

# Exploratory Data Analysis

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```
library(dplyr)
library(tidyr)

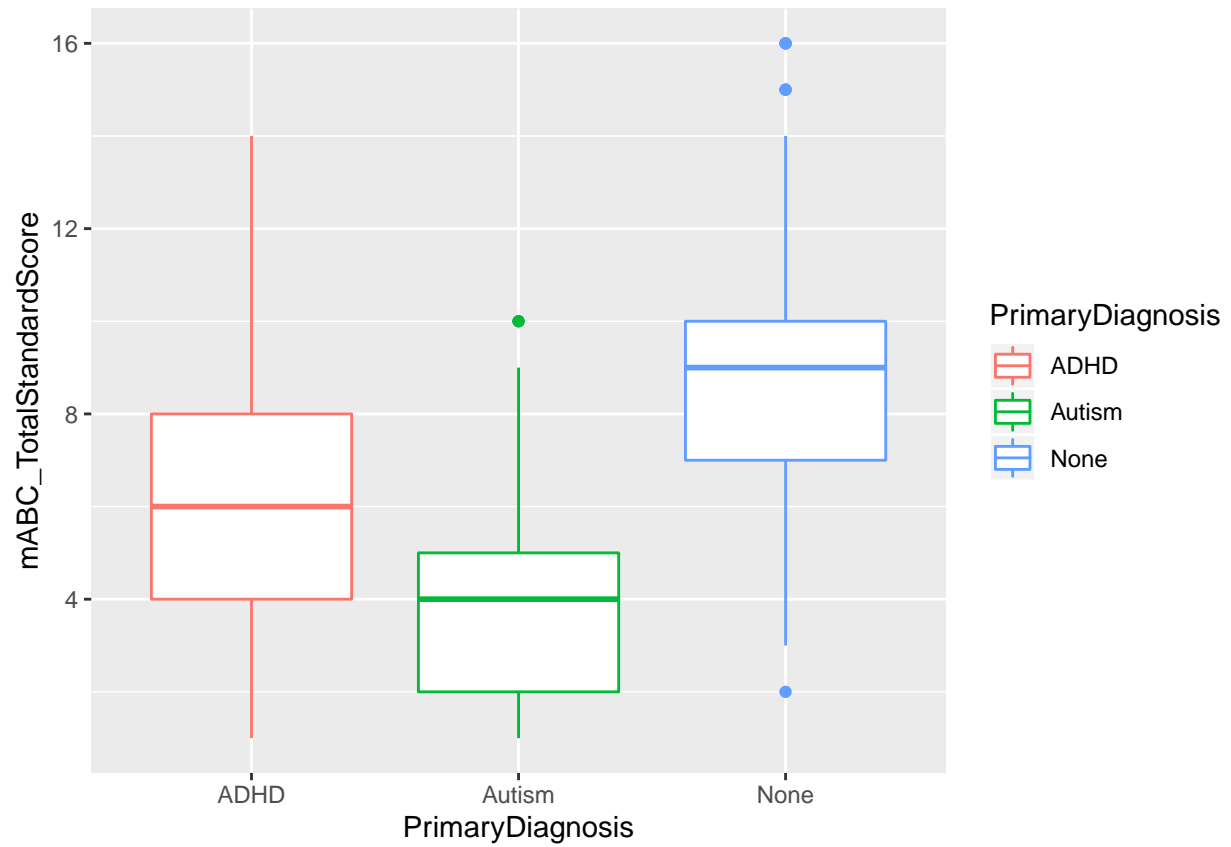
kki_demographics = read.csv('data/KKI_demographicInfo.csv')
kki_handedness = read.csv('data/KKI_handedness.csv')
kki_mABC = read.csv('data/KKI_movementAssessmentBatteryforChildren.csv')
kki_SRS = read.csv('data/KKI_SocialResponsivenessScaleQuestionnaire.csv')
kki_WISC = read.csv('data/KKI_WechslerIntelligenceScaleforChildren.csv')

full_dat = full_join(kki_demographics, kki_mABC)
full_dat = full_join(full_dat, kki_SRS)
full_dat = full_join(full_dat, kki_WISC)
full_dat = full_join(full_dat, kki_handedness)
full_dat = full_dat %>% drop_na(c('SecondaryDiagnosis', 'CurrentlyNotTakingMeds', 'CurrentlyTakingAtomoxetine'))
full_dat = subset(full_dat, !(is.na(SRS_VERSION) & is.na(WISC_VERSION)))
```

## Research Question

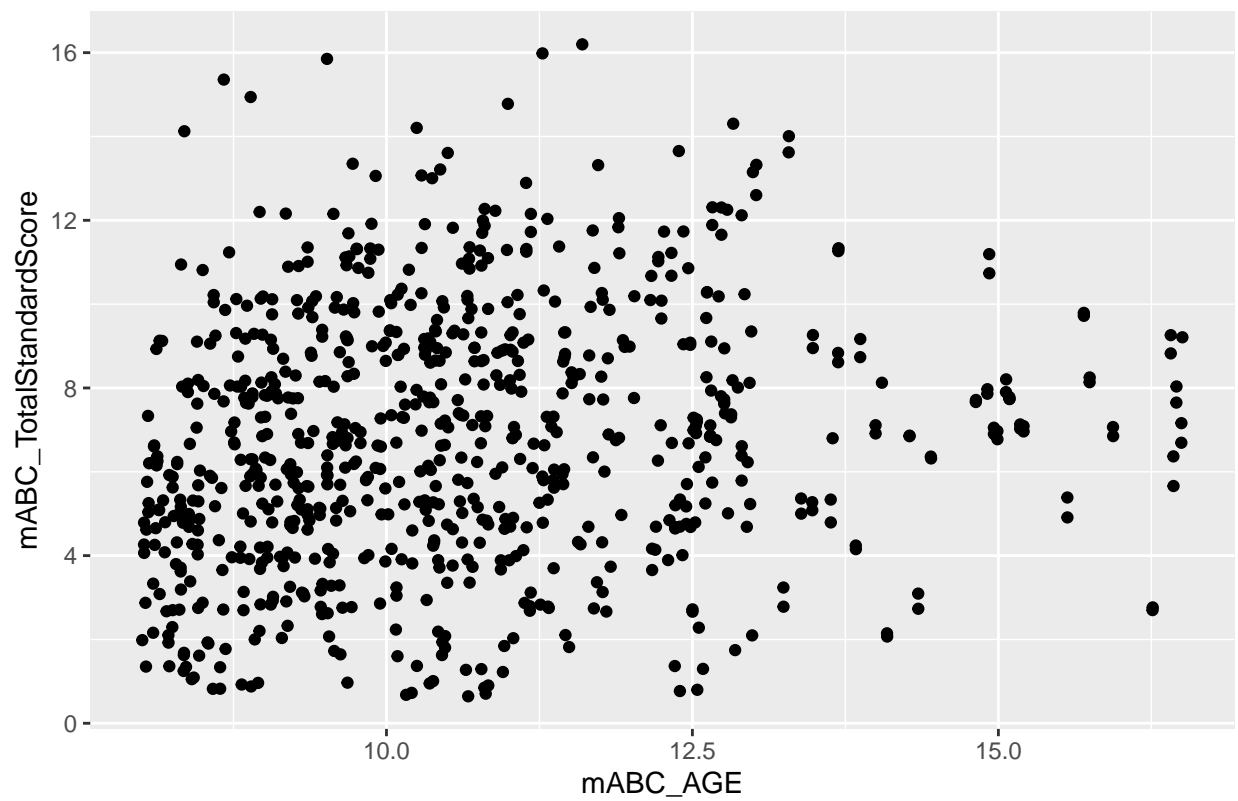
Is there a statistically significant difference in predictive power of the motor skills vs. social responsiveness model when we include intelligence metrics as predictors?

```
library(ggplot2)
ggplot(full_dat, aes(x=PrimaryDiagnosis, y=mABC_TotalStandardScore, color=PrimaryDiagnosis)) +
  geom_boxplot()
```



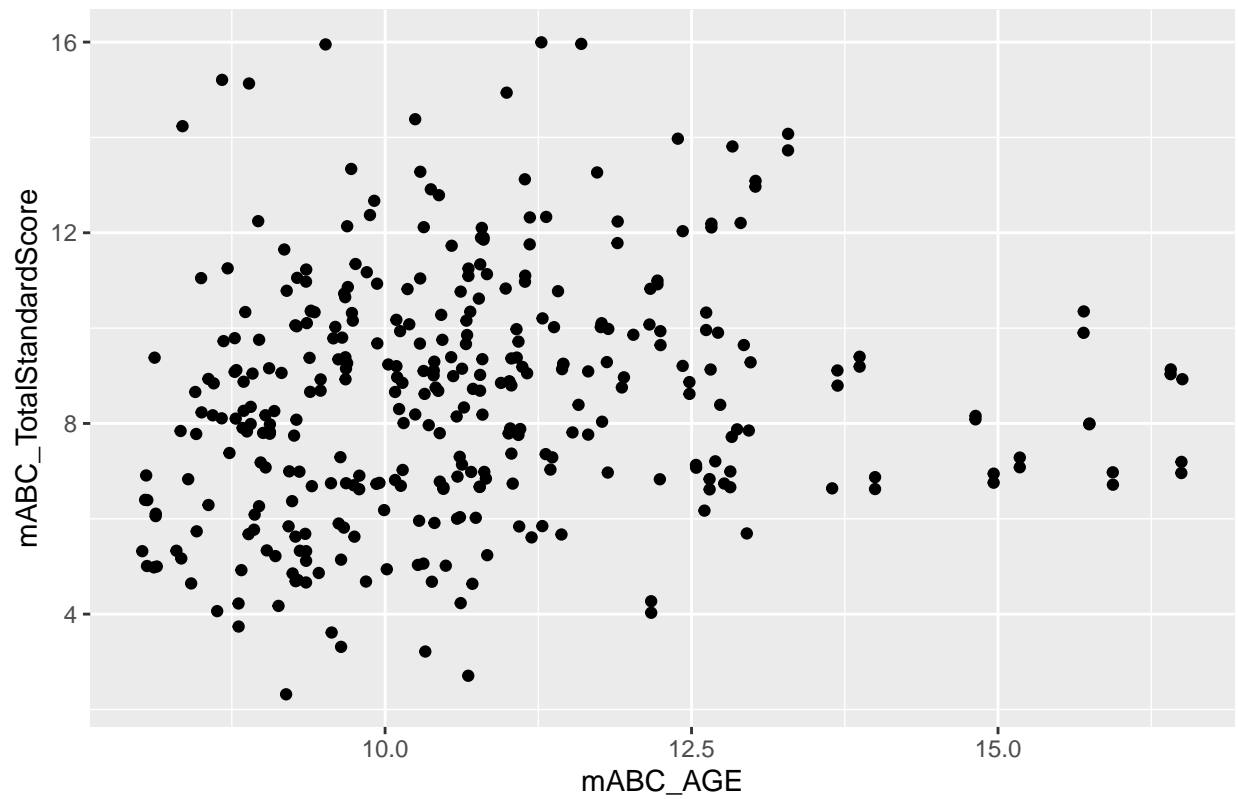
```
ggplot(full_dat, aes(x=mABC_AGE, y=mABC_TotalStandardScore)) +  
  geom_jitter() +  
  ggtitle('Age vs. mABC Total Standard Score')
```

Age vs. mABC Total Standard Score



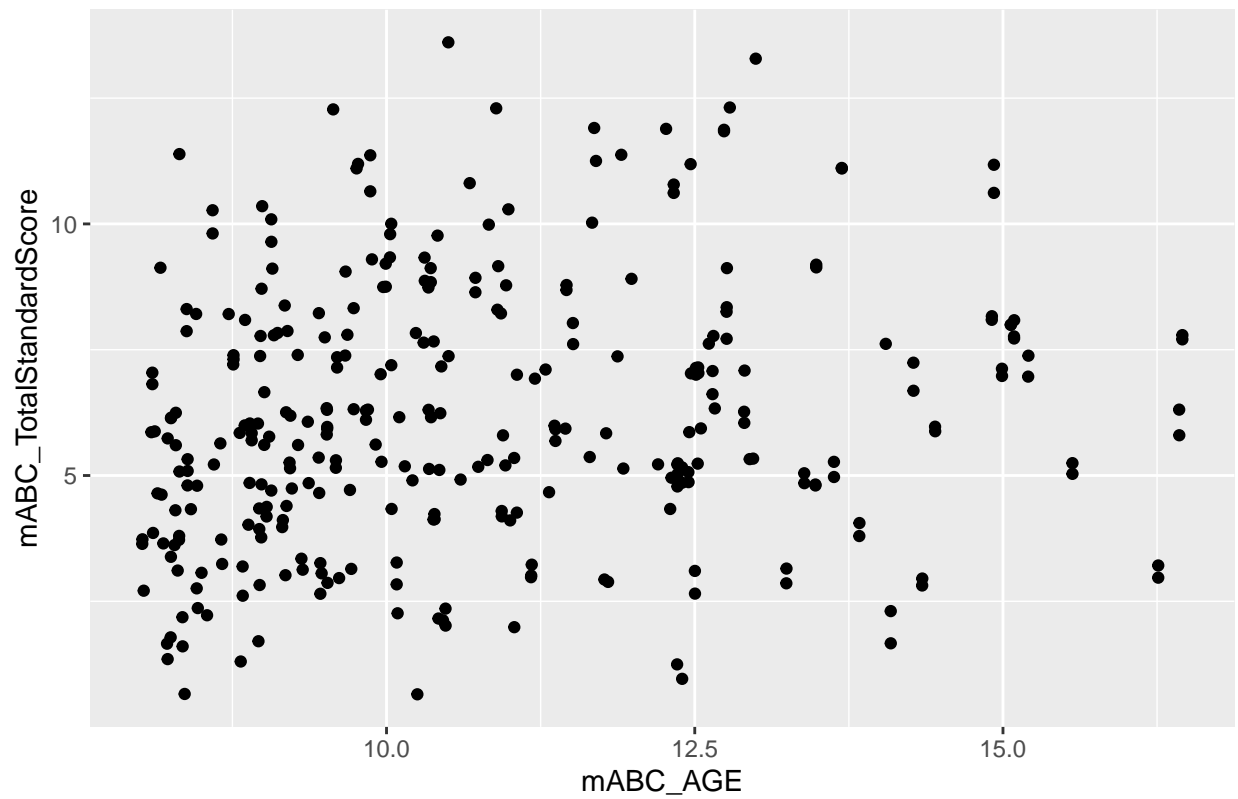
```
ggplot(subset(full_dat, PrimaryDiagnosis == 'None'), aes(x=mABC_AGE, y=mABC_TotalStandardScore)) +  
  geom_jitter() +  
  ggtitle('Age vs. mABC Total Standard Score, No Primary Diagnosis')
```

Age vs. mABC Total Standard Score, No Primary Diagnosis



```
ggplot(subset(full_dat, PrimaryDiagnosis == 'ADHD'), aes(x=mABC_AGE, y=mABC_TotalStandardScore)) +  
  geom_jitter() +  
  ggtitle('Age vs. mABC Total Standard Score, ADHD')
```

Age vs. mABC Total Standard Score, ADHD



```
ggplot(subset(full_dat, PrimaryDiagnosis == 'Autism'), aes(x=mABC_AGE, y=mABC_TotalStandardScore)) +  
  geom_jitter() +  
  ggtitle('Age vs. mABC Total Standard Score, Autism')
```

Age vs. mABC Total Standard Score, Autism

