.64  0.62  0.59   0.57  5.5 0.99
## CRPR_9  126  0.44  0.44  0.38   0.34  4.7 1.12
## CRPR_10 126  0.66  0.68  0.66   0.61  5.5 0.77
## CRPR_14 126  0.56  0.53  0.50   0.47  4.5 1.09
## CRPR_15 126  0.57  0.55  0.51   0.48  4.8 1.05
## CRPR_16 126  0.57  0.54  0.50   0.49  5.2 1.04
## CRPR_17 126  0.74  0.76  0.76   0.70  5.7 0.67
## CRPR_18 125  0.80  0.83  0.84   0.78  5.9 0.55
## CRPR_19 126  0.83  0.86  0.87   0.81  5.8 0.59
## CRPR_20 126  0.53  0.49  0.45   0.43  5.0 1.21
## CRPR_21 126  0.58  0.60  0.57   0.52  5.5 0.79
## CRPR_22 126  0.75  0.78  0.78   0.72  5.7 0.60
## CRPR_23 126  0.70  0.72  0.71   0.65  5.7 0.73
## CRPR_26 126  0.41  0.39  0.33   0.31  4.5 1.05
## CRPR_33 126  0.61  0.60  0.57   0.54  5.2 0.98
##
## Non missing response frequency for each item
##            1    2    3    4    5    6 miss
## CRPR_1  0.02 0.00 0.00 0.02 0.29 0.67 0.17
## CRPR_2  0.02 0.00 0.02 0.02 0.29 0.65 0.17
## CRPR_5  0.02 0.00 0.00 0.00 0.13 0.86 0.17
## CRPR_6  0.02 0.02 0.02 0.06 0.21 0.68 0.17
## CRPR_9  0.02 0.05 0.02 0.25 0.45 0.20 0.17
## CRPR_10 0.01 0.00 0.01 0.06 0.26 0.66 0.17
## CRPR_14 0.01 0.03 0.17 0.23 0.40 0.16 0.17
```

```
## CRPR_15 0.01 0.03 0.06 0.21 0.41 0.28 0.17
## CRPR_16 0.02 0.01 0.04 0.06 0.44 0.43 0.17
## CRPR_17 0.01 0.00 0.00 0.05 0.13 0.82 0.17
## CRPR_18 0.01 0.00 0.00 0.01 0.09 0.90 0.17
## CRPR_19 0.01 0.00 0.00 0.02 0.12 0.86 0.17
## CRPR_20 0.01 0.06 0.05 0.19 0.25 0.44 0.17
## CRPR_21 0.01 0.00 0.01 0.08 0.28 0.63 0.17
## CRPR_22 0.01 0.00 0.00 0.00 0.24 0.75 0.17
## CRPR_23 0.01 0.01 0.00 0.03 0.17 0.79 0.17
## CRPR_26 0.02 0.04 0.06 0.33 0.41 0.15 0.17
## CRPR_33 0.01 0.02 0.01 0.14 0.33 0.49 0.17
```

5.3.4.4 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CRPR Nurturance scores
t.test(CRPR.all_T3$CRPR.nurt~CRPR.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CRPR.all_T3$CRPR.nurt by CRPR.all_T3$Group
## t = -0.77879, df = 122.15, p-value = 0.4376
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2796169  0.1217243
## sample estimates:
## mean in group 0 mean in group 1
##        2.912636        2.991582
```

```
#Groups do not differ on average CRPR Restrictiveness scores
t.test(CRPR.all_T3$CRPR.rest~CRPR.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CRPR.all_T3$CRPR.rest by CRPR.all_T3$Group
## t = 0.62882, df = 103.2, p-value = 0.5309
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1250252  0.2411175
## sample estimates:
## mean in group 0 mean in group 1
##        5.367810        5.309764
```

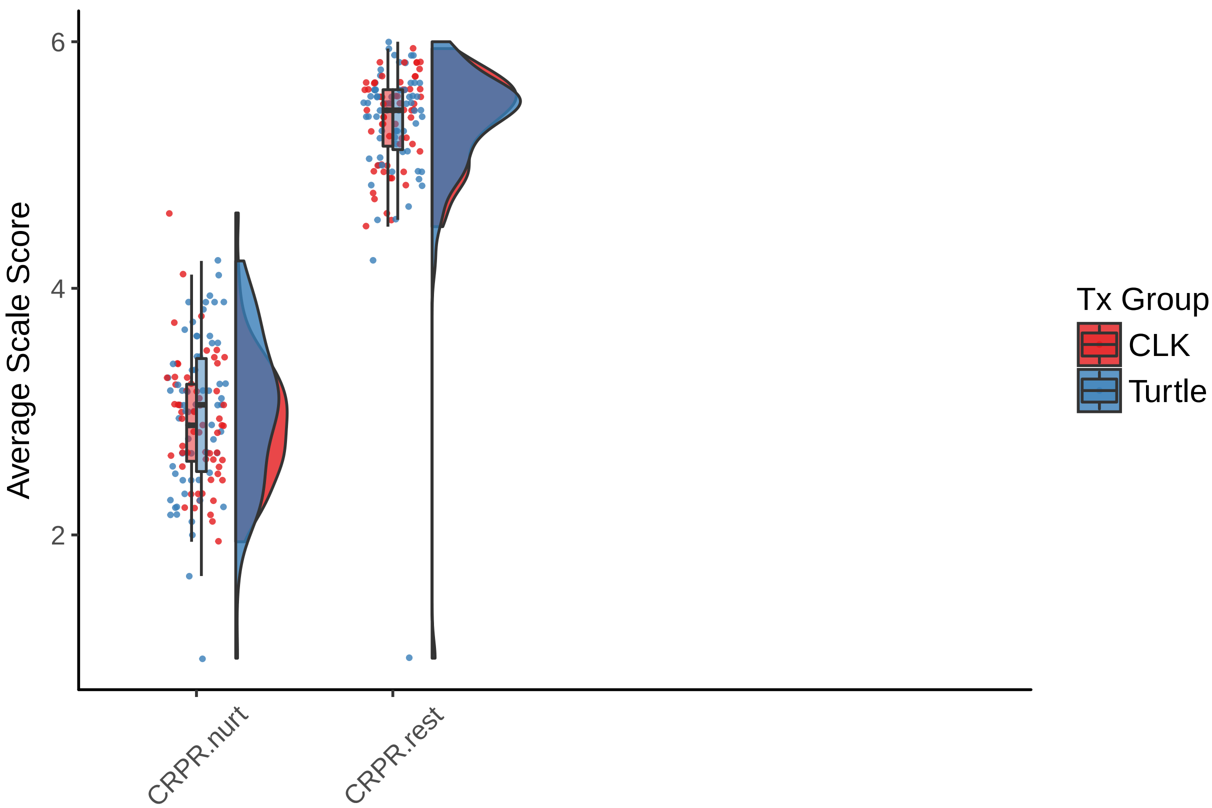
```
df.m<-reshape2::melt(CRPR.all_T3[40:42], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
```

```
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T3 Folder:
`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:
- `/CRPR_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CRPR_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CRPR
- `/CRPR_T3_Summary_wo_Raw_items.txt`: The processed summary scores for CRPR wo raw items

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5.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

5.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(CRPR.wide, trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean    sd  skew kurtosis   se Q0.25  Q0.75
## ID              1 151 86.11 49.12 -0.02    -1.21 4.00 43.50 127.50
## Group           2 151  0.50  0.50  0.01    -2.01 0.04  0.00   1.00
## Group.R*        3 151  1.50  0.50  0.01    -2.01 0.04  1.00   2.00
## CRPR.nurt.0     4 144  2.95  0.62  0.63     0.73 0.05  2.44   3.28
## CRPR.rest.0     5 144  5.44  0.30 -0.64    -0.28 0.03  5.28   5.72
## CRPR.nurt.1     6 129  2.93  0.59  0.50     1.01 0.05  2.56   3.33
## CRPR.rest.1     7 129  5.35  0.37 -0.73     0.04 0.03  5.17   5.61
## CRPR.nurt.2     8 126  2.95  0.57 -0.02     0.39 0.05  2.56   3.28
## CRPR.rest.2     9 126  5.34  0.53 -4.50    33.32 0.05  5.12   5.61
```

LONG DATA SET

```
psych::describe(CRPR.long, trim=F, quant=c(.25,.75), ranges=F)
```

```
##            vars   n  mean    sd  skew kurtosis   se Q0.25  Q0.75
## ID            1 453 86.11 49.01 -0.02    -1.20 2.30 43.00 128.00
## Group         2 453  0.50  0.50  0.01    -2.00 0.02  0.00   1.00
## Group.R*      3 453  1.50  0.50  0.01    -2.00 0.02  1.00   2.00
## CRPR.nurt     4 399  2.94  0.60  0.41     0.77 0.03  2.50   3.28
## CRPR.rest     5 399  5.38  0.41 -3.49    31.71 0.02  5.17   5.67
## Time          6 453  1.00  0.82  0.00    -1.51 0.04  0.00   2.00
```

5.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```
psych::describeBy(CRPR.wide, group='Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean    sd  skew kurtosis   se Q0.25  Q0.75
## ID              1 76 86.59 48.90  0.00    -1.28 5.61 43.75 127.25
## Group           2 76  0.00  0.00   NaN      NaN 0.00  0.00   0.00
## Group.R*        3 76  1.00  0.00   NaN      NaN 0.00  1.00   1.00
## CRPR.nurt.0     4 71  2.87  0.56  0.67     1.30 0.07  2.42   3.22
## CRPR.rest.0     5 71  5.47  0.28 -0.60    -0.22 0.03  5.31   5.69
## CRPR.nurt.1     6 63  2.88  0.53  0.32     0.28 0.07  2.56   3.24
## CRPR.rest.1     7 63  5.38  0.34 -0.79     0.35 0.04  5.22   5.64
## CRPR.nurt.2     8 60  2.91  0.51  0.64     0.81 0.07  2.60   3.22
## CRPR.rest.2     9 60  5.37  0.36 -0.63    -0.53 0.05  5.15   5.61
## --------------------------------------------------------
## group: Turtle
##              vars  n  mean    sd  skew kurtosis   se Q0.25  Q0.75
## ID              1 75 85.63 49.66 -0.04    -1.21 5.73 44.00 126.50
## Group           2 75  1.00  0.00   NaN      NaN 0.00  1.00   1.00
## Group.R*        3 75  2.00  0.00   NaN      NaN 0.00  2.00   2.00
```

```
## CRPR.nurt.0    4 73  3.02  0.67  0.51     0.20 0.08  2.56   3.33
## CRPR.rest.0    5 73  5.42  0.32 -0.60    -0.51 0.04  5.22   5.72
## CRPR.nurt.1    6 66  2.98  0.65  0.52     0.96 0.08  2.56   3.43
## CRPR.rest.1    7 66  5.32  0.39 -0.63    -0.33 0.05  5.07   5.61
## CRPR.nurt.2    8 66  2.99  0.63 -0.40     0.13 0.08  2.51   3.43
## CRPR.rest.2    9 66  5.31  0.65 -4.49    26.81 0.08  5.12   5.61
```

LONG DATA SET

```
psych::describeBy(CRPR.long, group='Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

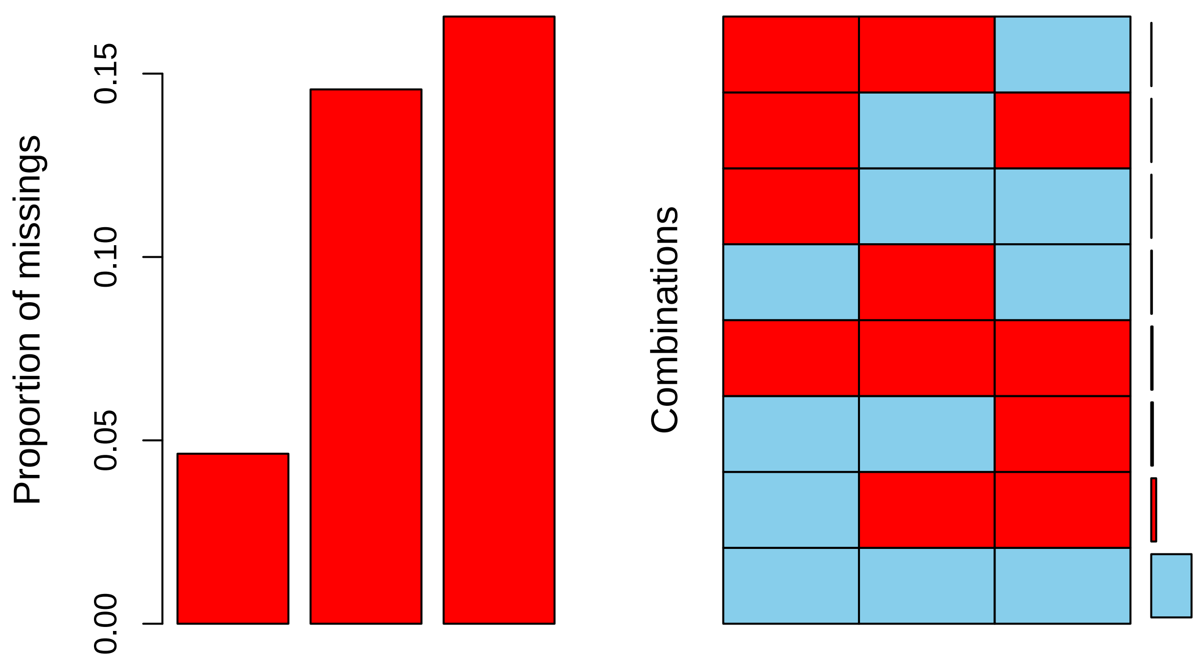
```
##
##  Descriptive statistics by group
## group: CLK
##           vars   n  mean    sd  skew kurtosis   se Q0.25  Q0.75
## ID           1 228 86.59 48.69  0.00    -1.25 3.22 43.75 127.25
## Group        2 228  0.00  0.00   NaN      NaN 0.00  0.00   0.00
## Group.R*     3 228  1.00  0.00   NaN      NaN 0.00  1.00   1.00
## CRPR.nurt    4 194  2.89  0.53  0.55     0.96 0.04  2.50   3.22
## CRPR.rest    5 194  5.41  0.33 -0.76     0.13 0.02  5.22   5.67
## Time         6 228  1.00  0.82  0.00    -1.51 0.05  0.00   2.00
## --------------------------------------------------------
## group: Turtle
##           vars   n  mean    sd  skew kurtosis   se Q0.25  Q0.75
## ID           1 225 85.63 49.44 -0.04    -1.17 3.30 42.00 130.00
## Group        2 225  1.00  0.00   NaN      NaN 0.00  1.00   1.00
## Group.R*     3 225  2.00  0.00   NaN      NaN 0.00  2.00   2.00
## CRPR.nurt    4 205  3.00  0.65  0.25     0.51 0.05  2.56   3.44
## CRPR.rest    5 205  5.35  0.47 -4.08    33.37 0.03  5.17   5.61
## Time         6 225  1.00  0.82  0.00    -1.51 0.05  0.00   2.00
```

5.4.3 EXPLORATORY PLOTS

5.4.3.1 MISSING PATTERNS OVERALL SCALE

There is no overall score for this measure. As a result, the plot below is based on scores on the *Nurturance* subscale (CRPR.nurt).

```
VIM::aggr(CRPR.wide[,c(4,6,8)])
```



Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

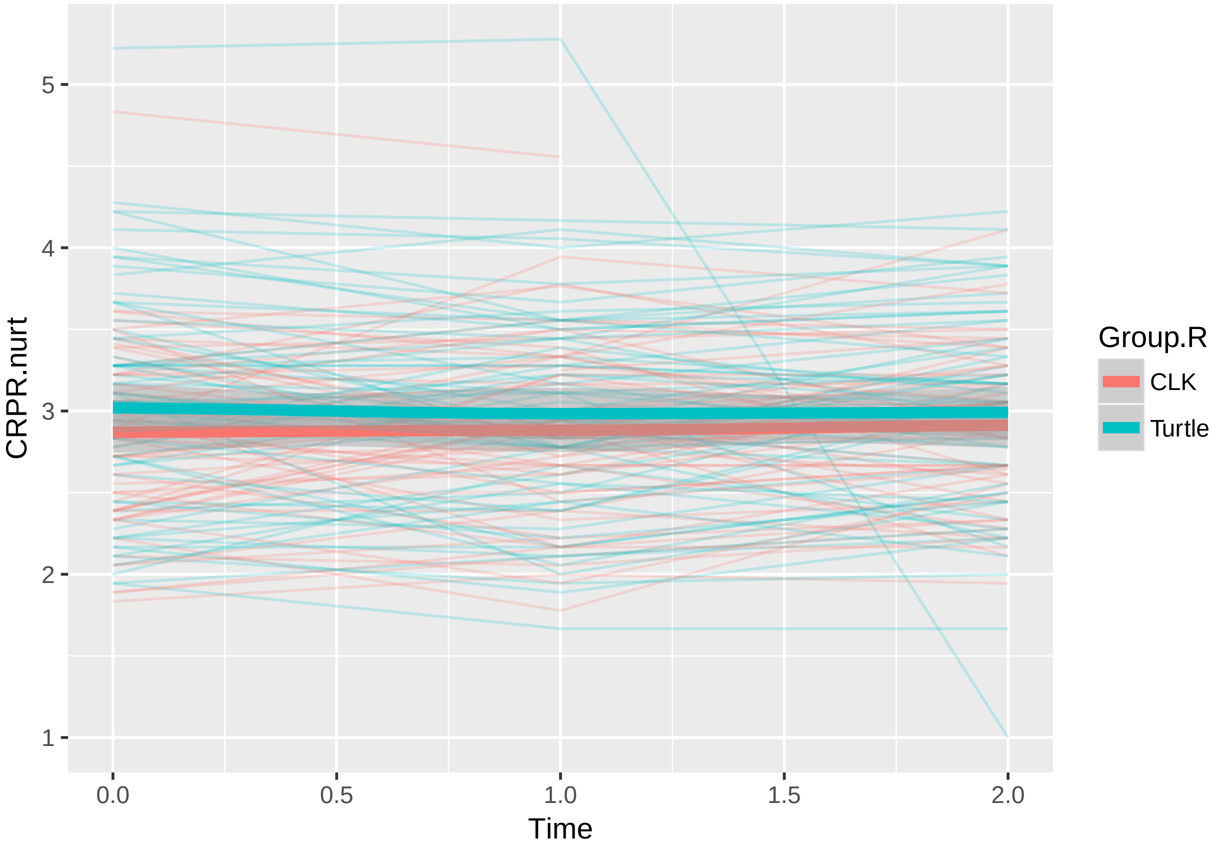
5.4.3.2 SPAGHETTI PLOTS

5.4.3.2.1 OVERALL SCALE

There is no overall scale score that can be calculated for this measure.

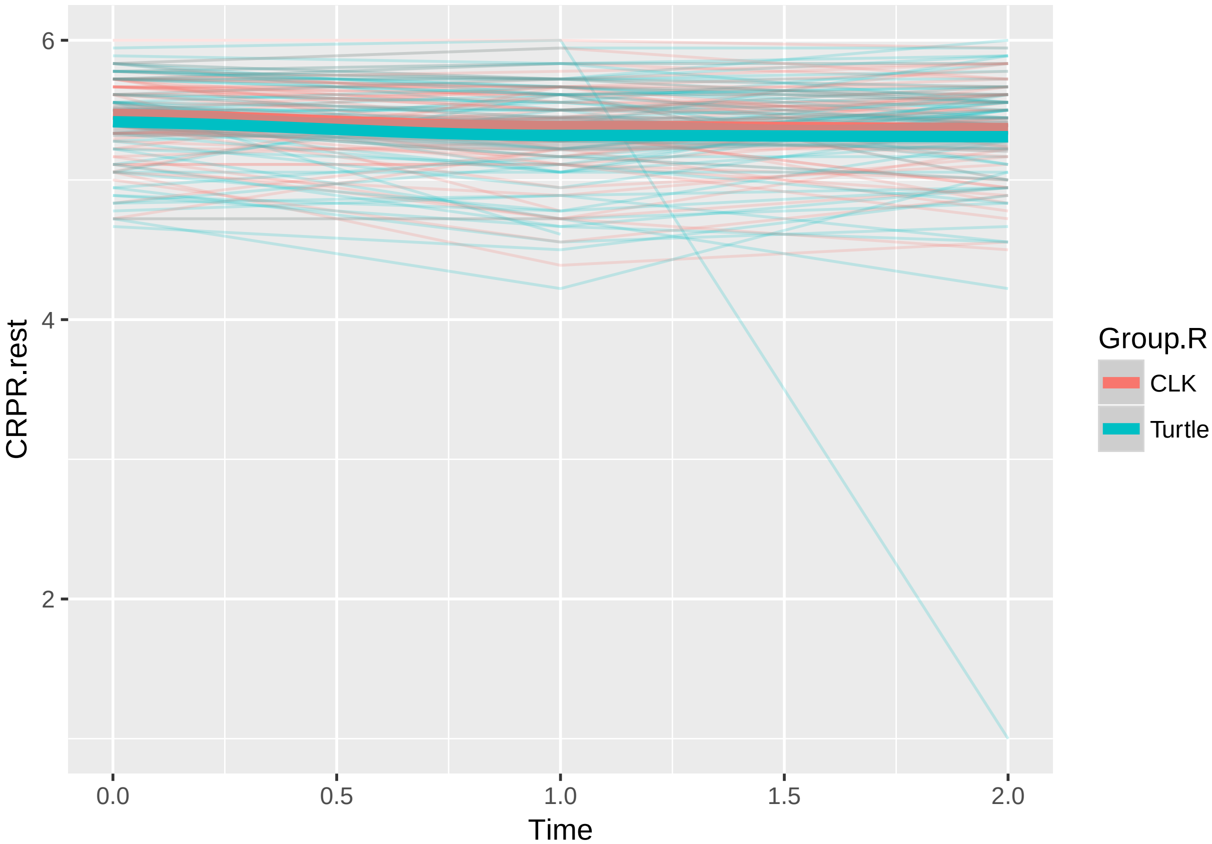
5.4.3.2.2 NURTURANCE SUBSCALE

```
g1<-ggplot(data=CRPR.long, aes(x=Time, y=CRPR.nurt))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



5.4.3.2.3 RESTRICTIVENESS SUBSCALE

```
g1<-ggplot(data=CRPR.long, aes(x=Time, y=CRPR.rest))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



[MB Note - check the case with the oddt trajectory - were the parents even using the scale correctly??]

6 Colorado Child Temperament Inventory (CCTI)

Citation:
Rowe, D. C., & Plomin, R. (1977). Temperament in early childhood. Journal of Personality Assessment, 41(2), 150-156. doi:10.1207/s15327752jpa4102_5

Measure Description:
The Colorado Child Temperament Inventory (CCTI; Rowe & Plomin, 1997) is a parental-rating instrument used to assess temperament in children aged 1-6. The assessment covers six dimensions of child temperament: sociability, emotionality, activity, attention span-persistence, reaction to food, and soothability. The average internal consistency for the six scales was alpha = .80 in a sample of mothers reporting on their twin children aged 1 to 7 years old (Plomin & Rowe, 1977).

Additional Reference(s):
Plomin, R., & Rowe, D. C. (1977). A twin study of temperament in young children. *The Journal Of Psychology: Interdisciplinary And Applied, 97*, 107-113. doi:10.1080/00223980.1977.9915932

Response Options:
1 = Strongly Disagree
2 = Disagree
3 = Neither Agree or Disagree
4 = Agree
5 = Strongly Agree

Item Information:
1. CCTI_1: Child persists at a task until successful.
2. CCTI_2: *Child gives up easily when difficulties are encountered.*
3. CCTI_3: *Child tends to be shy.*
4. CCTI_4: Child cries easily.
5. CCTI_5: When upset by an unexpected situation, child quickly calms down.
6. CCTI_6: *Child goes from toy to toy quickly.*
7. CCTI_7: Child is always on the go.
8. CCTI_8: Whenever child starts crying, he/she can be easily be distracted.
9. CCTI_9: Child tends to be somewhat emotional.
10. CCTI_10: *When child moves about, he/she usually moves slowly.*
11. CCTI_11: If talked to, child stops crying.
12. CCTI_12: Child makes friends easily.
13. CCTI_13: Child is off and running as soon as he/she wakes up in the morning.
14. CCTI_14: Child often fusses and cries.
15. CCTI_15: *With a difficult toy, child gives up easily.*
16. CCTI_16: Child is very sociable.
17. CCTI_17: Child is very energetic.
18. CCTI_18: *Child takes a long time to warm up to strangers.*
19. CCTI_19: Child plays with a single toy for long periods of time.
20. CCTI_20: Child gets upset easily.
21. CCTI_21: *Child prefers quiet, inactive games to more active ones.*
22. CCTI_22: Child tolerates frustration well.
23. CCTI_23: Child reacts intensely when upset.
24. CCTI_24: Child stops fussing whenever someone talks to him/her or picks him/her up.
25. CCTI_25: Child is very friendly with strangers.

Italics denotes reversed scored item

Subscale Information:
Sociability: 3, 12, 16, 18, 25
Emotionality: 4, 9, 14, 20, 23
Activity: 7, 10, 13, 17, 21
Attention Span-Persistence: 1, 2, 6, 15, 19
Soothability: 5, 8, 11, 22, 24

Adaptations:
The subscale Reaction to Food, which included four items, was not included in the present study.
* Rarely took a new food without fussing.
* Child consistently dislikes many kinds of food. Child makes faces at new foods.
* Once the child decides he doesn't like something, there is no getting him to like it.

* Child has strong likes and dislikes in food.

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

6.1 TIME 1: COMPLETE SCALE

6.1.1 OVERALL SCALE

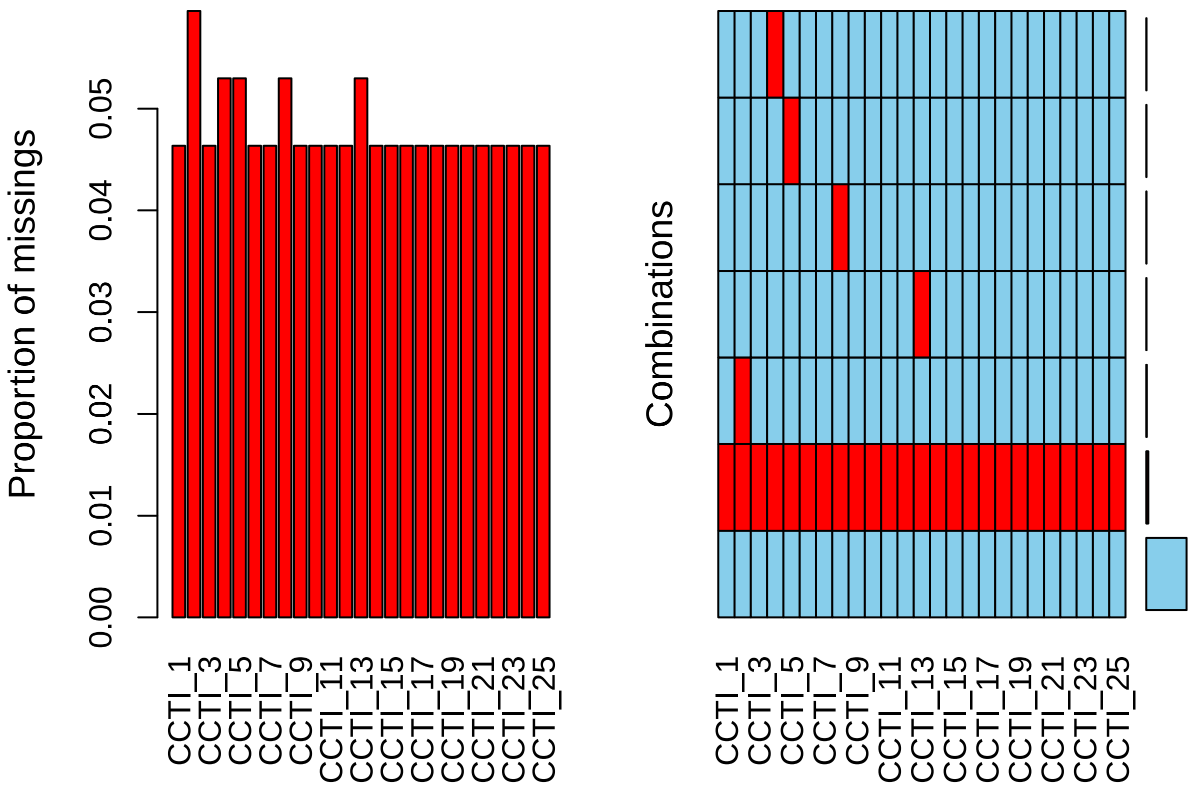
There is no overall score for the CCTI. The measure instead, returns several subscales that tap different aspects of child temperament that include sociability, emotionality, activity, attention/persistence, and soothability.

```
CCTI.all_T1$Miss_tot<-rep(NA, nrow(CCTI.all_T1))
for(n in 1:nrow(CCTI.all_T1)){
  CCTI.all_T1$Miss_tot[n]<-sum(is.na(CCTI.all_T1[n,3:27])==TRUE)
}

CCTI.all_T1$Miss_per<-rep(NA, nrow(CCTI.all_T1))
for(n in 1:nrow(CCTI.all_T1)){
  CCTI.all_T1$Miss_per[n]<-round(sum(is.na(CCTI.all_T1[n,3:27])==TRUE)/ncol(CCTI.all_T1[3:27])*100,
                                digits = 2)
}
```

6.1.2 MISSING DATA

```
VIM::aggr(CCTI.all_T1[,3:27])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 142 failed to respond to `CCTI_4`; $N = 1$; 0.66%
2. Missing pattern 2: Subject 029 failed to respond to `CCTI_5`; $N = 1$; 0.66%
3. Missing pattern 3: Subject 056 failed to respond to `CCTI_8`; $N = 1$; 0.66%
4. Missing pattern 4: Subject 156 failed to respond to `CCTI_13`; $N = 1$; 0.66%
5. Missing pattern 5: Subjects 078 and 083 failed to respond to `CCTI_2`; $N = 2$; 1.32%
6. Missing pattern 6: Subjects 005, 028, 038, 096, 099, 116, and 125 failed to respond to any items; $N = 7$; 4.64%
7. Missing pattern 7: All items completed; $N = 146$; 91.39%

There are no summary variables to describe for this scale overall.

There is no additional information about parent missing data at T1 to report.

6.1.3 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CCTI.all_T1$Group.R<-ifelse(CCTI.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(CCTI.all_T1[,c(3:27,30)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI_1      1 71 4.42 0.87 -0.53    -0.94 0.10   4.0     5
## CCTI_2      2 70 2.16 1.11 -0.06    -0.48 0.13   1.0     3
## CCTI_3      3 71 0.35 0.48  0.61    -1.66 0.06   0.0     1
## CCTI_4      4 70 4.20 1.39 -0.96     0.30 0.17   4.0     5
## CCTI_5      5 71 3.97 1.11 -0.44     0.22 0.13   3.0     5
## CCTI_6      6 71 2.86 1.41  0.19    -0.93 0.17   2.0     3
## CCTI_7      7 71 3.73 1.33 -0.44    -0.11 0.16   3.0     5
## CCTI_8      8 71 3.82 1.15 -0.64     0.29 0.14   3.0     5
## CCTI_9      9 71 4.66 1.08 -1.18     1.79 0.13   4.0     5
## CCTI_10    10 71 3.37 1.32 -0.10    -0.87 0.16   3.0     5
## CCTI_11    11 71 4.21 0.97 -0.79     1.57 0.12   4.0     5
## CCTI_12    12 71 3.59 1.23 -0.58     0.04 0.15   3.0     4
## CCTI_13    13 70 3.71 1.50 -0.49    -0.66 0.18   3.0     5
## CCTI_14    14 71 3.62 1.25 -0.36    -0.15 0.15   3.0     5
## CCTI_15    15 71 2.30 1.10  0.30     0.12 0.13   1.0     3
## CCTI_16    16 71 3.30 1.41 -0.43    -0.87 0.17   3.0     4
## CCTI_17    17 71 4.75 0.98 -1.54     3.93 0.12   4.0     5
## CCTI_18    18 71 0.72 0.70  0.68     0.15 0.08   0.0     1
## CCTI_19    19 71 4.37 1.12 -0.68     0.33 0.13   4.0     5
## CCTI_20    20 71 4.23 1.21 -0.86     0.58 0.14   3.5     5
## CCTI_21    21 71 2.44 1.13  0.33     0.51 0.13   2.0     3
## CCTI_22    22 71 3.54 1.17 -0.22    -0.03 0.14   3.0     4
## CCTI_23    23 71 4.32 1.22 -1.28     1.44 0.14   4.0     5
## CCTI_24    24 71 3.99 1.06 -0.68     0.49 0.13   3.0     5
## CCTI_25    25 71 2.17 1.32  0.39    -1.55 0.16   1.0     3
## Group.R*   26 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI_1      1 73 4.29 1.27 -0.78     0.16 0.15     3     5
## CCTI_2      2 72 1.92 1.12  0.28    -0.28 0.13     1     3
## CCTI_3      3 73 0.45 0.62  1.36     2.21 0.07     0     1
## CCTI_4      4 73 4.05 1.26 -0.43    -0.20 0.15     3     5
## CCTI_5      5 72 4.01 1.08 -0.55     0.56 0.13     3     5
## CCTI_6      6 73 2.70 1.13  0.20     0.17 0.13     2     3
## CCTI_7      7 73 3.32 1.33 -0.23    -0.54 0.16     3     4
## CCTI_8      8 72 3.83 1.02 -0.53     0.38 0.12     3     5
## CCTI_9      9 73 4.68 0.97 -1.15     1.60 0.11     4     5
## CCTI_10    10 73 3.33 1.39 -0.23    -0.76 0.16     3     5
## CCTI_11    11 73 4.03 1.11 -0.54     0.28 0.13     3     5
## CCTI_12    12 73 3.55 1.31 -0.34    -0.39 0.15     3     5
## CCTI_13    13 73 3.67 1.18 -0.16     0.02 0.14     3     5
## CCTI_14    14 73 3.59 1.20 -0.61     0.19 0.14     3     4
## CCTI_15    15 73 2.14 1.17  0.30     0.05 0.14     1     3
## CCTI_16    16 73 3.15 1.28 -0.32    -0.52 0.15     3     4
## CCTI_17    17 73 4.62 0.91 -1.72     4.85 0.11     4     5
## CCTI_18    18 73 0.64 0.73  0.86     0.05 0.09     0     1
## CCTI_19    19 73 4.45 1.04 -0.97     1.41 0.12     4     5
## CCTI_20    20 73 4.07 1.07 -0.74     0.65 0.13     3     5
## CCTI_21    21 73 2.41 1.10  0.50     0.56 0.13     2     3
## CCTI_22    22 73 3.33 1.08 -0.54     0.19 0.13     3     4
## CCTI_23    23 73 4.37 1.09 -0.82     0.59 0.13     4     5
```

```
## CCTI_24    24 73 3.85 1.20 -0.62    -0.23 0.14     3     5
## CCTI_25    25 73 2.16 1.26  0.39    -1.30 0.15     1     3
## Group.R*   26 75  NaN   NA    NA       NA   NA    NA    NA
```

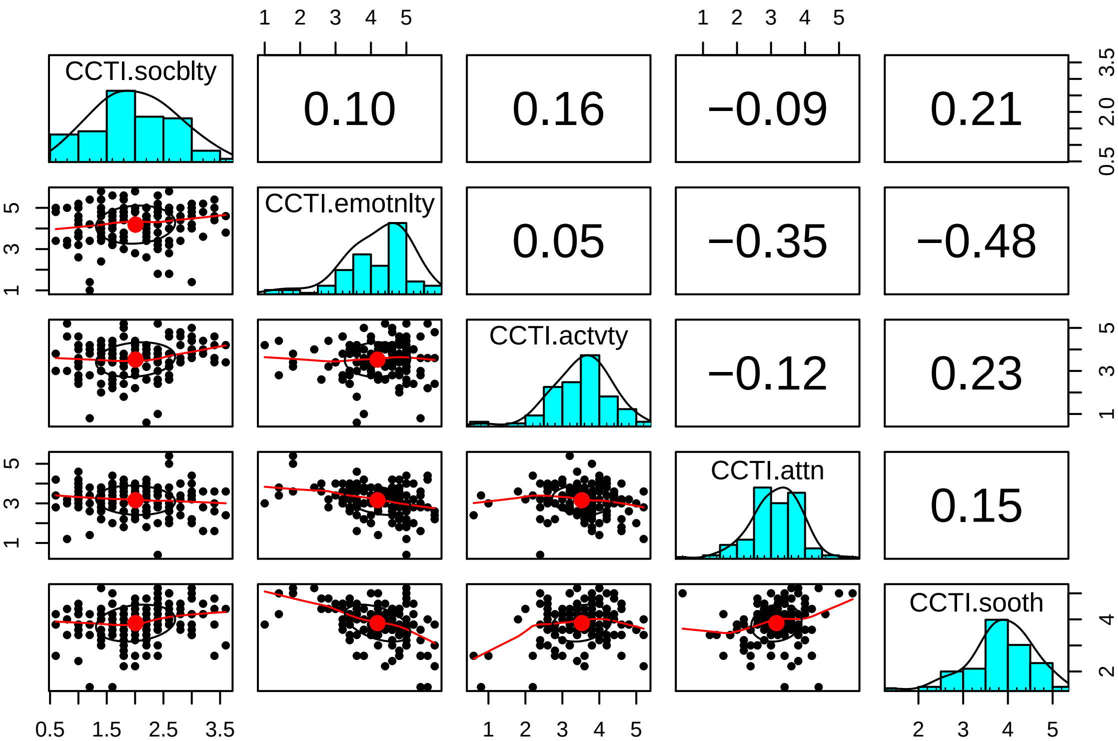
6.1.4 TIME 1: SUBSCALES

6.1.4.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CCTI.all_T1[,c(31:35)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##               vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI.socblty     1 144 2.01 0.70  0.15    -0.65 0.06  1.55  2.45
## CCTI.emotnlty    2 143 4.19 0.93 -0.92     1.05 0.08  3.60  4.80
## CCTI.actvty      3 143 3.53 0.81 -0.69     1.36 0.07  3.00  4.00
## CCTI.attn        4 142 3.16 0.74 -0.40     1.07 0.06  2.80  3.60
## CCTI.sooth       5 142 3.86 0.71 -0.71     1.00 0.06  3.60  4.40
```

```
psych::pairs.panels(CCTI.all_T1[,c(31:35)])
```



6.1.4.2 CRONBACH'S ALPHA: SOCIABILITY SUBSCALE

```
psych::alpha(CCTI.all_T1[CCTI.socblty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T1[CCTI.socblty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.65      0.68    0.69       0.3 2.2 0.042    2 0.7     0.32
##
##  lower alpha upper     95% confidence boundaries
## 0.57 0.65 0.73
##
##  lower median upper bootstrapped confidence intervals
##  0.55 0.65 0.72
##  Reliability if an item is dropped:
##          raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_3        0.61      0.62    0.63      0.29 1.6    0.050 0.0462  0.31
## CCTI_12       0.64      0.69    0.64      0.36 2.2    0.043 0.0089  0.34
## CCTI_16       0.50      0.59    0.58      0.27 1.4    0.065 0.0375  0.30
## CCTI_18       0.61      0.65    0.62      0.32 1.9    0.048 0.0175  0.34
## CCTI_25       0.59      0.61    0.59      0.28 1.6    0.046 0.0253  0.30
```

```
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_3  144  0.59  0.69  0.55   0.47 0.40 0.56
## CCTI_12 144  0.63  0.57  0.43   0.33 3.57 1.27
## CCTI_16 144  0.80  0.73  0.65   0.56 3.22 1.34
## CCTI_18 144  0.55  0.63  0.52   0.39 0.68 0.72
## CCTI_25 144  0.70  0.70  0.62   0.42 2.17 1.28
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_3  0.62 0.35 0.01 0.01 0.00 0.00 0.00 0.05
## CCTI_12 0.00 0.12 0.00 0.36 0.27 0.22 0.03 0.05
## CCTI_16 0.00 0.20 0.00 0.36 0.26 0.16 0.01 0.05
## CCTI_18 0.45 0.43 0.10 0.01 0.00 0.00 0.00 0.05
## CCTI_25 0.00 0.52 0.00 0.29 0.17 0.02 0.00 0.05
```

Note - not a particularly convincing alpha

6.1.4.3 CRONBACH'S ALPHA: EMOTIONALITY SUBSCALE

```r
psych::alpha(CCTI.all_T1[CCTI.emotnlty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T1[CCTI.emotnlty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.85      0.85    0.83      0.54 5.8 0.02  4.2 0.93     0.58
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.78 0.85 0.89
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_4       0.83      0.83    0.79      0.55 4.8    0.023 0.0072  0.58
## CCTI_9       0.81      0.81    0.78      0.51 4.2    0.026 0.0115  0.54
## CCTI_14      0.81      0.81    0.78      0.52 4.3    0.026 0.0104  0.54
## CCTI_20      0.80      0.80    0.77      0.51 4.1    0.027 0.0119  0.52
## CCTI_23      0.85      0.85    0.82      0.59 5.8    0.020 0.0018  0.60
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean  sd
## CCTI_4  143  0.79  0.77  0.70   0.63  4.1 1.3
## CCTI_9  144  0.82  0.83  0.77   0.72  4.7 1.0
## CCTI_14 144  0.82  0.82  0.76   0.70  3.6 1.2
## CCTI_20 144  0.83  0.84  0.79   0.73  4.1 1.1
## CCTI_23 144  0.70  0.71  0.60   0.54  4.3 1.1
##
## Non missing response frequency for each item
##            1    3    4    5    6 miss
## CCTI_4  0.08 0.23 0.22 0.35 0.12 0.05
## CCTI_9  0.02 0.12 0.15 0.54 0.16 0.05
## CCTI_14 0.10 0.35 0.31 0.20 0.03 0.05
## CCTI_20 0.05 0.22 0.28 0.38 0.07 0.05
## CCTI_23 0.05 0.16 0.23 0.47 0.09 0.05
```

6.1.4.4 CRONBACH'S ALPHA: ACTIVITY SUBSCALE

```r
psych::alpha(CCTI.all_T1[CCTI.actvty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T1[CCTI.actvty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.67      0.69    0.68      0.31 2.2 0.043  3.5 0.81     0.31
##
##  lower alpha upper     95% confidence boundaries
## 0.58 0.67 0.75
##
##  lower median upper bootstrapped confidence intervals
##  0.52 0.67 0.76
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CCTI_7       0.62      0.64    0.60      0.31 1.8    0.052 0.014  0.31
## CCTI_10      0.69      0.70    0.64      0.37 2.3    0.040 0.007  0.37
## CCTI_13      0.59      0.63    0.60      0.29 1.7    0.056 0.023  0.31
## CCTI_17      0.55      0.56    0.53      0.24 1.3    0.060 0.023  0.26
## CCTI_21      0.63      0.65    0.65      0.32 1.9    0.051 0.036  0.41
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_7  144  0.68  0.66  0.56   0.43  3.5 1.34
## CCTI_10 144  0.57  0.56  0.41   0.27  3.3 1.36
## CCTI_13 143  0.71  0.69  0.58   0.47  3.7 1.34
## CCTI_17 144  0.76  0.79  0.74   0.62  4.7 0.94
## CCTI_21 144  0.62  0.64  0.47   0.40  2.4 1.11
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_7  0.00 0.14 0.00 0.36 0.26 0.19 0.06 0.05
## CCTI_10 0.02 0.06 0.15 0.43 0.00 0.34 0.00 0.05
## CCTI_13 0.00 0.11 0.00 0.35 0.23 0.24 0.07 0.05
## CCTI_17 0.00 0.03 0.00 0.04 0.25 0.56 0.12 0.05
## CCTI_21 0.03 0.14 0.36 0.38 0.00 0.08 0.00 0.05
```

Note - also a relatively low alpha.

6.1.4.5 CRONBACH'S ALPHA: ATTENTION/PERSISTENCE SUBSCALE

```r
psych::alpha(CCTI.all_T1[CCTI.attn], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T1[CCTI.attn], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.66      0.66     0.7      0.28   2 0.045  3.2 0.74     0.12
##
##  lower alpha upper     95% confidence boundaries
## 0.57 0.66 0.74
##
##  lower median upper bootstrapped confidence intervals
##  0.5 0.66 0.76
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CCTI_1       0.53      0.54    0.58      0.22 1.2    0.064 0.065 0.117
## CCTI_2       0.52      0.52    0.54      0.22 1.1    0.065 0.047 0.120
## CCTI_6       0.70      0.70    0.72      0.37 2.3    0.039 0.108 0.360
## CCTI_15      0.52      0.52    0.55      0.21 1.1    0.066 0.054 0.094
```

```
## CCTI_19      0.70      0.72    0.73      0.39 2.5    0.042 0.095 0.385
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean  sd
## CCTI_1  144  0.74  0.76  0.72   0.56  4.4 1.1
## CCTI_2  142  0.77  0.78  0.77   0.59  2.0 1.1
## CCTI_6  144  0.52  0.49  0.26   0.21  2.8 1.3
## CCTI_15 144  0.77  0.78  0.76   0.59  2.2 1.1
## CCTI_19 144  0.45  0.46  0.21   0.18  4.4 1.1
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_1  0.00 0.03 0.00 0.22 0.18 0.48 0.09 0.05
## CCTI_2  0.07 0.31 0.19 0.40 0.00 0.03 0.00 0.06
## CCTI_6  0.01 0.17 0.17 0.48 0.00 0.17 0.00 0.05
## CCTI_15 0.05 0.24 0.26 0.39 0.00 0.06 0.00 0.05
## CCTI_19 0.00 0.03 0.00 0.17 0.25 0.43 0.12 0.05
```

Note - again not a particularly high degree of internal consistency

6.1.4.6 CRONBACH'S ALPHA: SOOTHABILITY SUBSCALE

```r
psych::alpha(CCTI.all_T1[CCTI.sooth], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T1[CCTI.sooth], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.66      0.66    0.64      0.28 1.9 0.044  3.9 0.71     0.25
##
##  lower alpha upper     95% confidence boundaries
## 0.57 0.66 0.74
##
##  lower median upper bootstrapped confidence intervals
##  0.53 0.65 0.74
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CCTI_5       0.58      0.59    0.56      0.26 1.4    0.055 0.030  0.24
## CCTI_8       0.63      0.64    0.60      0.30 1.7    0.049 0.020  0.25
## CCTI_11      0.52      0.52    0.47      0.21 1.1    0.064 0.010  0.24
## CCTI_22      0.68      0.68    0.64      0.35 2.1    0.043 0.013  0.34
## CCTI_24      0.59      0.59    0.54      0.27 1.5    0.055 0.014  0.29
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean  sd
## CCTI_5  143  0.68  0.68  0.55   0.45  4.0 1.1
## CCTI_8  143  0.60  0.61  0.44   0.35  3.8 1.1
## CCTI_11 144  0.77  0.77  0.73   0.59  4.1 1.0
## CCTI_22 144  0.53  0.52  0.31   0.24  3.4 1.1
## CCTI_24 144  0.68  0.67  0.58   0.44  3.9 1.1
##
## Non missing response frequency for each item
##            1    3    4    5    6 miss
## CCTI_5  0.04 0.29 0.32 0.29 0.06 0.05
## CCTI_8  0.06 0.33 0.31 0.28 0.02 0.05
## CCTI_11 0.03 0.22 0.35 0.33 0.06 0.05
## CCTI_22 0.10 0.48 0.24 0.17 0.01 0.05
## CCTI_24 0.06 0.33 0.23 0.37 0.02 0.05
```

Note - low alpha

6.1.4.7 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CCTI Sociability scores
t.test(CCTI.all_T1$CCTI.socblty~CCTI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T1$CCTI.socblty by CCTI.all_T1$Group
## t = 0.28702, df = 140.69, p-value = 0.7745
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1976656  0.2648081
## sample estimates:
## mean in group 0 mean in group 1
##        2.025352        1.991781
```

```
#Groups do not differ on average CCTI Emotionality scores
t.test(CCTI.all_T1$CCTI.emotnlty~CCTI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T1$CCTI.emotnlty by CCTI.all_T1$Group
## t = 0.42698, df = 132.67, p-value = 0.6701
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2418358  0.3749865
## sample estimates:
## mean in group 0 mean in group 1
##        4.220000        4.153425
```

```
#Groups do not differ on average CCTI Activity scores
t.test(CCTI.all_T1$CCTI.actvty~CCTI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T1$CCTI.actvty by CCTI.all_T1$Group
## t = 0.89069, df = 140.58, p-value = 0.3746
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1464486  0.3866052
## sample estimates:
## mean in group 0 mean in group 1
##        3.588571        3.468493
```

```
#Groups do not differ on average CCTI Attention/persistence scores
t.test(CCTI.all_T1$CCTI.attn~CCTI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T1$CCTI.attn by CCTI.all_T1$Group
## t = 1.0992, df = 138.31, p-value = 0.2736
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1093547  0.3831643
## sample estimates:
## mean in group 0 mean in group 1
##        3.228571        3.091667
```

```
#Groups do not differ on average CCTI Soothability scores
t.test(CCTI.all_T1$CCTI.sooth~CCTI.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T1$CCTI.sooth by CCTI.all_T1$Group
## t = 0.80321, df = 137.88, p-value = 0.4232
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1399997  0.3315490
## sample estimates:
## mean in group 0 mean in group 1
##        3.904225        3.808451
```

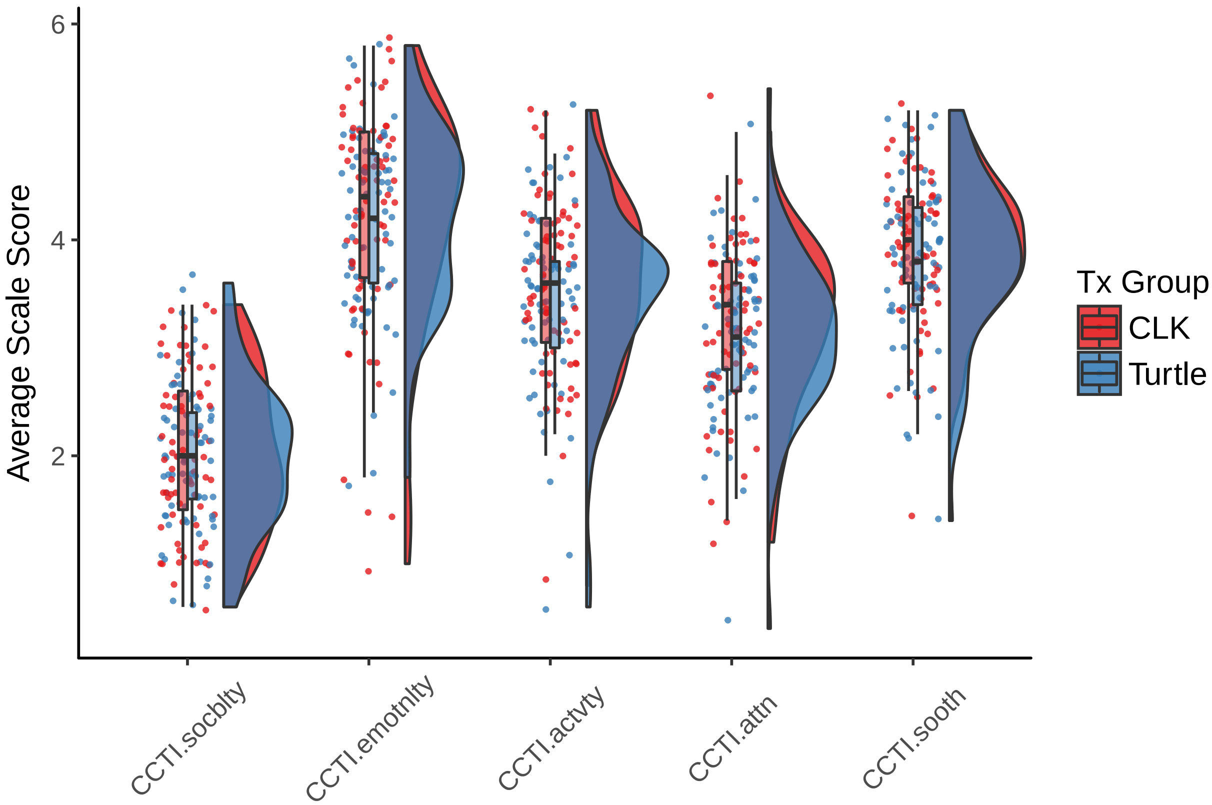
No significant differences at time 1 - further evidence that randomization did eventually stabilize.

```r
df.m<-reshape2::melt(CCTI.all_T1[30:35], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T1 Folder:

`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:

- `/CCTI_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CCTI_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CCTI
- `/CCTI_T1_Summary_wo_Raw_items.txt`: The processed summary scores for CCTI wo raw items

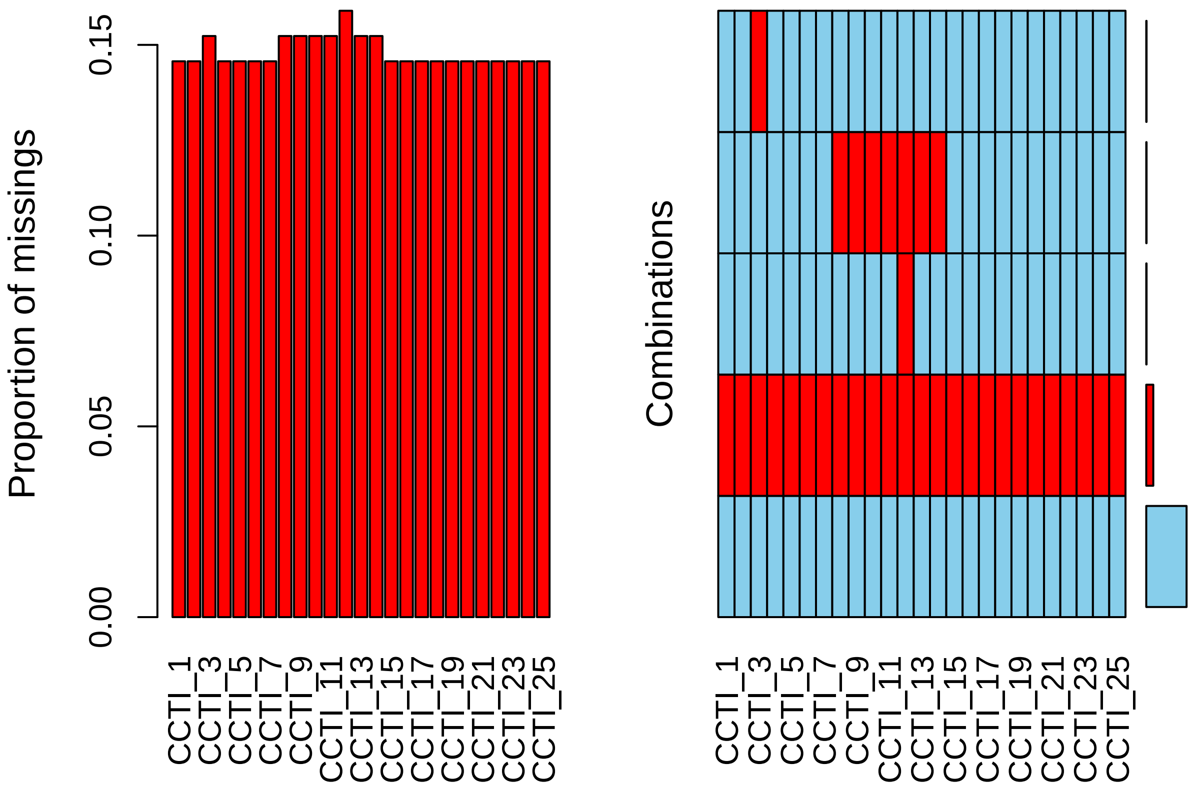
6.2 TIME 2: COMPLETE SCALE

```
CCTI.all_T2$Miss_tot<-rep(NA, nrow(CCTI.all_T2))
for(n in 1:nrow(CCTI.all_T2)){
  CCTI.all_T2$Miss_tot[n]<-sum(is.na(CCTI.all_T2[n,3:27])==TRUE)
}

CCTI.all_T2$Miss_per<-rep(NA, nrow(CCTI.all_T2))
for(n in 1:nrow(CCTI.all_T2)){
  CCTI.all_T2$Miss_per[n]<-round(sum(is.na(CCTI.all_T2[n,3:27])==TRUE)/ncol(CCTI.all_T2[3:27])*100,
                                digits = 2)
}
```

6.2.1 MISSING DATA

```
VIM::aggr(CCTI.all_T2[,3:27])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will be completed at a future date]

There are no summary variables to describe for this scale overall.

There is no additional information about parent missing data at T2 to report.

6.2.2 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CCTI.all_T2$Group.R<-ifelse(CCTI.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(CCTI.all_T2[,c(3:27,30)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
```

```
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI_1      1 63 4.57 0.89 -0.28    -0.73 0.11   4.0     5
## CCTI_2      2 63 2.25 1.16  0.72    -0.03 0.15   1.0     3
## CCTI_3      3 62 0.63 0.66  0.88     1.04 0.08   0.0     1
## CCTI_4      4 63 4.21 1.23 -0.90     0.57 0.16   3.5     5
## CCTI_5      5 63 3.98 1.07 -0.67     0.87 0.13   3.0     5
## CCTI_6      6 63 2.87 1.26  0.28    -0.46 0.16   2.0     3
## CCTI_7      7 63 3.67 1.47 -0.44    -0.54 0.19   3.0     5
## CCTI_8      8 63 3.97 0.97 -1.20     1.82 0.12   4.0     5
## CCTI_9      9 63 4.59 1.06 -0.83     0.53 0.13   4.0     5
## CCTI_10    10 63 3.27 1.35  0.02    -1.12 0.17   2.5     5
## CCTI_11    11 63 4.16 1.00 -0.79     1.17 0.13   4.0     5
## CCTI_12    12 63 3.65 1.15 -0.74     0.36 0.15   3.0     4
## CCTI_13    13 63 3.87 1.29 -0.39    -0.13 0.16   3.0     5
## CCTI_14    14 63 3.49 1.44 -0.40    -0.69 0.18   3.0     5
## CCTI_15    15 63 2.38 1.14  0.45     0.04 0.14   1.5     3
## CCTI_16    16 63 3.49 1.08 -0.36     0.40 0.14   3.0     4
## CCTI_17    17 63 4.75 0.92 -0.48    -0.56 0.12   4.0     5
## CCTI_18    18 63 0.81 0.72  0.81     0.95 0.09   0.0     1
## CCTI_19    19 63 4.49 0.97 -0.77     1.16 0.12   4.0     5
## CCTI_20    20 63 4.10 1.12 -0.80     0.59 0.14   3.0     5
## CCTI_21    21 63 2.29 1.02  0.13     1.23 0.13   2.0     3
## CCTI_22    22 63 3.68 0.95 -0.13     0.44 0.12   3.0     4
## CCTI_23    23 63 4.25 1.12 -1.11     1.05 0.14   4.0     5
## CCTI_24    24 63 4.16 0.90 -0.70     0.57 0.11   4.0     5
## CCTI_25    25 63 2.48 1.37  0.20    -1.28 0.17   1.0     3
## Group.R*   26 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI_1      1 66 4.42 1.02 -0.56     0.31 0.13  4.00     5
## CCTI_2      2 66 2.20 1.13  0.12     0.02 0.14  1.00     3
## CCTI_3      3 66 0.48 0.53  0.36    -1.25 0.07  0.00     1
## CCTI_4      4 66 3.62 1.57 -0.48    -0.88 0.19  3.00     5
## CCTI_5      5 66 4.12 1.02 -0.67     0.77 0.12  3.25     5
## CCTI_6      6 66 2.86 1.08  0.34     0.48 0.13  2.00     3
## CCTI_7      7 66 3.30 1.26 -0.48    -0.38 0.16  3.00     4
## CCTI_8      8 65 3.89 1.08 -0.97     0.70 0.13  3.00     5
## CCTI_9      9 65 4.55 1.05 -1.31     2.12 0.13  4.00     5
## CCTI_10    10 65 3.08 1.35 -0.14    -0.33 0.17  2.00     3
## CCTI_11    11 65 3.97 1.17 -0.69     0.28 0.15  3.00     5
## CCTI_12    12 64 3.42 1.10 -0.45     0.08 0.14  3.00     4
## CCTI_13    13 65 3.48 1.25 -0.18    -0.32 0.16  3.00     5
## CCTI_14    14 65 3.38 1.38 -0.45    -0.61 0.17  3.00     4
## CCTI_15    15 66 2.24 1.07  0.26     0.16 0.13  1.00     3
## CCTI_16    16 66 3.29 1.11 -0.17     0.31 0.14  3.00     4
## CCTI_17    17 66 4.61 0.97 -1.52     3.62 0.12  4.00     5
## CCTI_18    18 66 0.74 0.66  0.63     0.59 0.08  0.00     1
## CCTI_19    19 66 4.26 0.98 -0.91     1.77 0.12  4.00     5
## CCTI_20    20 66 4.03 1.15 -0.78     0.74 0.14  3.00     5
## CCTI_21    21 66 2.27 1.18  0.62     0.46 0.15  2.00     3
## CCTI_22    22 66 3.44 0.95 -0.31     1.22 0.12  3.00     4
## CCTI_23    23 66 4.32 1.03 -0.48     0.02 0.13  4.00     5
## CCTI_24    24 66 3.83 1.03 -0.58     0.47 0.13  3.00     5
## CCTI_25    25 66 2.23 1.13 -0.01    -1.67 0.14  1.00     3
## Group.R*   26 75  NaN   NA    NA       NA   NA    NA    NA
```

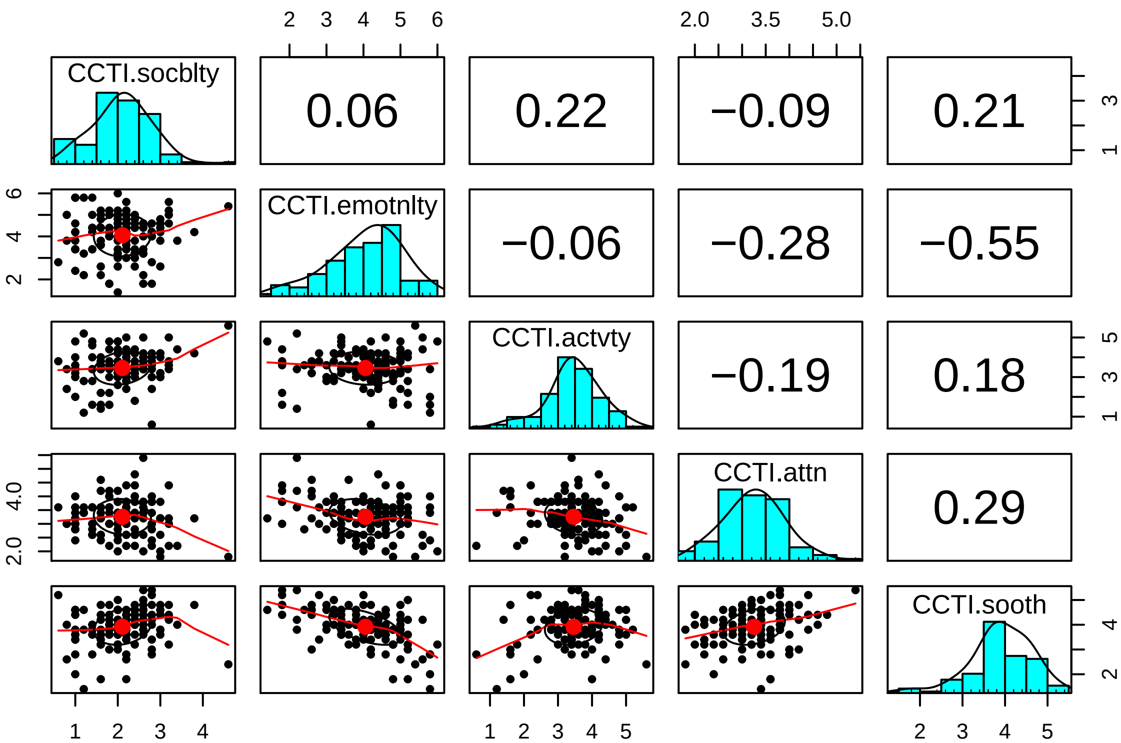
6.2.3 TIME 2: SUBSCALES

6.2.3.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CCTI.all_T2[,c(31:35)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##                vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI.socblty      1 126 2.11 0.67  0.24     0.60 0.06   1.6  2.60
## CCTI.emotnlty     2 128 4.05 0.98 -0.53    -0.09 0.09   3.4  4.65
## CCTI.actvty       3 128 3.46 0.84 -0.51     0.94 0.07   3.0  4.00
## CCTI.attn         4 129 3.25 0.65  0.18     0.22 0.06   2.8  3.60
## CCTI.sooth        5 128 3.92 0.73 -0.71     1.02 0.06   3.6  4.40
```

```
psych::pairs.panels(CCTI.all_T2[,c(31:35)])
```



6.2.3.2 CRONBACH'S ALPHA: SOCIABILITY SUBSCALE

```
psych::alpha(CCTI.all_T2[CCTI.socblty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T2[CCTI.socblty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.72      0.75    0.74      0.38   3 0.035  2.1 0.69     0.37
##
##  lower alpha upper     95% confidence boundaries
## 0.65 0.72 0.79
##
##  lower median upper bootstrapped confidence intervals
##  0.62 0.72 0.79
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_3       0.68      0.71    0.69      0.38 2.4    0.042 0.0209  0.35
## CCTI_12      0.70      0.75    0.70      0.42 2.9    0.037 0.0076  0.40
## CCTI_16      0.63      0.69    0.65      0.36 2.3    0.046 0.0222  0.35
## CCTI_18      0.65      0.68    0.65      0.35 2.2    0.044 0.0162  0.35
## CCTI_25      0.68      0.70    0.66      0.37 2.3    0.039 0.0114  0.37
```

```
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean   sd
## CCTI_3  128  0.64  0.70  0.59   0.51 0.55 0.60
## CCTI_12 127  0.67  0.63  0.50   0.42 3.54 1.13
## CCTI_16 129  0.76  0.73  0.65   0.56 3.39 1.09
## CCTI_18 129  0.70  0.75  0.67   0.58 0.78 0.69
## CCTI_25 129  0.73  0.72  0.64   0.48 2.35 1.25
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_3  0.49 0.47 0.03 0.01 0.00 0.00 0.00 0.15
## CCTI_12 0.00 0.09 0.00 0.39 0.31 0.20 0.01 0.16
## CCTI_16 0.00 0.09 0.00 0.51 0.23 0.15 0.02 0.15
## CCTI_18 0.35 0.55 0.08 0.02 0.00 0.00 0.00 0.15
## CCTI_25 0.00 0.43 0.00 0.41 0.12 0.04 0.00 0.15
```

6.2.3.3 CRONBACH'S ALPHA: EMOTIONALITY SUBSCALE

```
psych::alpha(CCTI.all_T2[CCTI.emotnlty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T2[CCTI.emotnlty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.86    0.85      0.55   6 0.018  4.1 0.98     0.56
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.86 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.86 0.89
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_4       0.80      0.81    0.77      0.51 4.2    0.026 0.0096  0.53
## CCTI_9       0.82      0.82    0.80      0.53 4.6    0.023 0.0166  0.55
## CCTI_14      0.82      0.83    0.80      0.54 4.8    0.023 0.0188  0.58
## CCTI_20      0.81      0.81    0.79      0.52 4.3    0.024 0.0229  0.47
## CCTI_23      0.87      0.87    0.85      0.63 6.8    0.017 0.0040  0.64
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean  sd
## CCTI_4  129  0.87  0.85  0.82   0.76  3.9 1.4
## CCTI_9  128  0.80  0.82  0.77   0.71  4.6 1.0
## CCTI_14 128  0.83  0.81  0.75   0.69  3.4 1.4
## CCTI_20 129  0.84  0.85  0.80   0.74  4.1 1.1
## CCTI_23 129  0.65  0.67  0.54   0.49  4.3 1.1
##
## Non missing response frequency for each item
##            1    3    4    5    6 miss
## CCTI_4  0.13 0.20 0.25 0.33 0.09 0.15
## CCTI_9  0.02 0.15 0.17 0.52 0.13 0.15
## CCTI_14 0.18 0.30 0.29 0.20 0.04 0.15
## CCTI_20 0.05 0.22 0.33 0.34 0.05 0.15
## CCTI_23 0.03 0.21 0.24 0.45 0.07 0.15
```

6.2.3.4 CRONBACH'S ALPHA: ACTIVITY SUBSCALE

```
psych::alpha(CCTI.all_T2[CCTI.actvty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T2[CCTI.actvty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.73      0.74    0.71      0.36 2.8 0.035  3.5 0.84     0.35
##
##  lower alpha upper     95% confidence boundaries
## 0.66 0.73 0.8
##
##  lower median upper bootstrapped confidence intervals
##  0.61 0.73 0.8
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_7       0.66      0.68    0.63      0.35 2.1    0.045 0.0096  0.35
## CCTI_10      0.70      0.71    0.67      0.38 2.4    0.039 0.0149  0.41
## CCTI_13      0.68      0.70    0.65      0.37 2.3    0.042 0.0117  0.35
## CCTI_17      0.64      0.64    0.59      0.30 1.7    0.048 0.0105  0.27
## CCTI_21      0.72      0.73    0.69      0.41 2.8    0.038 0.0123  0.45
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_7  129  0.74  0.72  0.63   0.53  3.5 1.38
## CCTI_10 128  0.68  0.67  0.54   0.44  3.2 1.35
## CCTI_13 128  0.70  0.69  0.58   0.49  3.7 1.28
## CCTI_17 129  0.77  0.80  0.75   0.65  4.7 0.95
## CCTI_21 129  0.60  0.62  0.45   0.38  2.3 1.10
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_7  0.00 0.16 0.00 0.30 0.32 0.16 0.05 0.15
## CCTI_10 0.02 0.09 0.15 0.46 0.00 0.28 0.00 0.15
## CCTI_13 0.00 0.09 0.00 0.41 0.20 0.23 0.06 0.15
## CCTI_17 0.00 0.02 0.00 0.09 0.22 0.52 0.15 0.15
## CCTI_21 0.05 0.13 0.43 0.31 0.00 0.07 0.00 0.15
```

6.2.3.5 CRONBACH'S ALPHA: ATTENTION/PERSISTENCE SUBSCALE

```r
psych::alpha(CCTI.all_T2[CCTI.attn], n.iter = 5000)
```

```
## Some items ( CCTI_6 CCTI_19 ) were negatively correlated with the total scale and
## probably should be reversed.
## To do this, run the function again with the 'check.keys=TRUE' option
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T2[CCTI.attn], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.57      0.58    0.66      0.21 1.4 0.057  3.3 0.65    0.038
##
##  lower alpha upper     95% confidence boundaries
## 0.46 0.57 0.68
##
##  lower median upper bootstrapped confidence intervals
##  0.39 0.57 0.69
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r  med.r
## CCTI_1       0.39      0.39    0.49      0.14 0.63    0.084 0.088 0.0055
## CCTI_2       0.45      0.46    0.51      0.17 0.85    0.075 0.065 0.0376
## CCTI_6       0.64      0.63    0.67      0.30 1.72    0.046 0.130 0.3170
## CCTI_15      0.41      0.42    0.53      0.15 0.73    0.083 0.098 0.0266
```

```
## CCTI_19      0.62      0.64    0.68      0.30 1.74    0.052 0.128 0.3114
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean   sd
## CCTI_1  129  0.75  0.76  0.74   0.56  4.5 0.96
## CCTI_2  129  0.69  0.69  0.66   0.43  2.2 1.14
## CCTI_6  129  0.46  0.44  0.20   0.11  2.9 1.17
## CCTI_15 129  0.73  0.73  0.67   0.50  2.3 1.10
## CCTI_19 129  0.41  0.43  0.20   0.12  4.4 0.98
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_1  0.00 0.01 0.00 0.16 0.27 0.43 0.12 0.15
## CCTI_2  0.03 0.28 0.25 0.38 0.00 0.06 0.00 0.15
## CCTI_6  0.02 0.09 0.24 0.50 0.00 0.16 0.00 0.15
## CCTI_15 0.02 0.24 0.26 0.41 0.00 0.06 0.00 0.15
## CCTI_19 0.00 0.02 0.00 0.13 0.36 0.40 0.09 0.15
```

NOTE: Items 6 (which is correctly reversed scored in the data) and 19 (which is not supposed to be reversed), do not appear to load with the other items for this particularly well… yet they are correlated with each other.

6.2.3.6 CRONBACH'S ALPHA: SOOTHABILITY SUBSCALE

```r
psych::alpha(CCTI.all_T2[CCTI.sooth], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T2[CCTI.sooth], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.76      0.76    0.74      0.38 3.1 0.03  3.9 0.73     0.42
##
##  lower alpha upper     95% confidence boundaries
## 0.7 0.76 0.82
##
##  lower median upper bootstrapped confidence intervals
##  0.68 0.76 0.82
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_5       0.72      0.71    0.69      0.38 2.5    0.037 0.0354  0.40
## CCTI_8       0.71      0.70    0.67      0.37 2.4    0.038 0.0240  0.36
## CCTI_11      0.66      0.66    0.62      0.33 1.9    0.044 0.0190  0.34
## CCTI_22      0.79      0.79    0.75      0.49 3.8    0.028 0.0062  0.46
## CCTI_24      0.69      0.69    0.64      0.35 2.2    0.041 0.0165  0.37
##
##  Item statistics
##             n raw.r std.r r.cor r.drop mean   sd
## CCTI_5  129  0.72  0.71  0.60   0.53  4.1 1.04
## CCTI_8  128  0.74  0.73  0.64   0.56  3.9 1.02
## CCTI_11 128  0.82  0.81  0.77   0.67  4.1 1.09
## CCTI_22 129  0.53  0.54  0.34   0.30  3.6 0.95
## CCTI_24 129  0.76  0.76  0.71   0.61  4.0 0.98
##
## Non missing response frequency for each item
##            1    3    4    5    6 miss
## CCTI_5  0.04 0.23 0.37 0.31 0.05 0.15
## CCTI_8  0.05 0.23 0.40 0.32 0.00 0.15
## CCTI_11 0.05 0.23 0.33 0.34 0.05 0.15
## CCTI_22 0.05 0.47 0.33 0.14 0.02 0.15
## CCTI_24 0.03 0.28 0.34 0.33 0.02 0.15
```

6.2.3.7 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average CCTI Sociability scores
t.test(CCTI.all_T2$CCTI.socblty~CCTI.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T2$CCTI.socblty by CCTI.all_T2$Group
## t = 1.4095, df = 122.73, p-value = 0.1612
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.06816412  0.40526089
## sample estimates:
## mean in group 0 mean in group 1
##        2.193548        2.025000
```

```
#Groups do not differ on average CCTI Emotionality scores
t.test(CCTI.all_T2$CCTI.emotnlty~CCTI.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T2$CCTI.emotnlty by CCTI.all_T2$Group
## t = 0.83804, df = 125.43, p-value = 0.4036
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1980299  0.4889212
## sample estimates:
## mean in group 0 mean in group 1
##        4.126984        3.981538
```

```
#Groups do not differ on average CCTI Activity scores
t.test(CCTI.all_T2$CCTI.actvty~CCTI.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T2$CCTI.actvty by CCTI.all_T2$Group
## t = 1.461, df = 124.77, p-value = 0.1465
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.07714247  0.51211194
## sample estimates:
## mean in group 0 mean in group 1
##        3.568254        3.350769
```

```
#Groups do not differ on average CCTI Attention/persistence scores
t.test(CCTI.all_T2$CCTI.attn~CCTI.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T2$CCTI.attn by CCTI.all_T2$Group
## t = 1.0195, df = 121.3, p-value = 0.31
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1105013  0.3451333
## sample estimates:
## mean in group 0 mean in group 1
##        3.314286        3.196970
```

```
#Groups do not differ on average CCTI Soothability scores
t.test(CCTI.all_T2$CCTI.sooth~CCTI.all_T2$Group)
```

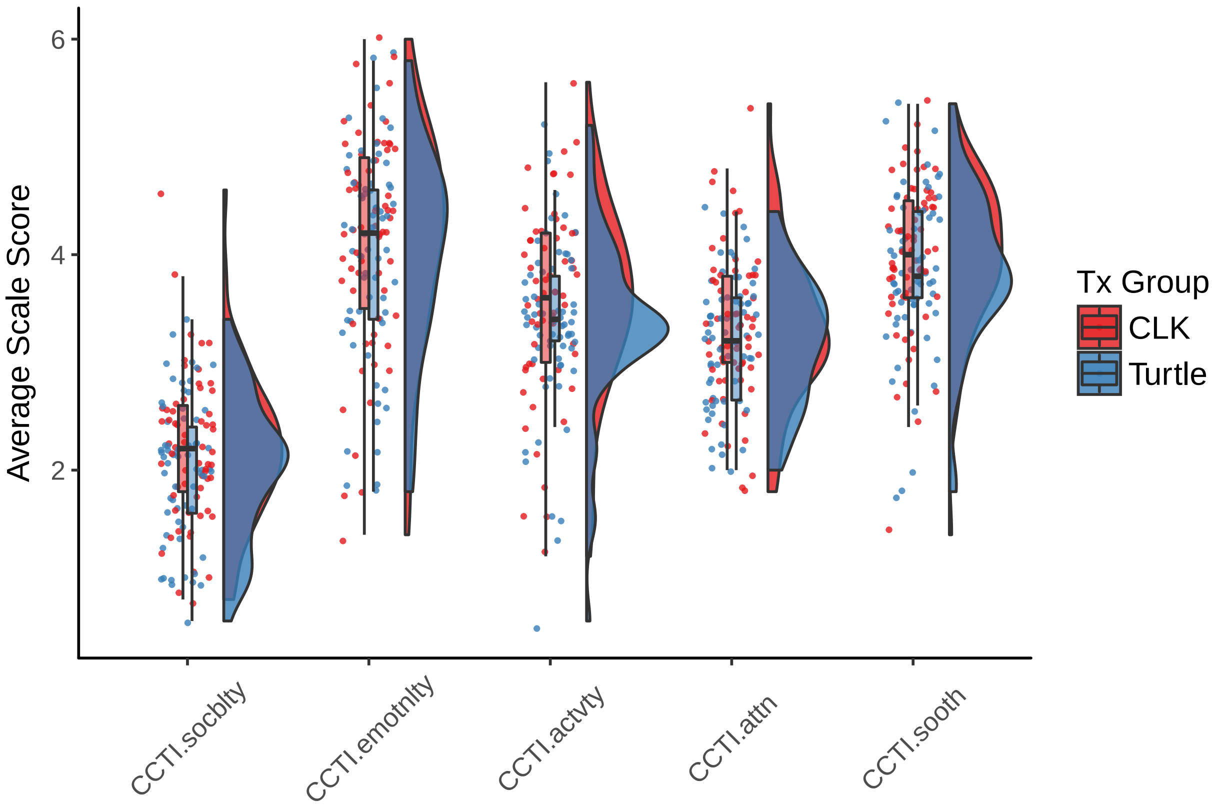
```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T2$CCTI.sooth by CCTI.all_T2$Group
## t = 1.122, df = 125.97, p-value = 0.264
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1102416  0.3988863
## sample estimates:
## mean in group 0 mean in group 1
##        3.990476        3.846154
```

```
df.m<-reshape2::melt(CCTI.all_T2[30:35], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T2 Folder:

`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:

- `/CCTI_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CCTI_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CCTI
- `/CCTI_T2_Summary_wo_Raw_items.txt`: The processed summary scores for CCTI wo raw items

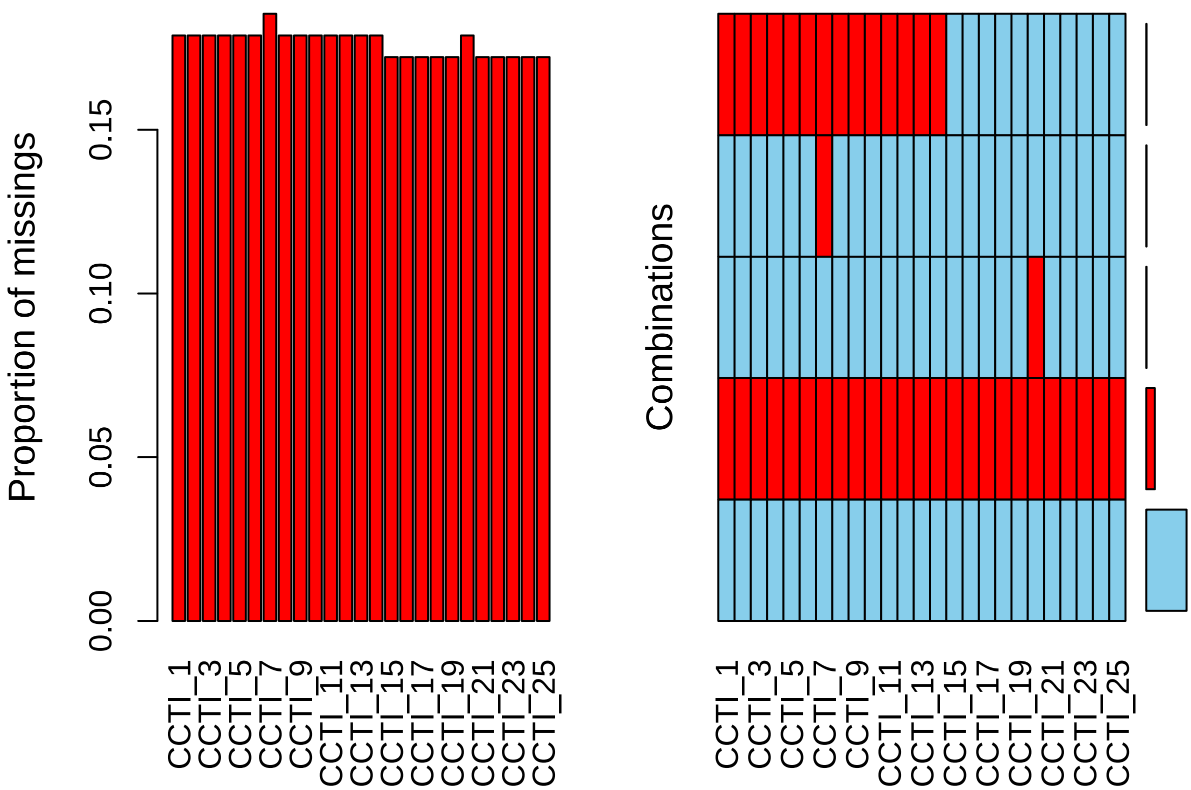
6.3 TIME 3: COMPLETE SCALE

```
CCTI.all_T3$Miss_tot<-rep(NA, nrow(CCTI.all_T3))
for(n in 1:nrow(CCTI.all_T3)){
  CCTI.all_T3$Miss_tot[n]<-sum(is.na(CCTI.all_T3[n,3:27])==TRUE)
}

CCTI.all_T3$Miss_per<-rep(NA, nrow(CCTI.all_T3))
for(n in 1:nrow(CCTI.all_T3)){
  CCTI.all_T3$Miss_per[n]<-round(sum(is.na(CCTI.all_T3[n,3:27])==TRUE)/ncol(CCTI.all_T3[3:27])*100,
                                digits = 2)
}
```

6.3.1 MISSING DATA

```
VIM::aggr(CCTI.all_T3[,3:27])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will be completed at a future date]

There are no summary variables to describe for this scale overall.

There is no additional information about parent missing data at T3 to report.

6.3.2 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
CCTI.all_T3$Group.R<-ifelse(CCTI.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(CCTI.all_T3[,c(3:27,30)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
```

```
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI_1      1 58 4.66 0.83 -0.76    -0.12 0.11  4.00     5
## CCTI_2      2 58 2.33 1.07  0.27     0.09 0.14  1.25     3
## CCTI_3      3 58 0.72 0.64  0.70     1.10 0.08  0.00     1
## CCTI_4      4 58 3.97 1.27 -1.05     0.51 0.17  3.25     5
## CCTI_5      5 58 4.33 0.94 -0.18    -1.19 0.12  3.25     5
## CCTI_6      6 58 2.79 1.32  0.51    -0.82 0.17  2.00     3
## CCTI_7      7 57 3.54 1.45 -0.46    -0.68 0.19  3.00     5
## CCTI_8      8 58 4.07 0.90 -0.42     0.90 0.12  4.00     5
## CCTI_9      9 58 4.36 1.22 -1.32     1.43 0.16  4.00     5
## CCTI_10    10 58 3.28 1.29  0.16    -1.17 0.17  2.00     5
## CCTI_11    11 58 4.28 0.95 -0.56     0.85 0.12  4.00     5
## CCTI_12    12 58 3.84 1.15 -0.79     0.05 0.15  3.00     5
## CCTI_13    13 58 3.76 1.55 -0.61    -0.80 0.20  3.00     5
## CCTI_14    14 58 3.16 1.35 -0.45    -0.95 0.18  3.00     4
## CCTI_15    15 59 2.42 1.18  0.27     0.02 0.15  2.00     3
## CCTI_16    16 59 3.97 0.98 -0.04    -0.02 0.13  3.00     5
## CCTI_17    17 59 4.75 0.88 -1.27     3.78 0.11  4.00     5
## CCTI_18    18 59 1.12 0.93  1.29     3.38 0.12  1.00     2
## CCTI_19    19 59 4.41 1.04 -0.58     0.33 0.13  4.00     5
## CCTI_20    20 59 3.98 1.14 -0.94     0.87 0.15  3.00     5
## CCTI_21    21 59 2.49 0.97  0.69     0.82 0.13  2.00     3
## CCTI_22    22 59 3.83 0.83  0.49    -0.95 0.11  3.00     4
## CCTI_23    23 59 4.19 1.07 -0.86     0.43 0.14  3.00     5
## CCTI_24    24 59 4.10 1.06 -0.71     0.34 0.14  3.00     5
## CCTI_25    25 59 2.86 1.31 -0.16    -0.80 0.17  1.00     4
## Group.R*   26 76  NaN   NA    NA       NA   NA    NA    NA
## ------------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI_1      1 66 4.65 0.92 -0.33    -0.74 0.11  4.00     5
## CCTI_2      2 66 2.33 1.11  0.25     0.10 0.14  1.25     3
## CCTI_3      3 66 0.82 0.78  0.89     0.65 0.10  0.00     1
## CCTI_4      4 66 3.59 1.36 -0.48    -0.55 0.17  3.00     5
## CCTI_5      5 66 4.50 0.92 -0.77     1.72 0.11  4.00     5
## CCTI_6      6 66 2.91 1.24  0.36    -0.41 0.15  2.00     3
## CCTI_7      7 66 3.45 1.43 -0.22    -0.56 0.18  3.00     4
## CCTI_8      8 66 4.32 0.95 -0.66     0.68 0.12  4.00     5
## CCTI_9      9 66 4.62 0.94 -1.06     1.88 0.12  4.00     5
## CCTI_10    10 66 3.21 1.39 -0.14    -0.71 0.17  2.25     5
## CCTI_11    11 66 4.20 1.24 -1.08     0.85 0.15  4.00     5
## CCTI_12    12 66 4.21 0.95  0.10    -1.14 0.12  3.00     5
## CCTI_13    13 66 3.85 1.07 -0.52     0.10 0.13  3.00     5
## CCTI_14    14 66 3.05 1.36 -0.22    -0.87 0.17  3.00     4
## CCTI_15    15 66 2.47 1.04  0.20     0.36 0.13  2.00     3
## CCTI_16    16 66 3.82 1.12 -0.16     0.07 0.14  3.00     5
## CCTI_17    17 66 4.67 1.04 -1.32     2.62 0.13  4.00     5
## CCTI_18    18 66 1.21 0.89  0.37    -0.60 0.11  1.00     2
## CCTI_19    19 66 4.41 0.99 -0.59     0.55 0.12  4.00     5
## CCTI_20    20 65 3.78 1.05 -0.68     1.02 0.13  3.00     4
## CCTI_21    21 66 2.38 1.03  0.77     1.03 0.13  2.00     3
## CCTI_22    22 66 3.79 0.95  0.32     0.11 0.12  3.00     4
## CCTI_23    23 66 4.15 1.26 -0.74     0.10 0.15  3.00     5
## CCTI_24    24 66 4.02 1.22 -0.93     0.32 0.15  3.00     5
## CCTI_25    25 66 2.88 1.31 -0.06    -0.69 0.16  1.50     4
## Group.R*   26 75  NaN   NA    NA       NA   NA    NA    NA
```

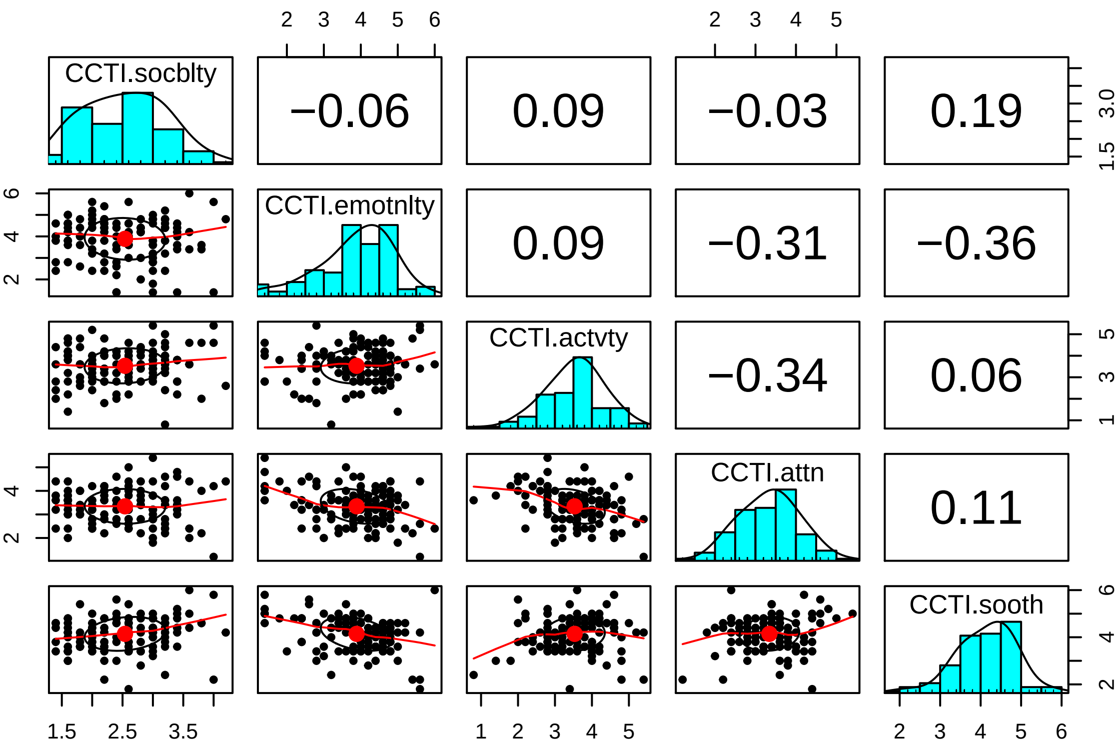
6.3.3 TIME 3: SUBSCALES

6.3.3.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(CCTI.all_T3[,c(31:35)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##                vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## CCTI.socblty      1 124 2.54 0.67  0.13    -0.78 0.06   2.0   3.0
## CCTI.emotnlty     2 123 3.89 0.97 -0.68     0.19 0.09   3.4   4.6
## CCTI.actvty       3 123 3.53 0.82 -0.35     0.39 0.07   3.0   4.0
## CCTI.attn         4 124 3.34 0.74 -0.03    -0.14 0.07   2.8   3.8
## CCTI.sooth        5 124 4.14 0.72 -0.45     0.63 0.06   3.6   4.6
```

```
psych::pairs.panels(CCTI.all_T3[,c(31:35)])
```



6.3.3.2 CRONBACH'S ALPHA: SOCIABILITY SUBSCALE

```
psych::alpha(CCTI.all_T3[CCTI.socblty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T3[CCTI.socblty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.66      0.69    0.68      0.31 2.2 0.043  2.6 0.68     0.31
##
##  lower alpha upper     95% confidence boundaries
## 0.58 0.66 0.75
##
##  lower median upper bootstrapped confidence intervals
##  0.57 0.66 0.74
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_3       0.59      0.59    0.56      0.26 1.4    0.055 0.0213  0.21
## CCTI_12      0.65      0.68    0.64      0.35 2.1    0.046 0.0169  0.33
## CCTI_16      0.61      0.65    0.62      0.32 1.8    0.051 0.0271  0.31
## CCTI_18      0.60      0.63    0.57      0.30 1.7    0.053 0.0078  0.31
## CCTI_25      0.63      0.65    0.63      0.31 1.8    0.050 0.0236  0.31
```

```
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_3  124  0.69  0.74  0.67   0.54 0.77 0.72
## CCTI_12 124  0.61  0.60  0.44   0.34 4.04 1.06
## CCTI_16 125  0.67  0.65  0.51   0.42 3.89 1.06
## CCTI_18 125  0.65  0.69  0.61   0.46 1.17 0.90
## CCTI_25 125  0.71  0.66  0.52   0.42 2.87 1.30
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_3  0.36 0.53 0.07 0.03 0.00 0.00 0.00 0.18
## CCTI_12 0.00 0.03 0.00 0.31 0.26 0.36 0.04 0.18
## CCTI_16 0.00 0.03 0.00 0.37 0.30 0.24 0.06 0.17
## CCTI_18 0.22 0.47 0.23 0.06 0.00 0.01 0.00 0.17
## CCTI_25 0.00 0.26 0.00 0.44 0.21 0.07 0.02 0.17
```

NOTE: Low α

6.3.3.3 CRONBACH'S ALPHA: EMOTIONALITY SUBSCALE

```
psych::alpha(CCTI.all_T3[CCTI.emotnlty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T3[CCTI.emotnlty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.86    0.85      0.55 6.2 0.018  3.9 0.96     0.54
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.86 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.86 0.9
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## CCTI_4       0.82      0.83    0.79      0.55 4.8    0.024 0.0045  0.54
## CCTI_9       0.84      0.85    0.82      0.58 5.5    0.021 0.0085  0.61
## CCTI_14      0.83      0.83    0.79      0.55 4.9    0.023 0.0043  0.54
## CCTI_20      0.81      0.81    0.78      0.52 4.4    0.025 0.0070  0.50
## CCTI_23      0.84      0.84    0.81      0.57 5.4    0.020 0.0058  0.57
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean  sd
## CCTI_4  124  0.83  0.82  0.76   0.71  3.8 1.3
## CCTI_9  124  0.75  0.77  0.67   0.62  4.5 1.1
## CCTI_14 124  0.82  0.81  0.75   0.69  3.1 1.4
## CCTI_20 124  0.84  0.85  0.81   0.75  3.9 1.1
## CCTI_23 125  0.76  0.77  0.69   0.63  4.2 1.2
##
## Non missing response frequency for each item
##            1    3    4    5    6 miss
## CCTI_4  0.12 0.26 0.27 0.32 0.03 0.18
## CCTI_9  0.04 0.11 0.22 0.52 0.10 0.18
## CCTI_14 0.23 0.35 0.27 0.14 0.01 0.18
## CCTI_20 0.06 0.24 0.41 0.25 0.03 0.18
## CCTI_23 0.05 0.26 0.19 0.44 0.06 0.17
```

6.3.3.4 CRONBACH'S ALPHA: ACTIVITY SUBSCALE

```r
psych::alpha(CCTI.all_T3[CCTI.actvty], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T3[CCTI.actvty], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.69       0.7    0.71      0.32 2.3 0.041  3.5 0.81     0.36
##
##  lower alpha upper     95% confidence boundaries
## 0.61 0.69 0.77
##
##  lower median upper bootstrapped confidence intervals
##  0.55 0.68 0.78
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CCTI_7       0.65      0.67    0.65      0.33 2.0    0.048 0.029  0.36
## CCTI_10      0.65      0.65    0.64      0.32 1.9    0.045 0.036  0.39
## CCTI_13      0.63      0.66    0.64      0.32 1.9    0.049 0.025  0.36
## CCTI_17      0.58      0.58    0.58      0.26 1.4    0.056 0.035  0.19
## CCTI_21      0.67      0.69    0.65      0.36 2.2    0.044 0.019  0.39
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_7  123  0.69  0.65  0.52   0.43  3.5 1.43
## CCTI_10 124  0.67  0.67  0.56   0.42  3.2 1.34
## CCTI_13 124  0.69  0.66  0.56   0.45  3.8 1.31
## CCTI_17 125  0.76  0.79  0.73   0.62  4.7 0.97
## CCTI_21 125  0.55  0.60  0.47   0.35  2.4 1.00
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_7  0.00 0.17 0.00 0.31 0.27 0.19 0.07 0.19
## CCTI_10 0.02 0.07 0.18 0.43 0.00 0.31 0.00 0.18
## CCTI_13 0.00 0.10 0.00 0.30 0.22 0.34 0.04 0.18
## CCTI_17 0.00 0.02 0.00 0.06 0.25 0.51 0.16 0.17
## CCTI_21 0.01 0.14 0.42 0.37 0.00 0.07 0.00 0.17
```

NOTE: Low α

6.3.3.5 CRONBACH'S ALPHA: ATTENTION/PERSISTENCE SUBSCALE

```r
psych::alpha(CCTI.all_T3[CCTI.attn], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T3[CCTI.attn], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.72      0.73    0.75      0.36 2.8 0.036  3.3 0.75     0.27
##
##  lower alpha upper     95% confidence boundaries
## 0.65 0.72 0.79
##
##  lower median upper bootstrapped confidence intervals
##  0.62 0.72 0.79
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CCTI_1       0.65      0.65    0.65      0.32 1.9    0.047 0.039  0.25
## CCTI_2       0.59      0.61    0.58      0.28 1.6    0.055 0.021  0.25
## CCTI_6       0.76      0.76    0.75      0.44 3.1    0.032 0.053  0.43
## CCTI_15      0.62      0.64    0.64      0.31 1.8    0.051 0.033  0.27
```

```
## CCTI_19      0.73      0.75    0.75      0.43 3.0    0.037 0.060  0.41
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_1  124  0.72  0.76  0.71   0.58  4.7 0.87
## CCTI_2  124  0.82  0.83  0.83   0.68  2.3 1.09
## CCTI_6  124  0.60  0.55  0.35   0.31  2.9 1.27
## CCTI_15 125  0.78  0.77  0.74   0.60  2.4 1.10
## CCTI_19 125  0.55  0.57  0.37   0.32  4.4 1.01
##
## Non missing response frequency for each item
##            0    1    2    3    4    5    6 miss
## CCTI_1  0.00 0.00 0.00 0.14 0.20 0.53 0.13 0.18
## CCTI_2  0.02 0.23 0.24 0.44 0.00 0.06 0.00 0.18
## CCTI_6  0.01 0.11 0.30 0.38 0.00 0.20 0.00 0.18
## CCTI_15 0.02 0.19 0.24 0.47 0.00 0.07 0.00 0.17
## CCTI_19 0.00 0.02 0.00 0.18 0.29 0.41 0.11 0.17
```

6.3.3.6 CRONBACH'S ALPHA: SOOTHABILITY SUBSCALE

```
psych::alpha(CCTI.all_T3[CCTI.sooth], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = CCTI.all_T3[CCTI.sooth], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.76      0.76    0.76      0.39 3.2 0.031  4.1 0.72     0.42
##
##  lower alpha upper     95% confidence boundaries
## 0.7 0.76 0.82
##
##  lower median upper bootstrapped confidence intervals
##  0.67 0.76 0.82
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## CCTI_5       0.70      0.70    0.68      0.36 2.3    0.038 0.040  0.33
## CCTI_8       0.70      0.70    0.70      0.37 2.3    0.040 0.034  0.37
## CCTI_11      0.66      0.67    0.64      0.33 2.0    0.046 0.022  0.36
## CCTI_22      0.77      0.77    0.74      0.46 3.4    0.030 0.013  0.44
## CCTI_24      0.73      0.73    0.71      0.41 2.8    0.035 0.019  0.44
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean   sd
## CCTI_5  124  0.73  0.75  0.67   0.57  4.4 0.93
## CCTI_8  124  0.74  0.74  0.65   0.58  4.2 0.93
## CCTI_11 124  0.83  0.81  0.77   0.68  4.2 1.11
## CCTI_22 125  0.55  0.59  0.44   0.34  3.8 0.90
## CCTI_24 125  0.72  0.68  0.58   0.49  4.1 1.15
##
## Non missing response frequency for each item
##            1    3    4    5    6 miss
## CCTI_5  0.01 0.17 0.30 0.44 0.09 0.18
## CCTI_8  0.02 0.20 0.38 0.35 0.05 0.18
## CCTI_11 0.05 0.16 0.32 0.40 0.07 0.18
## CCTI_22 0.01 0.43 0.33 0.20 0.03 0.17
## CCTI_24 0.06 0.26 0.24 0.42 0.03 0.17
```

6.3.3.7 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
#Groups do not differ on average CCTI Sociability scores
t.test(CCTI.all_T3$CCTI.socblty~CCTI.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T3$CCTI.socblty by CCTI.all_T3$Group
## t = -0.85261, df = 121.87, p-value = 0.3955
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.3377381  0.1343943
## sample estimates:
## mean in group 0 mean in group 1
##        2.486207        2.587879
```

```r
#Groups do not differ on average CCTI Emotionality scores
t.test(CCTI.all_T3$CCTI.emotnlty~CCTI.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T3$CCTI.emotnlty by CCTI.all_T3$Group
## t = 0.51911, df = 118.81, p-value = 0.6046
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2572562  0.4400679
## sample estimates:
## mean in group 0 mean in group 1
##        3.934483        3.843077
```

```r
#Groups do not differ on average CCTI Activity scores
t.test(CCTI.all_T3$CCTI.actvty~CCTI.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T3$CCTI.actvty by CCTI.all_T3$Group
## t = 0.28577, df = 119.66, p-value = 0.7755
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2505668  0.3350963
## sample estimates:
## mean in group 0 mean in group 1
##        3.554386        3.512121
```

```r
#Groups do not differ on average CCTI Attention/persistence scores
t.test(CCTI.all_T3$CCTI.attn~CCTI.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  CCTI.all_T3$CCTI.attn by CCTI.all_T3$Group
## t = -0.17493, df = 115.85, p-value = 0.8614
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2897161  0.2426941
## sample estimates:
## mean in group 0 mean in group 1
##        3.331034        3.354545
```

```r
#Groups do not differ on average CCTI Soothability scores
t.test(CCTI.all_T3$CCTI.sooth~CCTI.all_T3$Group)
```

```
##
```

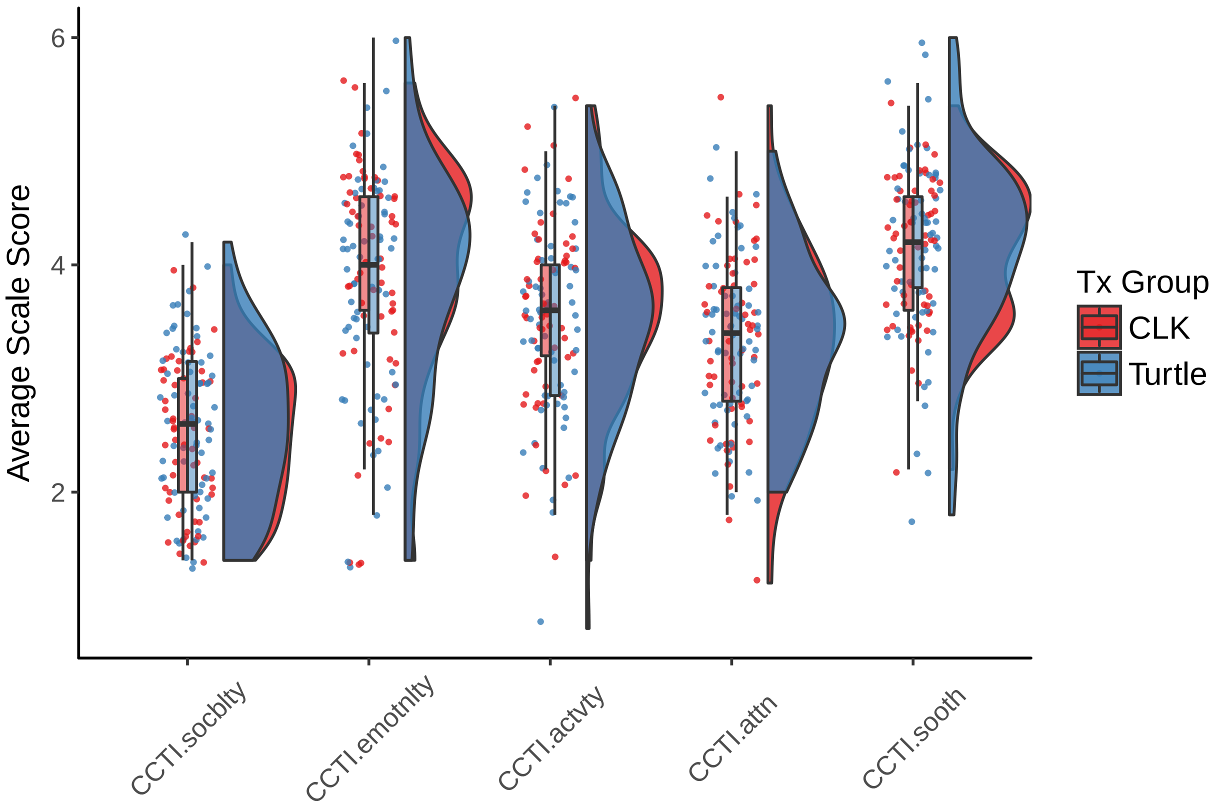
```
##  Welch Two Sample t-test
##
## data:  CCTI.all_T3$CCTI.sooth by CCTI.all_T3$Group
## t = -0.33496, df = 121.09, p-value = 0.7382
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2967811  0.2108877
## sample estimates:
## mean in group 0 mean in group 1
##        4.120690        4.163636
```

```r
df.m<-reshape2::melt(CCTI.all_T3[30:35], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T3 Folder:

`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:

- `/CCTI_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/CCTI_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for CCTI
- `/CCTI_T3_Summary_wo_Raw_items.txt`: The processed summary scores for CCTI wo raw items

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6.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

6.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(CCTI.wide)
```

```
##                  vars   n  mean    sd median trimmed   mad min   max range
## ID                  1 151 86.11 49.12   88.0   86.21 62.27 1.0 170.0 169.0
## Group               2 151  0.50  0.50    0.0    0.50  0.00 0.0   1.0   1.0
## Group.R*            3 151  1.50  0.50    1.0    1.50  0.00 1.0   2.0   1.0
## CCTI.socblty.0      4 144  2.01  0.70    2.0    2.00  0.74 0.6   3.6   3.0
## CCTI.emotnlty.0     5 143  4.19  0.93    4.4    4.26  0.89 1.0   5.8   4.8
## CCTI.actvty.0       6 143  3.53  0.81    3.6    3.56  0.59 0.6   5.2   4.6
## CCTI.attn.0         7 142  3.16  0.74    3.2    3.19  0.59 0.4   5.4   5.0
## CCTI.sooth.0        8 142  3.86  0.71    3.8    3.90  0.59 1.4   5.2   3.8
## CCTI.socblty.1      9 126  2.11  0.67    2.2    2.11  0.59 0.6   4.6   4.0
## CCTI.emotnlty.1    10 128  4.05  0.98    4.2    4.11  0.89 1.4   6.0   4.6
## CCTI.actvty.1      11 128  3.46  0.84    3.4    3.50  0.59 0.6   5.6   5.0
## CCTI.attn.1        12 129  3.25  0.65    3.2    3.25  0.59 1.8   5.4   3.6
## CCTI.sooth.1       13 128  3.92  0.73    4.0    3.96  0.59 1.4   5.4   4.0
## CCTI.socblty.2     14 124  2.54  0.67    2.6    2.53  0.89 1.4   4.2   2.8
## CCTI.emotnlty.2    15 123  3.89  0.97    4.0    3.96  0.89 1.4   6.0   4.6
## CCTI.actvty.2      16 123  3.53  0.82    3.6    3.56  0.59 0.8   5.4   4.6
## CCTI.attn.2        17 124  3.34  0.74    3.4    3.34  0.89 1.2   5.4   4.2
## CCTI.sooth.2       18 124  4.14  0.72    4.2    4.17  0.74 1.8   6.0   4.2
##                   skew kurtosis   se
## ID               -0.02    -1.21 4.00
## Group             0.01    -2.01 0.04
## Group.R*          0.01    -2.01 0.04
## CCTI.socblty.0    0.15    -0.65 0.06
## CCTI.emotnlty.0 -0.92     1.05 0.08
## CCTI.actvty.0    -0.69     1.36 0.07
## CCTI.attn.0      -0.40     1.07 0.06
## CCTI.sooth.0     -0.71     1.00 0.06
## CCTI.socblty.1    0.24     0.60 0.06
## CCTI.emotnlty.1 -0.53    -0.09 0.09
## CCTI.actvty.1    -0.51     0.94 0.07
## CCTI.attn.1       0.18     0.22 0.06
## CCTI.sooth.1     -0.71     1.02 0.06
## CCTI.socblty.2    0.13    -0.78 0.06
## CCTI.emotnlty.2 -0.68     0.19 0.09
## CCTI.actvty.2    -0.35     0.39 0.07
## CCTI.attn.2      -0.03    -0.14 0.07
## CCTI.sooth.2     -0.45     0.63 0.06
```

LONG DATA SET

```
psych::describe(CCTI.long)
```

```
##                vars   n  mean    sd median trimmed   mad min   max range
## ID                1 453 86.11 49.01   88.0   86.21 62.27 1.0 170.0 169.0
## Group             2 453  0.50  0.50    0.0    0.50  0.00 0.0   1.0   1.0
## Group.R*          3 453  1.50  0.50    1.0    1.50  0.00 1.0   2.0   1.0
## CCTI.socblty      4 394  2.21  0.72    2.2    2.20  0.89 0.6   4.6   4.0
```

```
## CCTI.emotnlty    5 394  4.05  0.96    4.2    4.12  0.89 1.0   6.0   5.0
## CCTI.actvty      6 394  3.51  0.82    3.6    3.54  0.59 0.6   5.6   5.0
## CCTI.attn        7 395  3.25  0.71    3.2    3.25  0.59 0.4   5.4   5.0
## CCTI.sooth       8 394  3.97  0.73    4.0    4.01  0.59 1.4   6.0   4.6
## Time             9 453  1.00  0.82    1.0    1.00  1.48 0.0   2.0   2.0
##                 skew kurtosis   se
## ID             -0.02    -1.20 2.30
## Group           0.01    -2.00 0.02
## Group.R*        0.01    -2.00 0.02
## CCTI.socblty    0.14    -0.27 0.04
## CCTI.emotnlty -0.71      0.36 0.05
## CCTI.actvty   -0.53      0.96 0.04
## CCTI.attn     -0.13      0.59 0.04
## CCTI.sooth    -0.60      0.95 0.04
## Time           0.00    -1.51 0.04
```

6.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```r
psych::describeBy(CCTI.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##                  vars  n  mean    sd median trimmed   mad min   max range
## ID                  1 76 86.59 48.90   87.0   86.65 62.27 2.0 168.0 166.0
## Group               2 76  0.00  0.00    0.0    0.00  0.00 0.0   0.0   0.0
## Group.R*            3 76  1.00  0.00    1.0    1.00  0.00 1.0   1.0   0.0
## CCTI.socblty.0      4 71  2.03  0.73    2.0    2.01  0.89 0.6   3.4   2.8
## CCTI.emotnlty.0     5 70  4.22  1.02    4.4    4.34  0.89 1.0   5.8   4.8
## CCTI.actvty.0       6 70  3.59  0.81    3.6    3.60  0.89 0.8   5.2   4.4
## CCTI.attn.0         7 70  3.23  0.77    3.4    3.27  0.59 1.2   5.4   4.2
## CCTI.sooth.0        8 71  3.90  0.66    4.0    3.94  0.59 1.4   5.2   3.8
## CCTI.socblty.1      9 62  2.19  0.69    2.2    2.18  0.59 0.8   4.6   3.8
## CCTI.emotnlty.1    10 63  4.13  1.00    4.2    4.19  1.19 1.4   6.0   4.6
## CCTI.actvty.1      11 63  3.57  0.87    3.6    3.61  0.89 1.2   5.6   4.4
## CCTI.attn.1        12 63  3.31  0.71    3.2    3.30  0.59 1.8   5.4   3.6
## CCTI.sooth.1       13 63  3.99  0.72    4.0    4.04  0.59 1.4   5.4   4.0
## CCTI.socblty.2     14 58  2.49  0.63    2.6    2.48  0.59 1.4   4.0   2.6
## CCTI.emotnlty.2    15 58  3.93  0.98    4.0    4.02  0.89 1.4   5.6   4.2
## CCTI.actvty.2      16 57  3.55  0.80    3.6    3.57  0.59 1.4   5.4   4.0
## CCTI.attn.2        17 58  3.33  0.78    3.4    3.34  0.89 1.2   5.4   4.2
## CCTI.sooth.2       18 58  4.12  0.64    4.2    4.14  0.89 2.2   5.4   3.2
##                  skew kurtosis   se
## ID               0.00    -1.28 5.61
## Group             NaN      NaN 0.00
## Group.R*          NaN      NaN 0.00
## CCTI.socblty.0   0.13    -1.00 0.09
## CCTI.emotnlty.0 -1.12     1.20 0.12
## CCTI.actvty.0   -0.43     0.61 0.10
## CCTI.attn.0     -0.33     0.33 0.09
## CCTI.sooth.0    -0.77     1.52 0.08
## CCTI.socblty.1   0.53     1.19 0.09
## CCTI.emotnlty.1 -0.59     0.07 0.13
## CCTI.actvty.1   -0.42     0.29 0.11
## CCTI.attn.1      0.29     0.39 0.09
## CCTI.sooth.1    -0.84     1.31 0.09
## CCTI.socblty.2   0.10    -0.83 0.08
## CCTI.emotnlty.2 -0.85     0.32 0.13
## CCTI.actvty.2   -0.21     0.15 0.11
```

```
## CCTI.attn.2     -0.11     0.08 0.10
## CCTI.sooth.2    -0.44    -0.22 0.08
## ---------------------------------------------------------
## group: Turtle
##                 vars  n  mean    sd median trimmed   mad min   max range
## ID                 1 75 85.63 49.66   88.0   85.70 62.27 1.0 170.0 169.0
## Group              2 75  1.00  0.00    1.0    1.00  0.00 1.0   1.0   0.0
## Group.R*           3 75  2.00  0.00    2.0    2.00  0.00 2.0   2.0   0.0
## CCTI.socblty.0     4 73  1.99  0.68    2.0    1.98  0.59 0.6   3.6   3.0
## CCTI.emotnlty.0    5 73  4.15  0.83    4.2    4.19  0.89 1.8   5.8   4.0
## CCTI.actvty.0      6 73  3.47  0.80    3.6    3.52  0.59 0.6   5.2   4.6
## CCTI.attn.0        7 72  3.09  0.71    3.1    3.11  0.74 0.4   5.0   4.6
## CCTI.sooth.0       8 71  3.81  0.75    3.8    3.85  0.59 1.4   5.2   3.8
## CCTI.socblty.1     9 64  2.02  0.65    2.2    2.03  0.59 0.6   3.4   2.8
## CCTI.emotnlty.1   10 65  3.98  0.96    4.2    4.03  0.89 1.8   5.8   4.0
## CCTI.actvty.1     11 65  3.35  0.81    3.4    3.40  0.59 0.6   5.2   4.6
## CCTI.attn.1       12 66  3.20  0.59    3.2    3.20  0.59 2.0   4.4   2.4
## CCTI.sooth.1      13 65  3.85  0.73    3.8    3.89  0.59 1.8   5.4   3.6
## CCTI.socblty.2    14 66  2.59  0.70    2.6    2.57  0.89 1.4   4.2   2.8
## CCTI.emotnlty.2   15 65  3.84  0.96    4.0    3.89  0.89 1.4   6.0   4.6
## CCTI.actvty.2     16 66  3.51  0.84    3.6    3.55  0.89 0.8   5.4   4.6
## CCTI.attn.2       17 66  3.35  0.71    3.4    3.35  0.89 2.0   5.0   3.0
## CCTI.sooth.2      18 66  4.16  0.79    4.2    4.20  0.59 1.8   6.0   4.2
##                  skew kurtosis   se
## ID              -0.04    -1.21 5.73
## Group             NaN      NaN 0.00
## Group.R*          NaN      NaN 0.00
## CCTI.socblty.0   0.15    -0.29 0.08
## CCTI.emotnlty.0 -0.55     0.22 0.10
## CCTI.actvty.0   -0.94     1.88 0.09
## CCTI.attn.0     -0.54     1.87 0.08
## CCTI.sooth.0    -0.61     0.48 0.09
## CCTI.socblty.1  -0.15    -0.69 0.08
## CCTI.emotnlty.1 -0.48    -0.31 0.12
## CCTI.actvty.1   -0.70     1.58 0.10
## CCTI.attn.1     -0.11    -0.73 0.07
## CCTI.sooth.1    -0.59     0.76 0.09
## CCTI.socblty.2   0.10    -0.86 0.09
## CCTI.emotnlty.2 -0.51     0.02 0.12
## CCTI.actvty.2   -0.45     0.44 0.10
## CCTI.attn.2      0.08    -0.63 0.09
## CCTI.sooth.2    -0.46     0.68 0.10
```

LONG DATA SET

```
psych::describeBy(CCTI.long, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##               vars   n  mean    sd median trimmed   mad min   max range
## ID               1 228 86.59 48.69   87.0   86.63 62.27 2.0 168.0 166.0
## Group            2 228  0.00  0.00    0.0    0.00  0.00 0.0   0.0   0.0
## Group.R*         3 228  1.00  0.00    1.0    1.00  0.00 1.0   1.0   0.0
## CCTI.socblty     4 191  2.22  0.71    2.2    2.22  0.89 0.6   4.6   4.0
## CCTI.emotnlty    5 191  4.10  1.01    4.2    4.20  0.89 1.0   6.0   5.0
## CCTI.actvty      6 190  3.57  0.82    3.6    3.59  0.89 0.8   5.6   4.8
## CCTI.attn        7 191  3.29  0.75    3.4    3.30  0.59 1.2   5.4   4.2
## CCTI.sooth       8 192  4.00  0.68    4.0    4.04  0.59 1.4   5.4   4.0
## Time             9 228  1.00  0.82    1.0    1.00  1.48 0.0   2.0   2.0
##                skew kurtosis   se
## ID             0.00    -1.25 3.22
```

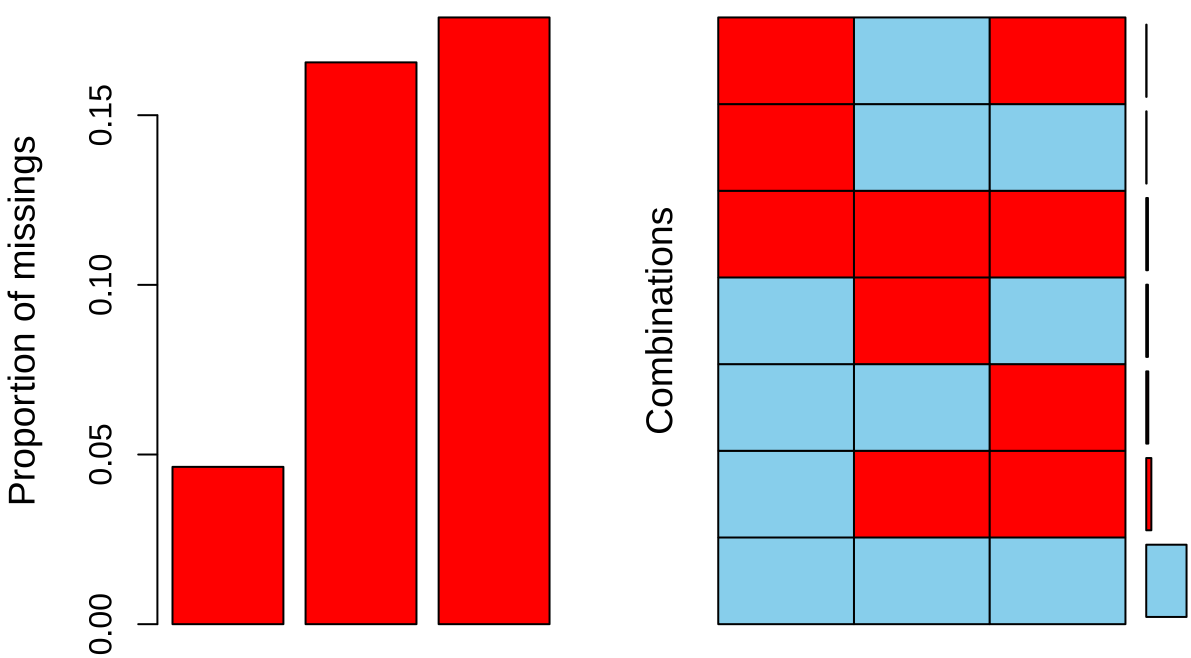
```
## Group           NaN      NaN 0.00
## Group.R*        NaN      NaN 0.00
## CCTI.socblty   0.16    -0.20 0.05
## CCTI.emotnlty -0.86     0.59 0.07
## CCTI.actvty   -0.37     0.45 0.06
## CCTI.attn     -0.10     0.39 0.05
## CCTI.sooth    -0.73     1.19 0.05
## Time           0.00    -1.51 0.05
## ------------------------------------------------------------
## group: Turtle
##               vars   n  mean    sd median trimmed   mad min   max range
## ID               1 225 85.63 49.44   88.0   85.72 62.27 1.0 170.0 169.0
## Group            2 225  1.00  0.00    1.0    1.00  0.00 1.0   1.0   0.0
## Group.R*         3 225  2.00  0.00    2.0    2.00  0.00 2.0   2.0   0.0
## CCTI.socblty     4 203  2.20  0.72    2.2    2.19  0.89 0.6   4.2   3.6
## CCTI.emotnlty    5 203  4.00  0.92    4.2    4.06  0.89 1.4   6.0   4.6
## CCTI.actvty      6 204  3.45  0.81    3.4    3.49  0.59 0.6   5.4   4.8
## CCTI.attn        7 204  3.21  0.68    3.2    3.21  0.59 0.4   5.0   4.6
## CCTI.sooth       8 202  3.94  0.77    4.0    3.98  0.59 1.4   6.0   4.6
## Time             9 225  1.00  0.82    1.0    1.00  1.48 0.0   2.0   2.0
##                skew kurtosis   se
## ID            -0.04    -1.17 3.30
## Group           NaN      NaN 0.00
## Group.R*        NaN      NaN 0.00
## CCTI.socblty   0.12    -0.37 0.05
## CCTI.emotnlty -0.56     0.10 0.06
## CCTI.actvty   -0.69     1.36 0.06
## CCTI.attn     -0.21     0.73 0.05
## CCTI.sooth    -0.48     0.69 0.05
## Time           0.00    -1.51 0.05
```

6.4.3 EXPLORATORY PLOTS

6.4.3.1 MISSING PATTERNS OVERALL SCALE

Note these values are based on the sociability subscale as there is no global score for the CCTI.

```
VIM::aggr(CCTI.wide[,c(4,9,14)])
```



Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

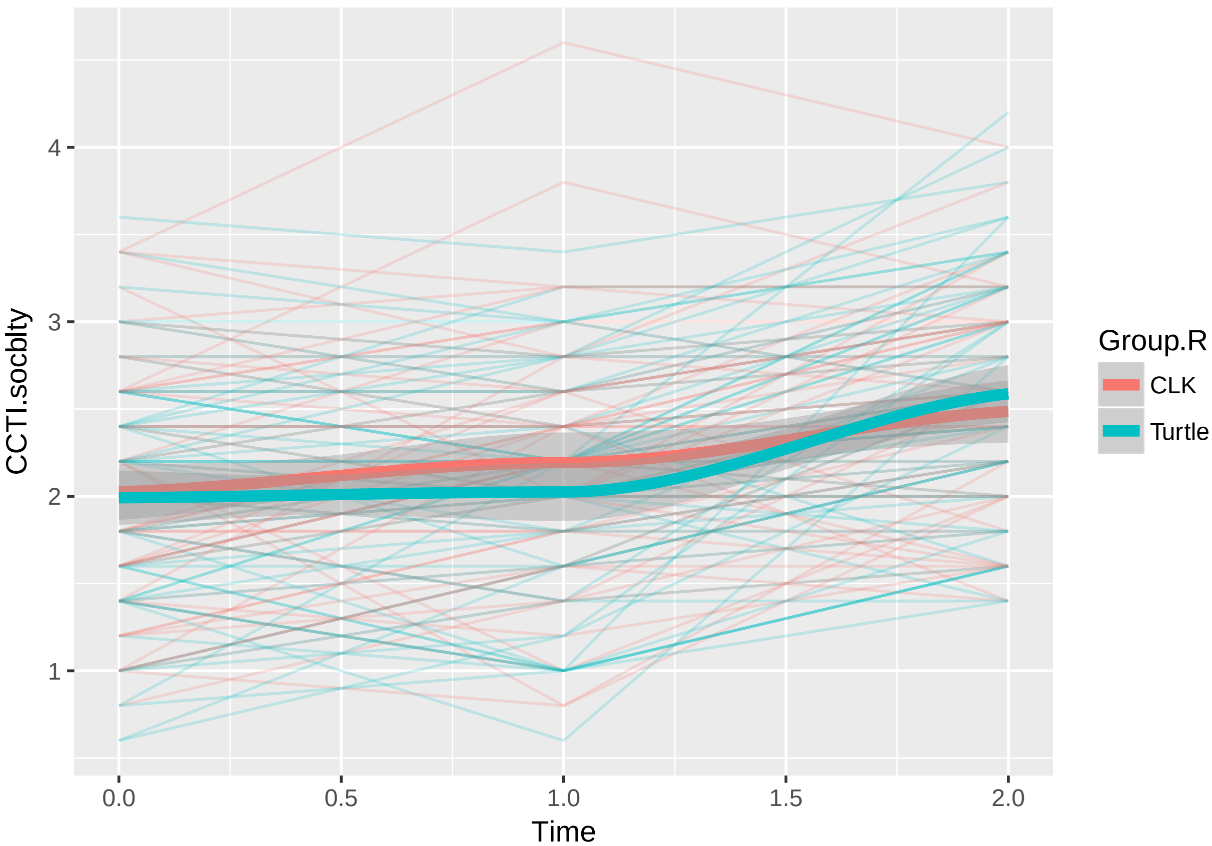
6.4.3.2 SPAGHETTI PLOTS

6.4.3.2.1 OVERALL SCALE

There is no overall score that can be calculated from the

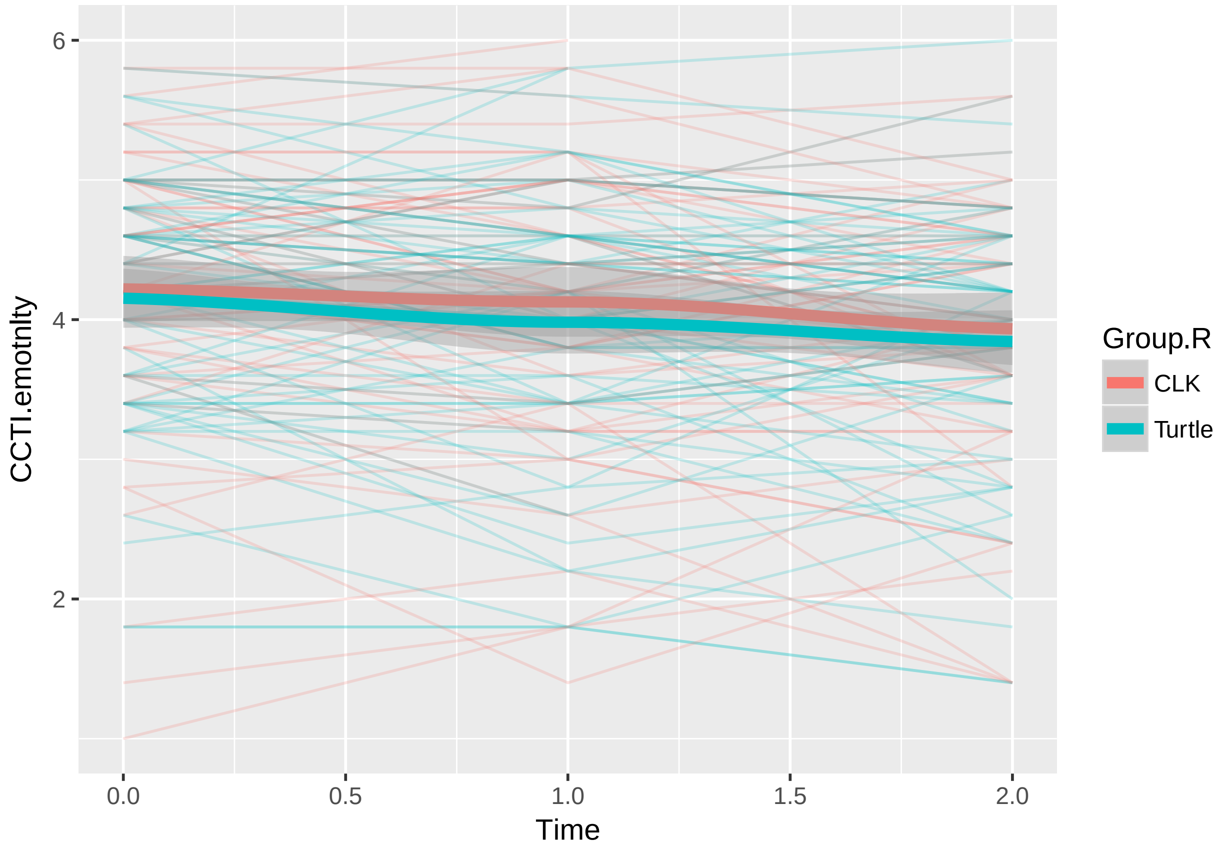
6.4.3.2.2 SOCIABILITY

```
g1<-ggplot(data=CCTI.long, aes(x=Time, y=CCTI.socblty))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



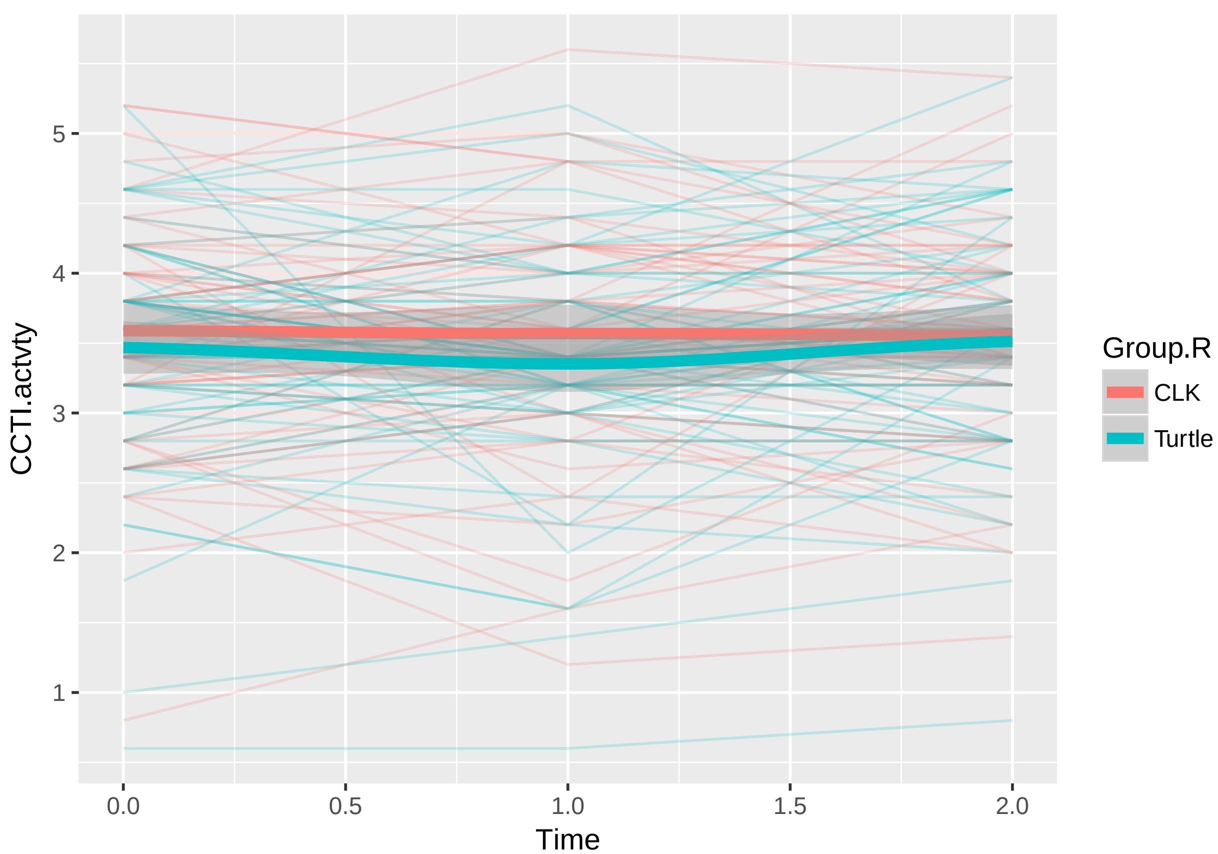
6.4.3.2.3 EMOTIONALITY

```
g1<-ggplot(data=CCTI.long, aes(x=Time, y=CCTI.emotnlty))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



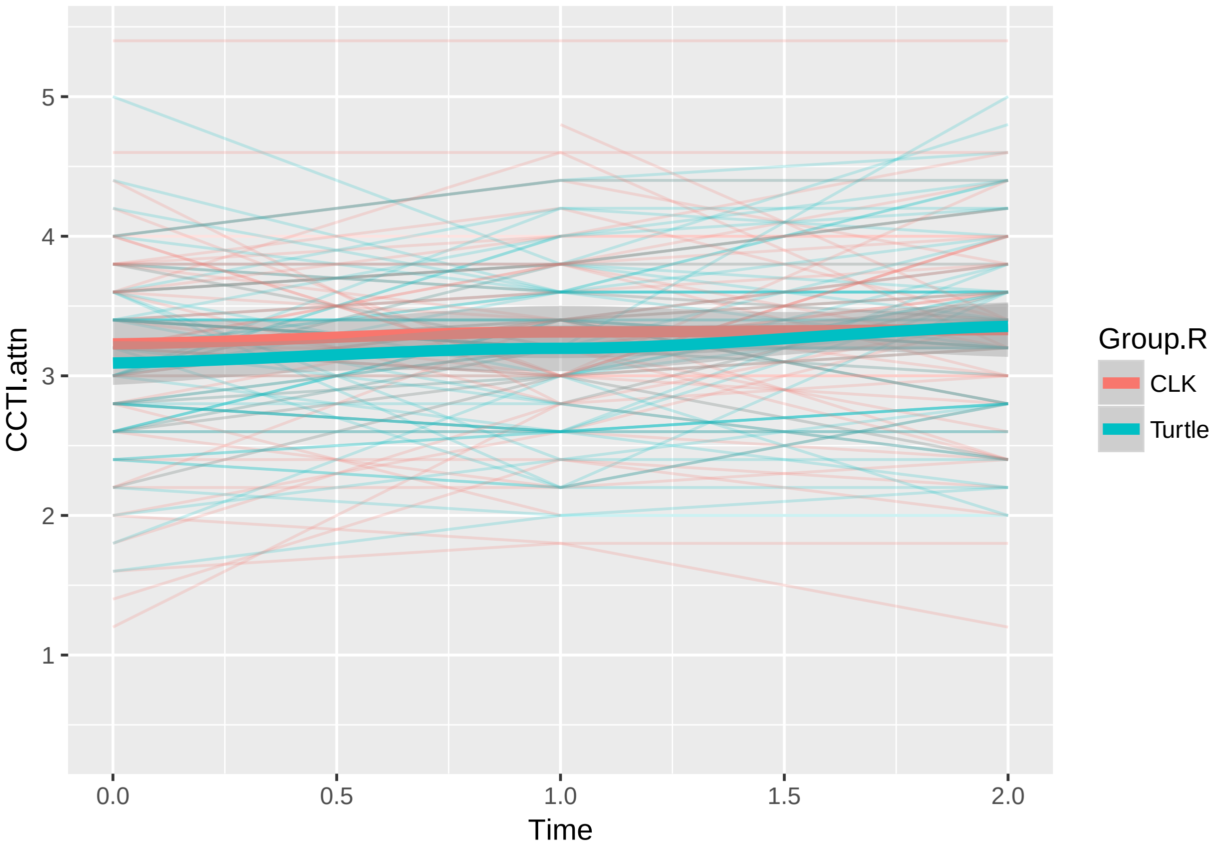
6.4.3.2.4 ACTIVITY

```
g1<-ggplot(data=CCTI.long, aes(x=Time, y=CCTI.actvty))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



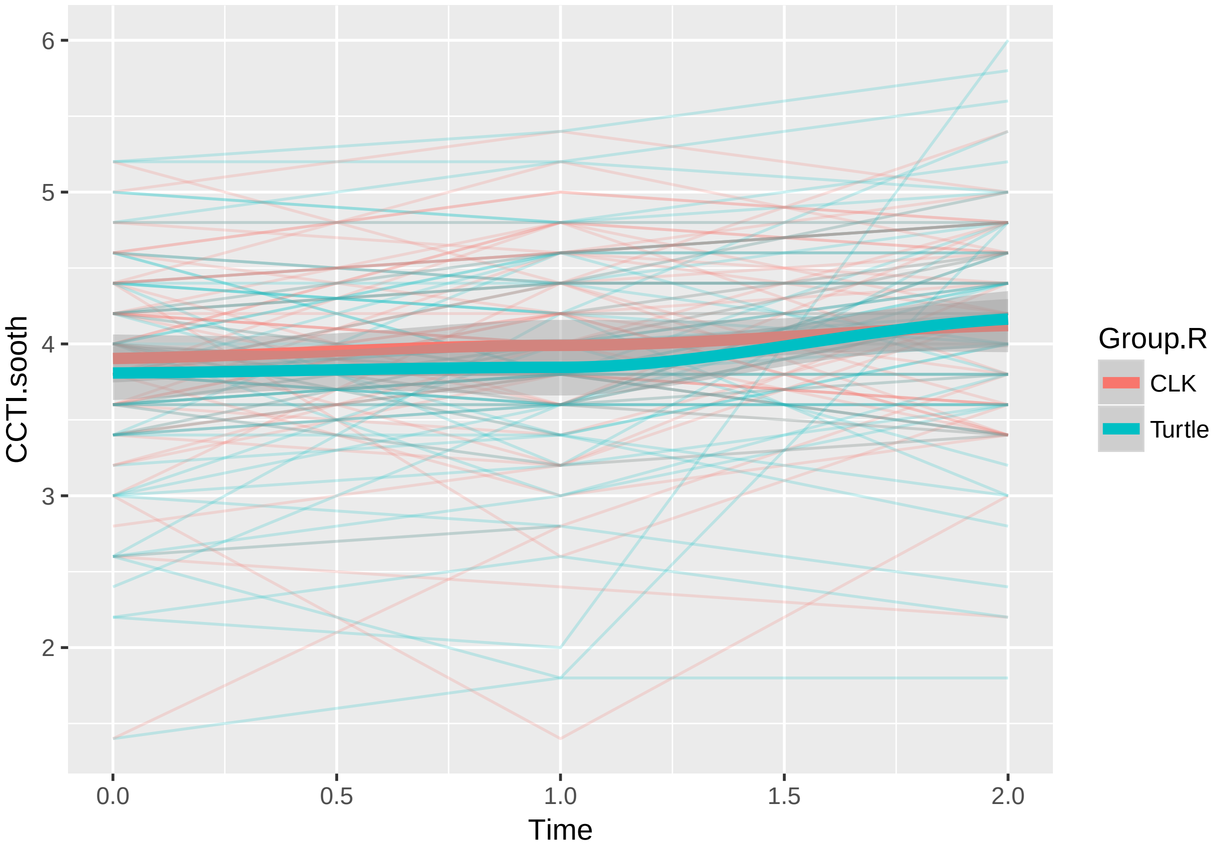
6.4.3.2.5 ATTENTION

```
g1<-ggplot(data=CCTI.long, aes(x=Time, y=CCTI.attn))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



6.4.3.2.6 SOOTHABILITY

```
g1<-ggplot(data=CCTI.long, aes(x=Time, y=CCTI.sooth))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```


CCTI.sooth
6
5
4
3
2
0.0
0.5
1.0
1.5
2.0
Time
Group.R
CLK
Turtle

7 Family Accommodation Scale (FAS)

Citation:
Lebowitz, E.R., Woolston, J., Bar-Haim, Y., Clvocoressi, L., Dauser, C., Scahill, L., ... Leckman, J.F. (2013). Family accommodation in pediatric anxiety disorders. *Depression and Anxiety, 30,* 47-54. doi: 10.1002/da.21998

Measure Description:
The Family Accommodation Scale - Anxiety (FAS, Lebowitz et al., 2013) is a 13- item questionnaire that measures the ways in which family members act to relieve a child's distress caused by symptoms of anxiety. This scale is a modification of the original Family Accommodation Scale used to assess accommodation in obsessive compulsive disorder (Calvoceressi et al., 1999). The assessment includes four subscales used to measure parent participation in anxiety symptoms, modification of family routines, distress resulting from accommodation, and undesirable consequences of not accommodating. Original reports of the measure indicated a high degree of internal consistency among subscales, ranging from alpha = .90 to .91 (Lebowitz et al., 2013).

Additional Reference(s): Calvocoressi, L., Mazure, C. M., Kasl, S. V., Skolnick, J., Fisk, D., Vegso, S. J., & ... Price, L. H. (1999). Family accommodation of obsessive-compulsive symptoms: Instrument development and assessment of family behavior. *Journal Of Nervous And Mental Disease, 187*, 636-642. doi:10.1097/00005053-199910000-00008

Response Options: (FAS_1 - FAS_9)
1 = Never
2 = 1-3 times a month
3 = 1-2 times a week
4 = 3-6 times a week
5 = Daily

Response Options: (FAS_10-FAS_13) 1 = No
2 = Mild
3 = Moderate
4 = Severe
5 = Extreme

Item Information:
1. FAS_1: How often did you reassure your child?
2. FAS_2: How often did you provide items needed because of anxiety?
3. FAS_3: How often did you participate in behaviors related in your child's anxiety?
4. FAS_4: How often did you assist your child in avoiding things that might make him/her more anxious?
5. FAS_5: Have you avoided doing things, going places, or being with people because of your child's anxiety?
6. FAS_6: Have you modified your family routine because of your child's symptoms?
7. FAS_7: Have you had to do things that would usually be your child's responsibility? 8. FAS_8: Have you modified your work schedule because of your child's anxiety?
9. FAS_9: Have you modified your leisure activities because of your child's anxiety?
10. FAS_10: Does helping your child in these ways cause you distress?
11. FAS_11: Has your child become distressed when you have not provided assistance? To what degree?
12. FAS_12: Has your child become angry/abusive when you have not provided assistance? To what degree?
13. FAS_13: Has your child's anxiety been worse when you have not provided assistance? How much worse?

Subscale Information:
Participation Subscale: 1, 2, 3, 4, 5
Modification Subscale: 6, 7, 8, 9
Distress Subscale: 10 *Consequences Subscale:* 11, 12, 13

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

Note: An individual mean replacement strategy was employed **when at least 85% of the necessary data** was provided by a participant for a given summary score. The variables that include scores created using this strategy have `MR85` appended to the end of the variable name. **IMPORTANT**: All subscale scores are created using this individual mean replacement strategy (i.e., if completion of a subscale equals or exceeds 85% an individual mean value will be used in place of missing values to calculate an average score).

7.1 TIME 1: COMPLETE SCALE

7.1.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(FAS.all_T1[,c(3:15)], trim=F, quant=c(.25,.75), ranges=F)
```

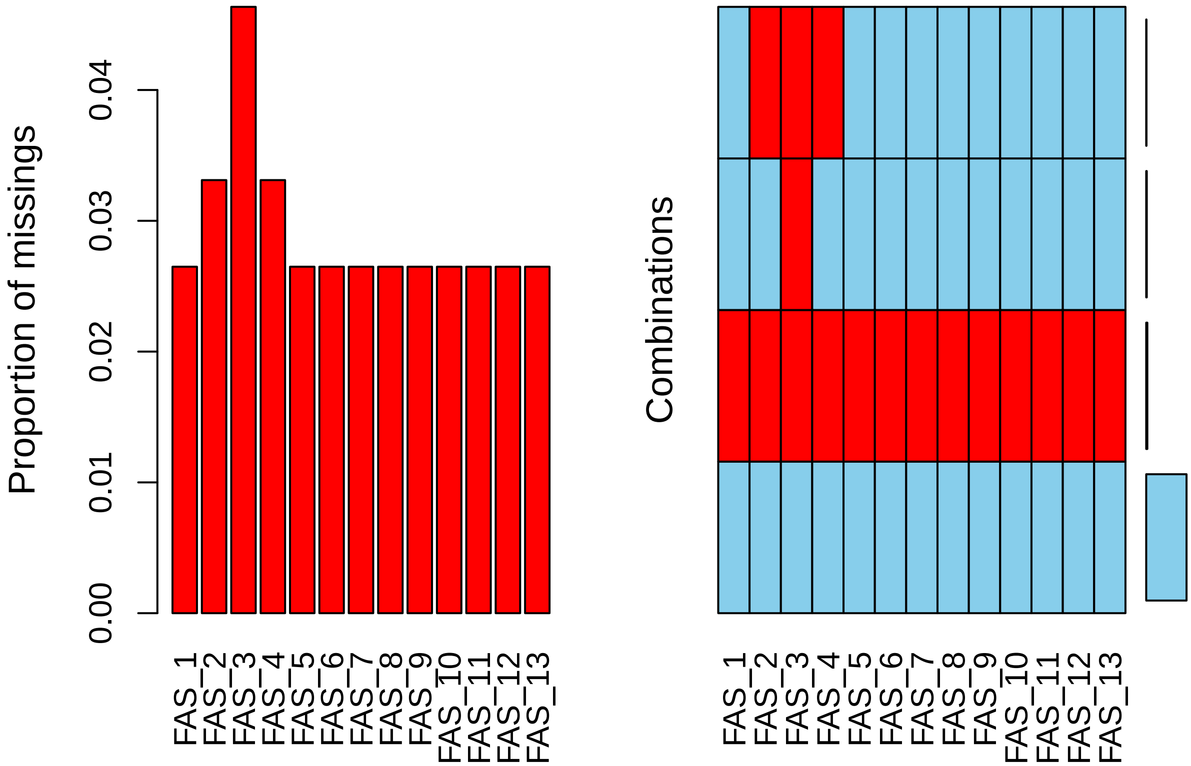
```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1     1 147 3.67 1.15 -0.38    -0.85 0.10     3     5
## FAS_2     2 146 2.20 1.41  0.79    -0.78 0.12     1     3
## FAS_3     3 144 2.68 1.37  0.31    -1.07 0.11     1     4
## FAS_4     4 146 2.37 1.23  0.68    -0.49 0.10     1     3
## FAS_5     5 147 1.75 0.93  1.38     1.83 0.08     1     2
## FAS_6     6 147 1.80 1.06  1.58     2.02 0.09     1     2
## FAS_7     7 147 1.98 1.11  1.03     0.33 0.09     1     3
## FAS_8     8 147 1.38 0.88  2.62     6.67 0.07     1     1
## FAS_9     9 147 1.67 0.87  1.55     2.82 0.07     1     2
## FAS_10   10 147 1.85 0.79  0.43    -0.81 0.07     1     2
## FAS_11   11 147 2.57 1.01 -0.07    -1.09 0.08     2     3
## FAS_12   12 147 1.84 0.95  0.70    -0.76 0.08     1     3
## FAS_13   13 147 2.28 1.05  0.29    -0.85 0.09     1     3
```

```
#Calculating Summary Scores:
FAS.all_T1$FAS_tot<-rowSums(FAS.all_T1[,3:15])  #inclunding na.rm=T results in 0's

FAS.all_T1$Miss_tot<-rep(NA, nrow(FAS.all_T1))
for(n in 1:nrow(FAS.all_T1)){
  FAS.all_T1$Miss_tot[n]<-sum(is.na(FAS.all_T1[n,3:15])==TRUE)
}

FAS.all_T1$Miss_per<-rep(NA, nrow(FAS.all_T1))
for(n in 1:nrow(FAS.all_T1)){
  FAS.all_T1$Miss_per[n]<-round(sum(is.na(FAS.all_T1[n,3:15])==TRUE)/ncol(FAS.all_T1[3:15])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
FAS.all_T1$FAS_avg<-rowMeans(FAS.all_T1[,3:15])

#Creating variable with individual mean replacement if respondent completed >85% of items
FAS.all_T1$FAS_avg_MR85<-ifelse(FAS.all_T1$Miss_per<15, rowMeans(FAS.all_T1[,3:15],
                                                                  na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(FAS.all_T1[,c(16,19,20)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 144 27.92 9.42 0.49    -0.36 0.79 20.00 33.00
## FAS_avg         2 144  2.15 0.72 0.49    -0.36 0.06  1.54  2.54
## FAS_avg_MR85    3 146  2.15 0.72 0.47    -0.36 0.06  1.54  2.54
```

7.1.2 MISSING DATA

```
VIM::aggr(FAS.all_T1[,3:15])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right. *Missing Data Notes:*

1. Missing pattern 1: Subject 153 failed to resond to `FAS_2`, `FAS_3`, and `FAS_4`; $N = 1$; 0.66%
2. Missing pattern 2: Subjects 26 and 163 failed to respond to `FAS_3`; $N = 2$; 1.32%
3. Missing pattern 3: Subjects 5, 38, 96, and 125 failed to respond to any items; $N = 4$; 2.65%
4. Missing pattern 4: All items completed; $N = 144$; 95.36%

The variable `FAS_tot` is the vector of individual summed FAS scores - 026, 153, and 163 are dropped from this summary variable (see above).

The varaible `FAS_avg` is the vector of individual mean FAS scores - 026, 153, and 163 are dropped from this summary variable (see above).

The variable `FAS_avg_MR85` is a vector of individual mean FAS scores that includes estimated averages when at least 85% of the necessary data is available - note 026 and 163 are included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T1 to report.

7.1.3 CRONBACH'S ALPHA

```
psych::alpha(FAS.all_T1[,3:15], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T1[, 3:15], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.9       0.9    0.91      0.41 9.1 0.012  2.2 0.72     0.42
##
##  lower alpha upper     95% confidence boundaries
## 0.88 0.9 0.92
##
##  lower median upper bootstrapped confidence intervals
```

```
##  0.87 0.9 0.92
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_1       0.89      0.90    0.91      0.42 8.8    0.012 0.012  0.42
## FAS_2       0.89      0.89    0.90      0.41 8.3    0.013 0.012  0.41
## FAS_3       0.89      0.89    0.91      0.42 8.5    0.013 0.012  0.42
## FAS_4       0.88      0.89    0.90      0.40 8.0    0.013 0.012  0.41
## FAS_5       0.89      0.89    0.90      0.41 8.4    0.013 0.012  0.42
## FAS_6       0.89      0.89    0.91      0.41 8.4    0.013 0.013  0.41
## FAS_7       0.90      0.90    0.91      0.42 8.8    0.012 0.012  0.43
## FAS_8       0.90      0.90    0.91      0.43 9.0    0.012 0.011  0.43
## FAS_9       0.89      0.89    0.90      0.41 8.3    0.013 0.013  0.42
## FAS_10      0.90      0.90    0.91      0.42 8.9    0.012 0.011  0.42
## FAS_11      0.89      0.89    0.90      0.40 7.9    0.013 0.010  0.41
## FAS_12      0.89      0.89    0.91      0.42 8.5    0.012 0.011  0.42
## FAS_13      0.89      0.89    0.90      0.40 8.0    0.013 0.010  0.41
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_1  147  0.63  0.61  0.57   0.55  3.7 1.15
## FAS_2  146  0.74  0.70  0.68   0.65  2.2 1.41
## FAS_3  144  0.69  0.66  0.63   0.60  2.7 1.37
## FAS_4  146  0.78  0.77  0.76   0.72  2.4 1.23
## FAS_5  147  0.67  0.69  0.66   0.61  1.7 0.93
## FAS_6  147  0.69  0.69  0.65   0.63  1.8 1.06
## FAS_7  147  0.60  0.59  0.54   0.51  2.0 1.11
## FAS_8  147  0.54  0.56  0.51   0.47  1.4 0.88
## FAS_9  147  0.69  0.71  0.68   0.64  1.7 0.87
## FAS_10 147  0.56  0.59  0.54   0.50  1.9 0.79
## FAS_11 147  0.79  0.80  0.80   0.74  2.6 1.01
## FAS_12 147  0.64  0.66  0.63   0.57  1.8 0.95
## FAS_13 147  0.76  0.77  0.77   0.71  2.3 1.05
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## FAS_1  0.03 0.13 0.29 0.23 0.32 0.03
## FAS_2  0.49 0.14 0.16 0.10 0.11 0.03
## FAS_3  0.26 0.20 0.27 0.12 0.15 0.05
## FAS_4  0.28 0.34 0.20 0.10 0.08 0.03
## FAS_5  0.49 0.35 0.11 0.03 0.02 0.03
## FAS_6  0.50 0.35 0.07 0.04 0.05 0.03
## FAS_7  0.44 0.29 0.17 0.06 0.04 0.03
## FAS_8  0.79 0.11 0.06 0.01 0.03 0.03
## FAS_9  0.52 0.35 0.10 0.01 0.02 0.03
## FAS_10 0.38 0.40 0.20 0.01 0.00 0.03
## FAS_11 0.17 0.30 0.32 0.21 0.00 0.03
## FAS_12 0.48 0.24 0.22 0.05 0.00 0.03
## FAS_13 0.29 0.27 0.31 0.11 0.01 0.03
```

7.1.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
FAS.all_T1$Group.R<-ifelse(FAS.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(FAS.all_T1[,c(3:15,21)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1       1 73 3.78 1.13 -0.42    -0.86 0.13     3     5
## FAS_2       2 72 2.12 1.40  0.87    -0.70 0.17     1     3
```

```
## FAS_3       3 71 2.69 1.37  0.26    -1.12 0.16     1     4
## FAS_4       4 72 2.47 1.29  0.53    -0.83 0.15     1     3
## FAS_5       5 73 1.84 1.01  1.19     0.94 0.12     1     2
## FAS_6       6 73 1.88 1.08  1.42     1.58 0.13     1     2
## FAS_7       7 73 2.03 1.09  0.83    -0.18 0.13     1     3
## FAS_8       8 73 1.58 1.10  1.98     2.95 0.13     1     2
## FAS_9       9 73 1.71 0.94  1.49     2.30 0.11     1     2
## FAS_10     10 73 1.82 0.77  0.49    -0.65 0.09     1     2
## FAS_11     11 73 2.58 1.07 -0.06    -1.27 0.12     2     3
## FAS_12     12 73 1.84 0.99  0.75    -0.75 0.12     1     3
## FAS_13     13 73 2.27 1.10  0.20    -1.34 0.13     1     3
## Group.R*   14 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1       1 74 3.57 1.17 -0.34    -0.92 0.14  3.00     5
## FAS_2       2 74 2.27 1.43  0.70    -0.89 0.17  1.00     3
## FAS_3       3 73 2.67 1.37  0.34    -1.08 0.16  1.00     4
## FAS_4       4 74 2.27 1.16  0.81    -0.11 0.14  1.00     3
## FAS_5       5 74 1.66 0.83  1.53     2.84 0.10  1.00     2
## FAS_6       6 74 1.72 1.04  1.73     2.46 0.12  1.00     2
## FAS_7       7 74 1.93 1.13  1.21     0.77 0.13  1.00     2
## FAS_8       8 74 1.19 0.51  2.63     5.79 0.06  1.00     1
## FAS_9       9 74 1.64 0.80  1.52     3.06 0.09  1.00     2
## FAS_10     10 74 1.88 0.81  0.37    -1.00 0.09  1.00     2
## FAS_11     11 74 2.57 0.95 -0.10    -0.95 0.11  2.00     3
## FAS_12     12 74 1.85 0.92  0.61    -0.87 0.11  1.00     3
## FAS_13     13 74 2.28 1.00  0.39    -0.27 0.12  1.25     3
## Group.R*   14 75  NaN   NA    NA       NA   NA    NA    NA
```

```
psych::describeBy(FAS.all_T1[,c(16,19,20,21)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

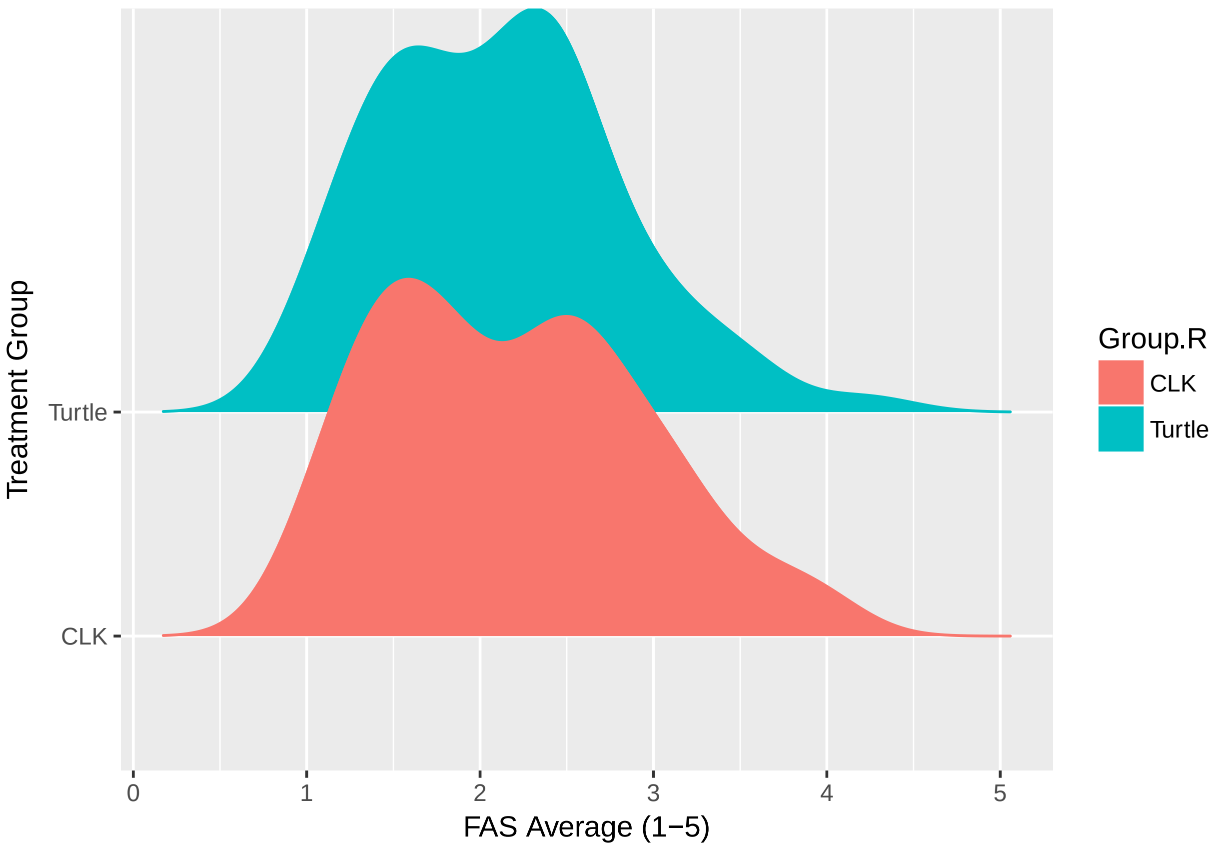
```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 71 28.46 9.96 0.40    -0.74 1.18 20.50 35.00
## FAS_avg         2 71  2.19 0.77 0.40    -0.74 0.09  1.58  2.69
## FAS_avg_MR85    3 72  2.19 0.76 0.39    -0.72 0.09  1.60  2.69
## Group.R*        4 76   NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##              vars  n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 73 27.38 8.90 0.56     0.05 1.04 20.00 32.00
## FAS_avg         2 73  2.11 0.68 0.56     0.05 0.08  1.54  2.46
## FAS_avg_MR85    3 74  2.12 0.68 0.52     0.00 0.08  1.54  2.46
## Group.R*        4 75   NaN   NA   NA       NA   NA    NA    NA
```

7.1.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average BIQ scores
t.test(FAS.all_T1$FAS_avg_MR85~FAS.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  FAS.all_T1$FAS_avg_MR85 by FAS.all_T1$Group
## t = 0.64742, df = 141.47, p-value = 0.5184
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1594052  0.3146614
```

```
## sample estimates:
## mean in group 0 mean in group 1
##         2.192753        2.115125
```



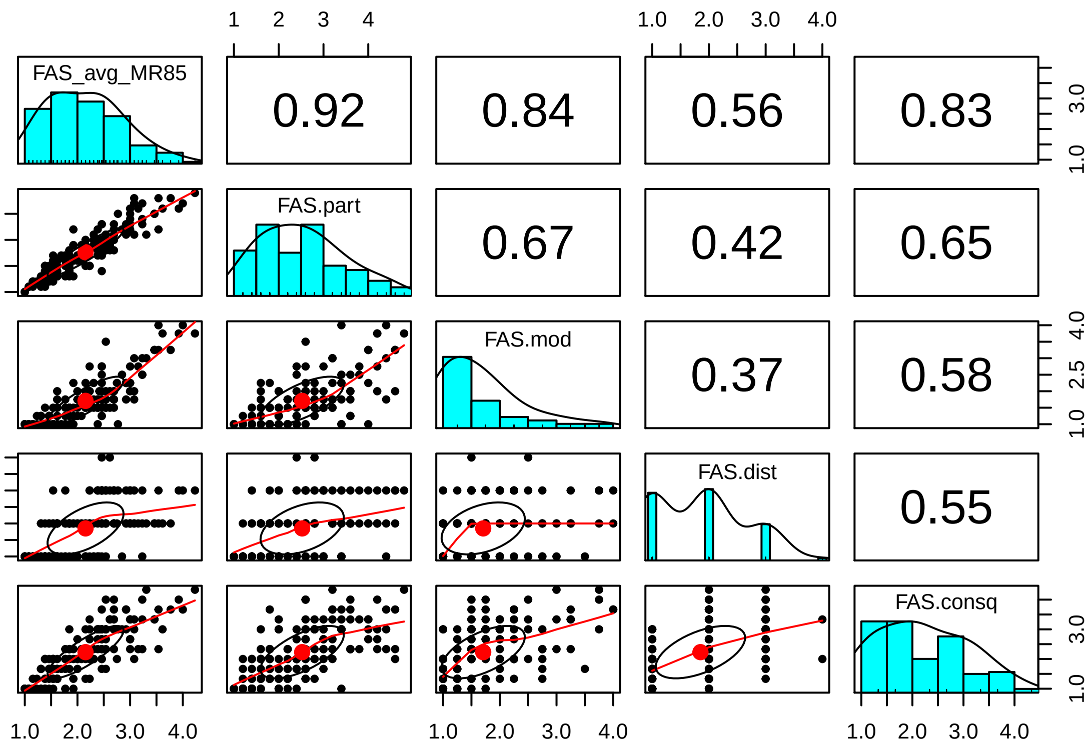
7.1.6 TIME 1: SUBSCALES

7.1.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(FAS.all_T1[,c(22:25)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##           vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS.part     1 144 2.52 0.93 0.44    -0.58 0.08  1.80   3.2
## FAS.mod      2 147 1.71 0.73 1.22     0.97 0.06  1.00   2.0
## FAS.dist     3 147 1.85 0.79 0.43    -0.81 0.07  1.00   2.0
## FAS.consq    4 147 2.23 0.88 0.31    -0.86 0.07  1.33   3.0
```

```
psych::pairs.panels(FAS.all_T1[,c(20,22:25)])
```



7.1.6.2 CRONBACH'S ALPHA: PARTICIPATION SUBSCALE

```
psych::alpha(FAS.all_T1[FAS.part], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T1[FAS.part], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.81      0.82    0.81      0.47 4.5 0.023  2.5 0.93     0.48
##
##  lower alpha upper     95% confidence boundaries
## 0.77 0.81 0.86
##
##  lower median upper bootstrapped confidence intervals
##  0.76 0.81 0.86
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_1      0.79      0.80    0.77      0.50 4.0    0.027 0.015  0.50
## FAS_2      0.76      0.76    0.75      0.45 3.2    0.031 0.021  0.45
## FAS_3      0.78      0.78    0.75      0.48 3.6    0.028 0.016  0.46
## FAS_4      0.75      0.75    0.72      0.43 3.0    0.031 0.014  0.46
## FAS_5      0.80      0.80    0.76      0.50 4.1    0.026 0.004  0.50
##
```

```
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_1 147  0.72  0.72  0.61   0.56  3.7 1.15
## FAS_2 146  0.82  0.80  0.73   0.66  2.2 1.41
## FAS_3 144  0.77  0.75  0.67   0.60  2.7 1.37
## FAS_4 146  0.81  0.82  0.79   0.69  2.4 1.23
## FAS_5 147  0.67  0.71  0.62   0.53  1.7 0.93
##
## Non missing response frequency for each item
##          1    2    3    4    5 miss
## FAS_1 0.03 0.13 0.29 0.23 0.32 0.03
## FAS_2 0.49 0.14 0.16 0.10 0.11 0.03
## FAS_3 0.26 0.20 0.27 0.12 0.15 0.05
## FAS_4 0.28 0.34 0.20 0.10 0.08 0.03
## FAS_5 0.49 0.35 0.11 0.03 0.02 0.03
```

7.1.6.3 CRONBACH'S ALPHA: MODIFICATION SUBSCALE

```r
psych::alpha(FAS.all_T1[FAS.mod], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T1[FAS.mod], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.73      0.74    0.69      0.42 2.9 0.035  1.7 0.73     0.42
##
##  lower alpha upper     95% confidence boundaries
## 0.66 0.73 0.8
##
##  lower median upper bootstrapped confidence intervals
##  0.64 0.73 0.8
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se   var.r med.r
## FAS_6      0.67      0.68    0.61      0.42 2.2    0.047 1.2e-02  0.41
## FAS_7      0.71      0.72    0.63      0.46 2.5    0.041 4.2e-03  0.43
## FAS_8      0.68      0.68    0.59      0.42 2.2    0.045 4.1e-05  0.42
## FAS_9      0.65      0.65    0.56      0.38 1.8    0.049 3.7e-03  0.42
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_6 147  0.77  0.75  0.62   0.54  1.8 1.06
## FAS_7 147  0.74  0.71  0.55   0.48  2.0 1.11
## FAS_8 147  0.72  0.75  0.63   0.52  1.4 0.88
## FAS_9 147  0.76  0.79  0.70   0.59  1.7 0.87
##
## Non missing response frequency for each item
##          1    2    3    4    5 miss
## FAS_6 0.50 0.35 0.07 0.04 0.05 0.03
## FAS_7 0.44 0.29 0.17 0.06 0.04 0.03
## FAS_8 0.79 0.11 0.06 0.01 0.03 0.03
## FAS_9 0.52 0.35 0.10 0.01 0.02 0.03
```

7.1.6.4 CRONBACH'S ALPHA: DISTRESS SUBSCALE

There is no measure of internal consistency for a single item measure.

7.1.6.5 CRONBACH'S ALPHA: DISTRESS SUBSCALE

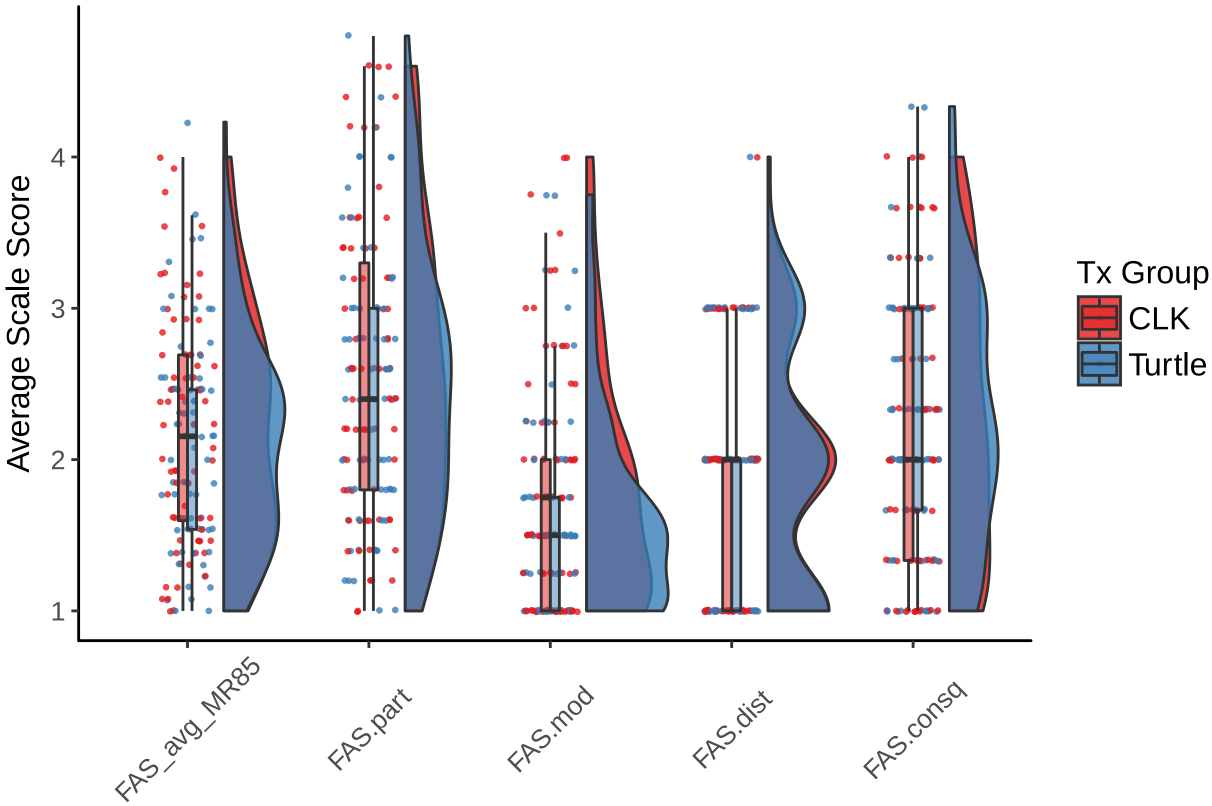
```r
psych::alpha(FAS.all_T1[FAS.consq], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T1[FAS.consq], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.86      0.86    0.81      0.67   6 0.02  2.2 0.88     0.64
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.86 0.9
##
##  lower median upper bootstrapped confidence intervals
##  0.81 0.86 0.9
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_11      0.76      0.76    0.62      0.62 3.2    0.039    NA  0.62
## FAS_12      0.85      0.85    0.75      0.75 5.9    0.024    NA  0.75
## FAS_13      0.78      0.78    0.64      0.64 3.5    0.036    NA  0.64
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_11 147  0.90  0.90  0.84   0.77  2.6 1.01
## FAS_12 147  0.84  0.85  0.72   0.67  1.8 0.95
## FAS_13 147  0.90  0.89  0.82   0.75  2.3 1.05
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## FAS_11 0.17 0.30 0.32 0.21 0.00 0.03
## FAS_12 0.48 0.24 0.22 0.05 0.00 0.03
## FAS_13 0.29 0.27 0.31 0.11 0.01 0.03
```

7.1.6.6 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
df.m<-reshape2::melt(FAS.all_T1[,20:25], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
```

```
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:

Complete T1 Folder:

`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:

- `/FAS_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/FAS_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/FAS_T1_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

7.2 TIME 2: COMPLETE SCALE

7.2.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(FAS.all_T2[,c(3:15)], trim=F, quant=c(.25,.75), ranges=F)
```

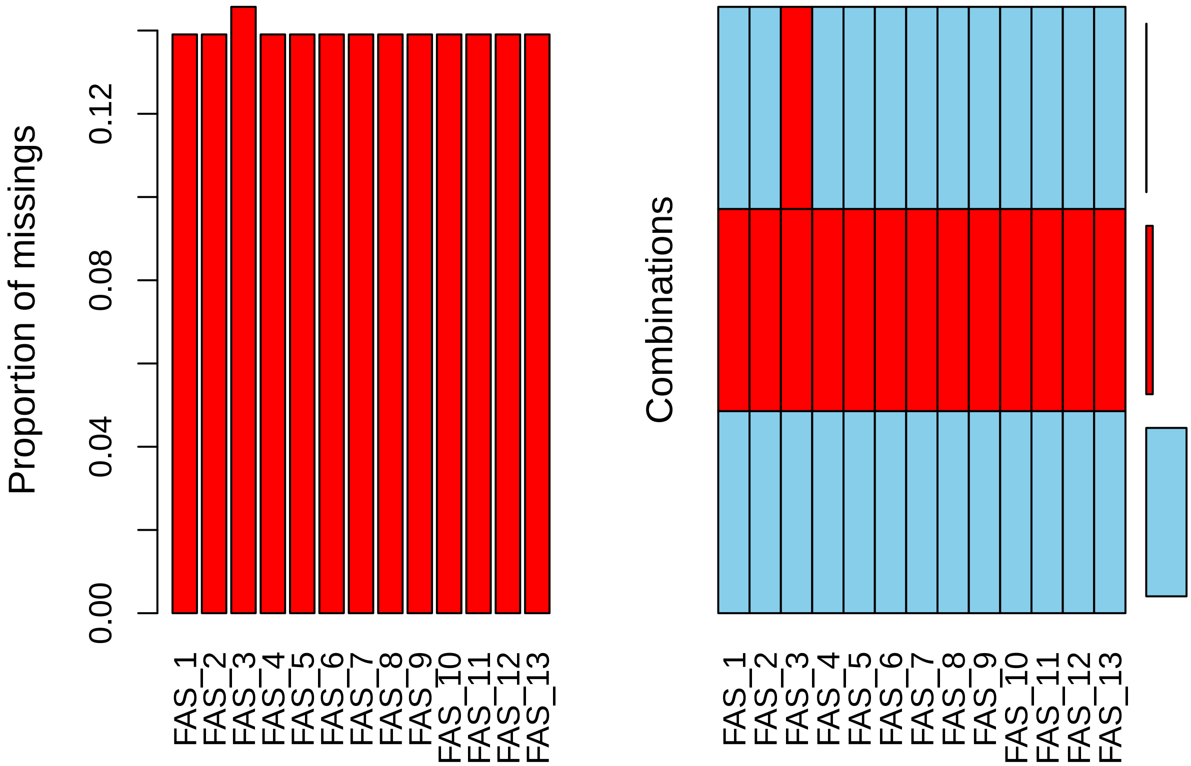
```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1     1 130 3.62 1.15 -0.34    -0.93 0.10     3     5
## FAS_2     2 130 2.19 1.32  0.76    -0.71 0.12     1     3
## FAS_3     3 129 2.86 1.31  0.07    -1.16 0.12     2     4
## FAS_4     4 130 2.06 1.08  0.93     0.23 0.10     1     3
## FAS_5     5 130 1.54 0.80  1.73     3.25 0.07     1     2
## FAS_6     6 130 1.65 1.00  1.78     2.69 0.09     1     2
## FAS_7     7 130 2.08 1.13  0.81    -0.22 0.10     1     3
## FAS_8     8 130 1.27 0.70  3.32    12.33 0.06     1     1
## FAS_9     9 130 1.50 0.80  1.94     4.47 0.07     1     2
## FAS_10   10 130 1.86 0.79  0.53    -0.42 0.07     1     2
## FAS_11   11 130 2.36 0.90  0.26    -0.42 0.08     2     3
## FAS_12   12 130 1.75 0.99  1.18     0.62 0.09     1     2
## FAS_13   13 130 2.10 1.03  0.64    -0.42 0.09     1     3
```

```
#Calculating Summary Scores:
FAS.all_T2$FAS_tot<-rowSums(FAS.all_T2[,3:15])  #inclunding na.rm=T results in 0's

FAS.all_T2$Miss_tot<-rep(NA, nrow(FAS.all_T2))
for(n in 1:nrow(FAS.all_T2)){
  FAS.all_T2$Miss_tot[n]<-sum(is.na(FAS.all_T2[n,3:15])==TRUE)
}

FAS.all_T2$Miss_per<-rep(NA, nrow(FAS.all_T2))
for(n in 1:nrow(FAS.all_T2)){
  FAS.all_T2$Miss_per[n]<-round(sum(is.na(FAS.all_T2[n,3:15])==TRUE)/ncol(FAS.all_T2[3:15])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
FAS.all_T2$FAS_avg<-rowMeans(FAS.all_T2[,3:15])

#Creating variable with individual mean replacement if respondent completed >85% of items
FAS.all_T2$FAS_avg_MR85<-ifelse(FAS.all_T2$Miss_per<15, rowMeans(FAS.all_T2[,3:15],
                                                                  na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(FAS.all_T2[,c(16,19,20)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 129 26.85 8.48 0.69    -0.30 0.75 20.00 32.00
## FAS_avg         2 129  2.07 0.65 0.69    -0.30 0.06  1.54  2.46
## FAS_avg_MR85    3 130  2.06 0.65 0.70    -0.27 0.06  1.54  2.46
```

7.2.2 MISSING DATA

```
VIM::aggr(FAS.all_T2[,3:15])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right. *Missing Data Notes:*

[Will complete at a future date]

The variable `FAS_tot` is the vector of individual summed FAS scores - 026, 153, and 163 are dropped from this summary variable (see above).

The varaible `FAS_avg` is the vector of individual mean FAS scores - 026, 153, and 163 are dropped from this summary variable (see above).

The variable `FAS_avg_MR85` is a vector of individual mean FAS scores that includes estimated averages when at least 85% of the necessary data is available - note 026 and 163 are included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T2 to report.

7.2.3 CRONBACH'S ALPHA

```
psych::alpha(FAS.all_T2[,3:15], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T2[, 3:15], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.88     0.9      0.36 7.4 0.014  2.1 0.65     0.37
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.84 0.88 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_1       0.87      0.88    0.90      0.37 7.0    0.015 0.016  0.38
## FAS_2       0.87      0.87    0.89      0.36 6.7    0.015 0.016  0.37
## FAS_3       0.87      0.87    0.89      0.36 6.7    0.016 0.016  0.36
```

```
## FAS_4       0.87      0.87    0.89      0.36 6.7    0.015 0.015   0.37
## FAS_5       0.87      0.87    0.89      0.36 6.8    0.015 0.016   0.38
## FAS_6       0.87      0.87    0.90      0.36 6.9    0.015 0.017   0.37
## FAS_7       0.87      0.87    0.89      0.36 6.6    0.015 0.016   0.36
## FAS_8       0.88      0.88    0.90      0.39 7.6    0.014 0.011   0.39
## FAS_9       0.87      0.87    0.89      0.36 6.8    0.015 0.017   0.37
## FAS_10      0.87      0.87    0.89      0.36 6.9    0.015 0.016   0.37
## FAS_11      0.87      0.87    0.89      0.35 6.5    0.016 0.015   0.36
## FAS_12      0.87      0.88    0.89      0.37 7.1    0.015 0.013   0.38
## FAS_13      0.86      0.86    0.88      0.35 6.4    0.016 0.013   0.35
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_1  130  0.60  0.58  0.54   0.51  3.6 1.15
## FAS_2  130  0.70  0.67  0.64   0.60  2.2 1.32
## FAS_3  129  0.71  0.68  0.66   0.62  2.9 1.31
## FAS_4  130  0.67  0.67  0.64   0.59  2.1 1.08
## FAS_5  130  0.62  0.64  0.61   0.55  1.5 0.80
## FAS_6  130  0.62  0.63  0.58   0.54  1.7 1.00
## FAS_7  130  0.70  0.69  0.66   0.62  2.1 1.13
## FAS_8  130  0.40  0.43  0.37   0.33  1.3 0.70
## FAS_9  130  0.62  0.65  0.61   0.56  1.5 0.80
## FAS_10 130  0.60  0.62  0.58   0.54  1.9 0.79
## FAS_11 130  0.72  0.73  0.71   0.66  2.4 0.90
## FAS_12 130  0.57  0.58  0.54   0.49  1.7 0.99
## FAS_13 130  0.77  0.77  0.77   0.71  2.1 1.03
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## FAS_1  0.03 0.16 0.25 0.27 0.28 0.14
## FAS_2  0.44 0.21 0.15 0.12 0.08 0.14
## FAS_3  0.19 0.22 0.23 0.22 0.12 0.15
## FAS_4  0.37 0.35 0.18 0.07 0.04 0.14
## FAS_5  0.60 0.31 0.05 0.03 0.01 0.14
## FAS_6  0.58 0.29 0.04 0.05 0.03 0.14
## FAS_7  0.41 0.26 0.22 0.08 0.04 0.14
## FAS_8  0.82 0.12 0.03 0.01 0.02 0.14
## FAS_9  0.64 0.26 0.08 0.01 0.02 0.14
## FAS_10 0.36 0.44 0.18 0.02 0.00 0.14
## FAS_11 0.17 0.41 0.32 0.09 0.01 0.14
## FAS_12 0.55 0.22 0.16 0.05 0.02 0.14
## FAS_13 0.35 0.33 0.22 0.09 0.02 0.14
```

7.2.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```r
FAS.all_T2$Group.R<-ifelse(FAS.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(FAS.all_T2[,c(3:15,21)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1       1 63 3.65 1.17 -0.51    -0.68 0.15     3     5
## FAS_2       2 63 2.27 1.39  0.72    -0.83 0.18     1     3
## FAS_3       3 63 2.78 1.36  0.21    -1.20 0.17     2     4
## FAS_4       4 63 2.13 1.04  1.02     0.76 0.13     1     3
## FAS_5       5 63 1.56 0.80  1.88     4.56 0.10     1     2
## FAS_6       6 63 1.62 0.89  1.48     1.44 0.11     1     2
## FAS_7       7 63 2.05 1.17  0.92    -0.10 0.15     1     3
## FAS_8       8 63 1.38 0.87  2.83     8.11 0.11     1     1
```

```
## FAS_9        9 63 1.62 0.94  1.72     3.01 0.12     1     2
## FAS_10      10 63 1.84 0.72  0.49    -0.18 0.09     1     2
## FAS_11      11 63 2.37 0.89  0.34    -0.02 0.11     2     3
## FAS_12      12 63 1.73 1.00  1.21     0.61 0.13     1     2
## FAS_13      13 63 2.10 1.04  0.57    -0.57 0.13     1     3
## Group.R*    14 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1       1 67 3.58 1.14 -0.17    -1.21 0.14     3     5
## FAS_2       2 67 2.12 1.26  0.76    -0.74 0.15     1     3
## FAS_3       3 66 2.94 1.26 -0.07    -1.12 0.16     2     4
## FAS_4       4 67 2.00 1.13  0.87    -0.24 0.14     1     3
## FAS_5       5 67 1.52 0.80  1.56     1.85 0.10     1     2
## FAS_6       6 67 1.69 1.10  1.83     2.60 0.13     1     2
## FAS_7       7 67 2.10 1.10  0.67    -0.43 0.13     1     3
## FAS_8       8 67 1.16 0.48  2.87     7.30 0.06     1     1
## FAS_9       9 67 1.39 0.63  1.69     3.17 0.08     1     2
## FAS_10     10 67 1.88 0.84  0.52    -0.71 0.10     1     2
## FAS_11     11 67 2.36 0.92  0.18    -0.82 0.11     2     3
## FAS_12     12 67 1.76 0.99  1.13     0.53 0.12     1     2
## FAS_13     13 67 2.10 1.03  0.69    -0.35 0.13     1     3
## Group.R*   14 75  NaN   NA    NA       NA   NA    NA    NA
```

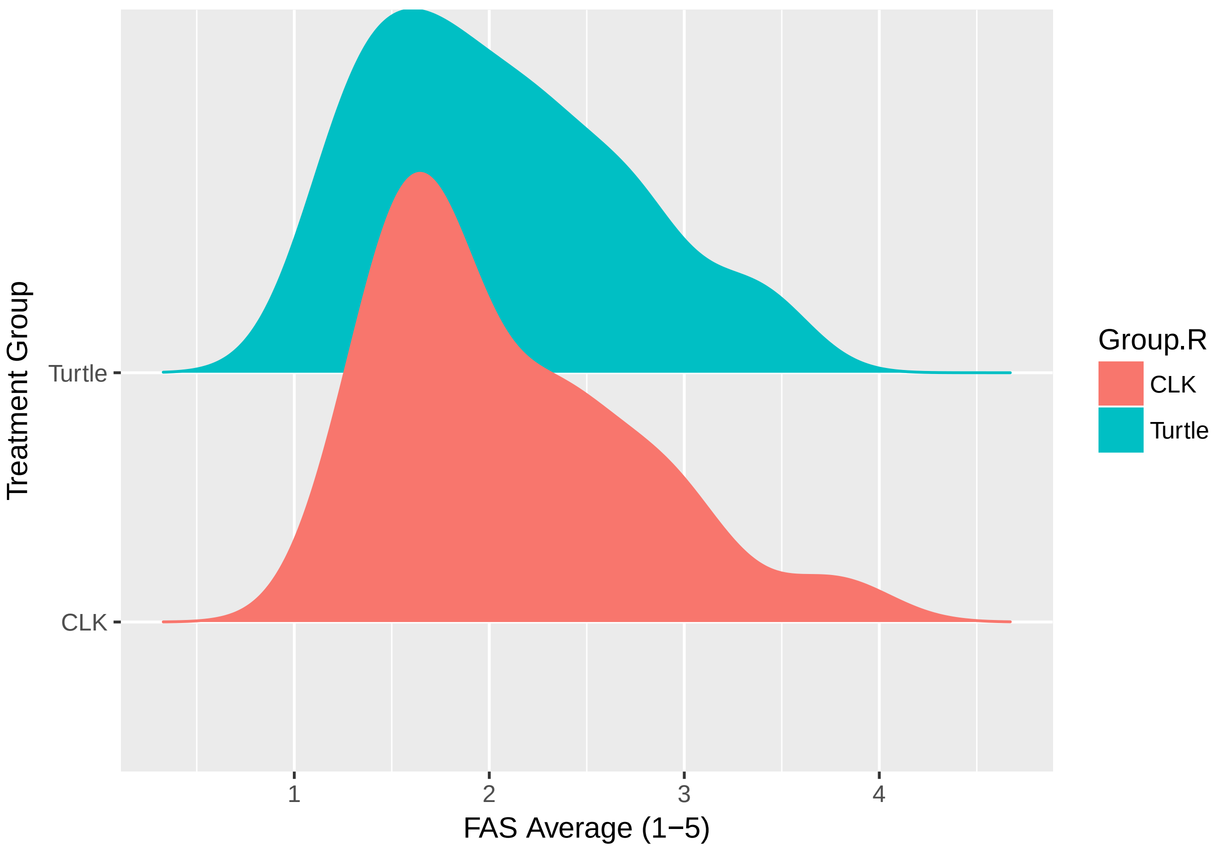
```
psych::describeBy(FAS.all_T2[,c(16,19,20,21)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 63 27.08 8.55 0.87     0.02 1.08 21.00 32.00
## FAS_avg         2 63  2.08 0.66 0.87     0.02 0.08  1.62  2.46
## FAS_avg_MR85    3 63  2.08 0.66 0.87     0.02 0.08  1.62  2.46
## Group.R*        4 76   NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##              vars  n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 66 26.64 8.47 0.49    -0.74 1.04 19.00 32.00
## FAS_avg         2 66  2.05 0.65 0.49    -0.74 0.08  1.46  2.46
## FAS_avg_MR85    3 67  2.05 0.65 0.51    -0.70 0.08  1.46  2.46
## Group.R*        4 75   NaN   NA   NA       NA   NA    NA    NA
```

7.2.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average BIQ scores
t.test(FAS.all_T2$FAS_avg_MR85~FAS.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  FAS.all_T2$FAS_avg_MR85 by FAS.all_T2$Group
## t = 0.32571, df = 127.22, p-value = 0.7452
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1892828  0.2638732
## sample estimates:
## mean in group 0 mean in group 1
##        2.083028        2.045733
```


Treatment Group
Turtle
CLK
1
2
3
4
FAS Average (1−5)
Group.R
CLK
Turtle

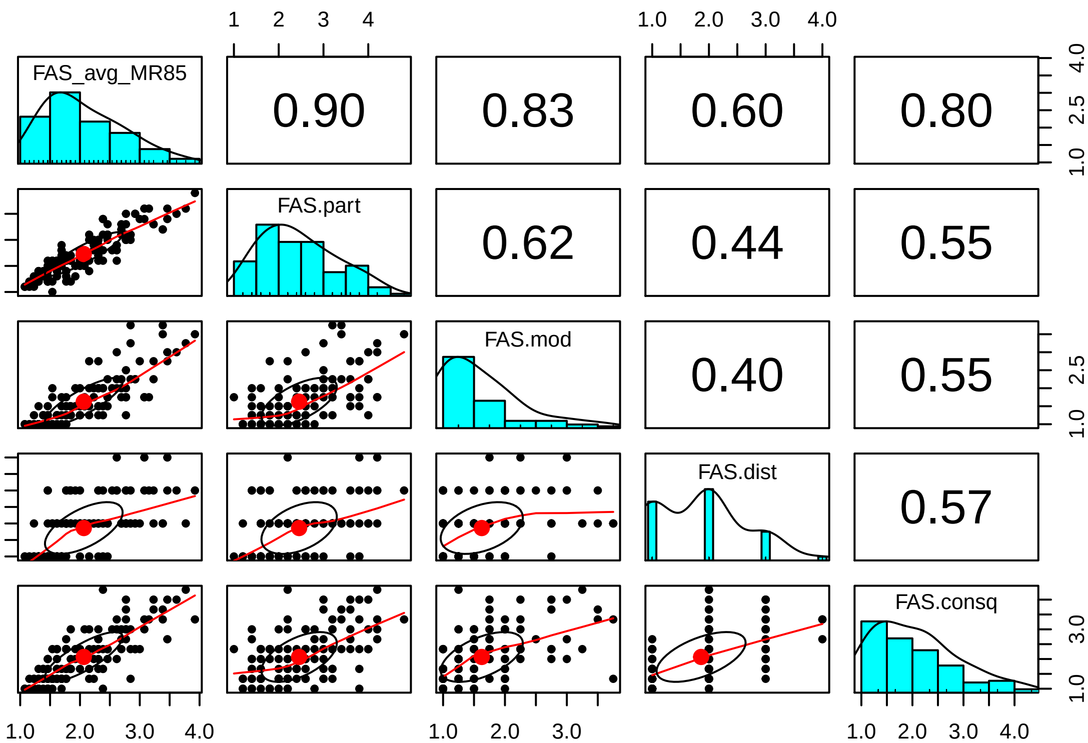
7.2.6 TIME 2: SUBSCALES

7.2.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(FAS.all_T2[,c(22:25)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##           vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS.part     1 129 2.46 0.84 0.52    -0.57 0.07  1.80  3.00
## FAS.mod      2 130 1.62 0.66 1.29     1.19 0.06  1.00  2.00
## FAS.dist     3 130 1.86 0.79 0.53    -0.42 0.07  1.00  2.00
## FAS.consq    4 130 2.07 0.84 0.72    -0.19 0.07  1.33  2.33
```

```
psych::pairs.panels(FAS.all_T2[,c(20,22:25)])
```



7.2.6.2 CRONBACH'S ALPHA: PARTICIPATION SUBSCALE

```
psych::alpha(FAS.all_T2[FAS.part], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T2[FAS.part], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.78      0.79    0.78      0.43 3.7 0.027  2.5 0.84     0.42
##
##  lower alpha upper     95% confidence boundaries
## 0.73 0.78 0.84
##
##  lower median upper bootstrapped confidence intervals
##  0.72 0.78 0.83
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_1      0.76      0.77    0.75      0.46 3.4    0.031 0.015  0.42
## FAS_2      0.72      0.73    0.72      0.41 2.8    0.036 0.018  0.37
## FAS_3      0.71      0.73    0.70      0.40 2.6    0.038 0.016  0.38
## FAS_4      0.75      0.75    0.70      0.42 2.9    0.031 0.013  0.39
## FAS_5      0.76      0.76    0.72      0.44 3.2    0.030 0.013  0.43
##
```

```
##  Item statistics
##         n raw.r std.r r.cor r.drop mean  sd
## FAS_1 130  0.69  0.69  0.56   0.51  3.6 1.2
## FAS_2 130  0.80  0.76  0.68   0.62  2.2 1.3
## FAS_3 129  0.81  0.78  0.72   0.65  2.9 1.3
## FAS_4 130  0.71  0.74  0.67   0.54  2.1 1.1
## FAS_5 130  0.65  0.71  0.62   0.52  1.5 0.8
##
## Non missing response frequency for each item
##          1    2    3    4    5 miss
## FAS_1 0.03 0.16 0.25 0.27 0.28 0.14
## FAS_2 0.44 0.21 0.15 0.12 0.08 0.14
## FAS_3 0.19 0.22 0.23 0.22 0.12 0.15
## FAS_4 0.37 0.35 0.18 0.07 0.04 0.14
## FAS_5 0.60 0.31 0.05 0.03 0.01 0.14
```

7.2.6.3 CRONBACH'S ALPHA: MODIFICATION SUBSCALE

```r
psych::alpha(FAS.all_T2[FAS.mod], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T2[FAS.mod], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.69       0.7    0.65      0.37 2.4 0.04  1.6 0.66      0.4
##
##  lower alpha upper     95% confidence boundaries
## 0.61 0.69 0.77
##
##  lower median upper bootstrapped confidence intervals
##  0.55 0.69 0.78
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se   var.r med.r
## FAS_6      0.64      0.67    0.58      0.40 2.0    0.049 0.00682  0.43
## FAS_7      0.62      0.64    0.57      0.37 1.8    0.052 0.01711  0.43
## FAS_8      0.66      0.68    0.59      0.41 2.1    0.046 0.00084  0.43
## FAS_9      0.56      0.57    0.47      0.30 1.3    0.058 0.00621  0.31
##
##  Item statistics
##         n raw.r std.r r.cor r.drop mean  sd
## FAS_6 130  0.73  0.70  0.54   0.45  1.7 1.0
## FAS_7 130  0.78  0.73  0.58   0.49  2.1 1.1
## FAS_8 130  0.62  0.68  0.52   0.41  1.3 0.7
## FAS_9 130  0.77  0.80  0.72   0.59  1.5 0.8
##
## Non missing response frequency for each item
##          1    2    3    4    5 miss
## FAS_6 0.58 0.29 0.04 0.05 0.03 0.14
## FAS_7 0.41 0.26 0.22 0.08 0.04 0.14
## FAS_8 0.82 0.12 0.03 0.01 0.02 0.14
## FAS_9 0.64 0.26 0.08 0.01 0.02 0.14
```

NOTE: Low α

7.2.6.4 CRONBACH'S ALPHA: DISTRESS SUBSCALE

There is no measure of internal consistency for a single item measure.

7.2.6.5 CRONBACH'S ALPHA: CONSEQUENCE SUBSCALE

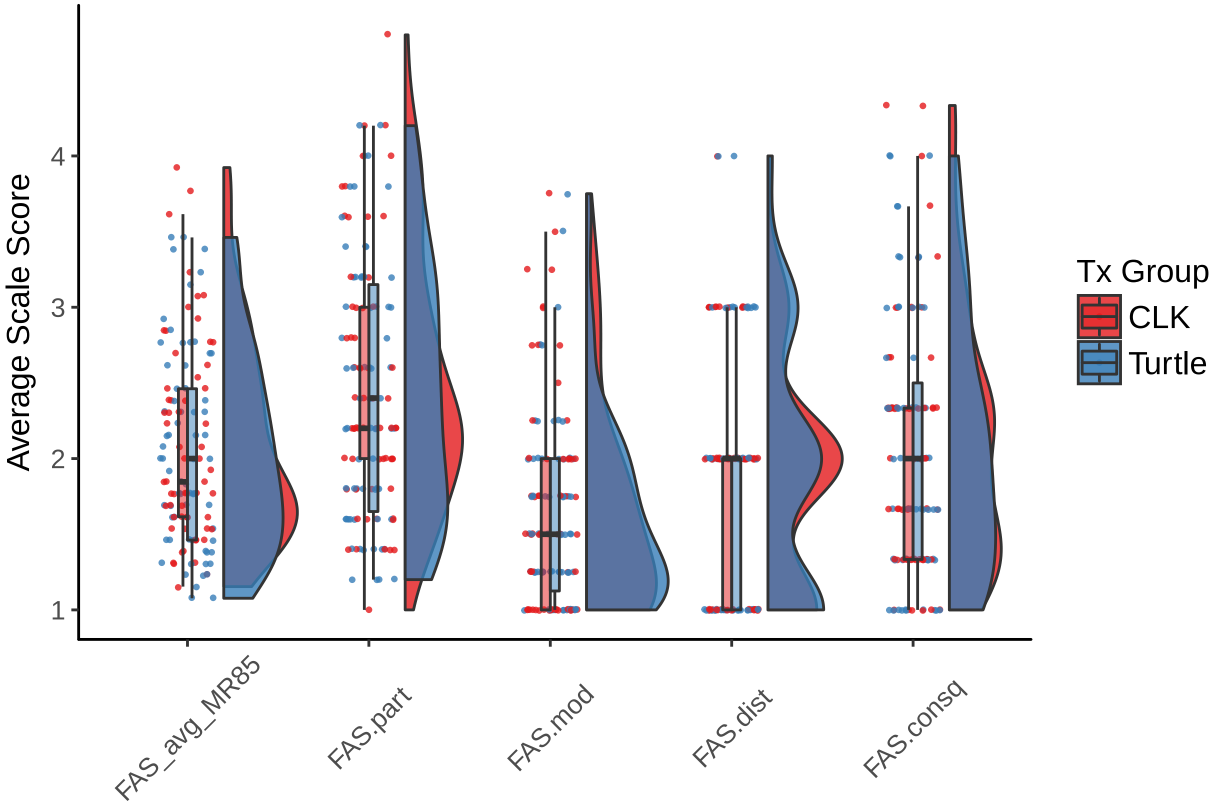
```
psych::alpha(FAS.all_T2[FAS.consq], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T2[FAS.consq], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.82      0.82    0.77      0.61 4.7 0.025  2.1 0.84     0.65
##
##  lower alpha upper     95% confidence boundaries
## 0.78 0.82 0.87
##
##  lower median upper bootstrapped confidence intervals
##  0.76 0.82 0.87
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_11      0.78      0.78    0.65      0.65 3.6    0.035    NA  0.65
## FAS_12      0.80      0.80    0.67      0.67 4.1    0.032    NA  0.67
## FAS_13      0.68      0.68    0.51      0.51 2.1    0.052    NA  0.51
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_11 130  0.83  0.85  0.73   0.65  2.4 0.90
## FAS_12 130  0.84  0.84  0.70   0.64  1.7 0.99
## FAS_13 130  0.90  0.90  0.84   0.76  2.1 1.03
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## FAS_11 0.17 0.41 0.32 0.09 0.01 0.14
## FAS_12 0.55 0.22 0.16 0.05 0.02 0.14
## FAS_13 0.35 0.33 0.22 0.09 0.02 0.14
```

7.2.6.6 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(FAS.all_T2[,20:25], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
```

```
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T2 Folder:
`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:
- `/FAS_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/FAS_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/FAS_T2_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

7.3 TIME 3: COMPLETE SCALE

7.3.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(FAS.all_T3[,c(3:15)], trim=F, quant=c(.25,.75), ranges=F)
```

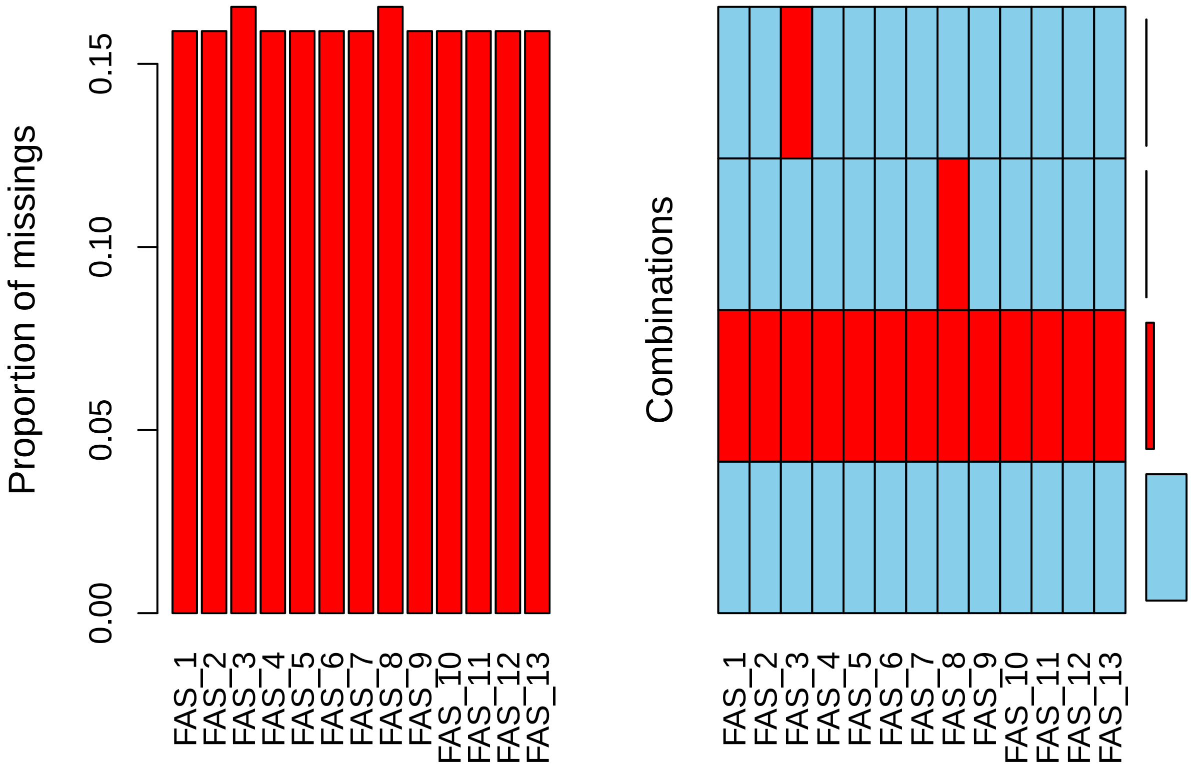
```
##        vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_1     1 127 3.21 1.19 0.01    -1.03 0.11     2   4.0
## FAS_2     2 127 2.09 1.20 0.89    -0.28 0.11     1   3.0
## FAS_3     3 126 2.62 1.30 0.36    -1.04 0.12     2   4.0
## FAS_4     4 127 1.85 0.99 1.31     1.51 0.09     1   2.0
## FAS_5     5 127 1.35 0.67 2.55     8.37 0.06     1   2.0
## FAS_6     6 127 1.72 1.10 1.52     1.25 0.10     1   2.0
## FAS_7     7 127 1.69 1.00 1.70     2.69 0.09     1   2.0
## FAS_8     8 126 1.18 0.66 4.22    18.61 0.06     1   1.0
## FAS_9     9 127 1.34 0.72 2.90    10.21 0.06     1   1.5
## FAS_10   10 127 1.72 0.74 0.48    -1.07 0.07     1   2.0
## FAS_11   11 127 2.18 1.00 0.67     0.14 0.09     1   3.0
## FAS_12   12 127 1.54 0.88 1.43     0.87 0.08     1   2.0
## FAS_13   13 127 1.79 0.98 1.03     0.12 0.09     1   2.0
```

```
#Calculating Summary Scores:
FAS.all_T3$FAS_tot<-rowSums(FAS.all_T3[,3:15])  #inclunding na.rm=T results in 0's

FAS.all_T3$Miss_tot<-rep(NA, nrow(FAS.all_T3))
for(n in 1:nrow(FAS.all_T3)){
  FAS.all_T3$Miss_tot[n]<-sum(is.na(FAS.all_T3[n,3:15])==TRUE)
}

FAS.all_T3$Miss_per<-rep(NA, nrow(FAS.all_T3))
for(n in 1:nrow(FAS.all_T3)){
  FAS.all_T3$Miss_per[n]<-round(sum(is.na(FAS.all_T3[n,3:15])==TRUE)/ncol(FAS.all_T3[3:15])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
FAS.all_T3$FAS_avg<-rowMeans(FAS.all_T3[,3:15])

#Creating variable with individual mean replacement if respondent completed >85% of items
FAS.all_T3$FAS_avg_MR85<-ifelse(FAS.all_T3$Miss_per<15, rowMeans(FAS.all_T3[,3:15],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(FAS.all_T3[,c(16,19,20)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 125 24.31 8.27 1.27     1.84 0.74 18.00 28.00
## FAS_avg         2 125  1.87 0.64 1.27     1.84 0.06  1.38  2.15
## FAS_avg_MR85    3 127  1.87 0.63 1.29     1.92 0.06  1.38  2.15
```

7.3.2 MISSING DATA

```
VIM::aggr(FAS.all_T3[,3:15])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right. *Missing Data Notes:*

[Will complete at a future date]

The variable `FAS_tot` is the vector of individual summed FAS scores - 026, 153, and 163 are dropped from this summary variable (see above).

The varaible `FAS_avg` is the vector of individual mean FAS scores - 026, 153, and 163 are dropped from this summary variable (see above).

The variable `FAS_avg_MR85` is a vector of individual mean FAS scores that includes estimated averages when at least 85% of the necessary data is available - note 026 and 163 are included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T3 to report.

7.3.3 CRONBACH'S ALPHA

```
psych::alpha(FAS.all_T3[,3:15], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T3[, 3:15], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.89    0.91      0.38   8 0.013  1.9 0.63     0.37
##
##  lower alpha upper     95% confidence boundaries
## 0.86 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.83 0.88 0.92
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## FAS_1       0.87      0.88    0.90      0.38 7.3    0.015 0.0126  0.37
## FAS_2       0.88      0.88    0.90      0.38 7.4    0.014 0.0123  0.37
## FAS_3       0.87      0.88    0.90      0.37 7.2    0.015 0.0122  0.36
```

```
## FAS_4       0.87      0.87    0.89      0.37 7.0    0.015 0.0114  0.36
## FAS_5       0.88      0.88    0.90      0.39 7.6    0.014 0.0119  0.38
## FAS_6       0.88      0.88    0.90      0.39 7.6    0.014 0.0125  0.38
## FAS_7       0.88      0.88    0.90      0.38 7.4    0.014 0.0123  0.37
## FAS_8       0.88      0.88    0.90      0.38 7.4    0.014 0.0120  0.36
## FAS_9       0.88      0.88    0.90      0.39 7.7    0.014 0.0117  0.38
## FAS_10      0.88      0.88    0.90      0.39 7.5    0.014 0.0110  0.38
## FAS_11      0.87      0.87    0.89      0.36 6.8    0.015 0.0094  0.36
## FAS_12      0.88      0.88    0.90      0.38 7.4    0.014 0.0096  0.37
## FAS_13      0.87      0.88    0.89      0.37 7.2    0.015 0.0105  0.37
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_1  127  0.68  0.66  0.62   0.59  3.2 1.19
## FAS_2  127  0.66  0.63  0.59   0.57  2.1 1.20
## FAS_3  126  0.72  0.69  0.66   0.63  2.6 1.30
## FAS_4  127  0.74  0.74  0.72   0.68  1.9 0.99
## FAS_5  127  0.57  0.60  0.56   0.52  1.4 0.67
## FAS_6  127  0.61  0.60  0.55   0.52  1.7 1.10
## FAS_7  127  0.63  0.64  0.61   0.55  1.7 1.00
## FAS_8  126  0.61  0.65  0.62   0.56  1.2 0.66
## FAS_9  127  0.54  0.57  0.52   0.48  1.3 0.72
## FAS_10 127  0.58  0.61  0.57   0.52  1.7 0.74
## FAS_11 127  0.78  0.79  0.79   0.72  2.2 1.00
## FAS_12 127  0.63  0.63  0.61   0.56  1.5 0.88
## FAS_13 127  0.70  0.69  0.68   0.63  1.8 0.98
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## FAS_1  0.06 0.25 0.28 0.23 0.18 0.16
## FAS_2  0.42 0.28 0.14 0.11 0.05 0.16
## FAS_3  0.24 0.29 0.20 0.17 0.10 0.17
## FAS_4  0.44 0.37 0.12 0.04 0.03 0.16
## FAS_5  0.72 0.24 0.02 0.02 0.01 0.16
## FAS_6  0.61 0.22 0.06 0.09 0.03 0.16
## FAS_7  0.57 0.28 0.10 0.02 0.04 0.16
## FAS_8  0.90 0.05 0.02 0.01 0.02 0.17
## FAS_9  0.75 0.20 0.02 0.01 0.02 0.16
## FAS_10 0.45 0.38 0.17 0.00 0.00 0.16
## FAS_11 0.28 0.36 0.28 0.05 0.03 0.16
## FAS_12 0.67 0.17 0.12 0.05 0.00 0.16
## FAS_13 0.52 0.25 0.16 0.06 0.01 0.16
```

7.3.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```r
FAS.all_T3$Group.R<-ifelse(FAS.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(FAS.all_T3[,c(3:15,21)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_1       1 60 3.18 1.20 0.11    -1.16 0.15     2  4.00
## FAS_2       2 60 2.08 1.18 0.75    -0.59 0.15     1  3.00
## FAS_3       3 60 2.55 1.25 0.42    -0.93 0.16     2  3.25
## FAS_4       4 60 1.93 1.02 1.16     0.96 0.13     1  2.00
## FAS_5       5 60 1.38 0.69 2.08     4.57 0.09     1  2.00
## FAS_6       6 60 1.63 1.01 1.84     2.88 0.13     1  2.00
## FAS_7       7 60 1.82 1.16 1.52     1.47 0.15     1  2.00
## FAS_8       8 59 1.24 0.80 3.81    14.46 0.10     1  1.00
```

```
## FAS_9        9 60 1.35 0.82 3.11    10.47 0.11     1  1.00
## FAS_10      10 60 1.75 0.79 0.46    -1.30 0.10     1  2.00
## FAS_11      11 60 2.22 1.06 0.75     0.23 0.14     1  3.00
## FAS_12      12 60 1.60 0.96 1.30     0.31 0.12     1  2.00
## FAS_13      13 60 1.80 0.94 0.89    -0.29 0.12     1  2.00
## Group.R*    14 76  NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## FAS_1       1 67 3.24 1.19 -0.09    -0.95 0.15     2     4
## FAS_2       2 67 2.09 1.22  0.98    -0.10 0.15     1     3
## FAS_3       3 66 2.68 1.35  0.28    -1.18 0.17     2     4
## FAS_4       4 67 1.78 0.97  1.44     2.00 0.12     1     2
## FAS_5       5 67 1.33 0.66  2.97    12.18 0.08     1     2
## FAS_6       6 67 1.79 1.19  1.26     0.22 0.15     1     2
## FAS_7       7 67 1.57 0.82  1.57     2.84 0.10     1     2
## FAS_8       8 67 1.13 0.52  4.02    16.06 0.06     1     1
## FAS_9       9 67 1.33 0.61  2.03     4.43 0.07     1     2
## FAS_10     10 67 1.70 0.70  0.46    -0.92 0.09     1     2
## FAS_11     11 67 2.15 0.96  0.52    -0.24 0.12     1     3
## FAS_12     12 67 1.49 0.80  1.48     1.22 0.10     1     2
## FAS_13     13 67 1.78 1.03  1.11     0.27 0.13     1     2
## Group.R*   14 75  NaN   NA    NA       NA   NA    NA    NA
```

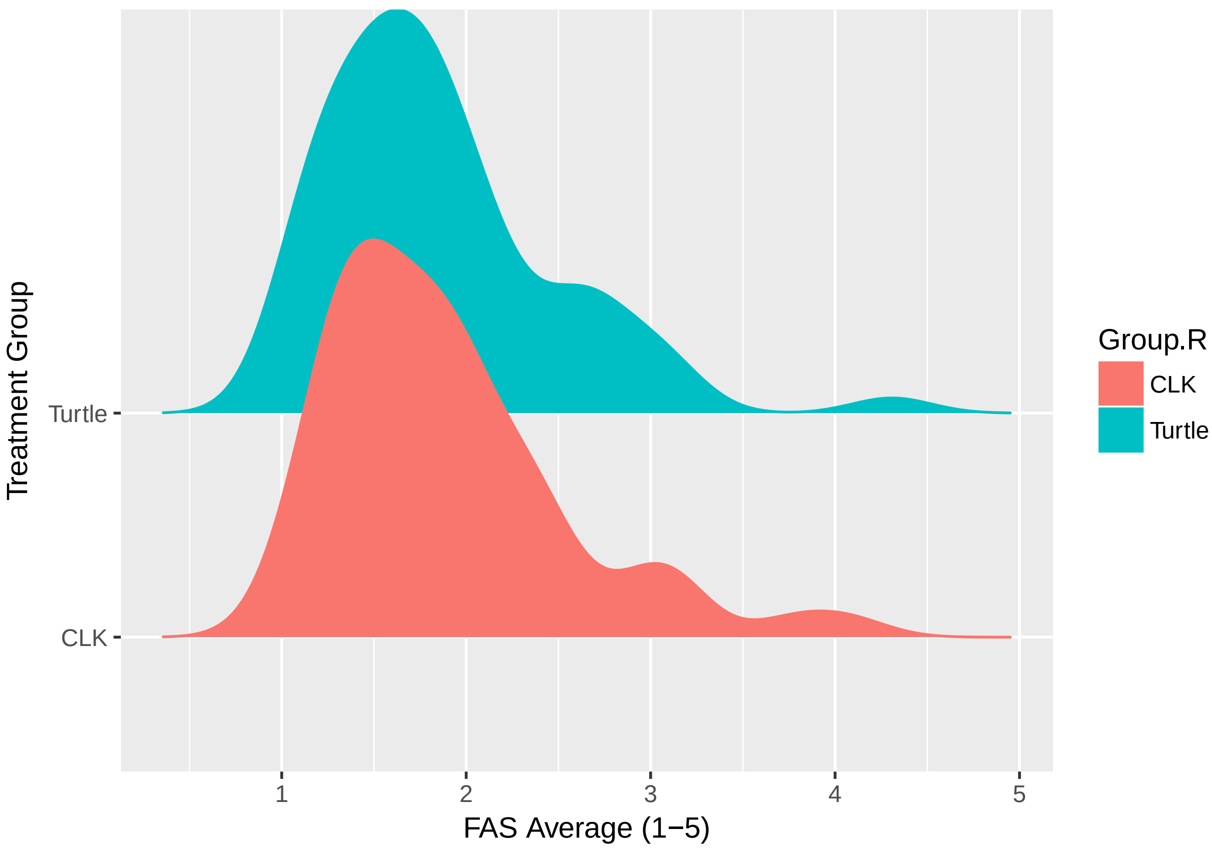
```r
psych::describeBy(FAS.all_T3[,c(16,19,20,21)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 59 24.59 8.47 1.26     1.47 1.10 18.00 28.00
## FAS_avg         2 59  1.89 0.65 1.26     1.47 0.08  1.38  2.15
## FAS_avg_MR85    3 60  1.89 0.65 1.28     1.56 0.08  1.38  2.15
## Group.R*        4 76   NaN   NA   NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##              vars  n  mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS_tot         1 66 24.06 8.14 1.25     2.03 1.00 18.25 27.75
## FAS_avg         2 66  1.85 0.63 1.25     2.03 0.08  1.40  2.13
## FAS_avg_MR85    3 67  1.85 0.62 1.26     2.12 0.08  1.42  2.12
## Group.R*        4 75   NaN   NA   NA       NA   NA    NA    NA
```

7.3.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
#Groups do not differ on average BIQ scores
t.test(FAS.all_T3$FAS_avg_MR85~FAS.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  FAS.all_T3$FAS_avg_MR85 by FAS.all_T3$Group
## t = 0.34311, df = 122.24, p-value = 0.7321
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1846887  0.2621348
## sample estimates:
## mean in group 0 mean in group 1
##        1.888034        1.849311
```


Treatment Group
Turtle
CLK
1
2
3
4
5
FAS Average (1−5)
Group.R
CLK
Turtle

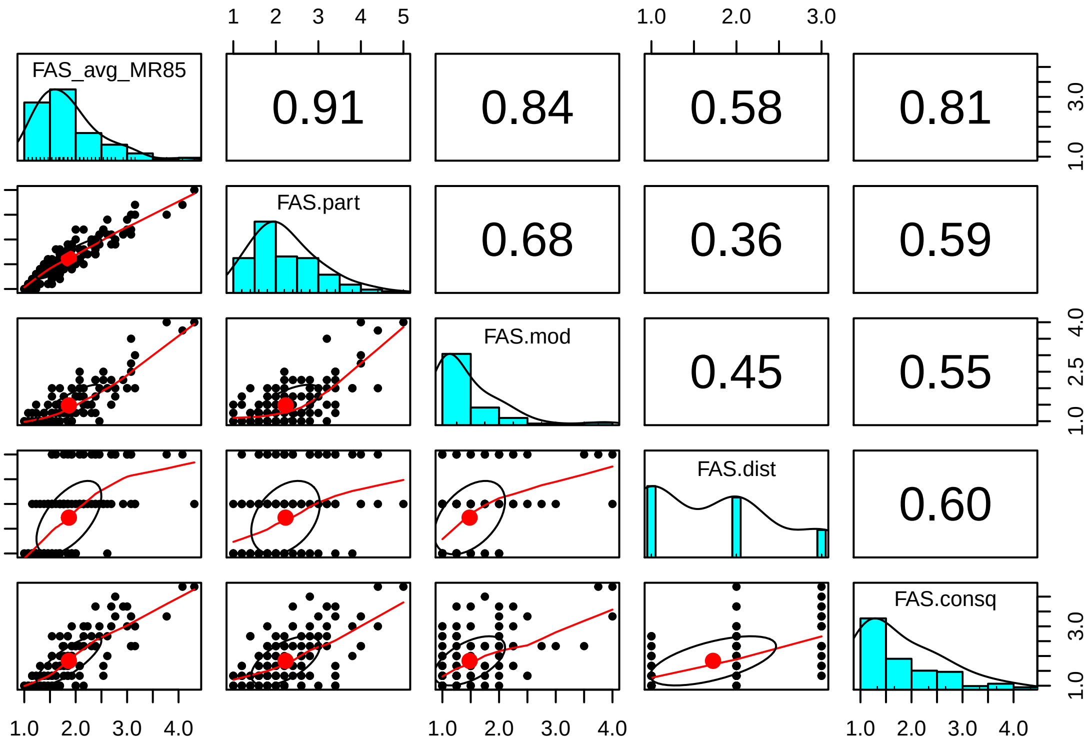
7.3.6 TIME 3: SUBSCALES

7.3.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(FAS.all_T3[,c(22:25)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##            vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## FAS.part      1 126 2.23 0.81 0.84     0.58 0.07  1.60  2.60
## FAS.mod       2 126 1.48 0.63 1.93     4.28 0.06  1.00  1.75
## FAS.dist      3 127 1.72 0.74 0.48    -1.07 0.07  1.00  2.00
## FAS.consq     4 127 1.84 0.83 0.98     0.26 0.07  1.17  2.33
```

```
psych::pairs.panels(FAS.all_T3[,c(20,22:25)])
```



7.3.6.2 CRONBACH'S ALPHA: PARTICIPATION SUBSCALE

```
psych::alpha(FAS.all_T3[FAS.part], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T3[FAS.part], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.79       0.8    0.78      0.44 3.9 0.025  2.2 0.81     0.46
##
##  lower alpha upper     95% confidence boundaries
## 0.74 0.79 0.84
##
##  lower median upper bootstrapped confidence intervals
##  0.71 0.79 0.85
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## FAS_1      0.74      0.76    0.72      0.44 3.2    0.031 0.0080  0.44
## FAS_2      0.75      0.76    0.73      0.45 3.2    0.030 0.0106  0.48
## FAS_3      0.72      0.73    0.69      0.41 2.7    0.036 0.0095  0.42
## FAS_4      0.74      0.74    0.70      0.42 2.9    0.030 0.0126  0.43
## FAS_5      0.79      0.79    0.74      0.48 3.7    0.028 0.0036  0.48
##
```

```
##  Item statistics
##         n raw.r std.r r.cor r.drop mean   sd
## FAS_1 127  0.77  0.74  0.65   0.59  3.2 1.19
## FAS_2 127  0.76  0.73  0.63   0.57  2.1 1.20
## FAS_3 126  0.83  0.80  0.74   0.67  2.6 1.30
## FAS_4 127  0.74  0.77  0.70   0.59  1.9 0.99
## FAS_5 127  0.60  0.68  0.56   0.47  1.4 0.67
##
## Non missing response frequency for each item
##          1    2    3    4    5 miss
## FAS_1 0.06 0.25 0.28 0.23 0.18 0.16
## FAS_2 0.42 0.28 0.14 0.11 0.05 0.16
## FAS_3 0.24 0.29 0.20 0.17 0.10 0.17
## FAS_4 0.44 0.37 0.12 0.04 0.03 0.16
## FAS_5 0.72 0.24 0.02 0.02 0.01 0.16
```

7.3.6.3 CRONBACH'S ALPHA: MODIFICATION SUBSCALE

```
psych::alpha(FAS.all_T3[FAS.mod], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T3[FAS.mod], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.66      0.69    0.64      0.36 2.2 0.045  1.5 0.62     0.36
##
##  lower alpha upper     95% confidence boundaries
## 0.57 0.66 0.74
##
##  lower median upper bootstrapped confidence intervals
##  0.46 0.65 0.77
##  Reliability if an item is dropped:
##       raw_alpha std.alpha G6(smc) average_r S/N alpha se   var.r med.r
## FAS_6      0.62      0.66    0.58      0.39 1.9    0.052 0.01276  0.43
## FAS_7      0.62      0.66    0.58      0.40 2.0    0.051 0.00684  0.40
## FAS_8      0.52      0.54    0.44      0.28 1.2    0.065 0.00075  0.27
## FAS_9      0.59      0.63    0.54      0.37 1.7    0.056 0.00683  0.40
##
##  Item statistics
##         n raw.r std.r r.cor r.drop mean   sd
## FAS_6 127  0.75  0.69  0.51   0.42  1.7 1.10
## FAS_7 127  0.71  0.68  0.50   0.40  1.7 1.00
## FAS_8 126  0.75  0.80  0.73   0.59  1.2 0.66
## FAS_9 127  0.66  0.71  0.57   0.44  1.3 0.72
##
## Non missing response frequency for each item
##          1    2    3    4    5 miss
## FAS_6 0.61 0.22 0.06 0.09 0.03 0.16
## FAS_7 0.57 0.28 0.10 0.02 0.04 0.16
## FAS_8 0.90 0.05 0.02 0.01 0.02 0.17
## FAS_9 0.75 0.20 0.02 0.01 0.02 0.16
```

NOTE: Low α

7.3.6.4 CRONBACH'S ALPHA: DISTRESS SUBSCALE

There is no measure of internal consistency for a single item measure.

7.3.6.5 CRONBACH'S ALPHA: DISTRESS SUBSCALE

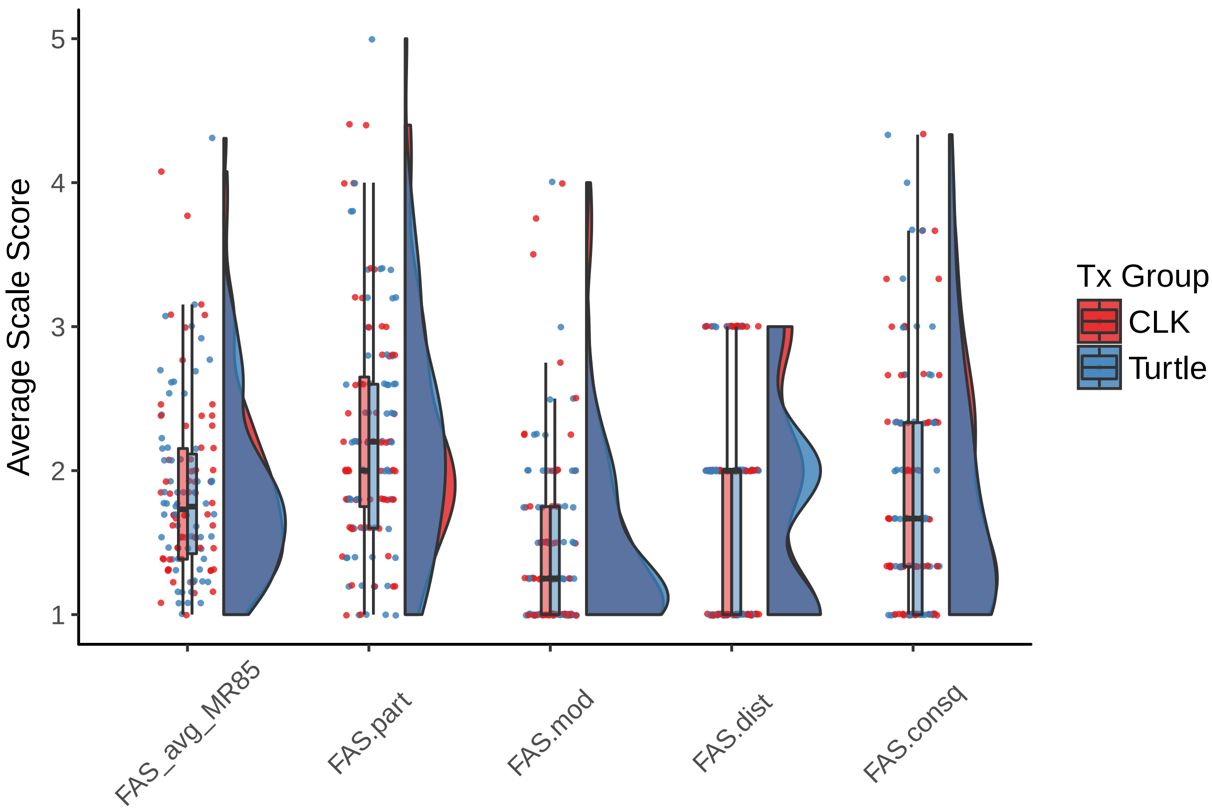
```r
psych::alpha(FAS.all_T3[FAS.consq], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = FAS.all_T3[FAS.consq], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.83      0.83    0.77      0.63   5 0.023  1.8 0.83     0.62
##
##  lower alpha upper     95% confidence boundaries
## 0.79 0.83 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.76 0.83 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## FAS_11      0.73      0.73    0.58      0.58 2.7    0.044    NA  0.58
## FAS_12      0.81      0.81    0.68      0.68 4.2    0.031    NA  0.68
## FAS_13      0.77      0.77    0.62      0.62 3.3    0.038    NA  0.62
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## FAS_11 127  0.89  0.89  0.81   0.73  2.2 1.00
## FAS_12 127  0.83  0.85  0.72   0.66  1.5 0.88
## FAS_13 127  0.87  0.87  0.77   0.70  1.8 0.98
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## FAS_11 0.28 0.36 0.28 0.05 0.03 0.16
## FAS_12 0.67 0.17 0.12 0.05 0.00 0.16
## FAS_13 0.52 0.25 0.16 0.06 0.01 0.16
```

7.3.6.6 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
df.m<-reshape2::melt(FAS.all_T3[,20:25], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
```

```
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T3 Folder:
`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:
- `/FAS_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/FAS_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for BIQ
- `/FAS_T3_Summary_wo_Raw_items.txt`: The processed summary scores for BIQ wo raw items

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7.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

7.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(FAS.wide)
```

```
##                 vars   n  mean    sd median trimmed   mad  min    max
## ID                 1 151 86.11 49.12  88.00   86.21 62.27 1.00 170.00
## Group              2 151  0.50  0.50   0.00    0.50  0.00 0.00   1.00
## Group.R*           3 151  1.50  0.50   1.00    1.50  0.00 1.00   2.00
## FAS_avg_MR85.0     4 146  2.15  0.72   2.15    2.11  0.80 1.00   4.23
## FAS.part.0         5 144  2.52  0.93   2.40    2.47  0.89 1.00   4.80
## FAS.mod.0          6 147  1.71  0.73   1.50    1.59  0.74 1.00   4.00
## FAS.dist.0         7 147  1.85  0.79   2.00    1.80  1.48 1.00   4.00
## FAS_avg_MR85.1     8 130  2.06  0.65   1.88    2.01  0.63 1.08   3.92
## FAS.part.1         9 129  2.46  0.84   2.20    2.40  0.89 1.00   4.80
## FAS.mod.1         10 130  1.62  0.66   1.50    1.51  0.74 1.00   3.75
## FAS.dist.1        11 130  1.86  0.79   2.00    1.80  1.48 1.00   4.00
## FAS_avg_MR85.2    12 127  1.87  0.63   1.75    1.79  0.54 1.00   4.31
## FAS.part.2        13 126  2.23  0.81   2.00    2.16  0.59 1.00   5.00
## FAS.mod.2         14 126  1.48  0.63   1.25    1.37  0.37 1.00   4.00
## FAS.dist.2        15 127  1.72  0.74   2.00    1.66  1.48 1.00   3.00
##                  range  skew kurtosis   se
## ID              169.00 -0.02    -1.21 4.00
## Group             1.00  0.01    -2.01 0.04
## Group.R*          1.00  0.01    -2.01 0.04
## FAS_avg_MR85.0    3.23  0.47    -0.36 0.06
## FAS.part.0        3.80  0.44    -0.58 0.08
## FAS.mod.0         3.00  1.22     0.97 0.06
## FAS.dist.0        3.00  0.43    -0.81 0.07
## FAS_avg_MR85.1    2.85  0.70    -0.27 0.06
## FAS.part.1        3.80  0.52    -0.57 0.07
## FAS.mod.1         2.75  1.29     1.19 0.06
## FAS.dist.1        3.00  0.53    -0.42 0.07
## FAS_avg_MR85.2    3.31  1.29     1.92 0.06
## FAS.part.2        4.00  0.84     0.58 0.07
## FAS.mod.2         3.00  1.93     4.28 0.06
## FAS.dist.2        2.00  0.48    -1.07 0.07
```

LONG DATA SET

```
psych::describe(FAS.long)
```

```
##               vars   n  mean    sd median trimmed   mad min    max  range
## ID               1 453 86.11 49.01  88.00   86.21 62.27   1 170.00 169.00
## Group            2 453  0.50  0.50   0.00    0.50  0.00   0   1.00   1.00
## FAS_avg_MR85     3 403  2.03  0.68   1.85    1.98  0.68   1   4.31   3.31
## Group.R*         4 453  1.50  0.50   1.00    1.50  0.00   1   2.00   1.00
## FAS.part         5 399  2.41  0.87   2.20    2.34  0.89   1   5.00   4.00
## FAS.mod          6 403  1.61  0.68   1.50    1.49  0.74   1   4.00   3.00
## FAS.dist         7 404  1.81  0.77   2.00    1.75  1.48   1   4.00   3.00
## Time             8 453  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##                skew kurtosis   se
## ID            -0.02    -1.20 2.30
```

```
## Group          0.01    -2.00 0.02
## FAS_avg_MR85  0.77     0.13 0.03
## Group.R*      0.01    -2.00 0.02
## FAS.part      0.60    -0.27 0.04
## FAS.mod       1.44     1.82 0.03
## FAS.dist      0.49    -0.70 0.04
## Time          0.00    -1.51 0.04
```

7.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```r
psych::describeBy(FAS.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##                 vars  n  mean    sd median trimmed   mad  min    max  range
## ID                 1 76 86.59 48.90  87.00   86.65 62.27 2.00 168.00 166.00
## Group              2 76  0.00  0.00   0.00    0.00  0.00 0.00   0.00   0.00
## Group.R*           3 76  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## FAS_avg_MR85.0     4 72  2.19  0.76   2.15    2.15  0.80 1.00   4.00   3.00
## FAS.part.0         5 71  2.58  0.98   2.40    2.52  1.19 1.00   4.60   3.60
## FAS.mod.0          6 73  1.80  0.79   1.75    1.69  0.74 1.00   4.00   3.00
## FAS.dist.0         7 73  1.82  0.77   2.00    1.76  1.48 1.00   4.00   3.00
## FAS_avg_MR85.1     8 63  2.08  0.66   1.85    2.02  0.57 1.15   3.92   2.77
## FAS.part.1         9 63  2.48  0.84   2.20    2.41  0.59 1.00   4.80   3.80
## FAS.mod.1         10 63  1.67  0.72   1.50    1.55  0.74 1.00   3.75   2.75
## FAS.dist.1        11 63  1.84  0.72   2.00    1.78  0.00 1.00   4.00   3.00
## FAS_avg_MR85.2    12 60  1.89  0.65   1.73    1.80  0.51 1.00   4.08   3.08
## FAS.part.2        13 60  2.23  0.80   2.00    2.15  0.59 1.00   4.40   3.40
## FAS.mod.2         14 59  1.51  0.69   1.25    1.38  0.37 1.00   4.00   3.00
## FAS.dist.2        15 60  1.75  0.79   2.00    1.69  1.48 1.00   3.00   2.00
##                 skew kurtosis   se
## ID              0.00    -1.28 5.61
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## FAS_avg_MR85.0 0.39    -0.72 0.09
## FAS.part.0     0.40    -0.80 0.12
## FAS.mod.0      1.01     0.33 0.09
## FAS.dist.0     0.49    -0.65 0.09
## FAS_avg_MR85.1 0.87     0.02 0.08
## FAS.part.1     0.72    -0.19 0.11
## FAS.mod.1      1.13     0.40 0.09
## FAS.dist.1     0.49    -0.18 0.09
## FAS_avg_MR85.2 1.28     1.56 0.08
## FAS.part.2     0.91     0.44 0.10
## FAS.mod.2      1.86     3.41 0.09
## FAS.dist.2     0.46    -1.30 0.10
## ------------------------------------------------------------
## group: Turtle
##                 vars  n  mean    sd median trimmed   mad  min    max  range
## ID                 1 75 85.63 49.66  88.00   85.70 62.27 1.00 170.00 169.00
## Group              2 75  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## Group.R*           3 75  2.00  0.00   2.00    2.00  0.00 2.00   2.00   0.00
## FAS_avg_MR85.0     4 74  2.12  0.68   2.15    2.08  0.80 1.00   4.23   3.23
## FAS.part.0         5 73  2.47  0.88   2.40    2.42  0.89 1.00   4.80   3.80
## FAS.mod.0          6 74  1.62  0.66   1.50    1.50  0.74 1.00   3.75   2.75
## FAS.dist.0         7 74  1.88  0.81   2.00    1.83  1.48 1.00   4.00   3.00
## FAS_avg_MR85.1     8 67  2.05  0.65   2.00    2.00  0.80 1.08   3.46   2.38
## FAS.part.1         9 66  2.44  0.85   2.40    2.39  1.19 1.20   4.20   3.00
```

```
## FAS.mod.1        10 67  1.59  0.61   1.50    1.50  0.74 1.00   3.75   2.75
## FAS.dist.1       11 67  1.88  0.84   2.00    1.82  1.48 1.00   4.00   3.00
## FAS_avg_MR85.2   12 67  1.85  0.62   1.75    1.78  0.54 1.00   4.31   3.31
## FAS.part.2       13 66  2.23  0.82   2.20    2.17  0.74 1.00   5.00   4.00
## FAS.mod.2        14 67  1.46  0.57   1.25    1.36  0.37 1.00   4.00   3.00
## FAS.dist.2       15 67  1.70  0.70   2.00    1.64  1.48 1.00   3.00   2.00
##                 skew kurtosis   se
## ID             -0.04    -1.21 5.73
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## FAS_avg_MR85.0  0.52     0.00 0.08
## FAS.part.0      0.44    -0.44 0.10
## FAS.mod.0       1.40     1.66 0.08
## FAS.dist.0      0.37    -1.00 0.09
## FAS_avg_MR85.1  0.51    -0.70 0.08
## FAS.part.1      0.34    -1.01 0.11
## FAS.mod.1       1.40     2.05 0.07
## FAS.dist.1      0.52    -0.71 0.10
## FAS_avg_MR85.2  1.26     2.12 0.08
## FAS.part.2      0.77     0.58 0.10
## FAS.mod.2       1.87     4.63 0.07
## FAS.dist.2      0.46    -0.92 0.09
```

LONG DATA SET

```
psych::describeBy(FAS.long, group='Group.R')
```

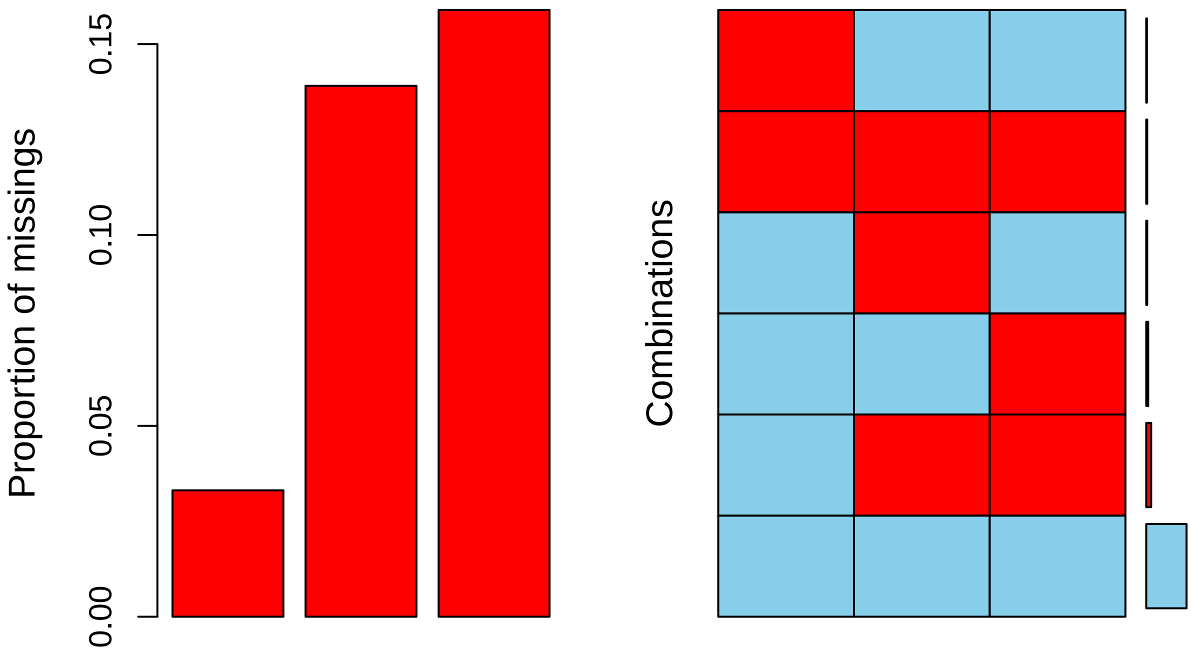
```
##
##  Descriptive statistics by group
## group: CLK
##              vars   n  mean    sd median trimmed   mad min    max  range
## ID              1 228 86.59 48.69  87.00   86.63 62.27   2 168.00 166.00
## Group           2 228  0.00  0.00   0.00    0.00  0.00   0   0.00   0.00
## FAS_avg_MR85    3 195  2.06  0.70   1.92    2.00  0.68   1   4.08   3.08
## Group.R*        4 228  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## FAS.part        5 194  2.44  0.89   2.20    2.36  0.89   1   4.80   3.80
## FAS.mod         6 195  1.67  0.75   1.50    1.54  0.74   1   4.00   3.00
## FAS.dist        7 196  1.81  0.76   2.00    1.75  1.48   1   4.00   3.00
## Time            8 228  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##              skew kurtosis   se
## ID           0.00    -1.25 3.22
## Group         NaN      NaN 0.00
## FAS_avg_MR85 0.78    -0.04 0.05
## Group.R*      NaN      NaN 0.00
## FAS.part     0.66    -0.28 0.06
## FAS.mod      1.28     1.06 0.05
## FAS.dist     0.48    -0.71 0.05
## Time         0.00    -1.51 0.05
## --------------------------------------------------------
## group: Turtle
##              vars   n  mean    sd median trimmed   mad min    max  range
## ID              1 225 85.63 49.44  88.00   85.72 62.27   1 170.00 169.00
## Group           2 225  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## FAS_avg_MR85    3 208  2.01  0.66   1.85    1.95  0.68   1   4.31   3.31
## Group.R*        4 225  2.00  0.00   2.00    2.00  0.00   2   2.00   0.00
## FAS.part        5 205  2.38  0.86   2.20    2.33  0.89   1   5.00   4.00
## FAS.mod         6 208  1.56  0.62   1.50    1.45  0.74   1   4.00   3.00
## FAS.dist        7 208  1.82  0.79   2.00    1.76  1.48   1   4.00   3.00
## Time            8 225  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##               skew kurtosis   se
## ID           -0.04    -1.17 3.30
## Group          NaN      NaN 0.00
```

```
## FAS_avg_MR85  0.74      0.24 0.05
## Group.R*       NaN       NaN 0.00
## FAS.part      0.52     -0.33 0.06
## FAS.mod       1.56      2.61 0.04
## FAS.dist      0.50     -0.72 0.05
## Time          0.00     -1.51 0.05
```

7.4.3 EXPLORATORY PLOTS

7.4.3.1 MISSING PATTERNS OVERALL SCALE

```
VIM::aggr(FAS.wide[,c(4,8,12)])
```

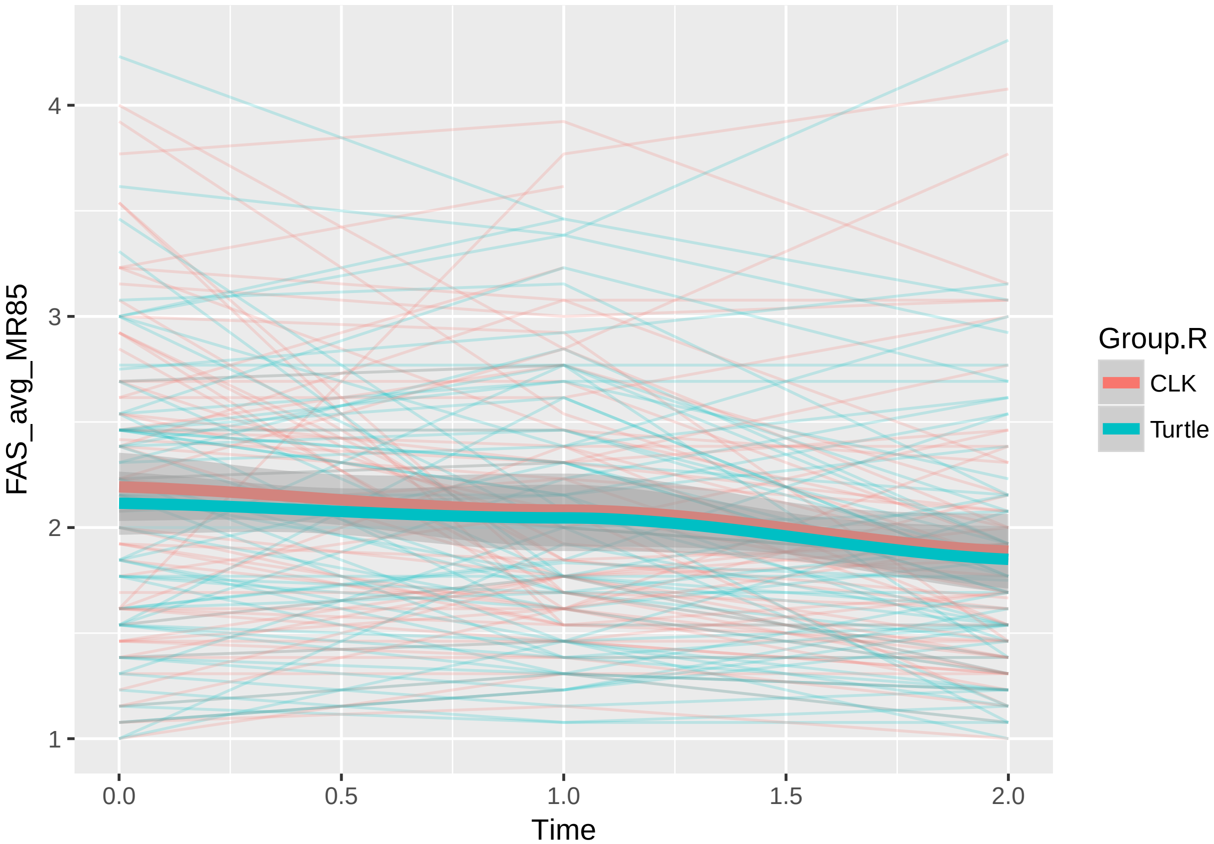


Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

7.4.3.2 SPAGHETTI PLOTS

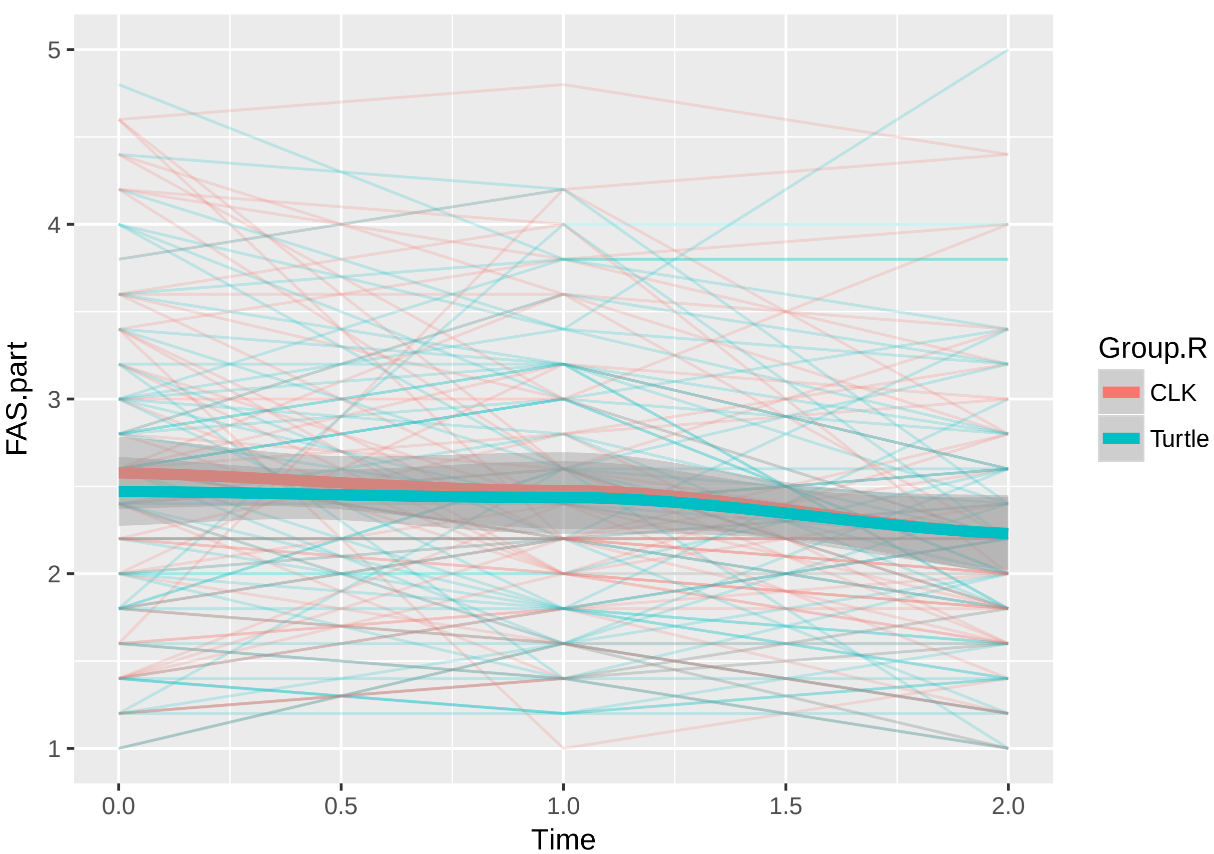
7.4.3.2.1 OVERALL SCALE

```
g1<-ggplot(data=FAS.long, aes(x=Time, y=FAS_avg_MR85))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



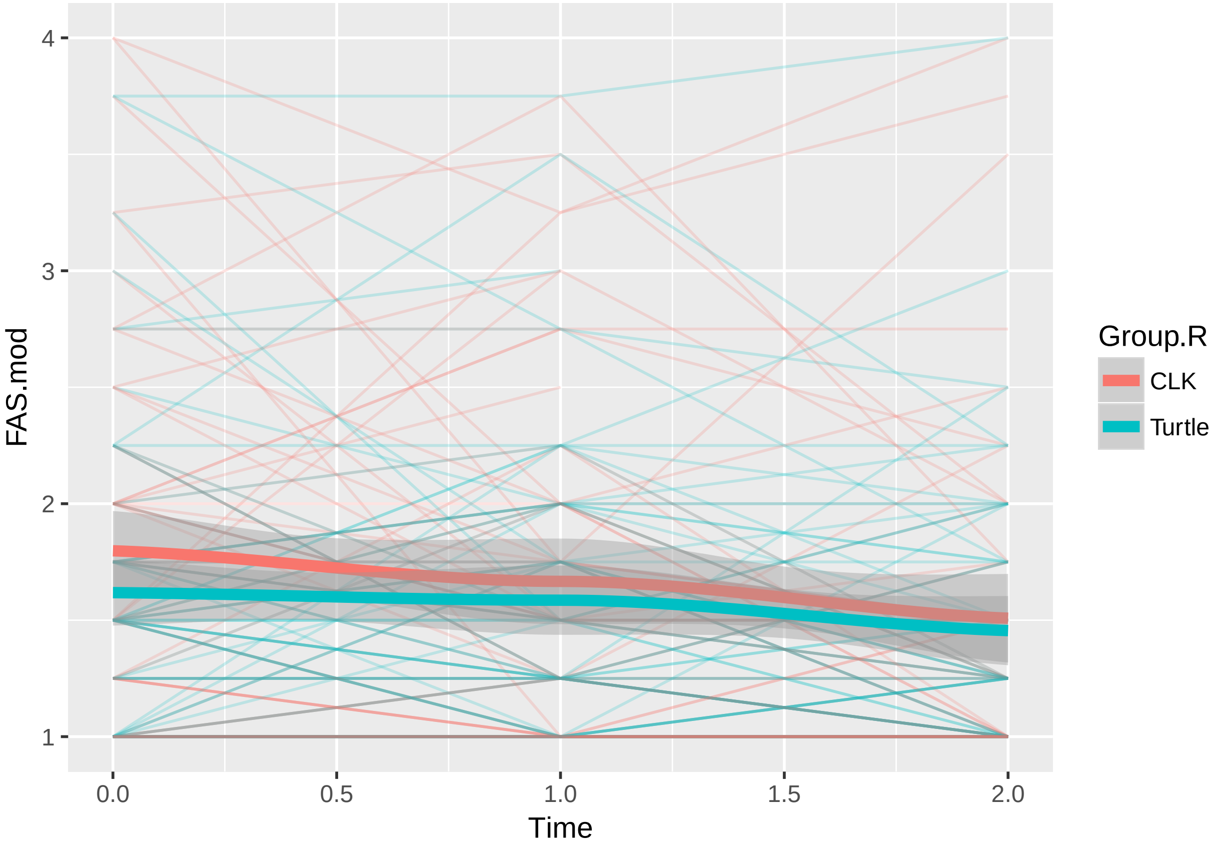
7.4.3.2.2 PARTICIPATION SCALE

```
g1<-ggplot(data=FAS.long, aes(x=Time, y=FAS.part))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



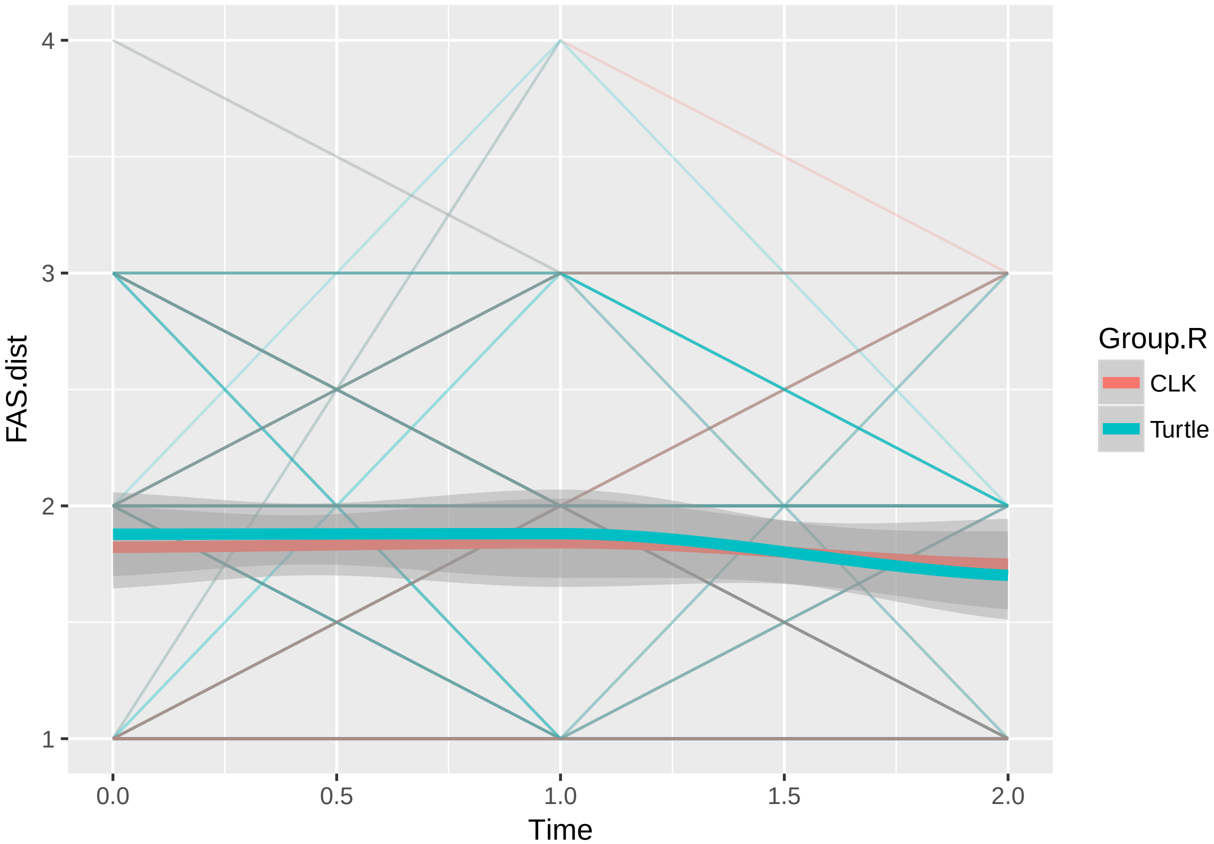
7.4.3.2.3 MODIFICATION SCALE

```
g1<-ggplot(data=FAS.long, aes(x=Time, y=FAS.mod))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



7.4.3.2.4 DISTRESS SCALE

```
g1<-ggplot(data=FAS.long, aes(x=Time, y=FAS.dist))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



4
3
2
1
FAS.dist
0.0
0.5
1.0
1.5
2.0
Time
Group.R
CLK
Turtle

8 Preschool Anxiety Scale (PAS)

Citation:
Spence, S. H., Rapee, R., McDonald, C., & Ingram, M. (2001). The structure of anxiety symptoms among preschoolers. *Behaviour Research and Therapy, 3*, 1293-1316. doi:10.1016/S0005-7967(00)00098-X

Measure Description:
The Preschool Anxiety Scale (PAS; Rapee, McDonald, & Ingram, 2001) is a 28-item questionnaire designed to measure parents' perception of anxiety disorder symptoms in children aged 2 to 5 years old. Specifically, this measure taps into the symptoms of generalized anxiety disorder, social phobia, obsessive-compulsive disorder, physical injury fears, and separation anxiety disorder. Internal consistency for the total scale as well as the subscales ranged from $\alpha = .63$ to .89 in the present sample, values on par with those observed when the measure was used to assess anxiety symptoms in preschoolers aged 2 to 6 years old (Broeren & Muris, 2008).

Additional References(s): Edwards, S. L., Rapee, R. M., Kennedy, S. J., & Spence, S. H. (2010). The assessment of anxiety symptoms in preschool-aged children: The Revised Preschool Anxiety Scale. *Journal of Clinical Child and Adolescent Psychology, 39*, 400-409. doi:10.1080/15374411003691701

Broeren, S., & Muris, P. (2008). Psychometric evaluation of two new parent-rating scales for measuring anxiety symptoms in young Dutch children. *Journal of Anxiety Disorders, 22*, 949-958. doi:10.1016/j.janxdis.2007.09.008

Response Options:
1 = Not True at All
2 = Seldom True
3 = Sometimes True
4 = Quite Often True
5 = Very Often True

Item Information:
1. PAS_1: Has difficulty stopping him/herself from worrying
2. PAS_2: Worries that he/she will do something to look stupid in front of other people
3. PAS_3: Keeps checking that he/she has done things right (e.g., that he/she closed a door, turned off a tap)
4. PAS_4: Is tense, restless or irritable due to worrying
5. PAS_5: Is scared to ask an adult for help (e.g., a preschool or school teacher)
6. PAS_6: Is reluctant to go to sleep without you or to sleep away from home
7. PAS_7: Is scared of heights (high places)
8. PAS_8: Has trouble sleeping due to worrying
9. PAS_9: Washes his/her hands over and over many times each day
10. PAS_10: Is afraid of crowded or closed-in places
11. PAS_11: Is afraid of meeting or talking to unfamiliar people
12. PAS_12: Worries that something bad will happen to his/her parents
13. PAS_13: Is scared of thunder storms
14. PAS_14: Spends a large part of each day worrying about various things
15. PAS_15: Is afraid of talking in front of the class (preschool group) e.g., show and tell
16. PAS_16: Worries that something bad might happen to him/her (e.g., getting lost or kidnapped), so he/she won't be able to see you again
17. PAS_17: Is nervous of going swimming
18. PAS_18: Has to have things in exactly the right order or position to stop bad things from happening
19. PAS_19: Worries that he/she will do something embarrassing in front of other people
20. PAS_20: Is afraid of insects and/or spiders
21. PAS_21: Has bad or silly thoughts or images that keep coming back over and over
22. PAS_22: Becomes distressed about your leaving him/her at preschool/school or with a babysitter
23. PAS_23: Is afraid to go up to group of children and join their activities
24. PAS_24: Is frightened of dogs
25. PAS_25: Has nightmares about being apart from you
26. PAS_26: Is afraid of the dark
27. PAS_27: Has to keep thinking special thoughts (e.g., numbers or words) to stop bad things from happening
28. PAS_28: Asks for reassurance when it doesn't seem necessary

Subscale Information:
Generalized Anxiety: 1, 4, 8, 14, 28
Social Anxiety: 2, 5, 11, 15
Obsessive-Compulsive Disorder: 3, 9, 18, 21, 27

Physical Injury Fears: 7, 10, 13, 17, 20, 24, 26
Separation Anxiety: 6, 12, 16, 22, 25

Summary Code:
The code below was used after data had been cleaned and prepped. Preparation scripts used to process the manually cleaned data files can be found in the following location `C:/pathtofile/`.

8.1 TIME 1: COMPLETE SCALE

8.1.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(PAS.all_T1[,c(3:30)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1     1 147 2.39 1.15  0.31    -0.99 0.09     1   3.0
## PAS_2     2 147 2.36 1.12  0.38    -0.72 0.09     1   3.0
## PAS_3     3 147 1.79 1.21  1.41     0.85 0.10     1   2.0
## PAS_4     4 147 1.87 1.02  1.02     0.33 0.08     1   2.5
## PAS_5     5 147 2.78 1.13  0.13    -0.65 0.09     2   3.0
## PAS_6     6 147 3.09 1.44  0.00    -1.36 0.12     2   4.5
## PAS_7     7 146 1.90 1.08  1.15     0.71 0.09     1   3.0
## PAS_8     8 147 1.78 1.09  1.46     1.47 0.09     1   2.0
## PAS_9     9 147 1.21 0.73  3.90    15.21 0.06     1   1.0
## PAS_10   10 147 1.95 1.22  1.00    -0.19 0.10     1   3.0
## PAS_11   11 147 3.65 1.15 -0.53    -0.47 0.09     3   5.0
## PAS_12   12 147 1.63 1.00  1.80     2.79 0.08     1   2.0
## PAS_13   13 147 2.11 1.16  0.76    -0.47 0.10     1   3.0
## PAS_14   14 147 1.45 0.80  2.11     4.95 0.07     1   2.0
## PAS_15   15 147 3.22 1.30 -0.31    -0.96 0.11     2   4.0
## PAS_16   16 147 1.55 0.86  1.69     2.77 0.07     1   2.0
## PAS_17   17 147 2.01 1.22  1.02     0.09 0.10     1   3.0
## PAS_18   18 147 1.33 0.88  2.86     7.65 0.07     1   1.0
## PAS_19   19 147 2.07 1.01  0.54    -0.71 0.08     1   3.0
## PAS_20   20 147 2.07 1.22  0.88    -0.29 0.10     1   3.0
## PAS_21   21 146 1.36 0.81  2.63     7.21 0.07     1   1.0
## PAS_22   22 147 2.67 1.25  0.29    -0.86 0.10     2   3.0
## PAS_23   23 147 3.87 0.99 -0.63    -0.09 0.08     3   5.0
## PAS_24   24 147 2.22 1.35  0.74    -0.71 0.11     1   3.0
## PAS_25   25 147 1.44 0.83  2.14     4.59 0.07     1   2.0
## PAS_26   26 147 2.65 1.41  0.38    -1.12 0.12     1   4.0
## PAS_27   27 147 1.07 0.42  6.91    53.51 0.03     1   1.0
## PAS_28   28 147 2.00 1.13  0.95    -0.06 0.09     1   3.0
```

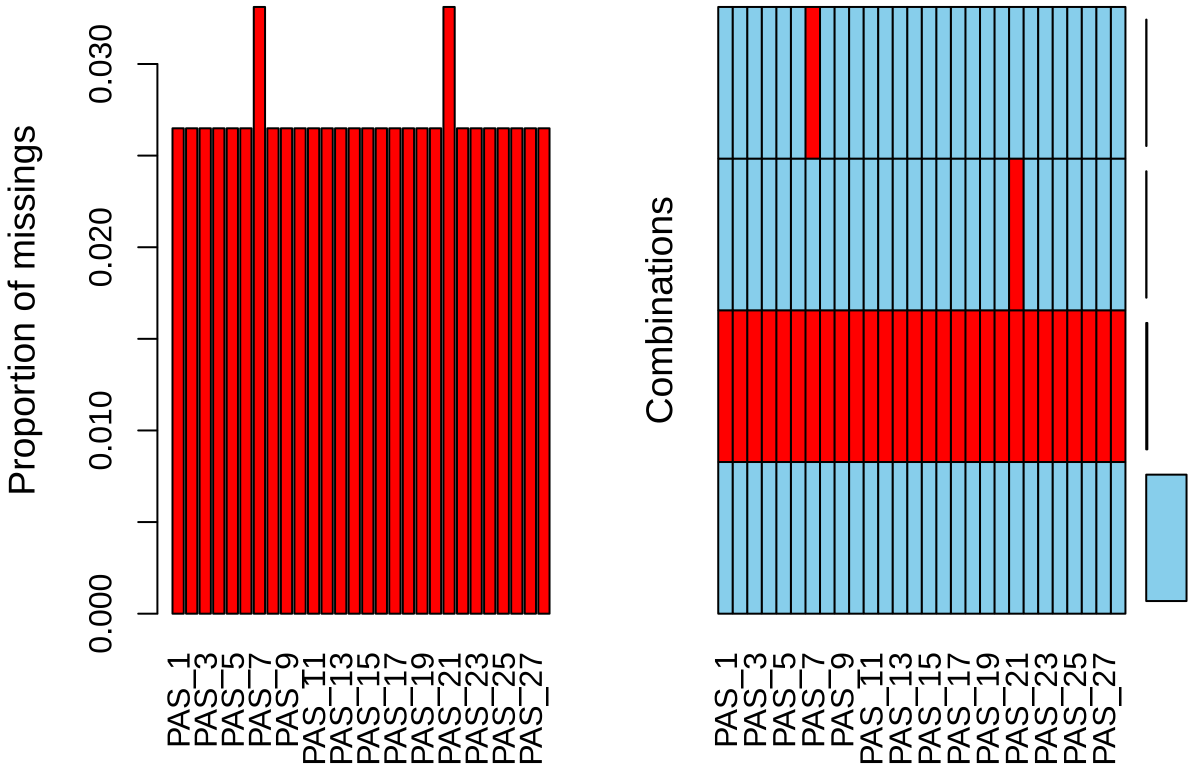
```
#Calculating Summary Scores:
PAS.all_T1$PAS_tot<-rowSums(PAS.all_T1[,3:30])  #inclunding na.rm=T results in 0's

PAS.all_T1$Miss_tot<-rep(NA, nrow(PAS.all_T1))
for(n in 1:nrow(PAS.all_T1)){
  PAS.all_T1$Miss_tot[n]<-sum(is.na(PAS.all_T1[n,3:30])==TRUE)
}

PAS.all_T1$Miss_per<-rep(NA, nrow(PAS.all_T1))
for(n in 1:nrow(PAS.all_T1)){
  PAS.all_T1$Miss_per[n]<-round(sum(is.na(PAS.all_T1[n,3:30])==TRUE)/ncol(PAS.all_T1[3:30])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
PAS.all_T1$PAS_avg<-rowMeans(PAS.all_T1[,3:30])

#Creating variable with individual mean replacement if respondent completed >85% of items
PAS.all_T1$PAS_avg_MR85<-ifelse(PAS.all_T1$Miss_per<15, rowMeans(PAS.all_T1[,3:30],
                                                                  na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(PAS.all_T1[,c(31,34,35)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean    sd skew kurtosis   se Q0.25 Q0.75
```

```
## PAS_tot         1 145 59.28 14.86 0.84     1.60 1.23 48.00 69.00
## PAS_avg         2 145  2.12  0.53 0.84     1.60 0.04  1.71  2.46
## PAS_avg_MR85    3 147  2.12  0.53 0.82     1.48 0.04  1.73  2.46
```

8.1.2 MISSING DATA

```r
VIM::aggr(PAS.all_T1[,3:30])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

1. Missing pattern 1: Subject 062 failed to respond to `PAS_7`; $N = 1$; 0.66%
2. Missing pattern 2: Subject 109 failed to respond to `PAS_21`; $N = 1$; 0.66%
3. Missing pattern 3: Subjects 005, 038, 096, and 125 failed to respond to any items; $N = 4$; 2.65%
4. Missing pattern 4: All items completed; $N = 145$; 96.02%

The variable `PAS_tot` is the vector of individual summed PAS scores - 062 and 109 are dropped from this summary variable (see above).
The varaible `PAS_avg` is the vector of individual mean PAS scores - 062 and 109 are dropped from this summary variable (see above).

The variable `PAS_avg_MR85` is a vector of individual mean PAS scores that includes estimated averages when at least 85% of the necessary data is available - note 062 and 109 are included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T1 to report.

8.1.3 CRONBACH'S ALPHA

```r
psych::alpha(PAS.all_T1[,3:30], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = PAS.all_T1[, 3:30], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.89    0.93      0.23 8.4 0.014  2.1 0.53     0.22
##
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.84 0.88 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## PAS_1       0.87      0.89    0.93      0.23 8.0    0.015 0.025  0.21
## PAS_2       0.88      0.89    0.93      0.23 8.2    0.014 0.025  0.22
## PAS_3       0.88      0.89    0.93      0.23 8.1    0.014 0.026  0.22
## PAS_4       0.87      0.89    0.93      0.22 7.8    0.015 0.024  0.21
## PAS_5       0.88      0.89    0.93      0.24 8.5    0.014 0.026  0.24
## PAS_6       0.88      0.89    0.93      0.23 8.2    0.014 0.026  0.22
## PAS_7       0.88      0.89    0.93      0.23 8.1    0.014 0.026  0.22
## PAS_8       0.87      0.89    0.93      0.22 7.8    0.015 0.024  0.21
## PAS_9       0.88      0.89    0.93      0.23 8.1    0.014 0.026  0.22
## PAS_10      0.88      0.89    0.93      0.23 8.2    0.014 0.026  0.21
## PAS_11      0.88      0.89    0.93      0.24 8.4    0.014 0.026  0.23
## PAS_12      0.87      0.89    0.93      0.22 7.7    0.015 0.024  0.21
## PAS_13      0.88      0.89    0.93      0.24 8.3    0.014 0.026  0.22
## PAS_14      0.88      0.89    0.93      0.23 7.9    0.014 0.024  0.21
## PAS_15      0.89      0.90    0.93      0.24 8.7    0.013 0.024  0.24
## PAS_16      0.87      0.89    0.93      0.22 7.8    0.015 0.024  0.21
## PAS_17      0.88      0.90    0.94      0.24 8.6    0.013 0.025  0.24
## PAS_18      0.88      0.89    0.93      0.23 7.9    0.014 0.025  0.21
## PAS_19      0.88      0.89    0.93      0.23 8.1    0.014 0.025  0.22
## PAS_20      0.88      0.89    0.93      0.24 8.5    0.014 0.026  0.24
## PAS_21      0.88      0.89    0.93      0.23 7.9    0.014 0.025  0.21
## PAS_22      0.88      0.89    0.93      0.23 8.1    0.014 0.026  0.21
## PAS_23      0.88      0.90    0.93      0.24 8.6    0.014 0.025  0.24
## PAS_24      0.88      0.90    0.93      0.24 8.5    0.013 0.025  0.23
## PAS_25      0.88      0.89    0.93      0.23 8.0    0.014 0.025  0.21
## PAS_26      0.88      0.89    0.93      0.23 8.2    0.014 0.026  0.22
## PAS_27      0.88      0.89    0.93      0.23 8.2    0.014 0.025  0.22
## PAS_28      0.87      0.89    0.93      0.23 7.9    0.015 0.025  0.21
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_1  147  0.61  0.61  0.61   0.56  2.4 1.15
## PAS_2  147  0.48  0.48  0.48   0.42  2.4 1.12
## PAS_3  147  0.54  0.55  0.54   0.48  1.8 1.21
## PAS_4  147  0.68  0.70  0.70   0.64  1.9 1.02
## PAS_5  147  0.35  0.35  0.32   0.29  2.8 1.13
## PAS_6  147  0.53  0.49  0.47   0.45  3.1 1.44
## PAS_7  146  0.51  0.52  0.49   0.45  1.9 1.08
## PAS_8  147  0.71  0.71  0.72   0.67  1.8 1.09
## PAS_9  147  0.51  0.55  0.53   0.48  1.2 0.73
## PAS_10 147  0.51  0.49  0.47   0.44  2.0 1.22
## PAS_11 147  0.42  0.40  0.37   0.36  3.6 1.15
## PAS_12 147  0.70  0.73  0.73   0.67  1.6 1.00
## PAS_13 147  0.44  0.43  0.40   0.38  2.1 1.16
## PAS_14 147  0.63  0.66  0.67   0.59  1.4 0.80
## PAS_15 147  0.24  0.23  0.19   0.16  3.2 1.30
## PAS_16 147  0.69  0.72  0.72   0.66  1.6 0.86
## PAS_17 147  0.26  0.25  0.20   0.18  2.0 1.22
## PAS_18 147  0.59  0.62  0.61   0.55  1.3 0.88
```

```
## PAS_19 147  0.50  0.51  0.51   0.44  2.1 1.01
## PAS_20 147  0.37  0.34  0.31   0.29  2.1 1.22
## PAS_21 146  0.62  0.65  0.65   0.58  1.4 0.81
## PAS_22 147  0.56  0.53  0.51   0.50  2.7 1.25
## PAS_23 147  0.27  0.25  0.21   0.20  3.9 0.99
## PAS_24 147  0.32  0.30  0.27   0.24  2.2 1.35
## PAS_25 147  0.60  0.62  0.61   0.56  1.4 0.83
## PAS_26 147  0.48  0.46  0.43   0.41  2.6 1.41
## PAS_27 147  0.43  0.49  0.47   0.41  1.1 0.42
## PAS_28 147  0.63  0.62  0.61   0.58  2.0 1.13
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_1  0.29 0.27 0.25 0.17 0.03 0.03
## PAS_2  0.28 0.27 0.29 0.12 0.03 0.03
## PAS_3  0.62 0.15 0.12 0.05 0.06 0.03
## PAS_4  0.48 0.27 0.18 0.05 0.02 0.03
## PAS_5  0.15 0.24 0.36 0.17 0.07 0.03
## PAS_6  0.18 0.21 0.21 0.15 0.25 0.03
## PAS_7  0.48 0.26 0.18 0.03 0.04 0.03
## PAS_8  0.56 0.23 0.14 0.03 0.05 0.03
## PAS_9  0.90 0.05 0.02 0.01 0.02 0.03
## PAS_10 0.54 0.16 0.17 0.09 0.05 0.03
## PAS_11 0.05 0.10 0.28 0.29 0.28 0.03
## PAS_12 0.61 0.24 0.07 0.03 0.03 0.03
## PAS_13 0.40 0.27 0.18 0.12 0.03 0.03
## PAS_14 0.69 0.22 0.07 0.01 0.01 0.03
## PAS_15 0.15 0.12 0.27 0.27 0.18 0.03
## PAS_16 0.63 0.23 0.10 0.02 0.01 0.03
## PAS_17 0.48 0.20 0.21 0.04 0.07 0.03
## PAS_18 0.84 0.07 0.05 0.02 0.03 0.03
## PAS_19 0.37 0.30 0.24 0.09 0.01 0.03
## PAS_20 0.45 0.22 0.18 0.09 0.05 0.03
## PAS_21 0.78 0.12 0.07 0.01 0.02 0.03
## PAS_22 0.21 0.25 0.29 0.14 0.10 0.03
## PAS_23 0.02 0.06 0.25 0.36 0.31 0.03
## PAS_24 0.45 0.16 0.20 0.09 0.10 0.03
## PAS_25 0.72 0.17 0.07 0.02 0.01 0.03
## PAS_26 0.29 0.21 0.24 0.10 0.16 0.03
## PAS_27 0.96 0.02 0.01 0.00 0.01 0.03
## PAS_28 0.44 0.28 0.15 0.10 0.03 0.03
```

8.1.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
PAS.all_T1$Group.R<-ifelse(PAS.all_T1$Group==0, 'CLK', 'Turtle')
psych::describeBy(PAS.all_T1[,c(3:30,36)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##           vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1        1 73 2.23 1.10  0.47    -0.90 0.13     1     3
## PAS_2        2 73 2.37 1.07  0.37    -0.67 0.13     2     3
## PAS_3        3 73 1.81 1.16  1.26     0.49 0.14     1     2
## PAS_4        4 73 1.84 1.01  1.04     0.21 0.12     1     2
## PAS_5        5 73 2.86 1.05  0.20    -0.56 0.12     2     4
## PAS_6        6 73 3.33 1.36 -0.21    -1.26 0.16     2     5
## PAS_7        7 73 1.93 1.12  1.00     0.19 0.13     1     3
## PAS_8        8 73 1.74 1.05  1.50     1.72 0.12     1     2
## PAS_9        9 73 1.29 0.87  3.12     8.91 0.10     1     1
```

```
## PAS_10     10 73 1.96 1.25  0.96    -0.45 0.15     1     3
## PAS_11     11 73 3.63 1.12 -0.47    -0.62 0.13     3     5
## PAS_12     12 73 1.67 1.01  1.78     2.84 0.12     1     2
## PAS_13     13 73 2.05 1.17  0.88    -0.22 0.14     1     3
## PAS_14     14 73 1.41 0.80  2.24     5.37 0.09     1     2
## PAS_15     15 73 3.23 1.31 -0.32    -0.96 0.15     2     4
## PAS_16     16 73 1.62 0.92  1.44     1.52 0.11     1     2
## PAS_17     17 73 2.04 1.27  1.00    -0.09 0.15     1     3
## PAS_18     18 73 1.48 1.06  2.18     3.70 0.12     1     1
## PAS_19     19 73 2.03 0.97  0.48    -0.91 0.11     1     3
## PAS_20     20 73 1.86 1.08  1.17     0.73 0.13     1     3
## PAS_21     21 73 1.36 0.82  2.82     8.49 0.10     1     1
## PAS_22     22 73 2.79 1.27  0.18    -0.95 0.15     2     4
## PAS_23     23 73 3.96 0.99 -0.68    -0.25 0.12     3     5
## PAS_24     24 73 2.34 1.36  0.49    -1.07 0.16     1     3
## PAS_25     25 73 1.44 0.76  1.68     2.04 0.09     1     2
## PAS_26     26 73 2.75 1.41  0.29    -1.19 0.17     2     4
## PAS_27     27 73 1.04 0.20  4.53    18.77 0.02     1     1
## PAS_28     28 73 1.96 1.12  0.89    -0.24 0.13     1     3
## Group.R*   29 76  NaN   NA    NA       NA   NA    NA    NA
## --------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1       1 74 2.54 1.18  0.15    -1.06 0.14  1.25  3.00
## PAS_2       2 74 2.35 1.16  0.38    -0.83 0.14  1.00  3.00
## PAS_3       3 74 1.77 1.27  1.51     0.99 0.15  1.00  2.00
## PAS_4       4 74 1.91 1.04  0.99     0.35 0.12  1.00  3.00
## PAS_5       5 74 2.69 1.20  0.14    -0.83 0.14  2.00  3.00
## PAS_6       6 74 2.85 1.49  0.23    -1.36 0.17  2.00  4.00
## PAS_7       7 73 1.86 1.05  1.28     1.24 0.12  1.00  2.00
## PAS_8       8 74 1.81 1.13  1.38     1.13 0.13  1.00  2.00
## PAS_9       9 74 1.14 0.56  5.21    30.34 0.06  1.00  1.00
## PAS_10     10 74 1.95 1.20  1.03     0.02 0.14  1.00  3.00
## PAS_11     11 74 3.66 1.17 -0.59    -0.41 0.14  3.00  5.00
## PAS_12     12 74 1.59 0.99  1.78     2.57 0.12  1.00  2.00
## PAS_13     13 74 2.16 1.16  0.62    -0.74 0.13  1.00  3.00
## PAS_14     14 74 1.49 0.80  1.96     4.42 0.09  1.00  2.00
## PAS_15     15 74 3.20 1.30 -0.30    -1.01 0.15  2.00  4.00
## PAS_16     16 74 1.49 0.80  1.96     4.42 0.09  1.00  2.00
## PAS_17     17 74 1.99 1.16  1.00     0.15 0.14  1.00  3.00
## PAS_18     18 74 1.19 0.63  3.97    17.48 0.07  1.00  1.00
## PAS_19     19 74 2.11 1.05  0.55    -0.68 0.12  1.00  3.00
## PAS_20     20 74 2.28 1.31  0.60    -0.93 0.15  1.00  3.00
## PAS_21     21 73 1.37 0.81  2.37     5.55 0.09  1.00  1.00
## PAS_22     22 74 2.55 1.22  0.39    -0.79 0.14  2.00  3.00
## PAS_23     23 74 3.78 0.98 -0.59     0.04 0.11  3.00  4.75
## PAS_24     24 74 2.09 1.35  0.99    -0.24 0.16  1.00  3.00
## PAS_25     25 74 1.43 0.89  2.37     5.53 0.10  1.00  1.75
## PAS_26     26 74 2.54 1.42  0.46    -1.08 0.16  1.00  3.00
## PAS_27     27 74 1.11 0.56  5.48    31.32 0.07  1.00  1.00
## PAS_28     28 74 2.04 1.15  0.98    -0.01 0.13  1.00  2.75
## Group.R*   29 75  NaN   NA    NA       NA   NA    NA    NA
```

```
psych::describeBy(PAS.all_T1[,c(31,34,35,36)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

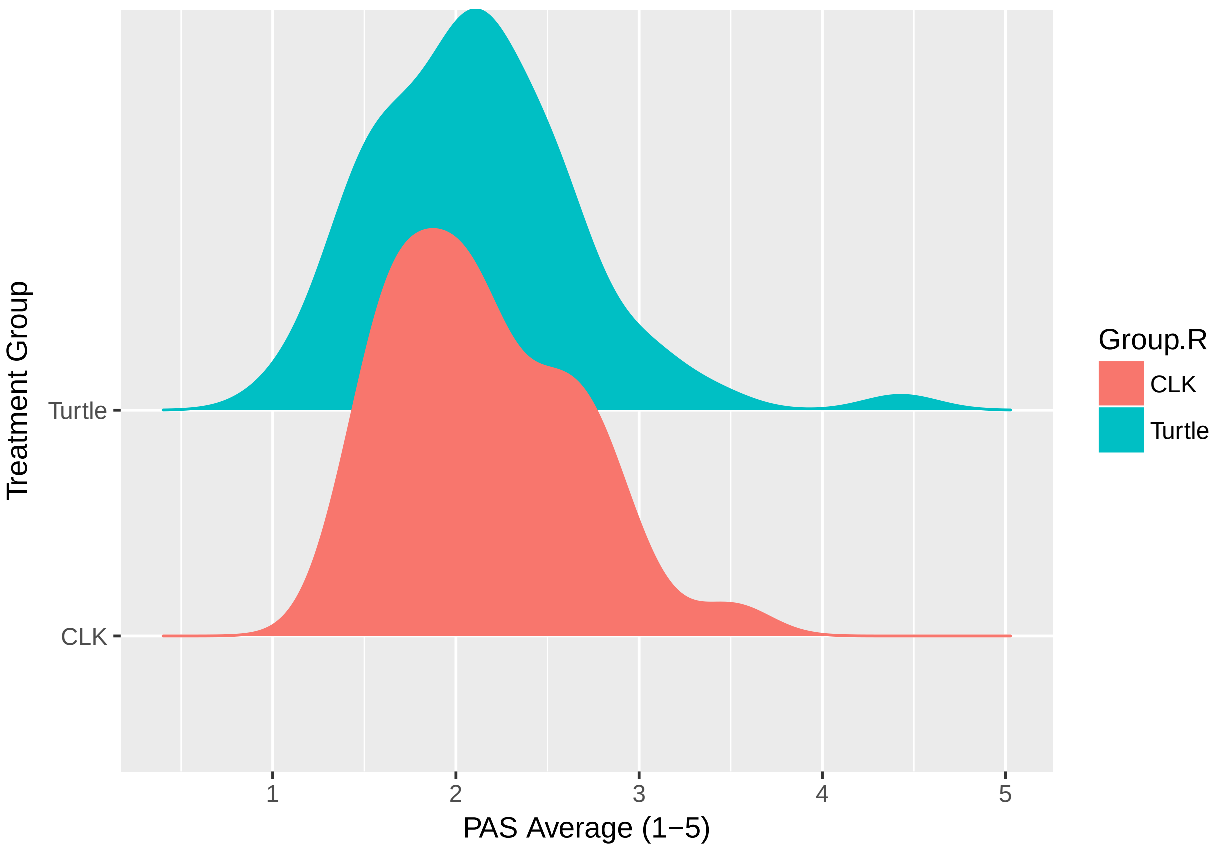
```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## PAS_tot         1 73 60.03 14.03  0.6    -0.24 1.64 49.00 71.00
## PAS_avg         2 73  2.14  0.50  0.6    -0.24 0.06  1.75  2.54
## PAS_avg_MR85    3 73  2.14  0.50  0.6    -0.24 0.06  1.75  2.54
```

```
## Group.R*         4 76   NaN    NA   NA       NA   NA    NA    NA
## ----------------------------------------------------------
## group: Turtle
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## PAS_tot         1 72 58.53 15.71 1.02     2.72 1.85 46.75 68.00
## PAS_avg         2 72  2.09  0.56 1.02     2.72 0.07  1.67  2.43
## PAS_avg_MR85    3 74  2.11  0.57 0.97     2.37 0.07  1.70  2.43
## Group.R*        4 75   NaN    NA   NA       NA   NA    NA    NA
```

8.1.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average PAS scores
t.test(PAS.all_T1$PAS_avg_MR85~PAS.all_T1$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  PAS.all_T1$PAS_avg_MR85 by PAS.all_T1$Group
## t = 0.42441, df = 143.23, p-value = 0.6719
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1370768  0.2120353
## sample estimates:
## mean in group 0 mean in group 1
##        2.143836        2.106356
```



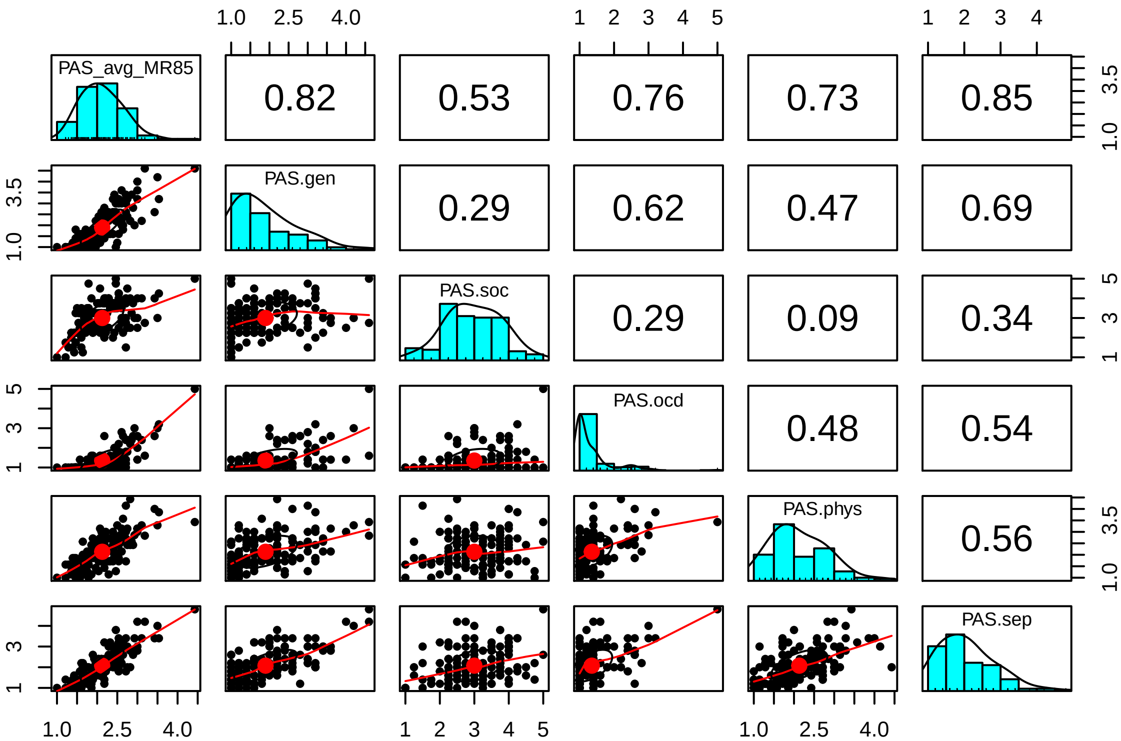
8.1.6 TIME 1: SUBSCALES

8.1.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(PAS.all_T1[,c(37:41)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##          vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## PAS.gen     1 147 1.90 0.82 1.04     0.60 0.07  1.20  2.40
## PAS.soc     2 147 3.00 0.82 0.00    -0.32 0.07  2.50  3.75
## PAS.ocd     3 146 1.35 0.59 2.65     9.62 0.05  1.00  1.40
## PAS.phys    4 147 2.13 0.70 0.62     0.16 0.06  1.57  2.64
## PAS.sep     5 147 2.08 0.77 0.82     0.45 0.06  1.40  2.50
```

```
psych::pairs.panels(PAS.all_T1[,c(35,37:41)])
```



8.1.6.2 CRONBACH'S ALPHA: GENERALIZED SUBSCALE

```
psych::alpha(PAS.all_T1[PAS.gen], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T1[PAS.gen], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.84      0.85    0.85      0.53 5.7 0.02  1.9 0.82     0.52
##
##  lower alpha upper     95% confidence boundaries
## 0.8 0.84 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.78 0.84 0.89
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_1       0.81      0.82    0.80      0.53 4.5    0.026 0.0184  0.51
## PAS_4       0.80      0.81    0.80      0.52 4.3    0.026 0.0177  0.49
## PAS_8       0.79      0.80    0.76      0.50 4.0    0.026 0.0078  0.49
## PAS_14      0.81      0.81    0.77      0.52 4.4    0.025 0.0048  0.52
## PAS_28      0.84      0.85    0.84      0.59 5.7    0.021 0.0112  0.56
```

```
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## PAS_1  147  0.81  0.79  0.72   0.67  2.4 1.1
## PAS_4  147  0.81  0.81  0.74   0.69  1.9 1.0
## PAS_8  147  0.83  0.84  0.82   0.71  1.8 1.1
## PAS_14 147  0.78  0.81  0.77   0.68  1.4 0.8
## PAS_28 147  0.73  0.71  0.58   0.55  2.0 1.1
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_1  0.29 0.27 0.25 0.17 0.03 0.03
## PAS_4  0.48 0.27 0.18 0.05 0.02 0.03
## PAS_8  0.56 0.23 0.14 0.03 0.05 0.03
## PAS_14 0.69 0.22 0.07 0.01 0.01 0.03
## PAS_28 0.44 0.28 0.15 0.10 0.03 0.03
```

8.1.6.3 CRONBACH'S ALPHA: SOCIAL SUBSCALE

```
psych::alpha(PAS.all_T1[PAS.soc], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T1[PAS.soc], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.65      0.65    0.59      0.32 1.9 0.046    3 0.82     0.32
##
##  lower alpha upper     95% confidence boundaries
## 0.56 0.65 0.74
##
##  lower median upper bootstrapped confidence intervals
##  0.53 0.65 0.73
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_2       0.66      0.66    0.57      0.40 2.0    0.048 0.0012  0.40
## PAS_5       0.53      0.53    0.44      0.27 1.1    0.066 0.0090  0.29
## PAS_11      0.54      0.54    0.46      0.28 1.2    0.064 0.0176  0.25
## PAS_15      0.58      0.58    0.48      0.31 1.4    0.060 0.0060  0.29
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## PAS_2  147  0.60  0.61  0.38   0.30  2.4 1.1
## PAS_5  147  0.74  0.74  0.63   0.51  2.8 1.1
## PAS_11 147  0.73  0.73  0.60   0.48  3.6 1.1
## PAS_15 147  0.73  0.70  0.55   0.44  3.2 1.3
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_2  0.28 0.27 0.29 0.12 0.03 0.03
## PAS_5  0.15 0.24 0.36 0.17 0.07 0.03
## PAS_11 0.05 0.10 0.28 0.29 0.28 0.03
## PAS_15 0.15 0.12 0.27 0.27 0.18 0.03
```

Note - low alpha

8.1.6.4 CRONBACH'S ALPHA: OBSESSIVE-COMPULSIVE SUBSCALE

```
psych::alpha(PAS.all_T1[PAS.ocd], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = PAS.all_T1[PAS.ocd], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.73      0.77    0.74       0.4 3.3 0.032  1.4 0.59     0.41
##
##  lower alpha upper     95% confidence boundaries
## 0.67 0.73 0.8
##
##  lower median upper bootstrapped confidence intervals
##  0.55 0.72 0.84
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_3       0.71      0.74    0.69      0.41 2.8    0.037 0.0066  0.41
## PAS_9       0.66      0.71    0.67      0.38 2.5    0.041 0.0108  0.38
## PAS_18      0.63      0.70    0.65      0.36 2.3    0.045 0.0098  0.38
## PAS_21      0.73      0.77    0.72      0.45 3.3    0.031 0.0051  0.44
## PAS_27      0.71      0.73    0.68      0.40 2.7    0.037 0.0174  0.42
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_3  147  0.79  0.71  0.60   0.52  1.8 1.21
## PAS_9  147  0.74  0.75  0.67   0.59  1.2 0.73
## PAS_18 147  0.80  0.78  0.72   0.64  1.3 0.88
## PAS_21 146  0.60  0.64  0.49   0.38  1.4 0.81
## PAS_27 147  0.63  0.72  0.62   0.53  1.1 0.42
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_3  0.62 0.15 0.12 0.05 0.06 0.03
## PAS_9  0.90 0.05 0.02 0.01 0.02 0.03
## PAS_18 0.84 0.07 0.05 0.02 0.03 0.03
## PAS_21 0.78 0.12 0.07 0.01 0.02 0.03
## PAS_27 0.96 0.02 0.01 0.00 0.01 0.03
```

8.1.6.5 CRONBACH'S ALPHA: PHYSICAL FEARS SUBSCALE

```
psych::alpha(PAS.all_T1[PAS.phys], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T1[PAS.phys], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.64      0.65    0.64      0.21 1.8 0.044  2.1 0.7     0.21
##
##  lower alpha upper     95% confidence boundaries
## 0.55 0.64 0.73
##
##  lower median upper bootstrapped confidence intervals
##  0.53 0.64 0.73
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_7       0.61      0.61    0.60      0.21 1.6    0.049 0.0151  0.19
## PAS_10      0.59      0.60    0.59      0.20 1.5    0.051 0.0170  0.21
## PAS_13      0.55      0.55    0.53      0.17 1.2    0.056 0.0100  0.19
## PAS_17      0.66      0.67    0.65      0.25 2.0    0.042 0.0096  0.25
## PAS_20      0.59      0.60    0.58      0.20 1.5    0.051 0.0119  0.19
## PAS_24      0.63      0.63    0.61      0.22 1.7    0.047 0.0134  0.21
## PAS_26      0.59      0.60    0.59      0.20 1.5    0.052 0.0142  0.19
##
##  Item statistics
```

```
##          n raw.r std.r r.cor r.drop mean  sd
## PAS_7  146  0.53  0.56  0.44   0.35  1.9 1.1
## PAS_10 147  0.59  0.60  0.49   0.39  2.0 1.2
## PAS_13 147  0.69  0.70  0.66   0.53  2.1 1.2
## PAS_17 147  0.39  0.40  0.20   0.15  2.0 1.2
## PAS_20 147  0.59  0.59  0.50   0.39  2.1 1.2
## PAS_24 147  0.53  0.50  0.37   0.29  2.2 1.4
## PAS_26 147  0.63  0.60  0.50   0.40  2.6 1.4
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_7  0.48 0.26 0.18 0.03 0.04 0.03
## PAS_10 0.54 0.16 0.17 0.09 0.05 0.03
## PAS_13 0.40 0.27 0.18 0.12 0.03 0.03
## PAS_17 0.48 0.20 0.21 0.04 0.07 0.03
## PAS_20 0.45 0.22 0.18 0.09 0.05 0.03
## PAS_24 0.45 0.16 0.20 0.09 0.10 0.03
## PAS_26 0.29 0.21 0.24 0.10 0.16 0.03
```

Note - Low Alpha

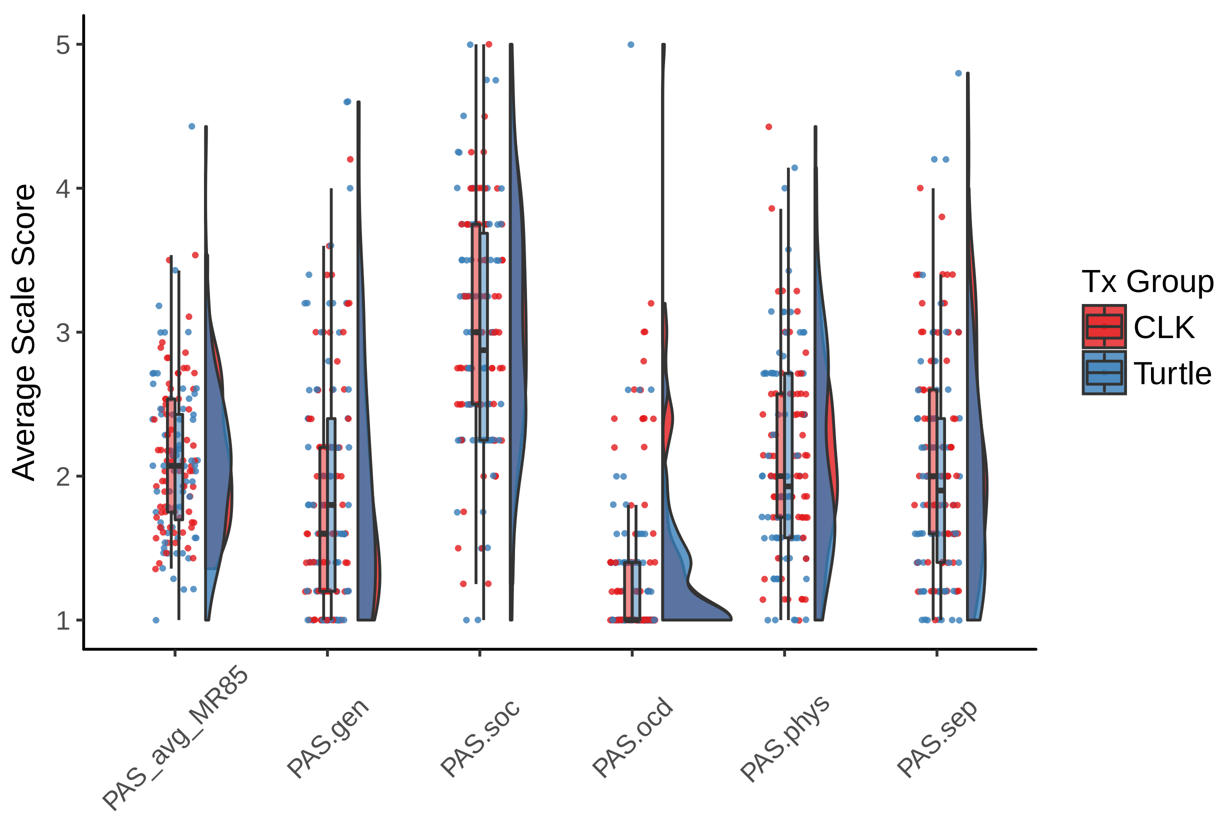
8.1.6.6 CRONBACH'S ALPHA: SEPARATION SUBSCALE

```
psych::alpha(PAS.all_T1[PAS.sep], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T1[PAS.sep], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.74      0.76    0.75      0.39 3.2 0.033  2.1 0.77     0.37
##
##  lower alpha upper     95% confidence boundaries
## 0.67 0.74 0.8
##
##  lower median upper bootstrapped confidence intervals
##  0.65 0.74 0.8
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_6       0.73      0.74    0.72      0.42 2.9    0.036 0.0211  0.38
## PAS_12      0.66      0.68    0.62      0.34 2.1    0.043 0.0021  0.35
## PAS_16      0.68      0.70    0.65      0.37 2.4    0.041 0.0033  0.38
## PAS_22      0.70      0.74    0.72      0.42 2.9    0.040 0.0221  0.37
## PAS_25      0.70      0.73    0.71      0.40 2.7    0.040 0.0228  0.35
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_6  147  0.73  0.66  0.52   0.46  3.1 1.44
## PAS_12 147  0.76  0.80  0.77   0.60  1.6 1.00
## PAS_16 147  0.70  0.75  0.70   0.55  1.6 0.86
## PAS_22 147  0.71  0.67  0.53   0.48  2.7 1.25
## PAS_25 147  0.65  0.70  0.57   0.50  1.4 0.83
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_6  0.18 0.21 0.21 0.15 0.25 0.03
## PAS_12 0.61 0.24 0.07 0.03 0.03 0.03
## PAS_16 0.63 0.23 0.10 0.02 0.01 0.03
## PAS_22 0.21 0.25 0.29 0.14 0.10 0.03
## PAS_25 0.72 0.17 0.07 0.02 0.01 0.03
```

8.1.6.7 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(PAS.all_T1[35:41], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T1 Folder:
`E:/Data/Qualtrics/Parent/T1`

Contains Tab-Delimited Text Files:
- `/PAS_T1_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/PAS_T1_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for PAS
- `/PAS_T1_Summary_wo_Raw_items.txt`: The processed summary scores for PAS wo raw items

8.2 TIME 2: COMPLETE SCALE

8.2.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(PAS.all_T2[,c(3:30)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1     1 130 2.53 1.15  0.49    -0.65 0.10     2     3
## PAS_2     2 130 2.34 1.13  0.46    -0.66 0.10     1     3
## PAS_3     3 130 1.83 1.12  1.18     0.37 0.10     1     2
## PAS_4     4 130 1.98 1.02  0.73    -0.29 0.09     1     3
## PAS_5     5 130 2.88 1.05  0.11    -0.34 0.09     2     3
## PAS_6     6 130 2.87 1.44  0.17    -1.30 0.13     2     4
## PAS_7     7 130 2.11 1.11  0.74    -0.33 0.10     1     3
## PAS_8     8 130 1.57 0.96  1.68     2.08 0.08     1     2
## PAS_9     9 130 1.10 0.41  4.72    24.39 0.04     1     1
## PAS_10   10 130 1.75 1.09  1.39     0.96 0.10     1     2
## PAS_11   11 130 3.54 1.08 -0.52    -0.26 0.09     3     4
## PAS_12   12 130 1.51 0.82  1.61     2.26 0.07     1     2
## PAS_13   13 130 1.93 1.02  0.79    -0.24 0.09     1     3
## PAS_14   14 130 1.45 0.84  2.00     3.61 0.07     1     2
## PAS_15   15 130 3.10 1.08  0.17    -0.66 0.10     2     4
## PAS_16   16 130 1.42 0.83  2.43     6.39 0.07     1     2
## PAS_17   17 130 1.96 1.14  0.95    -0.12 0.10     1     3
## PAS_18   18 130 1.24 0.62  3.09    11.17 0.05     1     1
## PAS_19   19 130 2.05 1.09  0.81    -0.16 0.10     1     3
## PAS_20   20 130 2.11 1.15  0.82    -0.17 0.10     1     3
## PAS_21   21 130 1.37 0.77  2.32     5.34 0.07     1     1
## PAS_22   22 130 2.40 1.10  0.50    -0.28 0.10     2     3
## PAS_23   23 130 3.66 0.89 -0.52     0.37 0.08     3     4
## PAS_24   24 130 2.17 1.29  0.81    -0.51 0.11     1     3
## PAS_25   25 130 1.35 0.82  2.77     8.07 0.07     1     1
## PAS_26   26 130 2.61 1.32  0.44    -0.90 0.12     2     3
## PAS_27   27 130 1.10 0.46  5.92    40.49 0.04     1     1
## PAS_28   28 130 2.30 1.29  0.61    -0.76 0.11     1     3
```

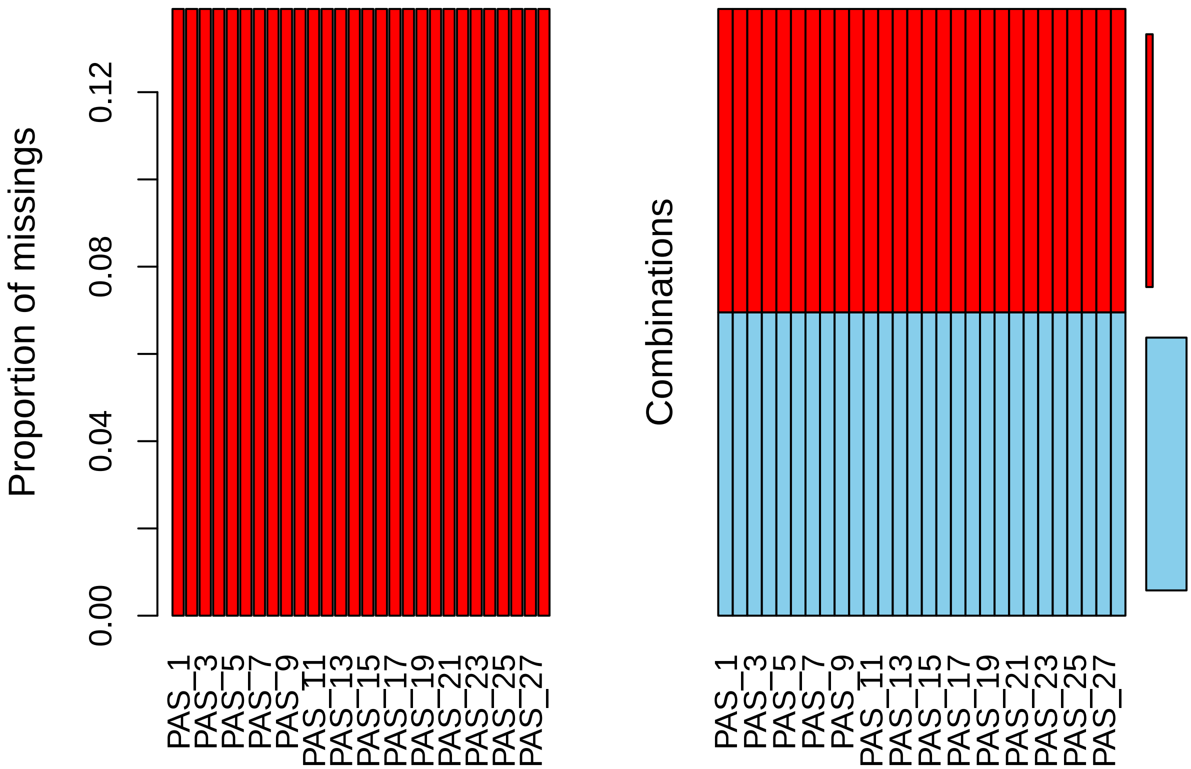
```
#Calculating Summary Scores:
PAS.all_T2$PAS_tot<-rowSums(PAS.all_T2[,3:30])  #inclunding na.rm=T results in 0's

PAS.all_T2$Miss_tot<-rep(NA, nrow(PAS.all_T2))
for(n in 1:nrow(PAS.all_T2)){
  PAS.all_T2$Miss_tot[n]<-sum(is.na(PAS.all_T2[n,3:30])==TRUE)
}

PAS.all_T2$Miss_per<-rep(NA, nrow(PAS.all_T2))
for(n in 1:nrow(PAS.all_T2)){
  PAS.all_T2$Miss_per[n]<-round(sum(is.na(PAS.all_T2[n,3:30])==TRUE)/ncol(PAS.all_T2[3:30])*100,
                              digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
PAS.all_T2$PAS_avg<-rowMeans(PAS.all_T2[,3:30])

#Creating variable with individual mean replacement if respondent completed >85% of items
PAS.all_T2$PAS_avg_MR85<-ifelse(PAS.all_T2$Miss_per<15, rowMeans(PAS.all_T2[,3:30],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(PAS.all_T2[,c(31,34,35)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean    sd skew kurtosis   se Q0.25 Q0.75
```

```
## PAS_tot        1 130 58.24 14.52 0.98      1.6 1.27 48.25 65.75
## PAS_avg        2 130  2.08  0.52 0.98      1.6 0.05  1.72  2.35
## PAS_avg_MR85   3 130  2.08  0.52 0.98      1.6 0.05  1.72  2.35
```

8.2.2 MISSING DATA

```r
VIM::aggr(PAS.all_T2[,3:30])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will complete at future date]

The variable `PAS_tot` is the vector of individual summed PAS scores - 062 and 109 are dropped from this summary variable (see above).
The varaible `PAS_avg` is the vector of individual mean PAS scores - 062 and 109 are dropped from this summary variable (see above).

The variable `PAS_avg_MR85` is a vector of individual mean PAS scores that includes estimated averages when at least 85% of the necessary data is available - note 062 and 109 are included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T2 to report.

8.2.3 CRONBACH'S ALPHA

```r
psych::alpha(PAS.all_T2[,3:30], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T2[, 3:30], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.89       0.9    0.94      0.24 8.9 0.012  2.1 0.52     0.23
##
```

```
##  lower alpha upper     95% confidence boundaries
## 0.87 0.89 0.92
##
##  lower median upper bootstrapped confidence intervals
##  0.85 0.89 0.92
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## PAS_1       0.88      0.89    0.93      0.24 8.3    0.013 0.023  0.22
## PAS_2       0.89      0.89    0.93      0.24 8.4    0.013 0.023  0.22
## PAS_3       0.89      0.90    0.94      0.24 8.6    0.013 0.025  0.23
## PAS_4       0.88      0.89    0.93      0.23 8.2    0.013 0.022  0.22
## PAS_5       0.89      0.90    0.94      0.25 8.8    0.013 0.024  0.23
## PAS_6       0.89      0.90    0.93      0.24 8.7    0.013 0.024  0.23
## PAS_7       0.88      0.89    0.93      0.23 8.3    0.013 0.024  0.21
## PAS_8       0.88      0.89    0.93      0.23 8.3    0.013 0.023  0.22
## PAS_9       0.89      0.90    0.94      0.25 8.9    0.013 0.024  0.23
## PAS_10      0.89      0.90    0.94      0.25 8.8    0.013 0.024  0.23
## PAS_11      0.89      0.90    0.94      0.25 8.8    0.013 0.024  0.23
## PAS_12      0.89      0.89    0.93      0.24 8.3    0.013 0.023  0.22
## PAS_13      0.89      0.90    0.94      0.24 8.7    0.013 0.024  0.23
## PAS_14      0.88      0.89    0.93      0.23 8.1    0.013 0.022  0.21
## PAS_15      0.89      0.90    0.94      0.25 9.0    0.012 0.023  0.23
## PAS_16      0.88      0.89    0.93      0.23 8.3    0.013 0.023  0.22
## PAS_17      0.89      0.90    0.94      0.25 8.8    0.013 0.024  0.23
## PAS_18      0.89      0.90    0.93      0.24 8.7    0.013 0.023  0.23
## PAS_19      0.89      0.89    0.93      0.24 8.5    0.013 0.024  0.22
## PAS_20      0.89      0.90    0.94      0.24 8.6    0.013 0.025  0.23
## PAS_21      0.89      0.89    0.93      0.23 8.3    0.013 0.023  0.22
## PAS_22      0.89      0.89    0.93      0.24 8.5    0.013 0.024  0.22
## PAS_23      0.89      0.90    0.94      0.25 9.0    0.012 0.023  0.23
## PAS_24      0.89      0.90    0.94      0.25 8.9    0.012 0.024  0.23
## PAS_25      0.88      0.89    0.93      0.23 8.2    0.013 0.022  0.22
## PAS_26      0.89      0.90    0.94      0.24 8.6    0.013 0.024  0.22
## PAS_27      0.89      0.89    0.93      0.24 8.5    0.013 0.023  0.22
## PAS_28      0.88      0.89    0.93      0.23 8.2    0.014 0.023  0.21
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_1  130  0.65  0.65  0.64   0.60  2.5 1.15
## PAS_2  130  0.58  0.57  0.57   0.53  2.3 1.13
## PAS_3  130  0.47  0.48  0.45   0.40  1.8 1.12
## PAS_4  130  0.67  0.69  0.69   0.63  2.0 1.02
## PAS_5  130  0.41  0.40  0.37   0.35  2.9 1.05
## PAS_6  130  0.48  0.44  0.42   0.40  2.9 1.44
## PAS_7  130  0.67  0.66  0.65   0.62  2.1 1.11
## PAS_8  130  0.65  0.65  0.65   0.61  1.6 0.96
## PAS_9  130  0.29  0.34  0.31   0.26  1.1 0.41
## PAS_10 130  0.38  0.37  0.34   0.31  1.7 1.09
## PAS_11 130  0.40  0.38  0.35   0.33  3.5 1.08
## PAS_12 130  0.61  0.64  0.63   0.57  1.5 0.82
## PAS_13 130  0.43  0.42  0.39   0.38  1.9 1.02
## PAS_14 130  0.73  0.75  0.76   0.70  1.5 0.84
## PAS_15 130  0.27  0.27  0.23   0.20  3.1 1.08
## PAS_16 130  0.64  0.66  0.66   0.60  1.4 0.83
## PAS_17 130  0.39  0.37  0.33   0.32  2.0 1.14
## PAS_18 130  0.39  0.45  0.43   0.35  1.2 0.62
## PAS_19 130  0.55  0.55  0.54   0.49  2.1 1.09
## PAS_20 130  0.51  0.49  0.47   0.45  2.1 1.15
## PAS_21 130  0.62  0.65  0.64   0.59  1.4 0.77
## PAS_22 130  0.58  0.57  0.55   0.53  2.4 1.10
## PAS_23 130  0.30  0.28  0.25   0.24  3.7 0.89
```

```
## PAS_24 130  0.34  0.33  0.30   0.26  2.2 1.29
## PAS_25 130  0.66  0.68  0.69   0.63  1.4 0.82
## PAS_26 130  0.53  0.50  0.47   0.46  2.6 1.32
## PAS_27 130  0.48  0.54  0.54   0.45  1.1 0.46
## PAS_28 130  0.73  0.71  0.71   0.68  2.3 1.29
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_1  0.18 0.38 0.21 0.16 0.06 0.14
## PAS_2  0.28 0.29 0.26 0.12 0.04 0.14
## PAS_3  0.55 0.20 0.14 0.08 0.03 0.14
## PAS_4  0.42 0.28 0.23 0.06 0.02 0.14
## PAS_5  0.10 0.23 0.43 0.16 0.08 0.14
## PAS_6  0.23 0.21 0.22 0.14 0.20 0.14
## PAS_7  0.38 0.29 0.21 0.09 0.03 0.14
## PAS_8  0.67 0.17 0.10 0.05 0.02 0.14
## PAS_9  0.93 0.05 0.02 0.01 0.00 0.14
## PAS_10 0.59 0.20 0.11 0.07 0.03 0.14
## PAS_11 0.05 0.10 0.29 0.36 0.19 0.14
## PAS_12 0.66 0.20 0.12 0.02 0.01 0.14
## PAS_13 0.45 0.25 0.23 0.05 0.02 0.14
## PAS_14 0.71 0.18 0.06 0.04 0.01 0.14
## PAS_15 0.05 0.25 0.38 0.19 0.13 0.14
## PAS_16 0.72 0.18 0.06 0.01 0.02 0.14
## PAS_17 0.48 0.24 0.16 0.09 0.03 0.14
## PAS_18 0.84 0.10 0.05 0.00 0.01 0.14
## PAS_19 0.40 0.28 0.21 0.08 0.03 0.14
## PAS_20 0.39 0.28 0.21 0.08 0.05 0.14
## PAS_21 0.76 0.15 0.06 0.02 0.01 0.14
## PAS_22 0.24 0.31 0.32 0.08 0.05 0.14
## PAS_23 0.02 0.05 0.32 0.44 0.16 0.14
## PAS_24 0.43 0.22 0.18 0.09 0.08 0.14
## PAS_25 0.78 0.13 0.05 0.01 0.02 0.14
## PAS_26 0.25 0.27 0.25 0.11 0.13 0.14
## PAS_27 0.94 0.04 0.02 0.00 0.01 0.14
## PAS_28 0.38 0.21 0.23 0.11 0.08 0.14
```

8.2.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```
PAS.all_T2$Group.R<-ifelse(PAS.all_T2$Group==0, 'CLK', 'Turtle')
psych::describeBy(PAS.all_T2[,c(3:30,36)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1       1 63 2.33 1.06  0.51    -0.73 0.13     2     3
## PAS_2       2 63 2.30 0.99  0.45    -0.47 0.13     2     3
## PAS_3       3 63 1.78 1.05  1.01    -0.41 0.13     1     2
## PAS_4       4 63 1.79 0.97  0.93    -0.30 0.12     1     2
## PAS_5       5 63 2.86 1.03  0.02    -0.29 0.13     2     3
## PAS_6       6 63 3.03 1.34  0.10    -1.18 0.17     2     4
## PAS_7       7 63 2.13 1.07  0.53    -0.72 0.13     1     3
## PAS_8       8 63 1.56 0.93  1.68     2.26 0.12     1     2
## PAS_9       9 63 1.17 0.55  3.41    11.72 0.07     1     1
## PAS_10     10 63 1.65 1.09  1.58     1.43 0.14     1     2
## PAS_11     11 63 3.59 1.01 -0.60     0.15 0.13     3     4
## PAS_12     12 63 1.44 0.78  1.49     0.98 0.10     1     2
## PAS_13     13 63 1.92 1.08  0.83    -0.42 0.14     1     3
## PAS_14     14 63 1.32 0.69  2.39     5.49 0.09     1     1
```

```
## PAS_15     15 63 3.05 1.08  0.13    -0.68 0.14     2     4
## PAS_16     16 63 1.32 0.64  2.12     4.30 0.08     1     1
## PAS_17     17 63 2.11 1.23  0.91    -0.25 0.16     1     3
## PAS_18     18 63 1.25 0.59  2.13     3.16 0.07     1     1
## PAS_19     19 63 2.02 1.07  0.67    -0.58 0.13     1     3
## PAS_20     20 63 2.02 1.04  0.90     0.30 0.13     1     3
## PAS_21     21 63 1.30 0.71  2.44     5.30 0.09     1     1
## PAS_22     22 63 2.44 1.06  0.42    -0.27 0.13     2     3
## PAS_23     23 63 3.65 0.85 -0.39     0.29 0.11     3     4
## PAS_24     24 63 2.13 1.25  0.88    -0.22 0.16     1     3
## PAS_25     25 63 1.32 0.67  2.11     3.89 0.08     1     1
## PAS_26     26 63 2.75 1.31  0.34    -0.99 0.16     2     4
## PAS_27     27 63 1.11 0.36  3.34    11.31 0.05     1     1
## PAS_28     28 63 2.33 1.23  0.43    -0.97 0.16     1     3
## Group.R*   29 76  NaN   NA    NA       NA   NA    NA    NA
## ----------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1       1 67 2.72 1.20  0.39    -0.79 0.15     2   3.5
## PAS_2       2 67 2.37 1.25  0.42    -0.95 0.15     1   3.0
## PAS_3       3 67 1.88 1.19  1.24     0.58 0.15     1   2.5
## PAS_4       4 67 2.16 1.04  0.55    -0.25 0.13     1   3.0
## PAS_5       5 67 2.91 1.07  0.17    -0.47 0.13     2   3.5
## PAS_6       6 67 2.72 1.52  0.27    -1.41 0.19     1   4.0
## PAS_7       7 67 2.09 1.15  0.88    -0.12 0.14     1   3.0
## PAS_8       8 67 1.58 0.99  1.64     1.76 0.12     1   2.0
## PAS_9       9 67 1.03 0.17  5.40    27.60 0.02     1   1.0
## PAS_10     10 67 1.84 1.10  1.21     0.54 0.13     1   2.0
## PAS_11     11 67 3.49 1.15 -0.43    -0.63 0.14     3   4.0
## PAS_12     12 67 1.57 0.86  1.65     2.77 0.10     1   2.0
## PAS_13     13 67 1.94 0.97  0.71    -0.15 0.12     1   3.0
## PAS_14     14 67 1.58 0.94  1.65     2.14 0.11     1   2.0
## PAS_15     15 67 3.15 1.09  0.19    -0.73 0.13     2   4.0
## PAS_16     16 67 1.52 0.97  2.21     4.71 0.12     1   2.0
## PAS_17     17 67 1.82 1.03  0.85    -0.67 0.13     1   3.0
## PAS_18     18 67 1.22 0.65  3.73    16.22 0.08     1   1.0
## PAS_19     19 67 2.09 1.12  0.90     0.04 0.14     1   3.0
## PAS_20     20 67 2.19 1.25  0.70    -0.63 0.15     1   3.0
## PAS_21     21 67 1.43 0.82  2.16     4.85 0.10     1   2.0
## PAS_22     22 67 2.36 1.14  0.56    -0.36 0.14     1   3.0
## PAS_23     23 67 3.67 0.94 -0.60     0.29 0.12     3   4.0
## PAS_24     24 67 2.21 1.33  0.72    -0.81 0.16     1   3.0
## PAS_25     25 67 1.39 0.94  2.77     7.34 0.11     1   1.0
## PAS_26     26 67 2.48 1.33  0.54    -0.84 0.16     1   3.0
## PAS_27     27 67 1.09 0.54  6.22    39.42 0.07     1   1.0
## PAS_28     28 67 2.27 1.34  0.73    -0.67 0.16     1   3.0
## Group.R*   29 75  NaN   NA    NA       NA   NA    NA    NA
```

```
psych::describeBy(PAS.all_T2[,c(31,34,35,36)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

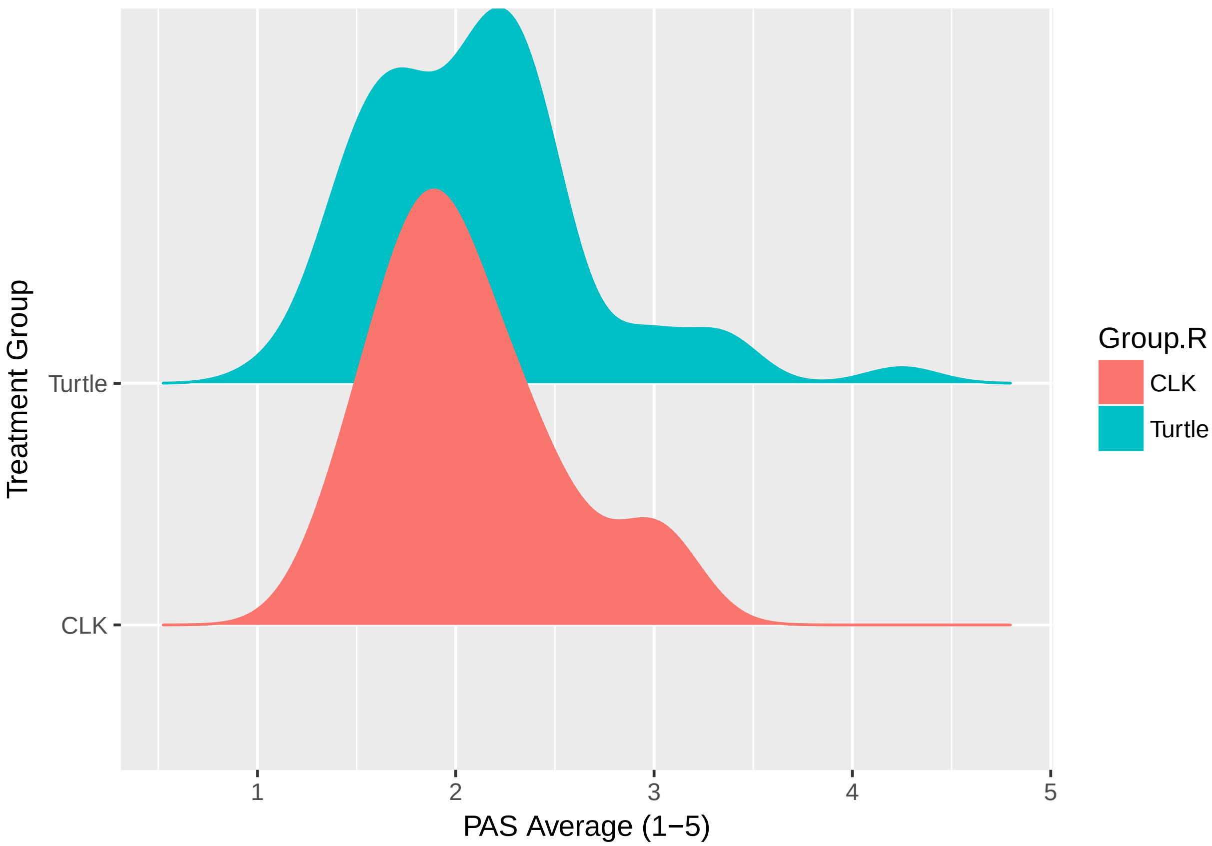
```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## PAS_tot         1 63 57.67 13.09 0.66    -0.22 1.65 48.50 65.50
## PAS_avg         2 63  2.06  0.47 0.66    -0.22 0.06  1.73  2.34
## PAS_avg_MR85    3 63  2.06  0.47 0.66    -0.22 0.06  1.73  2.34
## Group.R*        4 76   NaN    NA   NA       NA   NA    NA    NA
## ----------------------------------------------------------
## group: Turtle
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## PAS_tot         1 67 58.78 15.83 1.09     1.99 1.93 48.00 66.00
```

```
## PAS_avg         2 67  2.10  0.57 1.09     1.99 0.07  1.71  2.36
## PAS_avg_MR85    3 67  2.10  0.57 1.09     1.99 0.07  1.71  2.36
## Group.R*        4 75   NaN    NA   NA       NA   NA    NA    NA
```

8.2.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average PAS scores
t.test(PAS.all_T2$PAS_avg_MR85~PAS.all_T2$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  PAS.all_T2$PAS_avg_MR85 by PAS.all_T2$Group
## t = -0.43644, df = 125.97, p-value = 0.6633
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.2192898  0.1400432
## sample estimates:
## mean in group 0 mean in group 1
##        2.059524        2.099147
```



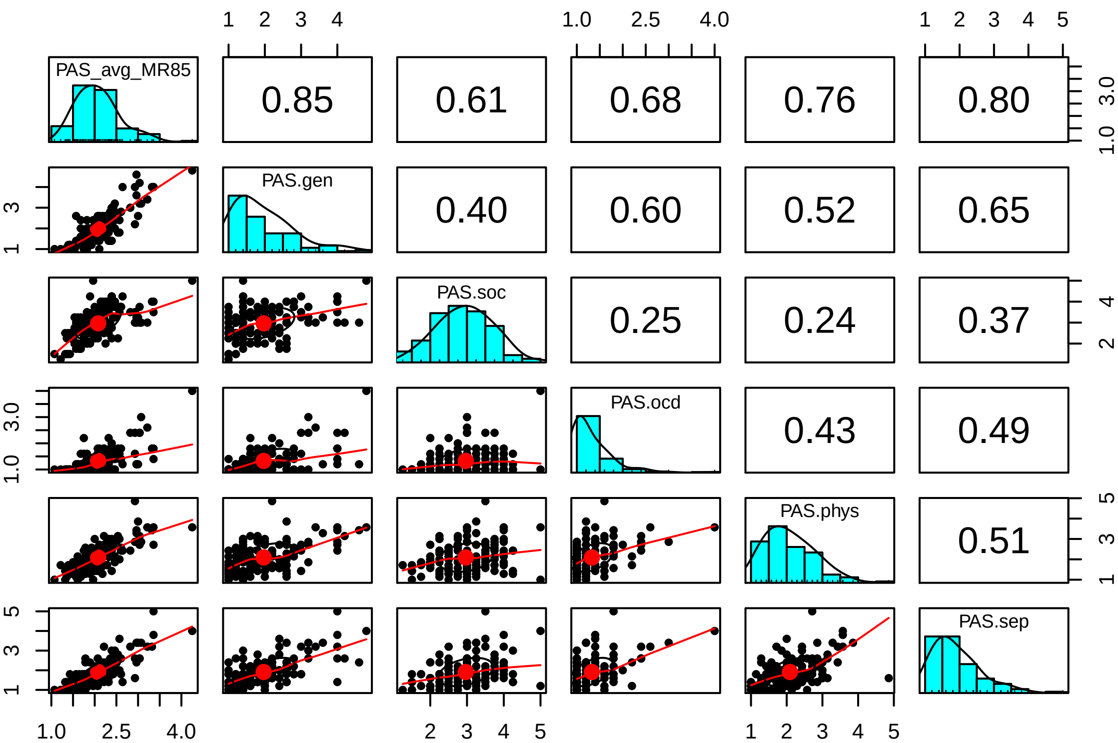
8.2.6 TIME 2: SUBSCALES

8.2.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(PAS.all_T2[,c(37:41)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##          vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## PAS.gen     1 130 1.97 0.85 1.15     0.98 0.07  1.40  2.40
## PAS.soc     2 130 2.97 0.75 0.07    -0.28 0.07  2.50  3.50
## PAS.ocd     3 130 1.33 0.46 2.43     8.51 0.04  1.00  1.55
## PAS.phys    4 130 2.09 0.70 0.79     0.74 0.06  1.57  2.54
## PAS.sep     5 130 1.91 0.72 1.23     1.99 0.06  1.40  2.20
```

```
psych::pairs.panels(PAS.all_T2[,c(35,37:41)])
```



8.2.6.2 CRONBACH'S ALPHA: GENERALIZED SUBSCALE

```
psych::alpha(PAS.all_T2[PAS.gen], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T2[PAS.gen], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.86      0.87    0.85      0.57 6.7 0.018    2 0.85     0.56
##
##  lower alpha upper     95% confidence boundaries
## 0.82 0.86 0.89
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.86 0.9
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_1       0.83      0.84    0.81      0.57 5.4    0.023 0.0049  0.57
## PAS_4       0.82      0.84    0.80      0.56 5.2    0.023 0.0018  0.56
## PAS_8       0.84      0.85    0.82      0.59 5.7    0.021 0.0046  0.60
## PAS_14      0.82      0.82    0.79      0.54 4.7    0.024 0.0027  0.53
## PAS_28      0.85      0.85    0.82      0.59 5.8    0.020 0.0035  0.59
```

```
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_1  130  0.82  0.81  0.74   0.69  2.5 1.15
## PAS_4  130  0.81  0.82  0.77   0.70  2.0 1.02
## PAS_8  130  0.77  0.79  0.70   0.65  1.6 0.96
## PAS_14 130  0.84  0.86  0.82   0.76  1.5 0.84
## PAS_28 130  0.81  0.78  0.70   0.65  2.3 1.29
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_1  0.18 0.38 0.21 0.16 0.06 0.14
## PAS_4  0.42 0.28 0.23 0.06 0.02 0.14
## PAS_8  0.67 0.17 0.10 0.05 0.02 0.14
## PAS_14 0.71 0.18 0.06 0.04 0.01 0.14
## PAS_28 0.38 0.21 0.23 0.11 0.08 0.14
```

8.2.6.3 CRONBACH'S ALPHA: SOCIAL SUBSCALE

```
psych::alpha(PAS.all_T2[PAS.soc], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T2[PAS.soc], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.63      0.64    0.59       0.3 1.7 0.049    3 0.75     0.32
##
##  lower alpha upper     95% confidence boundaries
## 0.54 0.63 0.73
##
##  lower median upper bootstrapped confidence intervals
##  0.51 0.63 0.72
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r  S/N alpha se  var.r med.r
## PAS_2       0.64      0.64    0.54      0.37 1.76    0.051 0.0034  0.36
## PAS_5       0.48      0.48    0.41      0.23 0.92    0.074 0.0195  0.31
## PAS_11      0.50      0.50    0.44      0.25 1.02    0.071 0.0245  0.33
## PAS_15      0.62      0.63    0.53      0.36 1.67    0.053 0.0043  0.33
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## PAS_2  130  0.63  0.62  0.41   0.31  2.3 1.1
## PAS_5  130  0.76  0.77  0.66   0.53  2.9 1.0
## PAS_11 130  0.74  0.75  0.62   0.50  3.5 1.1
## PAS_15 130  0.63  0.63  0.43   0.33  3.1 1.1
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_2  0.28 0.29 0.26 0.12 0.04 0.14
## PAS_5  0.10 0.23 0.43 0.16 0.08 0.14
## PAS_11 0.05 0.10 0.29 0.36 0.19 0.14
## PAS_15 0.05 0.25 0.38 0.19 0.13 0.14
```

NOTE: Low α

8.2.6.4 CRONBACH'S ALPHA: OBSESSIVE-COMPULSIVE SUBSCALE

```
psych::alpha(PAS.all_T2[PAS.ocd], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = PAS.all_T2[PAS.ocd], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.64      0.72     0.7      0.34 2.5 0.044  1.3 0.46     0.31
##
##  lower alpha upper     95% confidence boundaries
## 0.56 0.64 0.73
##
##  lower median upper bootstrapped confidence intervals
##  0.39 0.64 0.76
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_3       0.68      0.71    0.68      0.38 2.4    0.040 0.0257  0.34
## PAS_9       0.61      0.70    0.67      0.37 2.3    0.052 0.0271  0.33
## PAS_18      0.53      0.62    0.58      0.29 1.6    0.056 0.0116  0.28
## PAS_21      0.59      0.69    0.67      0.36 2.2    0.049 0.0210  0.31
## PAS_27      0.55      0.61    0.55      0.28 1.6    0.055 0.0063  0.30
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_3  130  0.74  0.61  0.44   0.35  1.8 1.12
## PAS_9  130  0.55  0.63  0.47   0.41  1.1 0.41
## PAS_18 130  0.71  0.76  0.71   0.54  1.2 0.62
## PAS_21 130  0.65  0.64  0.50   0.39  1.4 0.77
## PAS_27 130  0.70  0.78  0.75   0.57  1.1 0.46
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_3  0.55 0.20 0.14 0.08 0.03 0.14
## PAS_9  0.93 0.05 0.02 0.01 0.00 0.14
## PAS_18 0.84 0.10 0.05 0.00 0.01 0.14
## PAS_21 0.76 0.15 0.06 0.02 0.01 0.14
## PAS_27 0.94 0.04 0.02 0.00 0.01 0.14
```

NOTE: Low α

8.2.6.5 CRONBACH'S ALPHA: PHYSICAL FEARS SUBSCALE

```r
psych::alpha(PAS.all_T2[PAS.phys], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T2[PAS.phys], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.71      0.71    0.69      0.26 2.5 0.036  2.1 0.7     0.28
##
##  lower alpha upper     95% confidence boundaries
## 0.64 0.71 0.78
##
##  lower median upper bootstrapped confidence intervals
##  0.6 0.71 0.79
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_7       0.65      0.66    0.63      0.24 1.9    0.043 0.0087  0.26
## PAS_10      0.71      0.71    0.68      0.29 2.5    0.037 0.0045  0.29
## PAS_13      0.66      0.66    0.64      0.25 2.0    0.042 0.0088  0.27
## PAS_17      0.69      0.70    0.67      0.28 2.3    0.039 0.0075  0.29
## PAS_20      0.65      0.66    0.63      0.24 1.9    0.044 0.0061  0.27
## PAS_24      0.70      0.70    0.67      0.28 2.3    0.038 0.0079  0.30
## PAS_26      0.67      0.67    0.65      0.26 2.1    0.042 0.0080  0.27
##
```

```
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## PAS_7  130  0.67  0.68  0.61   0.52  2.1 1.1
## PAS_10 130  0.49  0.50  0.36   0.29  1.7 1.1
## PAS_13 130  0.63  0.65  0.57   0.48  1.9 1.0
## PAS_17 130  0.55  0.56  0.43   0.36  2.0 1.1
## PAS_20 130  0.67  0.68  0.61   0.51  2.1 1.1
## PAS_24 130  0.57  0.54  0.41   0.35  2.2 1.3
## PAS_26 130  0.66  0.63  0.54   0.46  2.6 1.3
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_7  0.38 0.29 0.21 0.09 0.03 0.14
## PAS_10 0.59 0.20 0.11 0.07 0.03 0.14
## PAS_13 0.45 0.25 0.23 0.05 0.02 0.14
## PAS_17 0.48 0.24 0.16 0.09 0.03 0.14
## PAS_20 0.39 0.28 0.21 0.08 0.05 0.14
## PAS_24 0.43 0.22 0.18 0.09 0.08 0.14
## PAS_26 0.25 0.27 0.25 0.11 0.13 0.14
```

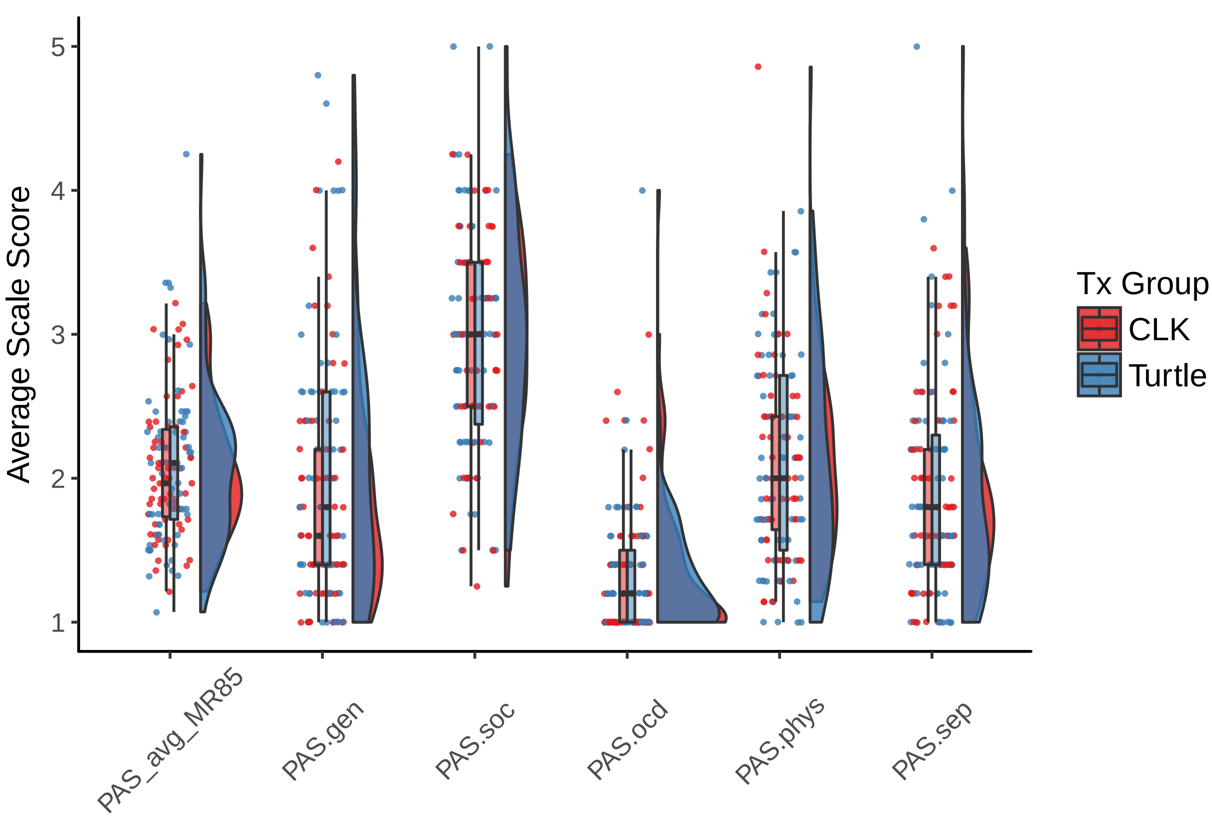
8.2.6.6 CRONBACH'S ALPHA: SEPARATION SUBSCALE

```r
psych::alpha(PAS.all_T2[PAS.sep], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T2[PAS.sep], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.74      0.78    0.77      0.42 3.6 0.034  1.9 0.72     0.44
##
##  lower alpha upper     95% confidence boundaries
## 0.68 0.74 0.81
##
##  lower median upper bootstrapped confidence intervals
##  0.63 0.74 0.82
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## PAS_6       0.78      0.80    0.76      0.50 4.0    0.029 0.011  0.49
## PAS_12      0.67      0.71    0.67      0.38 2.4    0.042 0.018  0.40
## PAS_16      0.70      0.74    0.70      0.41 2.8    0.039 0.015  0.44
## PAS_22      0.66      0.73    0.71      0.41 2.8    0.047 0.041  0.41
## PAS_25      0.67      0.71    0.71      0.39 2.5    0.043 0.030  0.40
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_6  130  0.70  0.59  0.43   0.39  2.9 1.44
## PAS_12 130  0.74  0.80  0.75   0.60  1.5 0.82
## PAS_16 130  0.67  0.74  0.67   0.51  1.4 0.83
## PAS_22 130  0.77  0.74  0.64   0.59  2.4 1.10
## PAS_25 130  0.73  0.78  0.70   0.60  1.4 0.82
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_6  0.23 0.21 0.22 0.14 0.20 0.14
## PAS_12 0.66 0.20 0.12 0.02 0.01 0.14
## PAS_16 0.72 0.18 0.06 0.01 0.02 0.14
## PAS_22 0.24 0.31 0.32 0.08 0.05 0.14
## PAS_25 0.78 0.13 0.05 0.01 0.02 0.14
```

8.2.6.7 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```r
df.m<-reshape2::melt(PAS.all_T2[35:41], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
             position = position_jitter(width = .15),
             size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T2 Folder:
`E:/Data/Qualtrics/Parent/T2`

Contains Tab-Delimited Text Files:
- `/PAS_T2_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/PAS_T2_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for PAS
- `/PAS_T2_Summary_wo_Raw_items.txt`: The processed summary scores for PAS wo raw items

8.3 TIME 3: COMPLETE SCALE

8.3.1 OVERALL SCALE

```
#Item-Level Statistics:
psych::describe(PAS.all_T3[,c(3:30)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##        vars   n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1     1 127 2.24 1.00  0.27    -0.68 0.09   1.0     3
## PAS_2     2 127 2.18 1.01  0.37    -0.83 0.09   1.0     3
## PAS_3     3 127 1.51 0.83  1.59     1.65 0.07   1.0     2
## PAS_4     4 127 1.80 0.93  0.81    -0.47 0.08   1.0     2
## PAS_5     5 127 2.41 1.02  0.29    -0.71 0.09   2.0     3
## PAS_6     6 127 2.65 1.33  0.28    -1.17 0.12   1.5     4
## PAS_7     7 127 1.80 0.99  0.98    -0.05 0.09   1.0     2
## PAS_8     8 127 1.63 0.96  1.59     2.15 0.08   1.0     2
## PAS_9     9 127 1.12 0.45  4.21    18.66 0.04   1.0     1
## PAS_10   10 127 1.69 1.06  1.43     1.07 0.09   1.0     2
## PAS_11   11 127 3.25 1.13 -0.40    -0.47 0.10   3.0     4
## PAS_12   12 127 1.44 0.78  1.91     3.63 0.07   1.0     2
## PAS_13   13 127 1.91 1.00  0.89     0.05 0.09   1.0     3
## PAS_14   14 127 1.42 0.75  2.07     4.71 0.07   1.0     2
## PAS_15   15 127 2.77 1.12  0.15    -0.57 0.10   2.0     3
## PAS_16   16 127 1.31 0.62  2.02     3.44 0.06   1.0     1
## PAS_17   17 127 1.90 1.15  1.14     0.42 0.10   1.0     3
## PAS_18   18 127 1.21 0.61  2.94     7.92 0.05   1.0     1
## PAS_19   19 127 1.97 1.03  0.71    -0.39 0.09   1.0     3
## PAS_20   20 127 2.02 1.15  0.88    -0.28 0.10   1.0     3
## PAS_21   21 127 1.31 0.66  2.15     4.06 0.06   1.0     1
## PAS_22   22 127 2.10 1.00  0.60    -0.31 0.09   1.0     3
## PAS_23   23 127 3.26 0.99 -0.29     0.00 0.09   3.0     4
## PAS_24   24 127 2.04 1.12  0.69    -0.59 0.10   1.0     3
## PAS_25   25 126 1.33 0.74  2.88     9.47 0.07   1.0     1
## PAS_26   26 127 2.37 1.24  0.64    -0.52 0.11   1.0     3
## PAS_27   27 127 1.07 0.31  4.70    22.71 0.03   1.0     1
## PAS_28   28 127 2.06 1.00  0.50    -0.73 0.09   1.0     3
```

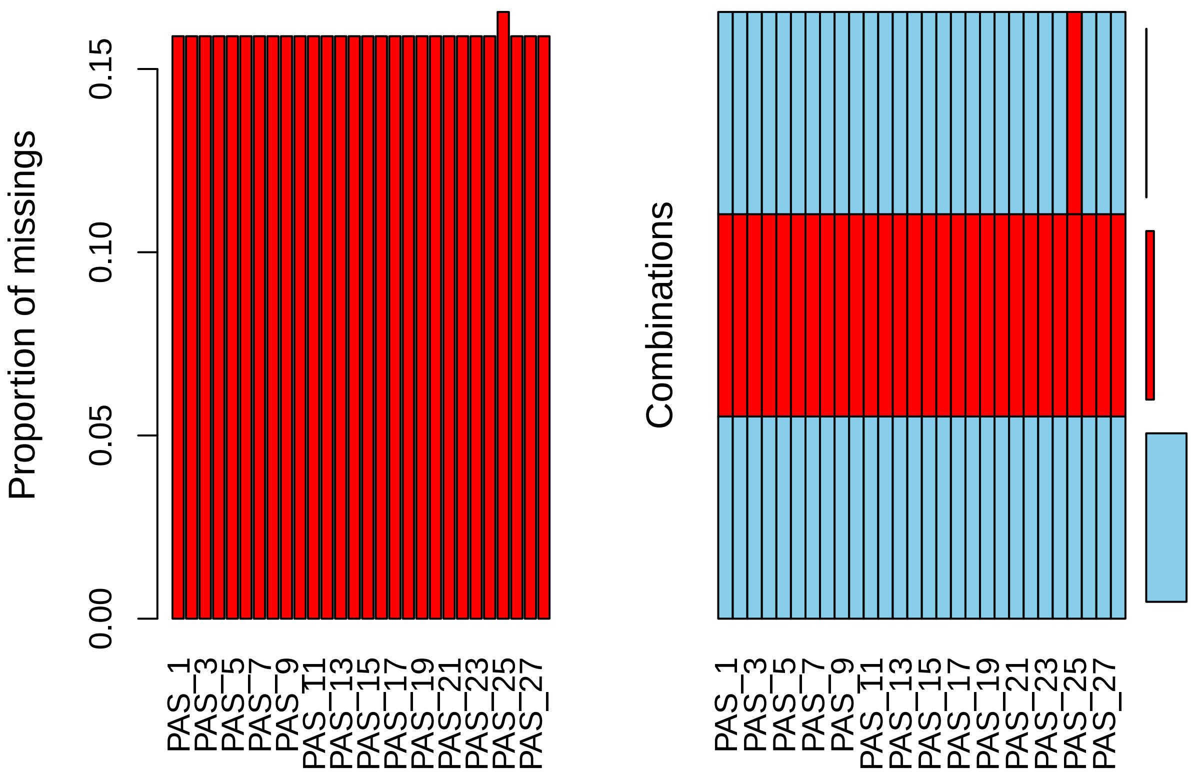
```
#Calculating Summary Scores:
PAS.all_T3$PAS_tot<-rowSums(PAS.all_T3[,3:30])  #inclunding na.rm=T results in 0's

PAS.all_T3$Miss_tot<-rep(NA, nrow(PAS.all_T3))
for(n in 1:nrow(PAS.all_T3)){
  PAS.all_T3$Miss_tot[n]<-sum(is.na(PAS.all_T3[n,3:30])==TRUE)
}

PAS.all_T3$Miss_per<-rep(NA, nrow(PAS.all_T3))
for(n in 1:nrow(PAS.all_T3)){
  PAS.all_T3$Miss_per[n]<-round(sum(is.na(PAS.all_T3[n,3:30])==TRUE)/ncol(PAS.all_T3[3:30])*100,
                                digits = 2)
}

#Creating average - removes cases with missing data (provides NA's for these cases)
PAS.all_T3$PAS_avg<-rowMeans(PAS.all_T3[,3:30])

#Creating variable with individual mean replacement if respondent completed >85% of items
PAS.all_T3$PAS_avg_MR85<-ifelse(PAS.all_T3$Miss_per<15, rowMeans(PAS.all_T3[,3:30],
                                                                 na.rm=T), NA)

#Descriptive Statistics for Summary Scores
psych::describe(PAS.all_T3[,c(31,34,35)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##              vars   n  mean    sd skew kurtosis   se Q0.25 Q0.75
```

```
## PAS_tot         1 126 53.79 13.07 0.45    -0.16 1.16 43.25 61.00
## PAS_avg         2 126  1.92  0.47 0.45    -0.16 0.04  1.54  2.18
## PAS_avg_MR85    3 127  1.92  0.47 0.46    -0.13 0.04  1.55  2.18
```

8.3.2 MISSING DATA

```
VIM::aggr(PAS.all_T3[,3:30])
```



Note: Proportion of missingness by item is displayed on the left graph above. Different patterns of missingness are dsiplayed on the right.

Missing Data Notes:

[Will complete at future date]

The variable `PAS_tot` is the vector of individual summed PAS scores - 062 and 109 are dropped from this summary variable (see above).
The varaible `PAS_avg` is the vector of individual mean PAS scores - 062 and 109 are dropped from this summary variable (see above).

The variable `PAS_avg_MR85` is a vector of individual mean PAS scores that includes estimated averages when at least 85% of the necessary data is available - note 062 and 109 are included in this summary value. [Other mean replacement strategies are available to the researcher]

There is no additional information about parent missing data at T3 to report.

8.3.3 CRONBACH'S ALPHA

```
psych::alpha(PAS.all_T3[,3:30], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T3[, 3:30], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.88      0.89    0.93      0.23 8.2 0.014  1.9 0.47     0.21
##
```

```
##  lower alpha upper     95% confidence boundaries
## 0.85 0.88 0.91
##
##  lower median upper bootstrapped confidence intervals
##  0.84 0.88 0.91
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## PAS_1       0.87      0.88    0.92      0.22 7.6    0.015 0.020  0.21
## PAS_2       0.87      0.89    0.93      0.23 7.8    0.014 0.021  0.21
## PAS_3       0.88      0.89    0.93      0.23 8.0    0.014 0.022  0.21
## PAS_4       0.87      0.88    0.92      0.22 7.6    0.015 0.020  0.20
## PAS_5       0.88      0.89    0.93      0.23 8.1    0.014 0.023  0.22
## PAS_6       0.88      0.89    0.93      0.23 8.0    0.014 0.022  0.21
## PAS_7       0.88      0.89    0.93      0.23 7.9    0.014 0.022  0.21
## PAS_8       0.87      0.89    0.93      0.22 7.8    0.015 0.021  0.21
## PAS_9       0.88      0.89    0.93      0.23 8.1    0.014 0.021  0.22
## PAS_10      0.88      0.89    0.93      0.23 8.1    0.014 0.022  0.22
## PAS_11      0.88      0.89    0.93      0.23 8.0    0.014 0.022  0.21
## PAS_12      0.87      0.89    0.93      0.22 7.7    0.014 0.021  0.21
## PAS_13      0.88      0.89    0.93      0.23 8.2    0.014 0.023  0.22
## PAS_14      0.87      0.88    0.92      0.22 7.6    0.015 0.020  0.20
## PAS_15      0.88      0.89    0.93      0.24 8.4    0.013 0.021  0.22
## PAS_16      0.88      0.89    0.93      0.22 7.7    0.014 0.021  0.20
## PAS_17      0.88      0.89    0.93      0.23 8.2    0.014 0.022  0.22
## PAS_18      0.88      0.89    0.93      0.23 8.0    0.014 0.022  0.21
## PAS_19      0.88      0.89    0.93      0.23 7.9    0.014 0.022  0.21
## PAS_20      0.88      0.89    0.93      0.23 8.1    0.014 0.023  0.21
## PAS_21      0.88      0.89    0.93      0.22 7.8    0.014 0.022  0.21
## PAS_22      0.87      0.89    0.93      0.22 7.8    0.015 0.022  0.21
## PAS_23      0.88      0.89    0.93      0.24 8.4    0.014 0.021  0.22
## PAS_24      0.88      0.89    0.93      0.24 8.3    0.014 0.022  0.22
## PAS_25      0.87      0.88    0.92      0.22 7.6    0.015 0.020  0.21
## PAS_26      0.88      0.89    0.93      0.23 7.9    0.014 0.022  0.21
## PAS_27      0.88      0.89    0.93      0.23 8.0    0.014 0.022  0.21
## PAS_28      0.87      0.88    0.93      0.22 7.7    0.015 0.022  0.21
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_1  127  0.70  0.69  0.69   0.65  2.2 1.00
## PAS_2  127  0.58  0.56  0.56   0.53  2.2 1.01
## PAS_3  127  0.43  0.47  0.44   0.38  1.5 0.83
## PAS_4  127  0.68  0.70  0.70   0.64  1.8 0.93
## PAS_5  127  0.46  0.44  0.41   0.39  2.4 1.02
## PAS_6  127  0.53  0.50  0.48   0.45  2.6 1.33
## PAS_7  127  0.52  0.52  0.50   0.46  1.8 0.99
## PAS_8  127  0.61  0.60  0.59   0.56  1.6 0.96
## PAS_9  127  0.33  0.41  0.39   0.30  1.1 0.45
## PAS_10 127  0.42  0.42  0.40   0.35  1.7 1.06
## PAS_11 127  0.50  0.46  0.43   0.43  3.3 1.13
## PAS_12 127  0.59  0.63  0.62   0.55  1.4 0.78
## PAS_13 127  0.38  0.36  0.32   0.31  1.9 1.00
## PAS_14 127  0.68  0.71  0.71   0.65  1.4 0.75
## PAS_15 127  0.27  0.23  0.20   0.18  2.8 1.12
## PAS_16 127  0.59  0.64  0.63   0.55  1.3 0.62
## PAS_17 127  0.38  0.36  0.32   0.30  1.9 1.15
## PAS_18 127  0.40  0.46  0.44   0.36  1.2 0.61
## PAS_19 127  0.54  0.54  0.53   0.48  2.0 1.03
## PAS_20 127  0.46  0.43  0.40   0.39  2.0 1.15
## PAS_21 127  0.54  0.57  0.56   0.50  1.3 0.66
## PAS_22 127  0.59  0.57  0.56   0.53  2.1 1.00
## PAS_23 127  0.28  0.24  0.20   0.21  3.3 0.99
```

```
## PAS_24 127  0.33  0.31  0.27   0.25  2.0 1.12
## PAS_25 126  0.64  0.68  0.68   0.61  1.3 0.74
## PAS_26 127  0.56  0.53  0.51   0.49  2.4 1.24
## PAS_27 127  0.38  0.47  0.45   0.36  1.1 0.31
## PAS_28 127  0.66  0.66  0.65   0.61  2.1 1.00
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_1  0.30 0.26 0.36 0.06 0.02 0.16
## PAS_2  0.31 0.30 0.28 0.09 0.01 0.16
## PAS_3  0.66 0.21 0.08 0.05 0.00 0.16
## PAS_4  0.49 0.28 0.18 0.06 0.00 0.16
## PAS_5  0.20 0.35 0.28 0.14 0.02 0.16
## PAS_6  0.25 0.26 0.18 0.20 0.10 0.16
## PAS_7  0.52 0.24 0.17 0.06 0.01 0.16
## PAS_8  0.61 0.21 0.13 0.02 0.02 0.16
## PAS_9  0.92 0.05 0.02 0.01 0.00 0.16
## PAS_10 0.62 0.17 0.12 0.06 0.02 0.16
## PAS_11 0.10 0.11 0.35 0.31 0.13 0.16
## PAS_12 0.70 0.19 0.09 0.02 0.01 0.16
## PAS_13 0.45 0.28 0.20 0.06 0.02 0.16
## PAS_14 0.70 0.21 0.06 0.02 0.01 0.16
## PAS_15 0.15 0.24 0.39 0.15 0.08 0.16
## PAS_16 0.77 0.16 0.06 0.01 0.00 0.16
## PAS_17 0.52 0.20 0.18 0.05 0.05 0.16
## PAS_18 0.87 0.06 0.06 0.02 0.00 0.16
## PAS_19 0.44 0.24 0.25 0.06 0.02 0.16
## PAS_20 0.45 0.25 0.17 0.10 0.03 0.16
## PAS_21 0.78 0.14 0.06 0.02 0.00 0.16
## PAS_22 0.33 0.34 0.24 0.07 0.02 0.16
## PAS_23 0.06 0.10 0.45 0.28 0.10 0.16
## PAS_24 0.45 0.20 0.24 0.09 0.02 0.16
## PAS_25 0.78 0.16 0.04 0.01 0.02 0.17
## PAS_26 0.30 0.29 0.24 0.09 0.09 0.16
## PAS_27 0.94 0.04 0.02 0.00 0.00 0.16
## PAS_28 0.38 0.28 0.27 0.07 0.01 0.16
```

8.3.4 VARIABLE DESCRIPTIVE STATISTICS - BY GROUP

```r
PAS.all_T3$Group.R<-ifelse(PAS.all_T3$Group==0, 'CLK', 'Turtle')
psych::describeBy(PAS.all_T3[,c(3:30,36)], group = "Group.R", trim=F, quant=c(.25,.75), ranges=F)
```

```
##
##  Descriptive statistics by group
## group: CLK
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1       1 60 2.08 0.91  0.24    -1.05 0.12     1  3.00
## PAS_2       2 60 2.15 0.94  0.56    -0.01 0.12     1  3.00
## PAS_3       3 60 1.45 0.81  1.84     2.65 0.10     1  2.00
## PAS_4       4 60 1.75 0.91  0.89    -0.34 0.12     1  2.00
## PAS_5       5 60 2.37 0.97  0.21    -0.98 0.13     2  3.00
## PAS_6       6 60 2.77 1.35  0.17    -1.27 0.17     2  4.00
## PAS_7       7 60 1.77 0.98  0.89    -0.54 0.13     1  2.25
## PAS_8       8 60 1.70 1.09  1.59     1.84 0.14     1  2.00
## PAS_9       9 60 1.15 0.55  3.75    13.85 0.07     1  1.00
## PAS_10     10 60 1.67 1.08  1.54     1.41 0.14     1  2.00
## PAS_11     11 60 3.17 1.17 -0.45    -0.62 0.15     3  4.00
## PAS_12     12 60 1.38 0.69  1.78     2.61 0.09     1  2.00
## PAS_13     13 60 1.87 1.03  1.17     0.90 0.13     1  2.00
## PAS_14     14 60 1.33 0.77  2.82     8.58 0.10     1  1.00
```

```
## PAS_15     15 60 2.60 1.08  0.03    -0.74 0.14     2  3.00
## PAS_16     16 60 1.28 0.67  2.33     4.71 0.09     1  1.00
## PAS_17     17 60 1.92 1.25  1.17     0.19 0.16     1  3.00
## PAS_18     18 60 1.23 0.72  2.82     6.60 0.09     1  1.00
## PAS_19     19 60 1.90 1.04  0.73    -0.46 0.13     1  3.00
## PAS_20     20 60 1.92 1.06  1.08     0.53 0.14     1  2.25
## PAS_21     21 60 1.30 0.62  1.83     2.00 0.08     1  1.00
## PAS_22     22 60 2.23 1.03  0.26    -0.80 0.13     1  3.00
## PAS_23     23 60 3.37 0.92 -0.13     0.10 0.12     3  4.00
## PAS_24     24 60 2.08 1.17  0.53    -1.06 0.15     1  3.00
## PAS_25     25 59 1.32 0.65  2.11     4.17 0.09     1  1.00
## PAS_26     26 60 2.67 1.24  0.38    -0.76 0.16     2  3.00
## PAS_27     27 60 1.08 0.33  4.17    17.90 0.04     1  1.00
## PAS_28     28 60 2.05 0.91  0.17    -1.28 0.12     1  3.00
## Group.R*   29 76  NaN   NA    NA       NA   NA    NA    NA
## ---------------------------------------------------------
## group: Turtle
##          vars  n mean   sd  skew kurtosis   se Q0.25 Q0.75
## PAS_1       1 67 2.37 1.07  0.18    -0.70 0.13     1   3.0
## PAS_2       2 67 2.21 1.08  0.23    -1.34 0.13     1   3.0
## PAS_3       3 67 1.57 0.86  1.36     0.86 0.10     1   2.0
## PAS_4       4 67 1.85 0.94  0.72    -0.64 0.12     1   2.5
## PAS_5       5 67 2.45 1.06  0.32    -0.65 0.13     2   3.0
## PAS_6       6 67 2.54 1.32  0.37    -1.10 0.16     1   4.0
## PAS_7       7 67 1.84 1.01  1.02     0.23 0.12     1   2.0
## PAS_8       8 67 1.57 0.82  1.25     0.57 0.10     1   2.0
## PAS_9       9 67 1.09 0.34  3.90    15.76 0.04     1   1.0
## PAS_10     10 67 1.72 1.04  1.29     0.61 0.13     1   2.0
## PAS_11     11 67 3.33 1.11 -0.33    -0.47 0.14     3   4.0
## PAS_12     12 67 1.49 0.86  1.86     3.31 0.10     1   2.0
## PAS_13     13 67 1.94 0.98  0.59    -0.90 0.12     1   3.0
## PAS_14     14 67 1.49 0.73  1.31     0.99 0.09     1   2.0
## PAS_15     15 67 2.93 1.15  0.20    -0.66 0.14     2   4.0
## PAS_16     16 67 1.33 0.59  1.56     1.34 0.07     1   2.0
## PAS_17     17 67 1.88 1.05  1.00     0.33 0.13     1   3.0
## PAS_18     18 67 1.19 0.50  2.50     5.37 0.06     1   1.0
## PAS_19     19 67 2.03 1.03  0.68    -0.40 0.13     1   3.0
## PAS_20     20 67 2.10 1.22  0.69    -0.84 0.15     1   3.0
## PAS_21     21 67 1.33 0.70  2.27     4.74 0.09     1   1.0
## PAS_22     22 67 1.99 0.96  0.94     0.43 0.12     1   2.0
## PAS_23     23 67 3.16 1.05 -0.32    -0.28 0.13     3   4.0
## PAS_24     24 67 2.00 1.09  0.84    -0.11 0.13     1   3.0
## PAS_25     25 67 1.33 0.81  3.13    10.56 0.10     1   1.0
## PAS_26     26 67 2.10 1.18  0.94    -0.01 0.14     1   3.0
## PAS_27     27 67 1.06 0.30  5.18    27.83 0.04     1   1.0
## PAS_28     28 67 2.06 1.09  0.65    -0.65 0.13     1   3.0
## Group.R*   29 75  NaN   NA    NA       NA   NA    NA    NA
```

```r
psych::describeBy(PAS.all_T3[,c(31,34,35,36)], group = 'Group.R', trim=F, quant=c(.25,.75), ranges=F)
```

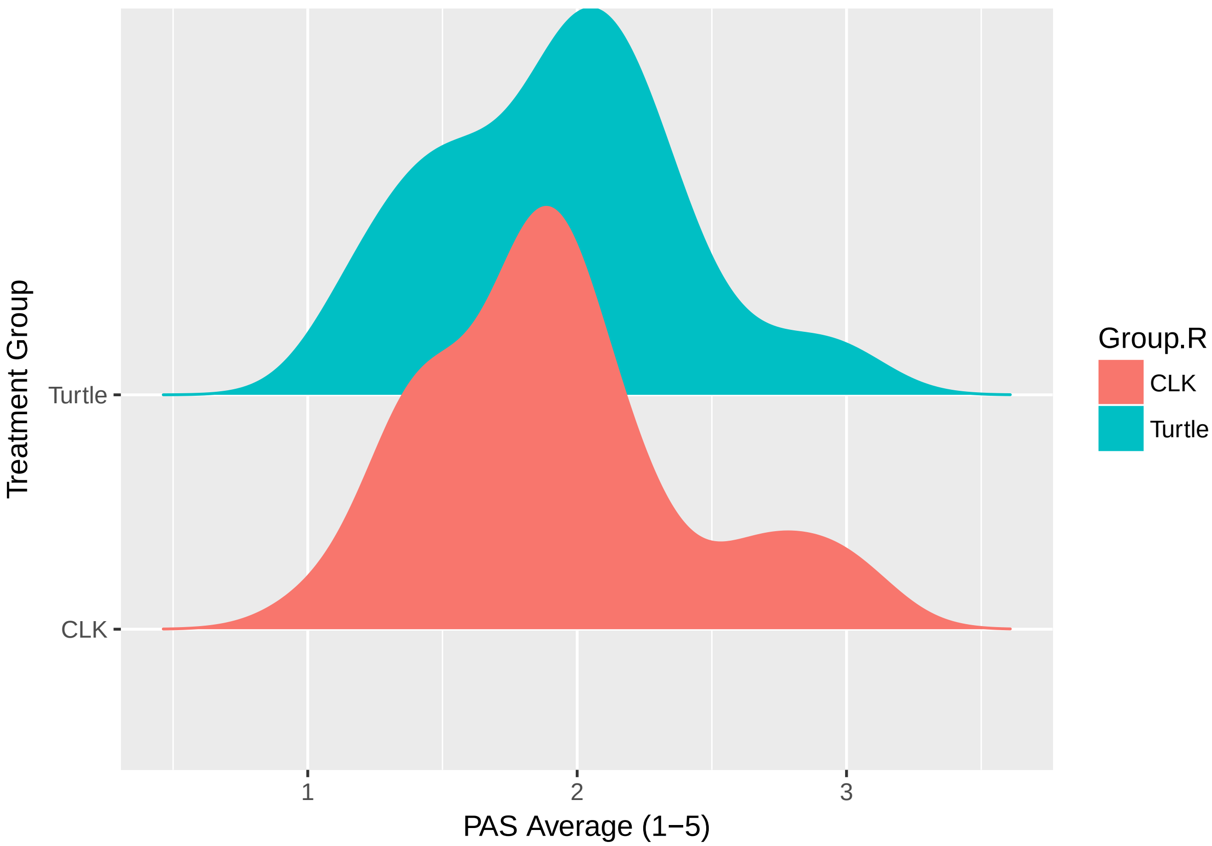
```
##
##  Descriptive statistics by group
## group: CLK
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## PAS_tot         1 59 53.63 13.65 0.62    -0.13 1.78  42.0 59.50
## PAS_avg         2 59  1.92  0.49 0.62    -0.13 0.06   1.5  2.12
## PAS_avg_MR85    3 60  1.91  0.48 0.64    -0.07 0.06   1.5  2.12
## Group.R*        4 76   NaN    NA   NA       NA   NA    NA    NA
## ---------------------------------------------------------
## group: Turtle
##              vars  n  mean    sd skew kurtosis   se Q0.25 Q0.75
## PAS_tot         1 67 53.94 12.64 0.25     -0.3 1.54 44.50 62.50
```

```
## PAS_avg          2 67  1.93  0.45 0.25     -0.3 0.06  1.59  2.23
## PAS_avg_MR85     3 67  1.93  0.45 0.25     -0.3 0.06  1.59  2.23
## Group.R*         4 75   NaN    NA   NA       NA   NA    NA    NA
```

8.3.5 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
#Groups do not differ on average PAS scores
t.test(PAS.all_T3$PAS_avg_MR85~PAS.all_T3$Group)
```

```
##
##  Welch Two Sample t-test
##
## data:  PAS.all_T3$PAS_avg_MR85 by PAS.all_T3$Group
## t = -0.16171, df = 121.09, p-value = 0.8718
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1784561  0.1515036
## sample estimates:
## mean in group 0 mean in group 1
##        1.912963        1.926439
```



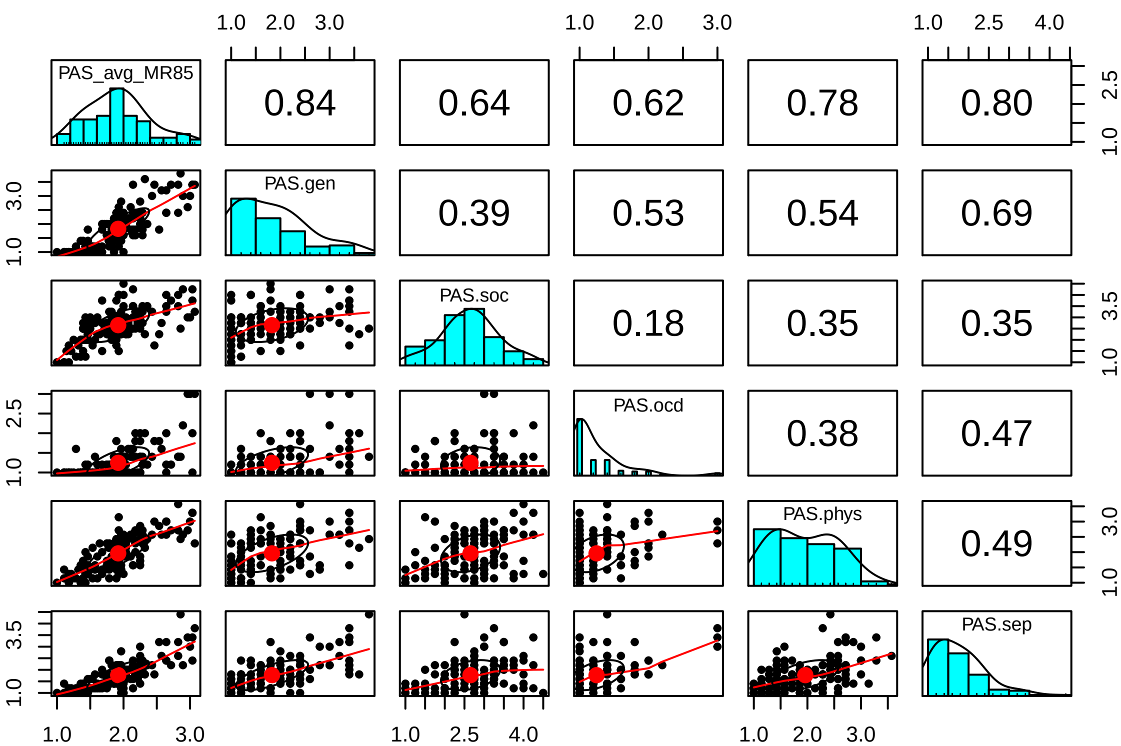
8.3.6 TIME 3: SUBSCALES

8.3.6.1 SUBSCALE DESCRIPTIVES

```
#Item-Level Statistics:
psych::describe(PAS.all_T3[,c(37:41)], trim=F, quant=c(.25,.75), ranges=F)
```

```
##          vars   n mean   sd skew kurtosis   se Q0.25 Q0.75
## PAS.gen     1 127 1.83 0.73 0.73    -0.29 0.07  1.20  2.20
## PAS.soc     2 127 2.65 0.75 0.02    -0.18 0.07  2.25  3.00
## PAS.ocd     3 127 1.25 0.40 2.42     6.97 0.04  1.00  1.40
## PAS.phys    4 127 1.96 0.62 0.26    -0.94 0.05  1.43  2.43
## PAS.sep     5 126 1.77 0.65 1.22     1.78 0.06  1.20  2.20
```

```
psych::pairs.panels(PAS.all_T3[,c(35,37:41)])
```



8.3.6.2 CRONBACH'S ALPHA: GENERALIZED SUBSCALE

```
psych::alpha(PAS.all_T3[PAS.gen], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T3[PAS.gen], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N  ase mean   sd median_r
##       0.85      0.85    0.83      0.53 5.7 0.02  1.8 0.73     0.52
##
##  lower alpha upper     95% confidence boundaries
## 0.81 0.85 0.88
##
##  lower median upper bootstrapped confidence intervals
##  0.8 0.85 0.88
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_1       0.79      0.80    0.76      0.49 3.9    0.028 0.0069  0.48
## PAS_4       0.79      0.80    0.75      0.50 3.9    0.028 0.0048  0.48
## PAS_8       0.85      0.85    0.82      0.59 5.7    0.020 0.0073  0.57
## PAS_14      0.82      0.82    0.79      0.53 4.4    0.025 0.0148  0.52
## PAS_28      0.83      0.83    0.81      0.55 5.0    0.023 0.0127  0.53
```

```
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_1  127  0.85  0.85  0.82   0.75  2.2 1.00
## PAS_4  127  0.85  0.85  0.82   0.74  1.8 0.93
## PAS_8  127  0.71  0.70  0.58   0.53  1.6 0.96
## PAS_14 127  0.78  0.80  0.73   0.67  1.4 0.75
## PAS_28 127  0.77  0.76  0.66   0.61  2.1 1.00
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_1  0.30 0.26 0.36 0.06 0.02 0.16
## PAS_4  0.49 0.28 0.18 0.06 0.00 0.16
## PAS_8  0.61 0.21 0.13 0.02 0.02 0.16
## PAS_14 0.70 0.21 0.06 0.02 0.01 0.16
## PAS_28 0.38 0.28 0.27 0.07 0.01 0.16
```

8.3.6.3 CRONBACH'S ALPHA: SOCIAL SUBSCALE

```
psych::alpha(PAS.all_T3[PAS.soc], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T3[PAS.soc], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.66      0.65    0.61      0.32 1.9 0.046  2.7 0.75     0.31
##
##  lower alpha upper     95% confidence boundaries
## 0.57 0.66 0.74
##
##  lower median upper bootstrapped confidence intervals
##  0.53 0.65 0.74
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_2       0.68      0.68    0.59      0.41 2.1    0.046 0.0051  0.44
## PAS_5       0.51      0.51    0.42      0.26 1.0    0.068 0.0075  0.28
## PAS_11      0.54      0.54    0.47      0.28 1.2    0.064 0.0210  0.24
## PAS_15      0.60      0.60    0.51      0.33 1.5    0.056 0.0144  0.28
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean  sd
## PAS_2  127  0.58  0.60  0.36   0.29  2.2 1.0
## PAS_5  127  0.76  0.77  0.68   0.55  2.4 1.0
## PAS_11 127  0.75  0.74  0.62   0.50  3.3 1.1
## PAS_15 127  0.70  0.69  0.53   0.42  2.8 1.1
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_2  0.31 0.30 0.28 0.09 0.01 0.16
## PAS_5  0.20 0.35 0.28 0.14 0.02 0.16
## PAS_11 0.10 0.11 0.35 0.31 0.13 0.16
## PAS_15 0.15 0.24 0.39 0.15 0.08 0.16
```

NOTE: Low α

8.3.6.4 CRONBACH'S ALPHA: OBSESSIVE-COMPULSIVE SUBSCALE

```
psych::alpha(PAS.all_T3[PAS.ocd], n.iter = 5000)
```

```
##
## Reliability analysis
```

```
## Call: psych::alpha(x = PAS.all_T3[PAS.ocd], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.68      0.73    0.71      0.35 2.7 0.039  1.2 0.4     0.35
##
##  lower alpha upper     95% confidence boundaries
## 0.6 0.68 0.76
##
##  lower median upper bootstrapped confidence intervals
##  0.4 0.67 0.8
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_3       0.64      0.70    0.66      0.37 2.3    0.047 0.0183  0.35
## PAS_9       0.62      0.68    0.62      0.35 2.1    0.047 0.0038  0.32
## PAS_18      0.61      0.68    0.64      0.35 2.1    0.048 0.0165  0.34
## PAS_21      0.65      0.73    0.68      0.41 2.7    0.043 0.0085  0.37
## PAS_27      0.62      0.64    0.58      0.31 1.8    0.048 0.0055  0.32
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_3  127  0.76  0.68  0.54   0.46  1.5 0.83
## PAS_9  127  0.64  0.71  0.63   0.47  1.1 0.45
## PAS_18 127  0.70  0.70  0.59   0.48  1.2 0.61
## PAS_21 127  0.65  0.61  0.44   0.38  1.3 0.66
## PAS_27 127  0.69  0.78  0.73   0.59  1.1 0.31
##
## Non missing response frequency for each item
##           1    2    3    4 miss
## PAS_3  0.66 0.21 0.08 0.05 0.16
## PAS_9  0.92 0.05 0.02 0.01 0.16
## PAS_18 0.87 0.06 0.06 0.02 0.16
## PAS_21 0.78 0.14 0.06 0.02 0.16
## PAS_27 0.94 0.04 0.02 0.00 0.16
```

NOTE: Low α

8.3.6.5 CRONBACH'S ALPHA: PHYSICAL FEARS SUBSCALE

```r
psych::alpha(PAS.all_T3[PAS.phys], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T3[PAS.phys], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.63      0.64    0.63       0.2 1.7 0.046    2 0.62     0.22
##
##  lower alpha upper     95% confidence boundaries
## 0.54 0.63 0.72
##
##  lower median upper bootstrapped confidence intervals
##  0.54 0.63 0.71
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## PAS_7       0.58      0.58    0.55      0.19 1.4    0.053 0.0072  0.22
## PAS_10      0.62      0.62    0.59      0.21 1.6    0.048 0.0041  0.24
## PAS_13      0.59      0.59    0.59      0.19 1.4    0.052 0.0127  0.22
## PAS_17      0.61      0.61    0.60      0.21 1.6    0.050 0.0086  0.22
## PAS_20      0.57      0.58    0.57      0.19 1.4    0.054 0.0106  0.20
## PAS_24      0.60      0.60    0.59      0.20 1.5    0.051 0.0123  0.23
## PAS_26      0.60      0.61    0.60      0.21 1.5    0.050 0.0113  0.22
##
```

```
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_7  127  0.59  0.61  0.54   0.40  1.8 0.99
## PAS_10 127  0.48  0.51  0.39   0.26  1.7 1.06
## PAS_13 127  0.56  0.58  0.46   0.37  1.9 1.00
## PAS_17 127  0.54  0.53  0.39   0.31  1.9 1.15
## PAS_20 127  0.62  0.61  0.51   0.41  2.0 1.15
## PAS_24 127  0.56  0.55  0.42   0.34  2.0 1.12
## PAS_26 127  0.57  0.54  0.40   0.32  2.4 1.24
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_7  0.52 0.24 0.17 0.06 0.01 0.16
## PAS_10 0.62 0.17 0.12 0.06 0.02 0.16
## PAS_13 0.45 0.28 0.20 0.06 0.02 0.16
## PAS_17 0.52 0.20 0.18 0.05 0.05 0.16
## PAS_20 0.45 0.25 0.17 0.10 0.03 0.16
## PAS_24 0.45 0.20 0.24 0.09 0.02 0.16
## PAS_26 0.30 0.29 0.24 0.09 0.09 0.16
```

NOTE: Low α

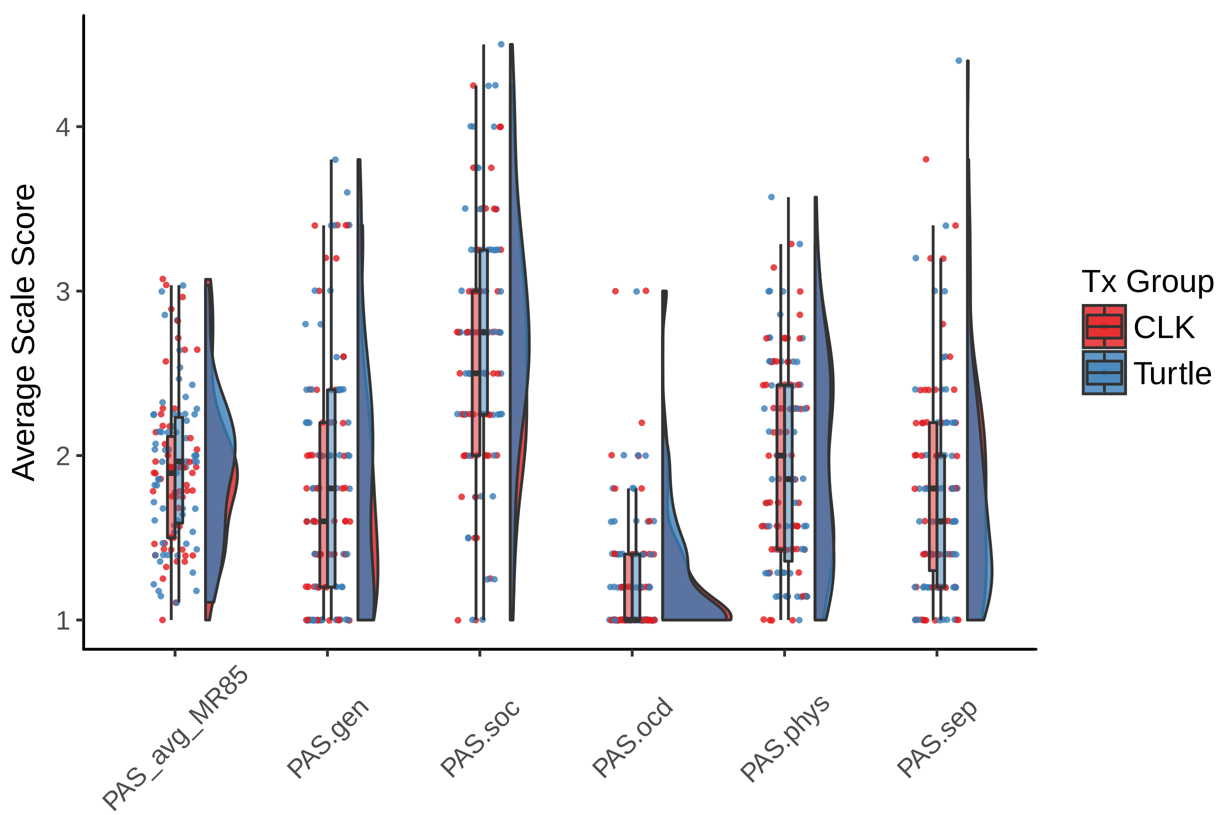
8.3.6.6 CRONBACH'S ALPHA: SEPARATION SUBSCALE

```
psych::alpha(PAS.all_T3[PAS.sep], n.iter = 5000)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = PAS.all_T3[PAS.sep], n.iter = 5000)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##       0.74      0.79    0.79      0.42 3.7 0.033  1.8 0.65      0.4
##
##  lower alpha upper     95% confidence boundaries
## 0.68 0.74 0.81
##
##  lower median upper bootstrapped confidence intervals
##  0.62 0.74 0.81
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## PAS_6       0.76      0.79    0.76      0.48 3.7    0.033 0.027  0.51
## PAS_12      0.69      0.73    0.71      0.41 2.7    0.038 0.019  0.40
## PAS_16      0.70      0.74    0.72      0.41 2.8    0.038 0.022  0.40
## PAS_22      0.69      0.77    0.75      0.45 3.3    0.043 0.039  0.50
## PAS_25      0.65      0.69    0.68      0.36 2.2    0.044 0.025  0.30
##
##  Item statistics
##          n raw.r std.r r.cor r.drop mean   sd
## PAS_6  127  0.75  0.64  0.50   0.45  2.6 1.33
## PAS_12 127  0.69  0.76  0.70   0.53  1.4 0.78
## PAS_16 127  0.66  0.75  0.68   0.53  1.3 0.62
## PAS_22 127  0.73  0.68  0.55   0.53  2.1 1.00
## PAS_25 126  0.79  0.84  0.81   0.67  1.3 0.74
##
## Non missing response frequency for each item
##           1    2    3    4    5 miss
## PAS_6  0.25 0.26 0.18 0.20 0.10 0.16
## PAS_12 0.70 0.19 0.09 0.02 0.01 0.16
## PAS_16 0.77 0.16 0.06 0.01 0.00 0.16
## PAS_22 0.33 0.34 0.24 0.07 0.02 0.16
## PAS_25 0.78 0.16 0.04 0.01 0.02 0.17
```

8.3.6.7 SUMMARY STATISTICS, GROUP DIFFERENCES, AND DISTRIBUTIONS:

```
df.m<-reshape2::melt(PAS.all_T3[35:41], id.var="Group.R")

raincloud_theme = theme(
text = element_text(size = 10),
axis.title.x = element_text(size = 12),
axis.title.y = element_text(size = 12),
axis.text = element_text(size = 10),
axis.text.x = element_text(angle = 45, vjust = 0.5),
legend.title=element_text(size=12),
legend.text=element_text(size=12),
legend.position = "right",
plot.title = element_text(lineheight=.8, face="bold", size = 12),
panel.border = element_blank(),
panel.grid.minor = element_blank(),
panel.grid.major = element_blank(),
axis.line.x = element_line(colour = 'black', size=0.5, linetype='solid'),
axis.line.y = element_line(colour = 'black', size=0.5, linetype='solid'))

g1<-ggplot(data = df.m, aes(y = value, x = variable, fill = Group.R)) +
  geom_flat_violin(position = position_nudge(x = .2, y = 0), alpha = .8) +
  geom_point(aes(y = value, color = Group.R),
            position = position_jitter(width = .15),
            size = .5, alpha = 0.8) +
  geom_boxplot(width = .1, guides = FALSE, outlier.shape = NA, alpha = 0.5) +
  expand_limits(x = 5.25) +
  scale_color_brewer(palette = "Set1") +
  scale_fill_brewer(palette = "Set1") +
  theme_bw() +
  raincloud_theme+
  guides(fill=guide_legend(title="Tx Group"),
         color=guide_legend(title = "Tx Group"))+
  xlab('')+ylab('Average Scale Score')

g1
```



FINAL DATA NAMES AND LOCATIONS:
Complete T3 Folder:
`E:/Data/Qualtrics/Parent/T3`

Contains Tab-Delimited Text Files:
- `/PAS_T3_Raw_items.txt`: The pre-processed raw item scores downloaded from Qualtrics
- `/PAS_T3_Summary_w_Raw_items.txt`: The processed file of raw items with summary scales for PAS
- `/PAS_T3_Summary_wo_Raw_items.txt`: The processed summary scores for PAS wo raw items

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8.4 Longitudinal Data Sets

For each long-form longitudinal data set several additional variables were created. Mostly these these had to do with measuring time. The first variable added is `DATE`, and it represents the date and time the primary parent began the online questionnaire, as recorded by Qualtrics. The variable `Time` was also added, and it is an ordinal variable marking the assessment time points (0 = baseline, 1 = mid-assessment, 2 = post-assessment).

Note: The `DATE` variable is not as yet added to the data sets - but will be soon. [MB - 06/15/18]

8.4.1 DESCRIPTIVES - OVERALL

WIDE DATA SET

```
psych::describe(PAS.wide)
```

```
##                vars   n  mean    sd median trimmed   mad  min    max
## ID                1 151 86.11 49.12  88.00   86.21 62.27 1.00 170.00
## Group             2 151  0.50  0.50   0.00    0.50  0.00 0.00   1.00
## Group.R*          3 151  1.50  0.50   1.00    1.50  0.00 1.00   2.00
## PAS_avg_MR85.0    4 147  2.12  0.53   2.07    2.09  0.58 1.00   4.43
## PAS.gen.0         5 147  1.90  0.82   1.60    1.80  0.89 1.00   4.60
## PAS.soc.0         6 147  3.00  0.82   3.00    3.01  1.11 1.00   5.00
## PAS.ocd.0         7 146  1.35  0.59   1.00    1.22  0.00 1.00   5.00
## PAS.phys.0        8 147  2.13  0.70   2.00    2.09  0.64 1.00   4.43
## PAS.sep.0         9 147  2.08  0.77   2.00    2.01  0.89 1.00   4.80
## PAS_avg_MR85.1   10 130  2.08  0.52   2.05    2.03  0.45 1.07   4.25
## PAS.gen.1        11 130  1.97  0.85   1.80    1.85  0.89 1.00   4.80
## PAS.soc.1        12 130  2.97  0.75   3.00    2.97  0.74 1.25   5.00
## PAS.ocd.1        13 130  1.33  0.46   1.20    1.24  0.30 1.00   4.00
## PAS.phys.1       14 130  2.09  0.70   2.00    2.04  0.64 1.00   4.86
## PAS.sep.1        15 130  1.91  0.72   1.80    1.82  0.59 1.00   5.00
## PAS_avg_MR85.2   16 127  1.92  0.47   1.93    1.89  0.48 1.00   3.07
## PAS.gen.2        17 127  1.83  0.73   1.80    1.74  0.89 1.00   3.80
## PAS.soc.2        18 127  2.65  0.75   2.75    2.65  0.74 1.00   4.50
## PAS.ocd.2        19 127  1.25  0.40   1.00    1.16  0.00 1.00   3.00
## PAS.phys.2       20 127  1.96  0.62   1.86    1.94  0.85 1.00   3.57
## PAS.sep.2        21 126  1.77  0.65   1.60    1.69  0.59 1.00   4.40
##                 range  skew kurtosis   se
## ID             169.00 -0.02    -1.21 4.00
## Group            1.00  0.01    -2.01 0.04
## Group.R*         1.00  0.01    -2.01 0.04
## PAS_avg_MR85.0   3.43  0.82     1.48 0.04
## PAS.gen.0        3.60  1.04     0.60 0.07
## PAS.soc.0        4.00  0.00    -0.32 0.07
## PAS.ocd.0        4.00  2.65     9.62 0.05
## PAS.phys.0       3.43  0.62     0.16 0.06
## PAS.sep.0        3.80  0.82     0.45 0.06
## PAS_avg_MR85.1   3.18  0.98     1.60 0.05
## PAS.gen.1        3.80  1.15     0.98 0.07
## PAS.soc.1        3.75  0.07    -0.28 0.07
## PAS.ocd.1        3.00  2.43     8.51 0.04
## PAS.phys.1       3.86  0.79     0.74 0.06
## PAS.sep.1        4.00  1.23     1.99 0.06
## PAS_avg_MR85.2   2.07  0.46    -0.13 0.04
## PAS.gen.2        2.80  0.73    -0.29 0.07
## PAS.soc.2        3.50  0.02    -0.18 0.07
## PAS.ocd.2        2.00  2.42     6.97 0.04
## PAS.phys.2       2.57  0.26    -0.94 0.05
## PAS.sep.2        3.40  1.22     1.78 0.06
```

LONG DATA SET

```r
psych::describe(PAS.long)
```

```
##              vars   n  mean    sd median trimmed   mad min    max  range
## ID              1 453 86.11 49.01  88.00   86.21 62.27   1 170.00 169.00
## Group           2 453  0.50  0.50   0.00    0.50  0.00   0   1.00   1.00
## PAS_avg_MR85    3 404  2.05  0.51   2.00    2.01  0.48   1   4.43   3.43
## Group.R*        4 453  1.50  0.50   1.00    1.50  0.00   1   2.00   1.00
## PAS.gen         5 404  1.90  0.80   1.80    1.80  0.89   1   4.80   3.80
## PAS.soc         6 404  2.88  0.79   2.75    2.88  0.74   1   5.00   4.00
## PAS.ocd         7 403  1.31  0.50   1.00    1.20  0.00   1   5.00   4.00
## PAS.phys        8 404  2.06  0.68   2.00    2.02  0.64   1   4.86   3.86
## PAS.sep         9 403  1.93  0.73   1.80    1.85  0.59   1   5.00   4.00
## Time           10 453  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##               skew kurtosis   se
## ID           -0.02    -1.20 2.30
## Group         0.01    -2.00 0.02
## PAS_avg_MR85  0.82     1.36 0.03
## Group.R*      0.01    -2.00 0.02
## PAS.gen       1.03     0.72 0.04
## PAS.soc       0.05    -0.21 0.04
## PAS.ocd       2.73    10.80 0.02
## PAS.phys      0.63     0.30 0.03
## PAS.sep       1.08     1.27 0.04
## Time          0.00    -1.51 0.04
```

8.4.2 DESCRIPTIVES - BY GROUP

WIDE DATA SET

```r
psych::describeBy(PAS.wide, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##                vars  n  mean    sd median trimmed   mad  min    max  range
## ID                1 76 86.59 48.90  87.00   86.65 62.27 2.00 168.00 166.00
## Group             2 76  0.00  0.00   0.00    0.00  0.00 0.00   0.00   0.00
## Group.R*          3 76  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## PAS_avg_MR85.0    4 73  2.14  0.50   2.07    2.11  0.58 1.36   3.54   2.18
## PAS.gen.0         5 73  1.84  0.76   1.60    1.75  0.59 1.00   4.20   3.20
## PAS.soc.0         6 73  3.02  0.78   3.00    3.04  0.74 1.25   5.00   3.75
## PAS.ocd.0         7 73  1.39  0.60   1.00    1.27  0.00 1.00   3.20   2.20
## PAS.phys.0        8 73  2.14  0.66   2.00    2.10  0.64 1.00   4.43   3.43
## PAS.sep.0         9 73  2.17  0.72   2.00    2.13  0.89 1.00   4.00   3.00
## PAS_avg_MR85.1   10 63  2.06  0.47   1.96    2.02  0.42 1.21   3.21   2.00
## PAS.gen.1        11 63  1.87  0.76   1.60    1.76  0.59 1.00   4.20   3.20
## PAS.soc.1        12 63  2.95  0.70   3.00    2.97  0.74 1.25   4.25   3.00
## PAS.ocd.1        13 63  1.32  0.47   1.20    1.22  0.30 1.00   3.00   2.00
## PAS.phys.1       14 63  2.10  0.67   2.00    2.04  0.64 1.14   4.86   3.71
## PAS.sep.1        15 63  1.91  0.65   1.80    1.84  0.59 1.00   3.60   2.60
## PAS_avg_MR85.2   16 60  1.91  0.48   1.89    1.87  0.42 1.00   3.07   2.07
## PAS.gen.2        17 60  1.78  0.71   1.60    1.69  0.59 1.00   3.40   2.40
## PAS.soc.2        18 60  2.57  0.73   2.50    2.57  0.74 1.00   4.25   3.25
## PAS.ocd.2        19 60  1.24  0.44   1.00    1.14  0.00 1.00   3.00   2.00
## PAS.phys.2       20 60  1.98  0.60   2.00    1.98  0.85 1.00   3.29   2.29
## PAS.sep.2        21 59  1.81  0.65   1.80    1.74  0.59 1.00   3.80   2.80
##                skew kurtosis   se
## ID             0.00    -1.28 5.61
## Group           NaN      NaN 0.00
## Group.R*        NaN      NaN 0.00
## PAS_avg_MR85.0 0.60    -0.24 0.06
```

```
## PAS.gen.0       0.96     0.15 0.09
## PAS.soc.0      -0.10    -0.31 0.09
## PAS.ocd.0       1.51     1.00 0.07
## PAS.phys.0      0.74     1.01 0.08
## PAS.sep.0       0.52    -0.64 0.08
## PAS_avg_MR85.1  0.66    -0.22 0.06
## PAS.gen.1       1.14     0.83 0.10
## PAS.soc.1      -0.27    -0.56 0.09
## PAS.ocd.1       1.68     2.27 0.06
## PAS.phys.1      1.22     2.80 0.08
## PAS.sep.1       0.84    -0.01 0.08
## PAS_avg_MR85.2  0.64    -0.07 0.06
## PAS.gen.2       0.89    -0.12 0.09
## PAS.soc.2       0.08    -0.38 0.09
## PAS.ocd.2       2.52     6.64 0.06
## PAS.phys.2      0.11    -1.09 0.08
## PAS.sep.2       0.88     0.54 0.08
## ------------------------------------------------------------
## group: Turtle
##                vars  n  mean    sd median trimmed   mad  min    max  range
## ID                1 75 85.63 49.66  88.00   85.70 62.27 1.00 170.00 169.00
## Group             2 75  1.00  0.00   1.00    1.00  0.00 1.00   1.00   0.00
## Group.R*          3 75  2.00  0.00   2.00    2.00  0.00 2.00   2.00   0.00
## PAS_avg_MR85.0    4 74  2.11  0.57   2.07    2.07  0.53 1.00   4.43   3.43
## PAS.gen.0         5 74  1.96  0.88   1.80    1.85  0.89 1.00   4.60   3.60
## PAS.soc.0         6 74  2.98  0.86   2.88    2.97  0.93 1.00   5.00   4.00
## PAS.ocd.0         7 73  1.31  0.58   1.00    1.19  0.00 1.00   5.00   4.00
## PAS.phys.0        8 74  2.13  0.75   1.93    2.09  0.74 1.00   4.14   3.14
## PAS.sep.0         9 74  1.98  0.80   1.90    1.90  0.74 1.00   4.80   3.80
## PAS_avg_MR85.1   10 67  2.10  0.57   2.11    2.05  0.53 1.07   4.25   3.18
## PAS.gen.1        11 67  2.06  0.92   1.80    1.94  0.89 1.00   4.80   3.80
## PAS.soc.1        12 67  2.98  0.80   3.00    2.97  0.74 1.50   5.00   3.50
## PAS.ocd.1        13 67  1.33  0.46   1.20    1.26  0.30 1.00   4.00   3.00
## PAS.phys.1       14 67  2.08  0.74   2.00    2.04  0.85 1.00   3.86   2.86
## PAS.sep.1        15 67  1.91  0.79   1.80    1.81  0.59 1.00   5.00   4.00
## PAS_avg_MR85.2   16 67  1.93  0.45   1.96    1.91  0.42 1.11   3.04   1.93
## PAS.gen.2        17 67  1.87  0.76   1.80    1.79  0.89 1.00   3.80   2.80
## PAS.soc.2        18 67  2.73  0.77   2.75    2.73  0.74 1.00   4.50   3.50
## PAS.ocd.2        19 67  1.25  0.36   1.00    1.18  0.00 1.00   3.00   2.00
## PAS.phys.2       20 67  1.94  0.64   1.86    1.90  0.85 1.00   3.57   2.57
## PAS.sep.2        21 67  1.73  0.66   1.60    1.65  0.59 1.00   4.40   3.40
##                 skew kurtosis   se
## ID             -0.04    -1.21 5.73
## Group            NaN      NaN 0.00
## Group.R*         NaN      NaN 0.00
## PAS_avg_MR85.0  0.97     2.37 0.07
## PAS.gen.0       1.02     0.58 0.10
## PAS.soc.0       0.09    -0.42 0.10
## PAS.ocd.0       3.90    20.01 0.07
## PAS.phys.0      0.52    -0.49 0.09
## PAS.sep.0       1.11     1.38 0.09
## PAS_avg_MR85.1  1.09     1.99 0.07
## PAS.gen.1       1.05     0.65 0.11
## PAS.soc.1       0.27    -0.29 0.10
## PAS.ocd.1       3.10    14.17 0.06
## PAS.phys.1      0.47    -0.76 0.09
## PAS.sep.1       1.39     2.52 0.10
## PAS_avg_MR85.2  0.25    -0.30 0.06
## PAS.gen.2       0.59    -0.48 0.09
## PAS.soc.2      -0.05    -0.07 0.09
## PAS.ocd.2       2.14     6.29 0.04
```

```
## PAS.phys.2      0.38    -0.86 0.08
## PAS.sep.2       1.49     2.81 0.08
```

LONG DATA SET

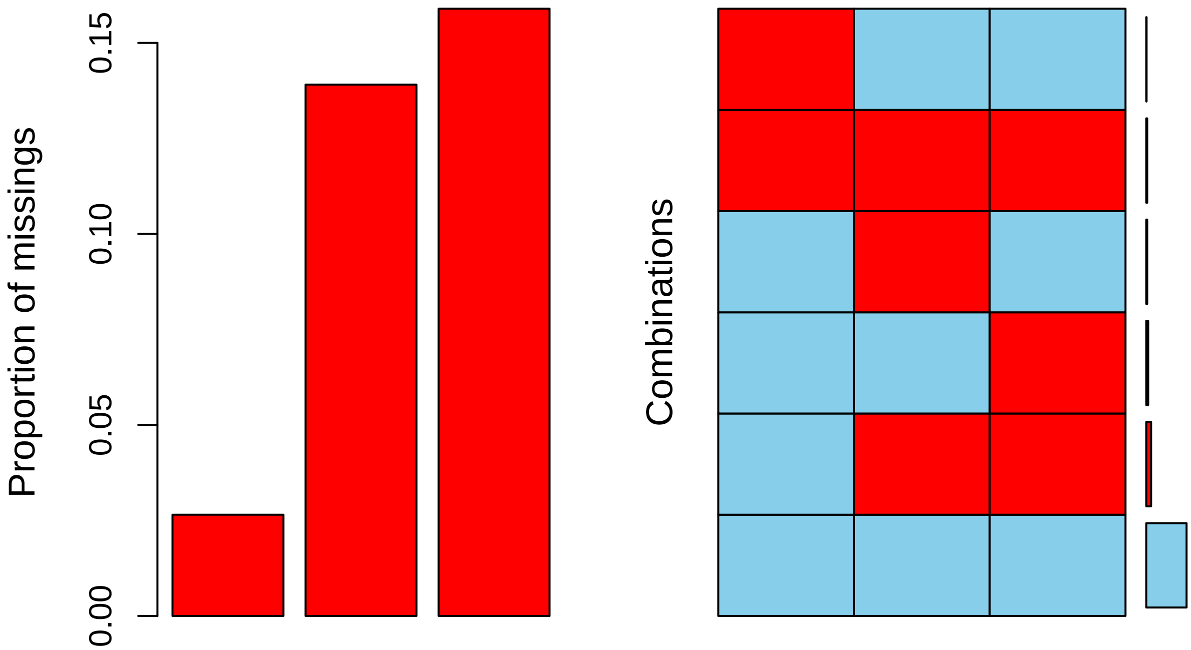
```r
psych::describeBy(PAS.long, group='Group.R')
```

```
##
##  Descriptive statistics by group
## group: CLK
##                vars   n  mean    sd median trimmed   mad min    max  range
## ID                1 228 86.59 48.69  87.00   86.63 62.27   2 168.00 166.00
## Group             2 228  0.00  0.00   0.00    0.00  0.00   0   0.00   0.00
## PAS_avg_MR85      3 196  2.05  0.49   1.96    2.01  0.42   1   3.54   2.54
## Group.R*          4 228  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## PAS.gen           5 196  1.83  0.74   1.60    1.73  0.59   1   4.20   3.20
## PAS.soc           6 196  2.86  0.76   2.75    2.87  0.74   1   5.00   4.00
## PAS.ocd           7 196  1.33  0.52   1.00    1.21  0.00   1   3.20   2.20
## PAS.phys          8 196  2.08  0.64   2.00    2.04  0.64   1   4.86   3.86
## PAS.sep           9 195  1.98  0.69   1.80    1.91  0.59   1   4.00   3.00
## Time             10 228  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##                 skew kurtosis   se
## ID              0.00    -1.25 3.22
## Group            NaN      NaN 0.00
## PAS_avg_MR85    0.61    -0.10 0.04
## Group.R*         NaN      NaN 0.00
## PAS.gen         1.03     0.43 0.05
## PAS.soc        -0.08    -0.39 0.05
## PAS.ocd         1.87     2.74 0.04
## PAS.phys        0.79     1.44 0.05
## PAS.sep         0.74    -0.12 0.05
## Time            0.00    -1.51 0.05
## --------------------------------------------------------
## group: Turtle
##                vars   n  mean    sd median trimmed   mad min    max  range
## ID                1 225 85.63 49.44  88.00   85.72 62.27   1 170.00 169.00
## Group             2 225  1.00  0.00   1.00    1.00  0.00   1   1.00   0.00
## PAS_avg_MR85      3 208  2.05  0.54   2.04    2.01  0.53   1   4.43   3.43
## Group.R*          4 225  2.00  0.00   2.00    2.00  0.00   2   2.00   0.00
## PAS.gen           5 208  1.96  0.85   1.80    1.86  0.89   1   4.80   3.80
## PAS.soc           6 208  2.90  0.82   2.75    2.90  0.74   1   5.00   4.00
## PAS.ocd           7 207  1.30  0.48   1.20    1.21  0.30   1   5.00   4.00
## PAS.phys          8 208  2.05  0.71   1.86    2.01  0.85   1   4.14   3.14
## PAS.sep           9 208  1.88  0.76   1.70    1.78  0.74   1   5.00   4.00
## Time             10 225  1.00  0.82   1.00    1.00  1.48   0   2.00   2.00
##                 skew kurtosis   se
## ID             -0.04    -1.17 3.30
## Group            NaN      NaN 0.00
## PAS_avg_MR85    0.96     2.25 0.04
## Group.R*         NaN      NaN 0.00
## PAS.gen         0.98     0.67 0.06
## PAS.soc         0.13    -0.15 0.06
## PAS.ocd         3.70    20.76 0.03
## PAS.phys        0.52    -0.51 0.05
## PAS.sep         1.35     2.30 0.05
## Time            0.00    -1.51 0.05
```

8.4.3 EXPLORATORY PLOTS

8.4.3.1 MISSING PATTERNS OVERALL SCALE

```r
VIM::aggr(PAS.wide[,c(4,10,16)])
```

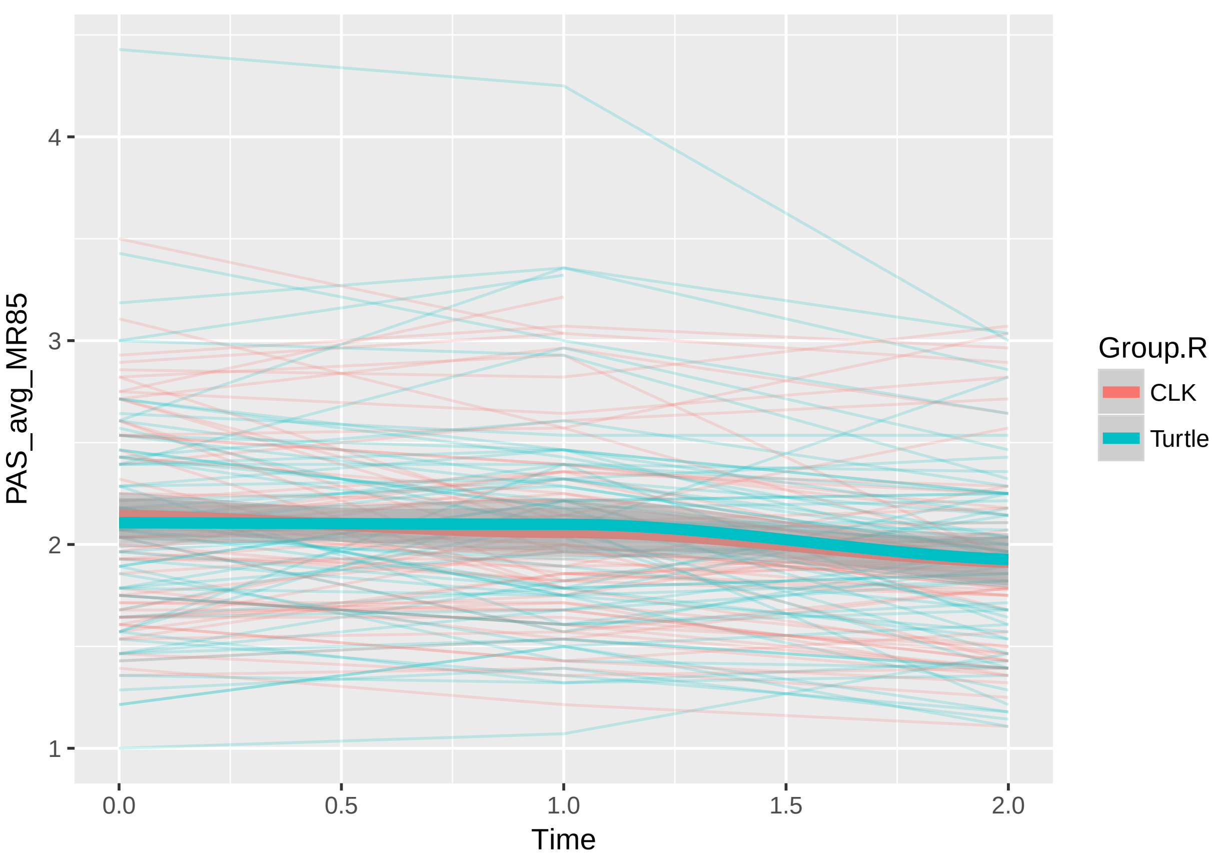


Additional information about missing data is contained in the summaries for each time point elsewhere in this codebook.

8.4.3.2 SPAGHETTI PLOTS

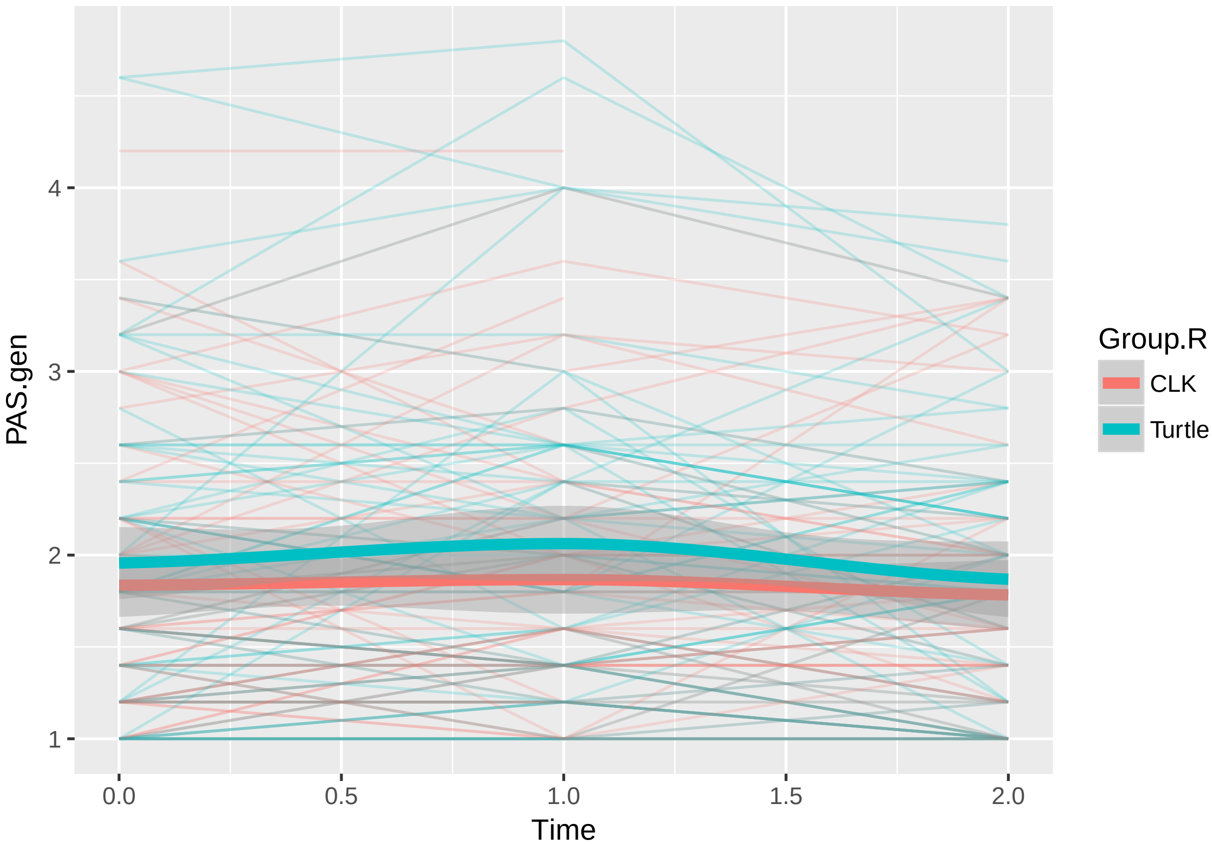
8.4.3.2.1 OVERALL SCALE

```r
g1<-ggplot(data=PAS.long, aes(x=Time, y=PAS_avg_MR85))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



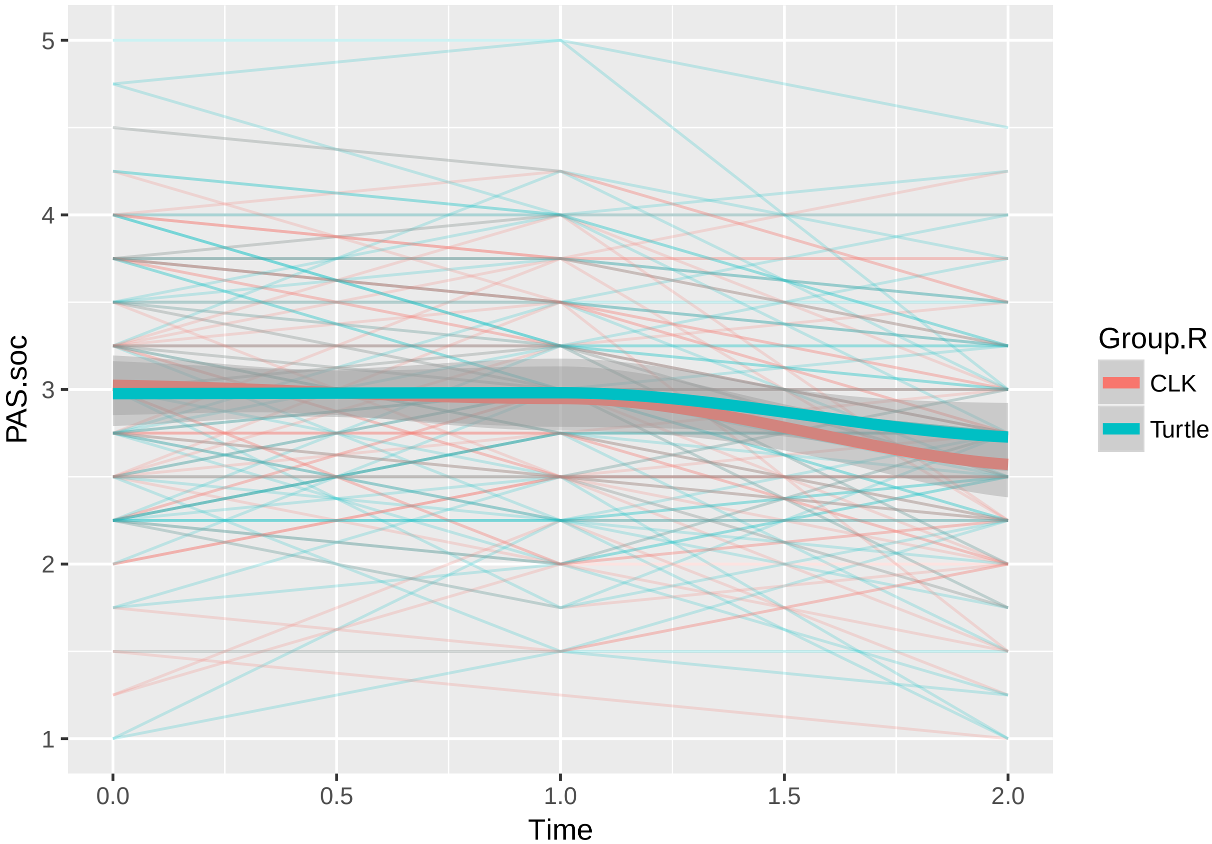
8.4.3.2.2 GENERALIZED ANXIETY

```
g1<-ggplot(data=PAS.long, aes(x=Time, y=PAS.gen))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



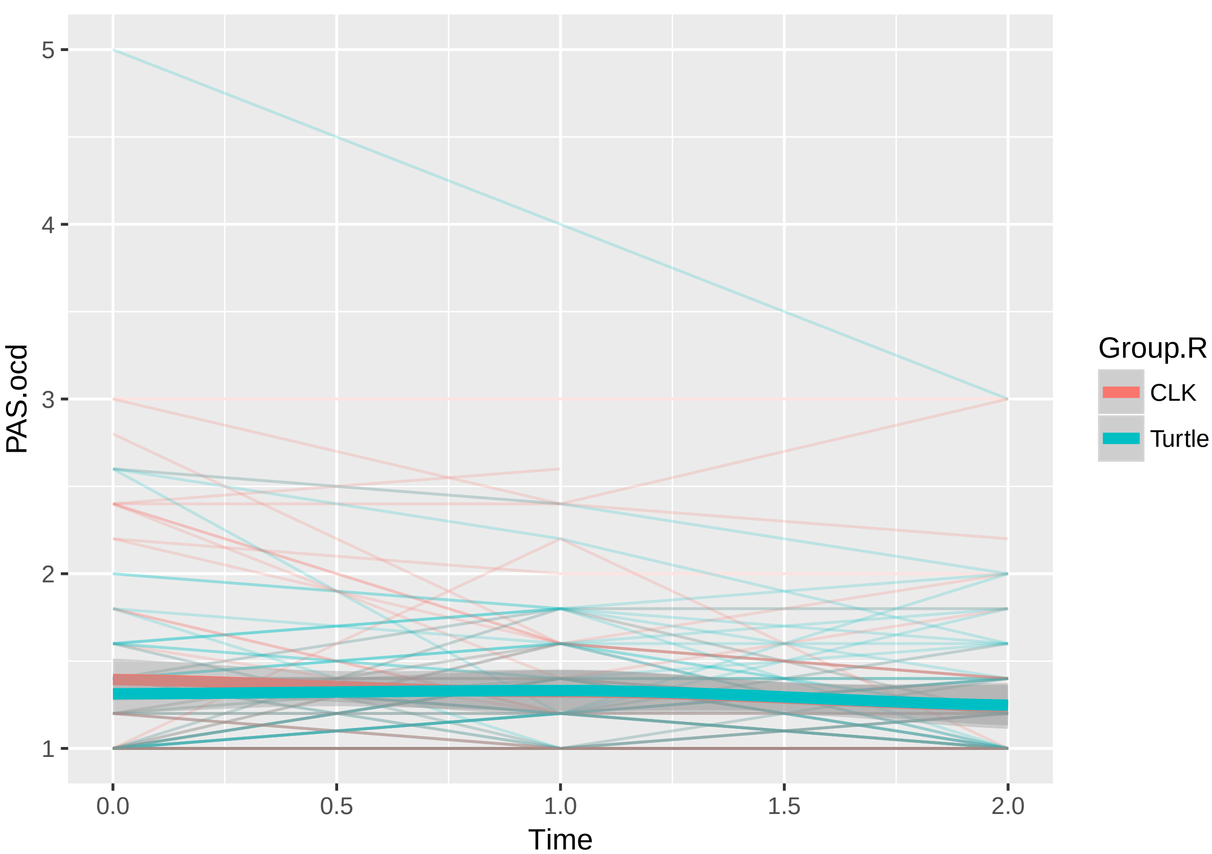
8.4.3.2.3 SOCIAL ANXIETY

```
g1<-ggplot(data=PAS.long, aes(x=Time, y=PAS.soc))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



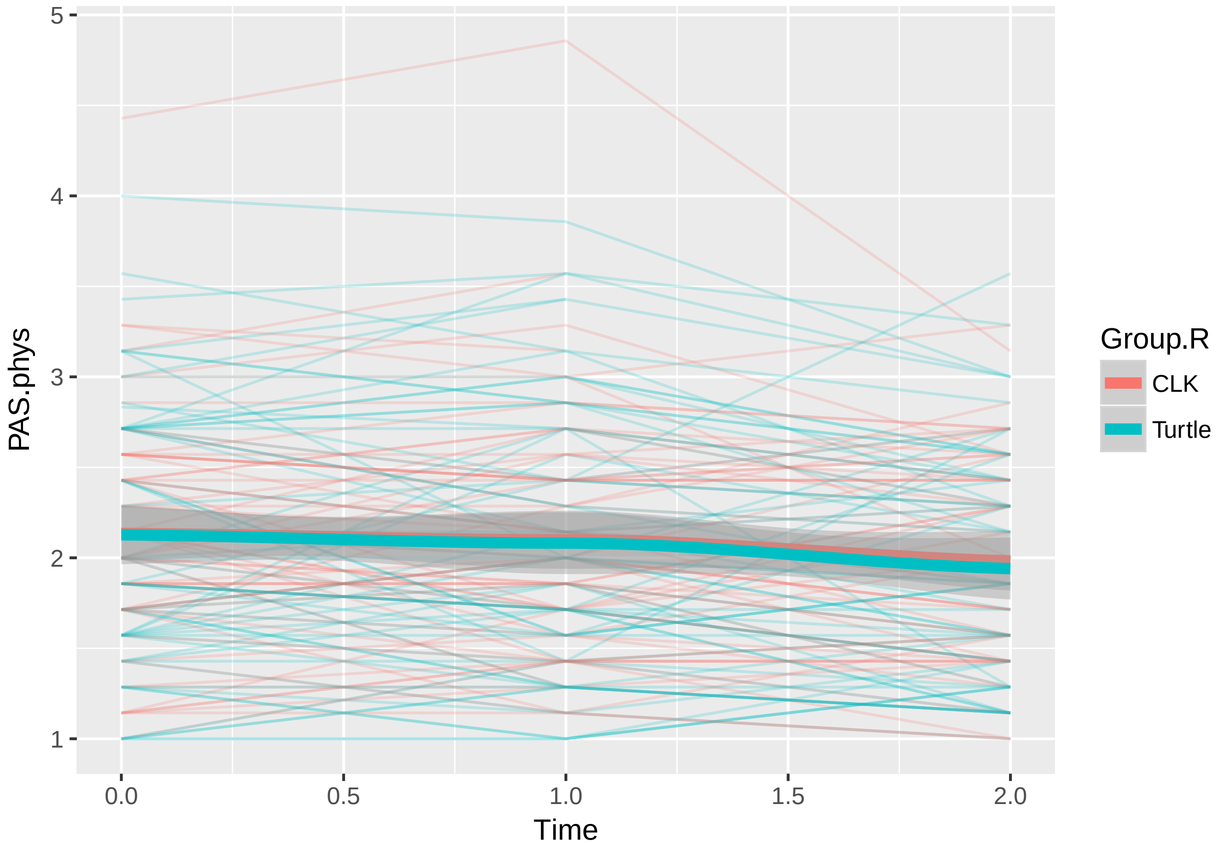
8.4.3.2.4 OBSESSIVE-COMPULSIVE ANXIETY

```
g1<-ggplot(data=PAS.long, aes(x=Time, y=PAS.ocd))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



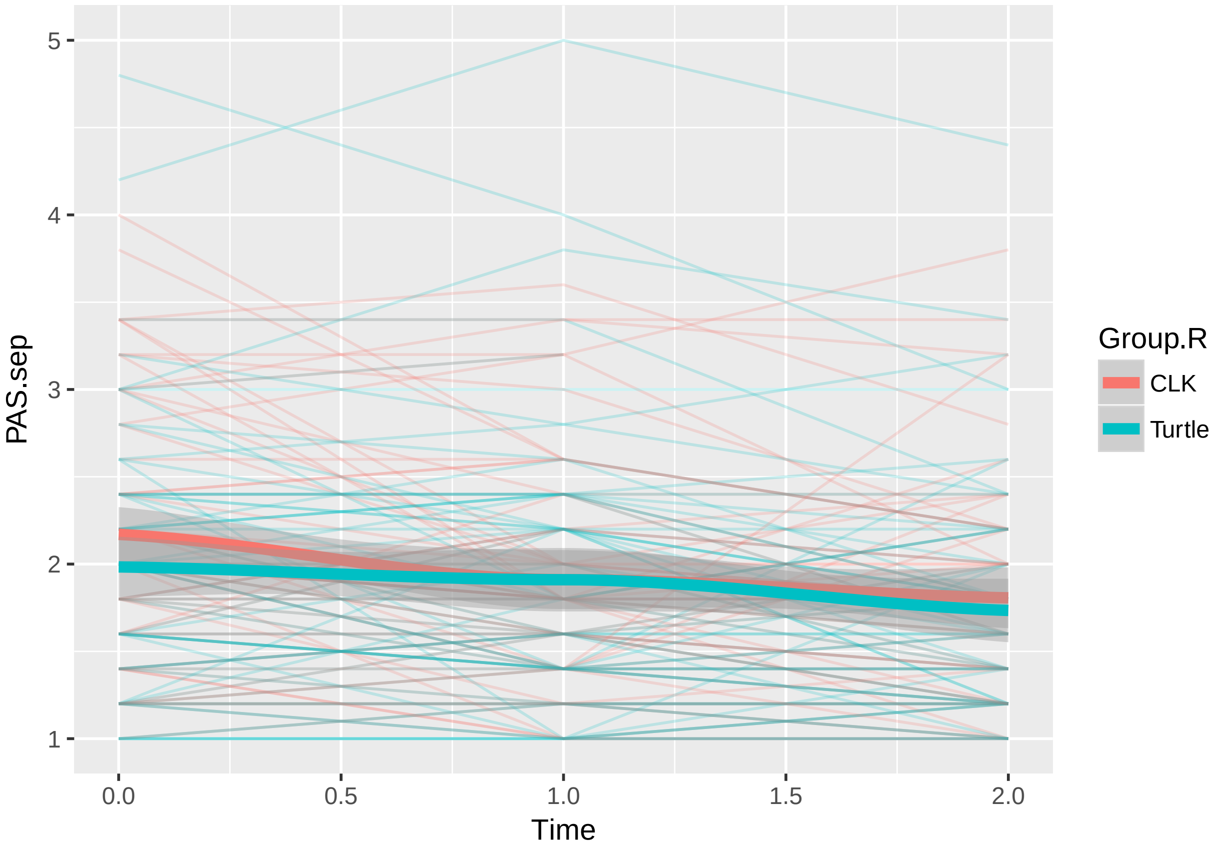
8.4.3.2.5 PHYSICAL ANXIETY

```
g1<-ggplot(data=PAS.long, aes(x=Time, y=PAS.phys))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



8.4.3.2.6 SEPARATION ANXIETY

```
g1<-ggplot(data=PAS.long, aes(x=Time, y=PAS.sep))+
  geom_line(aes(group=ID, color=Group.R), alpha = .20)+
  stat_smooth(aes(group=Group.R, color=Group.R), lwd=2)
g1
```



PAS.sep
5
4
3
2
1
0.0
0.5
1.0
1.5
2.0
Time
Group.R
CLK
Turtle