

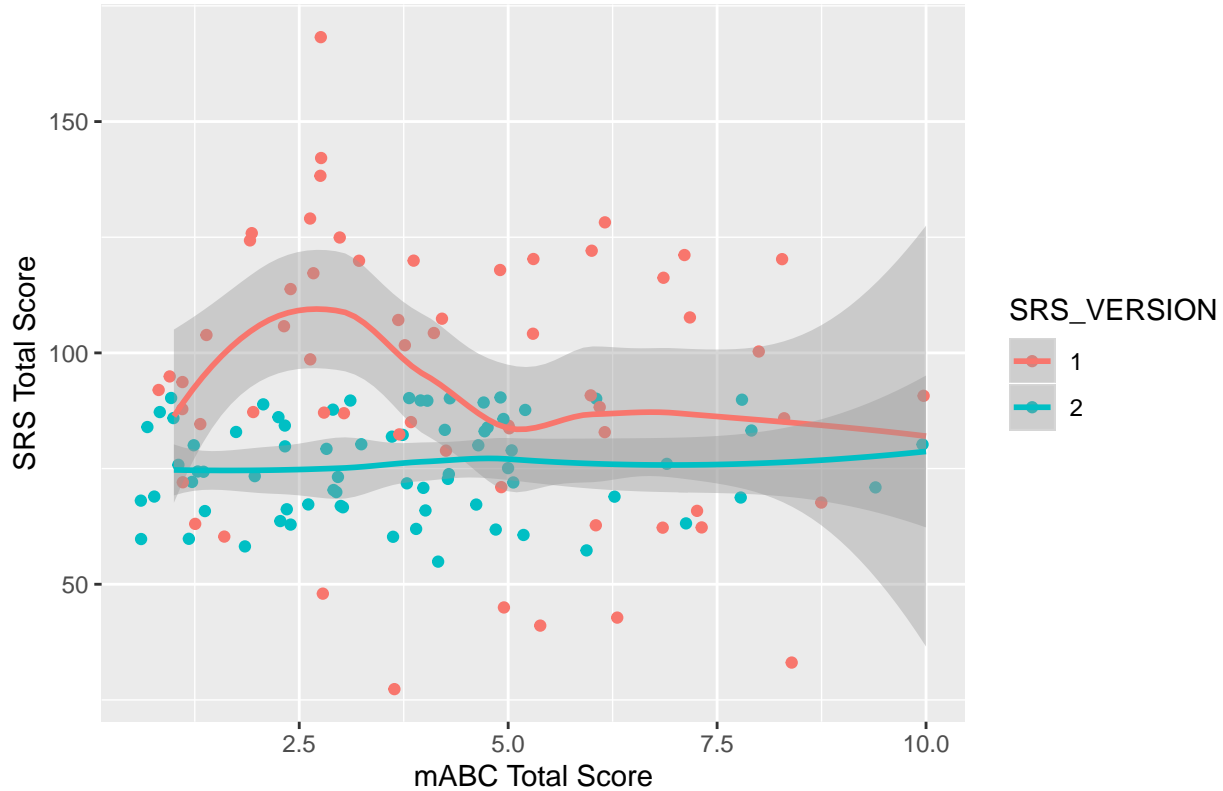
Autism Model

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SRS Version

Marginal Plot, mABC Total Score vs. SRS Total Score



```
summary(lm_mABCTot)
```

```
##
## Call:
## lm(formula = SRS_TotalRawScore ~ mABC_TotalStandardScore, data = full_dat_autism)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -56.810 -14.266  -0.810   7.263  83.881
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    85.0457     4.0302  21.102  <2e-16 ***
## mABC_TotalStandardScore -0.3089     0.8870  -0.348    0.728
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Residual standard error: 22.61 on 131 degrees of freedom
## Multiple R-squared:  0.0009248, Adjusted R-squared:  -0.006702
## F-statistic: 0.1213 on 1 and 131 DF,  p-value: 0.7282
```

```
summary(lm_version)
```

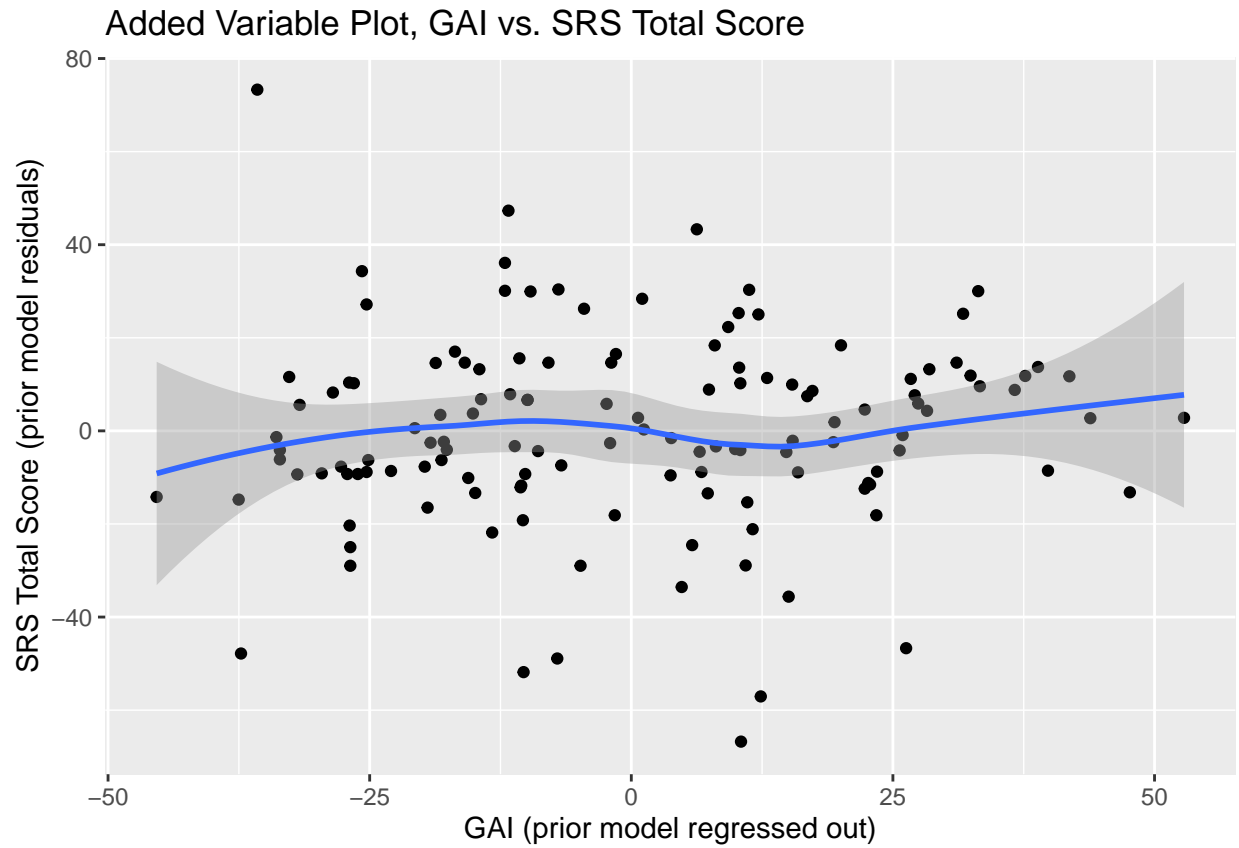
```
##
## Call:
## lm(formula = SRS_TotalRawScore ~ mABC_TotalStandardScore + SRS_VERSION,
##     data = full_dat_autism)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -66.763  -9.344  -1.344   11.729   73.309
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      97.4741      4.4459  21.925 < 2e-16 ***
## mABC_TotalStandardScore -0.9277      0.8235  -1.127    0.262
## SRS_VERSION2      -18.4196      3.6531  -5.042 1.51e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 20.76 on 130 degrees of freedom
## Multiple R-squared:  0.1643, Adjusted R-squared:  0.1515
## F-statistic: 12.78 on 2 and 130 DF,  p-value: 8.545e-06
```

```
anova(lm_mABCTot, lm_version)
```

```
## Analysis of Variance Table
##
## Model 1: SRS_TotalRawScore ~ mABC_TotalStandardScore
## Model 2: SRS_TotalRawScore ~ mABC_TotalStandardScore + SRS_VERSION
##   Res.Df  RSS Df Sum of Sq    F    Pr(>F)
## 1     131 66974
## 2     130 56019   1    10955 25.423 1.512e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

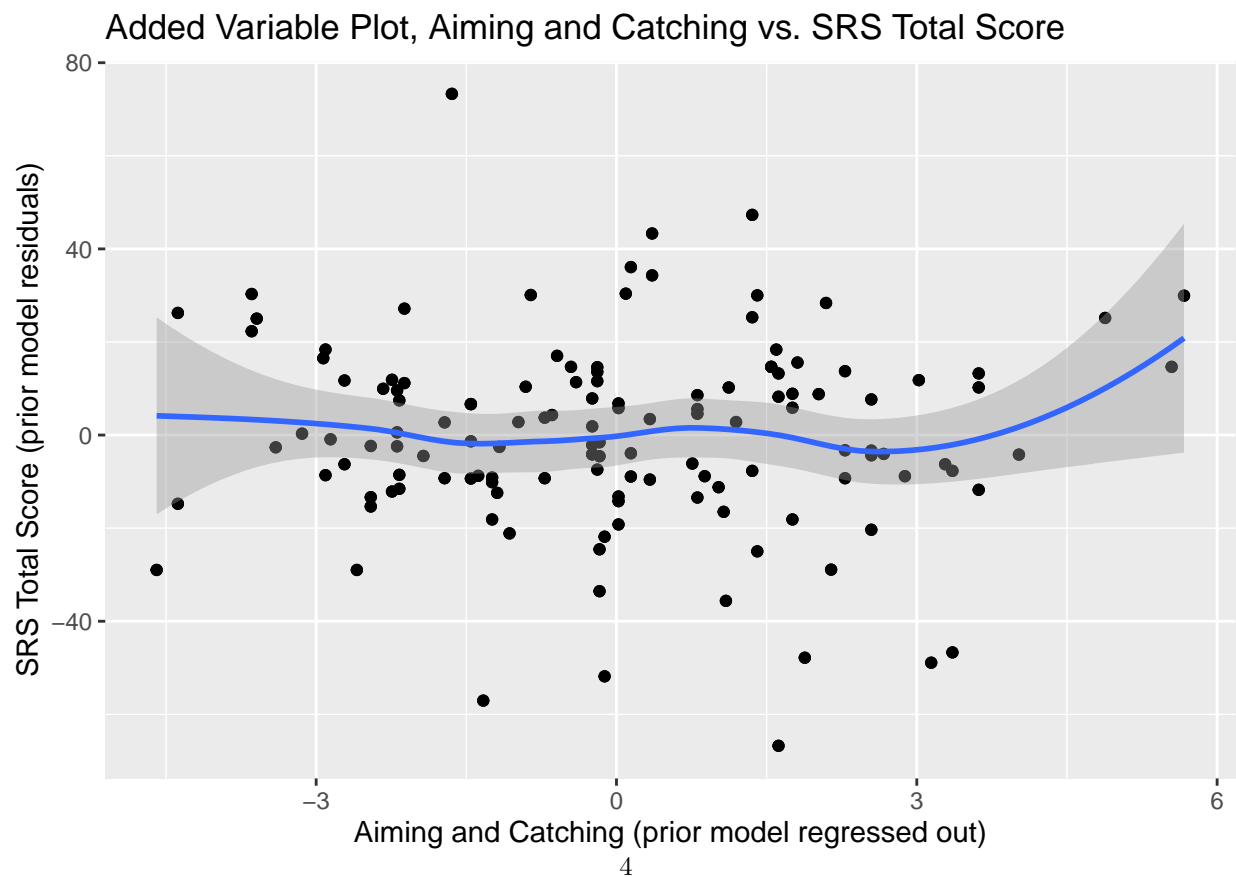
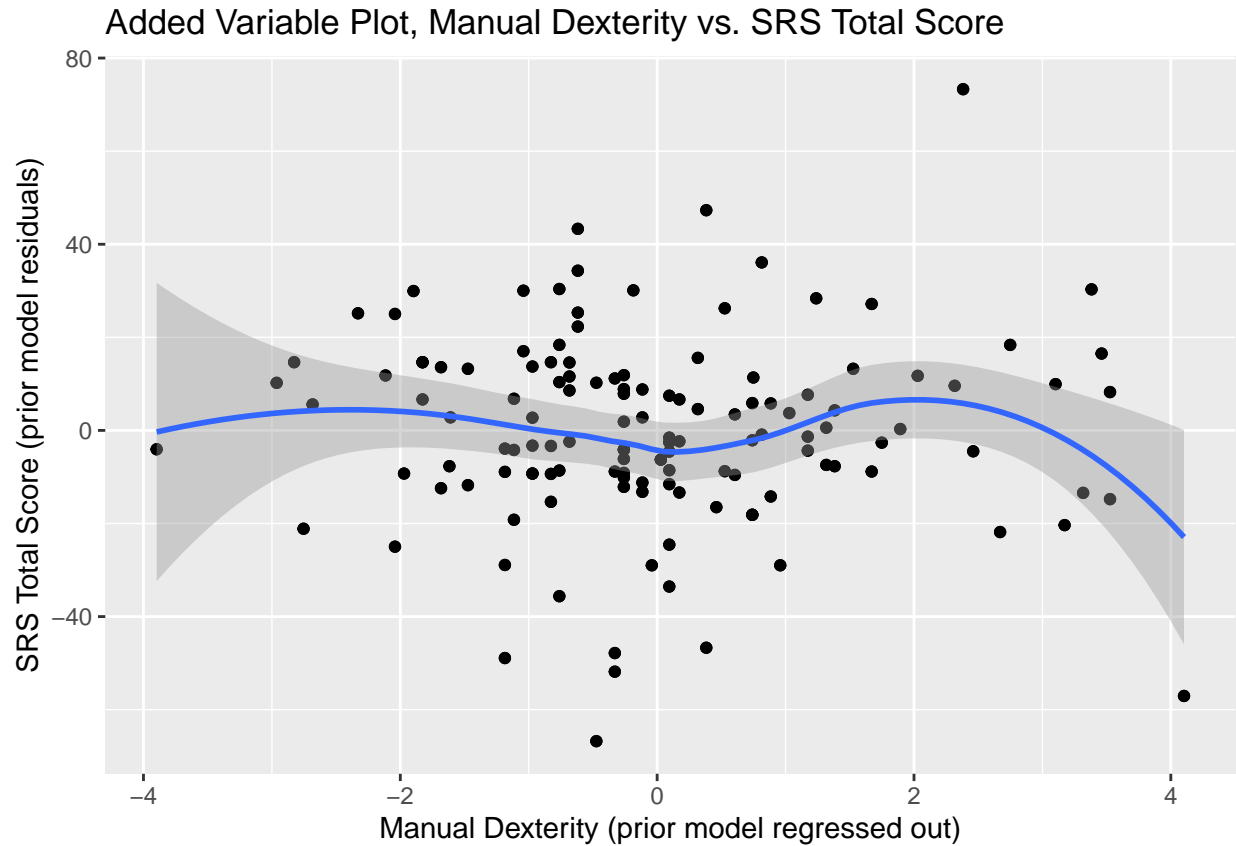
High F value and Low P-value means we should include SRS Version.

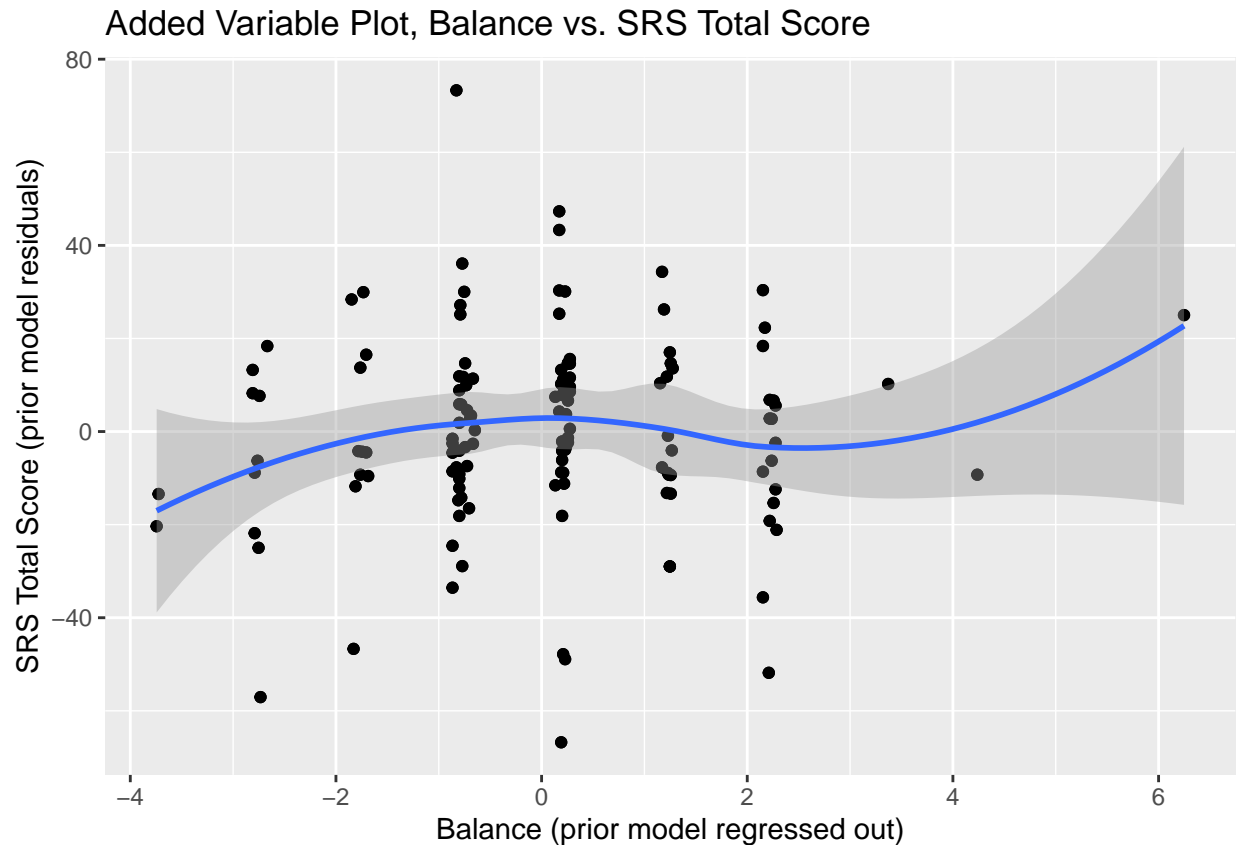
GAI



Added variable plot shows no relationship. This answers part of our research question. GAI is not useful in predicting SRS Total Raw Score for subjects with autism.

Component Scores





Components do not add anything

ADHD Subtype as Interaction

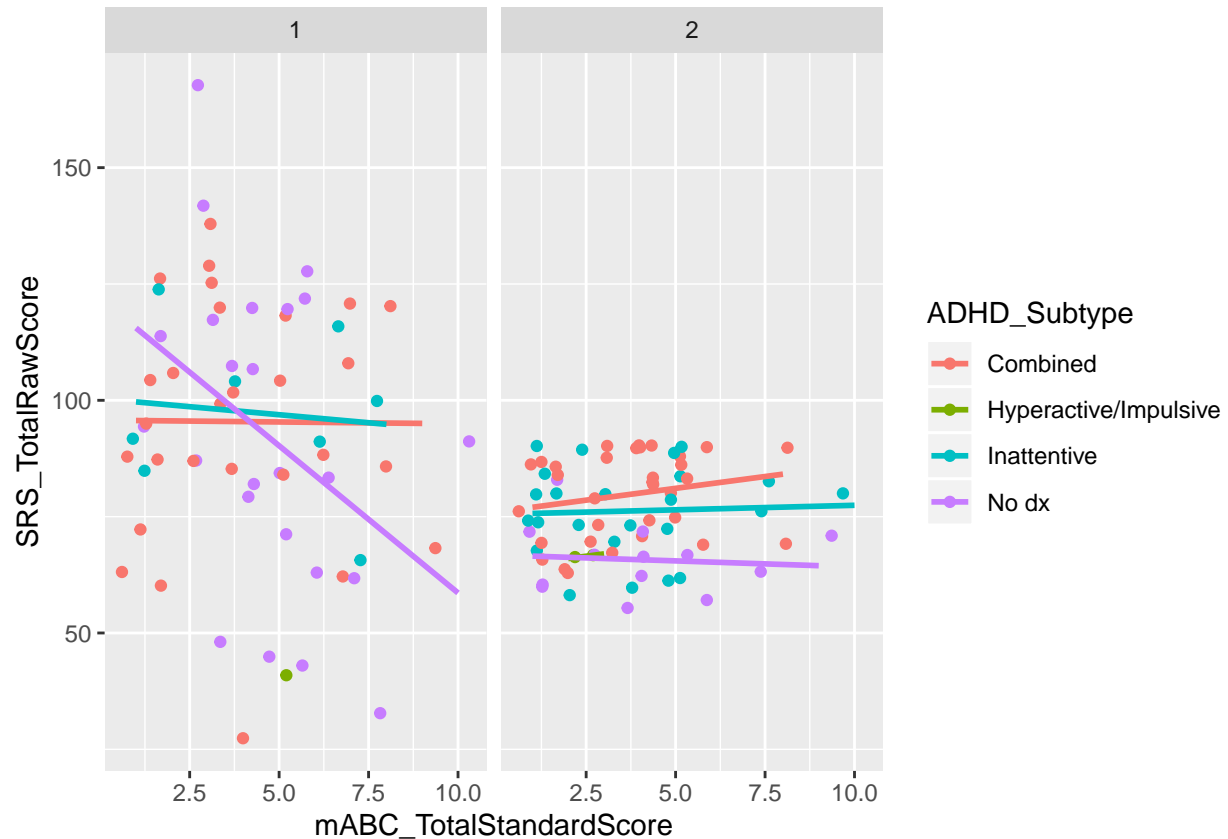
```
lm_adhd = lm(SRS_TotalRawScore ~ mABC_TotalStandardScore*ADHD_Subtype + SRS_VERSION, data = full_dat_autism)
summary(lm_adhd)
```

```
##
## Call:
## lm(formula = SRS_TotalRawScore ~ mABC_TotalStandardScore * ADHD_Subtype +
##     SRS_VERSION, data = full_dat_autism)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -71.029  -9.759   -0.204   10.675   73.234
##
## Coefficients:
##              Estimate
## (Intercept)    96.88260
## mABC_TotalStandardScore    0.28667
## ADHD_SubtypeHyperactive/Impulsive    29.03537
## ADHD_SubtypeInattentive    0.09753
## ADHD_SubtypeNo dx    7.84173
## SRS_VERSION2    -20.41737
```

```
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive -16.57859
## mABC_TotalStandardScore:ADHD_SubtypeInattentive -0.33786
## mABC_TotalStandardScore:ADHD_SubtypeNo dx -3.60603
## Std. Error
## (Intercept) 5.78403
## mABC_TotalStandardScore 1.23698
## ADHD_SubtypeHyperactive/Impulsive 33.99305
## ADHD_SubtypeInattentive 8.51903
## ADHD_SubtypeNo dx 9.34562
## SRS_VERSION2 3.73491
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive 9.50785
## mABC_TotalStandardScore:ADHD_SubtypeInattentive 1.88900
## mABC_TotalStandardScore:ADHD_SubtypeNo dx 1.99268
## t value Pr(>|t|)
## (Intercept) 16.750 < 2e-16
## mABC_TotalStandardScore 0.232 0.8171
## ADHD_SubtypeHyperactive/Impulsive 0.854 0.3947
## ADHD_SubtypeInattentive 0.011 0.9909
## ADHD_SubtypeNo dx 0.839 0.4030
## SRS_VERSION2 -5.467 2.42e-07
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive -1.744 0.0837
## mABC_TotalStandardScore:ADHD_SubtypeInattentive -0.179 0.8583
## mABC_TotalStandardScore:ADHD_SubtypeNo dx -1.810 0.0728
##
## (Intercept) ***
## mABC_TotalStandardScore
## ADHD_SubtypeHyperactive/Impulsive
## ADHD_SubtypeInattentive
## ADHD_SubtypeNo dx
## SRS_VERSION2 ***
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive .
## mABC_TotalStandardScore:ADHD_SubtypeInattentive
## mABC_TotalStandardScore:ADHD_SubtypeNo dx .
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 20.18 on 124 degrees of freedom
## Multiple R-squared: 0.2468, Adjusted R-squared: 0.1982
## F-statistic: 5.079 on 8 and 124 DF, p-value: 1.78e-05
```

```
anova(lm_version, lm_adhd)
```

```
## Analysis of Variance Table
##
## Model 1: SRS_TotalRawScore ~ mABC_TotalStandardScore + SRS_VERSION
## Model 2: SRS_TotalRawScore ~ mABC_TotalStandardScore * ADHD_Subtype +
## SRS_VERSION
## Res.Df RSS Df Sum of Sq F Pr(>F)
## 1 130 56019
## 2 124 50492 6 5526.9 2.2622 0.0417 *
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```



```
lm_gender_age = lm(SRS_TotalRawScore ~ mABC_TotalStandardScore*ADHD_Subtype + SRS_VERSION + Gender + SRS_AGE, data = full_dat_autism)
summary(lm_gender_age)
```

```
##
## Call:
## lm(formula = SRS_TotalRawScore ~ mABC_TotalStandardScore * ADHD_Subtype +
##     SRS_VERSION + Gender + SRS_AGE, data = full_dat_autism)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -68.836  -9.906   0.069  10.094  70.505
##
## Coefficients:
##              (Intercept)              80.90011
## mABC_TotalStandardScore             -0.15118
## ADHD_SubtypeHyperactive/Impulsive      32.70682
## ADHD_SubtypeInattentive               -1.67956
## ADHD_SubtypeNo dx                     7.89967
## SRS_VERSION2                       -21.66341
## GenderM                             -4.32370
## SRS_AGE                             2.14958
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive -18.52073
## mABC_TotalStandardScore:ADHD_SubtypeInattentive           0.01155
## mABC_TotalStandardScore:ADHD_SubtypeNo dx                 -3.48322
```

```

##                               Std. Error
## (Intercept)                   14.80611
## mABC_TotalStandardScore       1.25377
## ADHD_SubtypeHyperactive/Impulsive 34.05033
## ADHD_SubtypeInattentive       8.52280
## ADHD_SubtypeNo dx            9.38037
## SRS_VERSION2                  3.77101
## GenderM                       4.83805
## SRS_AGE                       1.31291
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive 9.56202
## mABC_TotalStandardScore:ADHD_SubtypeInattentive          1.88703
## mABC_TotalStandardScore:ADHD_SubtypeNo dx                1.99888
##                               t value Pr(>|t|)
## (Intercept)                   5.464 2.5e-07
## mABC_TotalStandardScore      -0.121 0.9042
## ADHD_SubtypeHyperactive/Impulsive 0.961 0.3387
## ADHD_SubtypeInattentive      -0.197 0.8441
## ADHD_SubtypeNo dx            0.842 0.4014
## SRS_VERSION2                 -5.745 6.9e-08
## GenderM                      -0.894 0.3732
## SRS_AGE                      1.637 0.1042
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive -1.937 0.0551
## mABC_TotalStandardScore:ADHD_SubtypeInattentive            0.006 0.9951
## mABC_TotalStandardScore:ADHD_SubtypeNo dx                 -1.743 0.0839
##
## (Intercept)                  ***
## mABC_TotalStandardScore
## ADHD_SubtypeHyperactive/Impulsive
## ADHD_SubtypeInattentive
## ADHD_SubtypeNo dx
## SRS_VERSION2                  ***
## GenderM
## SRS_AGE
## mABC_TotalStandardScore:ADHD_SubtypeHyperactive/Impulsive .
## mABC_TotalStandardScore:ADHD_SubtypeInattentive
## mABC_TotalStandardScore:ADHD_SubtypeNo dx .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 20.05 on 122 degrees of freedom
## Multiple R-squared:  0.268, Adjusted R-squared:  0.208
## F-statistic: 4.468 on 10 and 122 DF, p-value: 2.274e-05

```

```
anova(lm_adhd, lm_gender_age)
```

```

## Analysis of Variance Table
##
## Model 1: SRS_TotalRawScore ~ mABC_TotalStandardScore * ADHD_Subtype +
##          SRS_VERSION
## Model 2: SRS_TotalRawScore ~ mABC_TotalStandardScore * ADHD_Subtype +
##          SRS_VERSION + Gender + SRS_AGE
##   Res.Df    RSS Df Sum of Sq    F Pr(>F)
## 1      124 50492
## 2      122 49067  2    1424.3 1.7707 0.1746

```