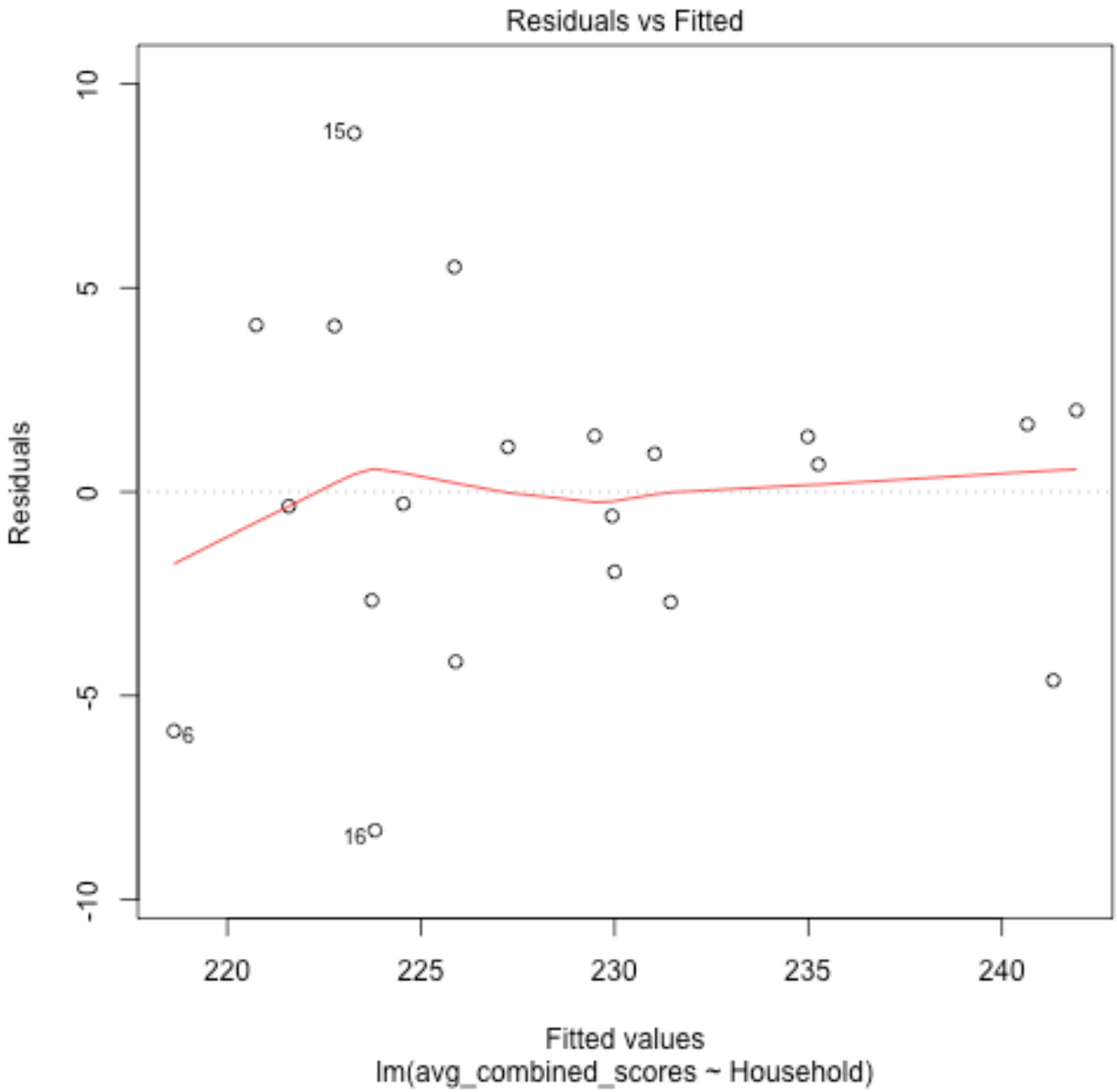
Capstone - Graphs

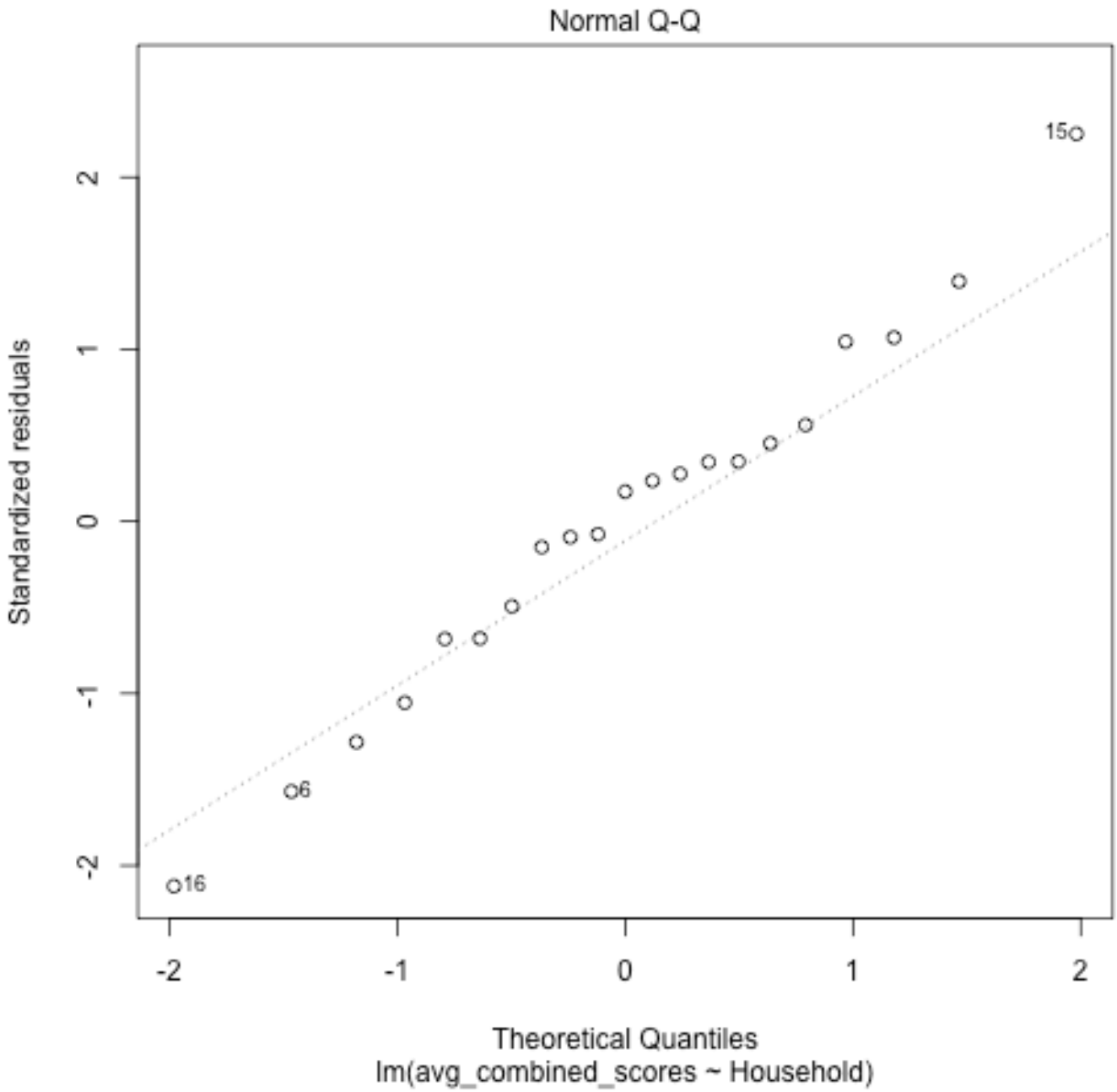
```
%r                                                                                FINISHED
data2014_HH_avgincome <- read.csv('/Users/Hamster/Desktop/Capstone_Data
    /2014_data_Households_avgincome.csv', header=TRUE,sep = ",")
t(names(data2014_HH_avgincome))
lm_Household_2014 <- lm(avg_combined_scores ~ Household, data=data2014_HH_avgincome)
summary(lm_Household_2014)
lm_Family_2014 <- lm(avg_combined_scores ~ Family, data=data2014_HH_avgincome)
summary(lm_Family_2014)
lm_Married_Couple_2014 <- lm(avg_combined_scores ~ Married_Couple, data
    =data2014_HH_avgincome)
summary(lm_Married_Couple_2014)
lm_Non_Family_2014 <- lm(avg_combined_scores ~ Non_Family, data=data2014_HH_avgincome)
summary(lm_Non_Family_2014)
```

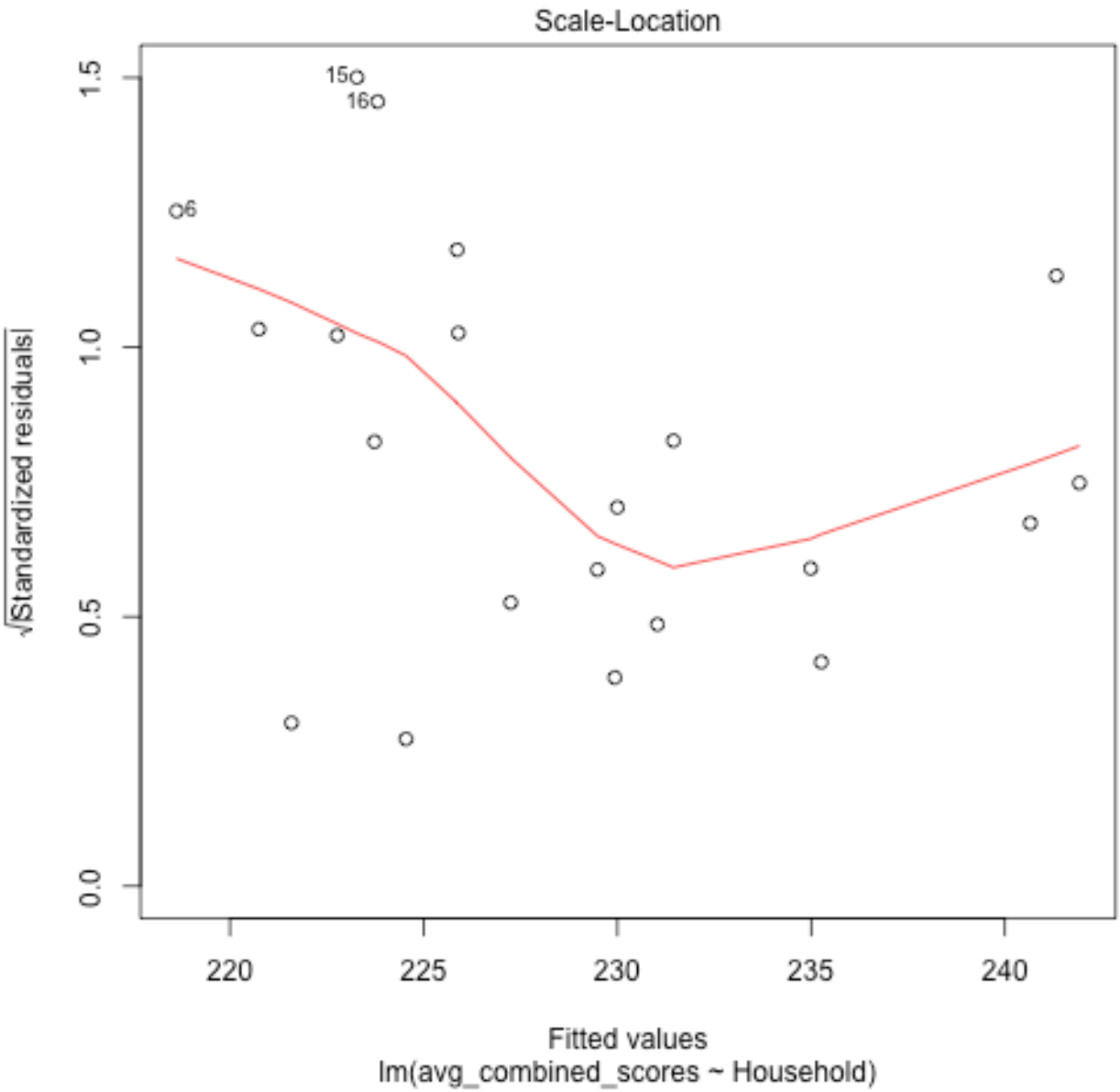
Diagnostic plots of Household 2014

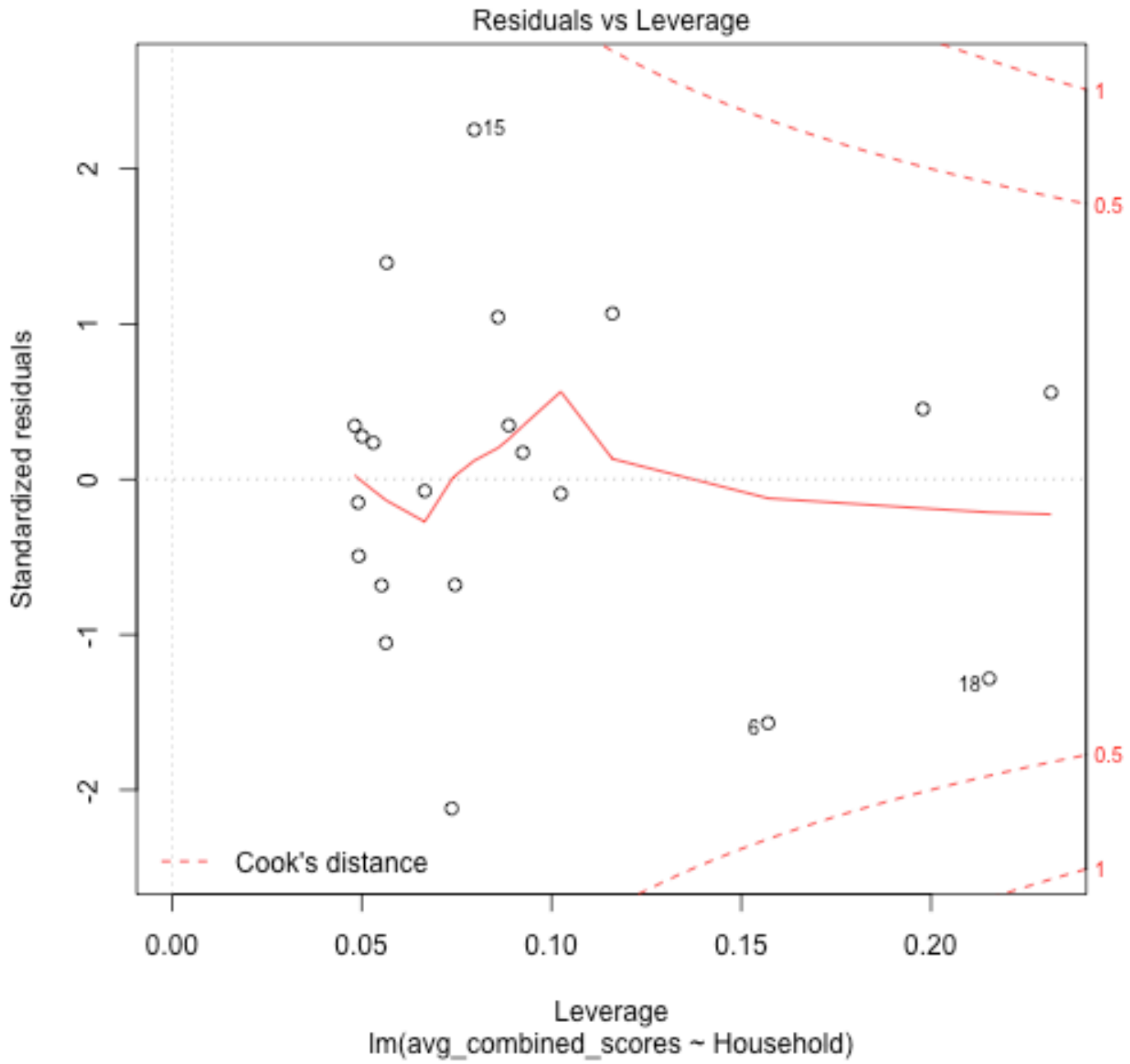
FINISHED

```
%r
plot(lm_Household_2014)
```


Residuals vs Fitted
Residuals
10
5
0
-5
-10
15
6
16
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Household)


Normal Q-Q
Standardized residuals
Theoretical Quantiles
lm(avg_combined_scores ~ Household)
15
6
16
-2
-1
0
1
2

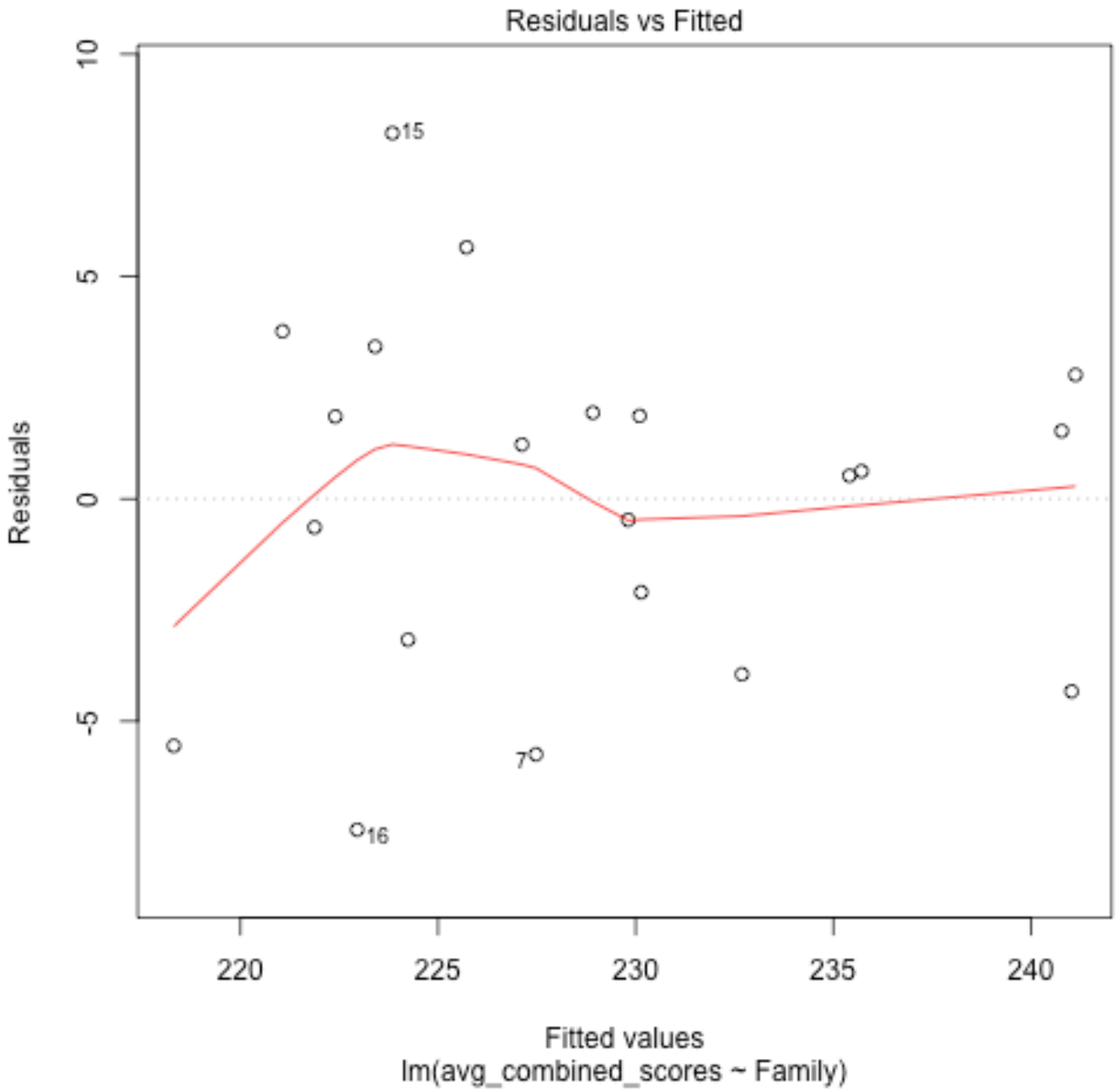

Scale-Location
15
16
6
√|Standardized residuals|
0.0
0.5
1.0
1.5
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Household)

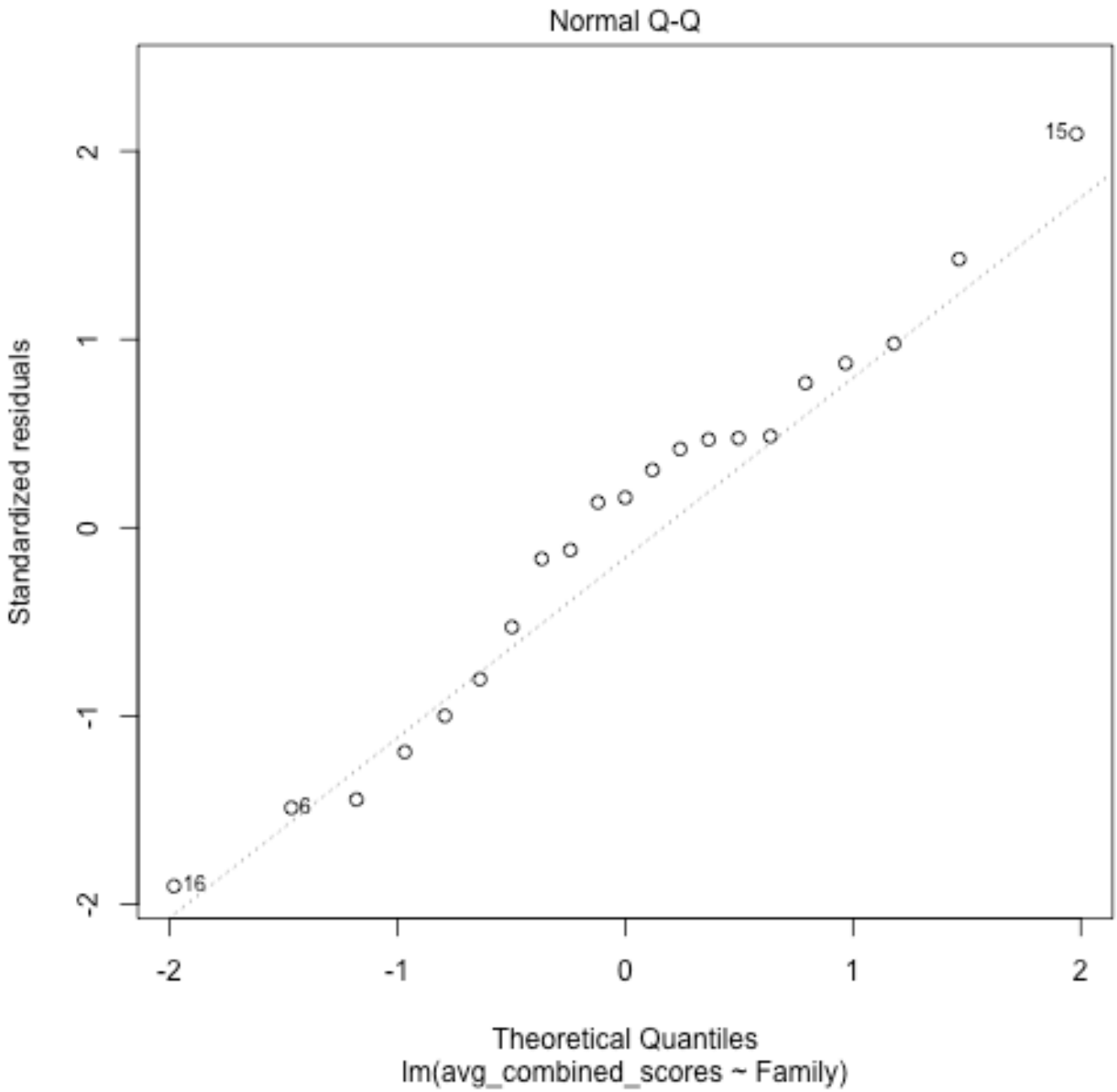


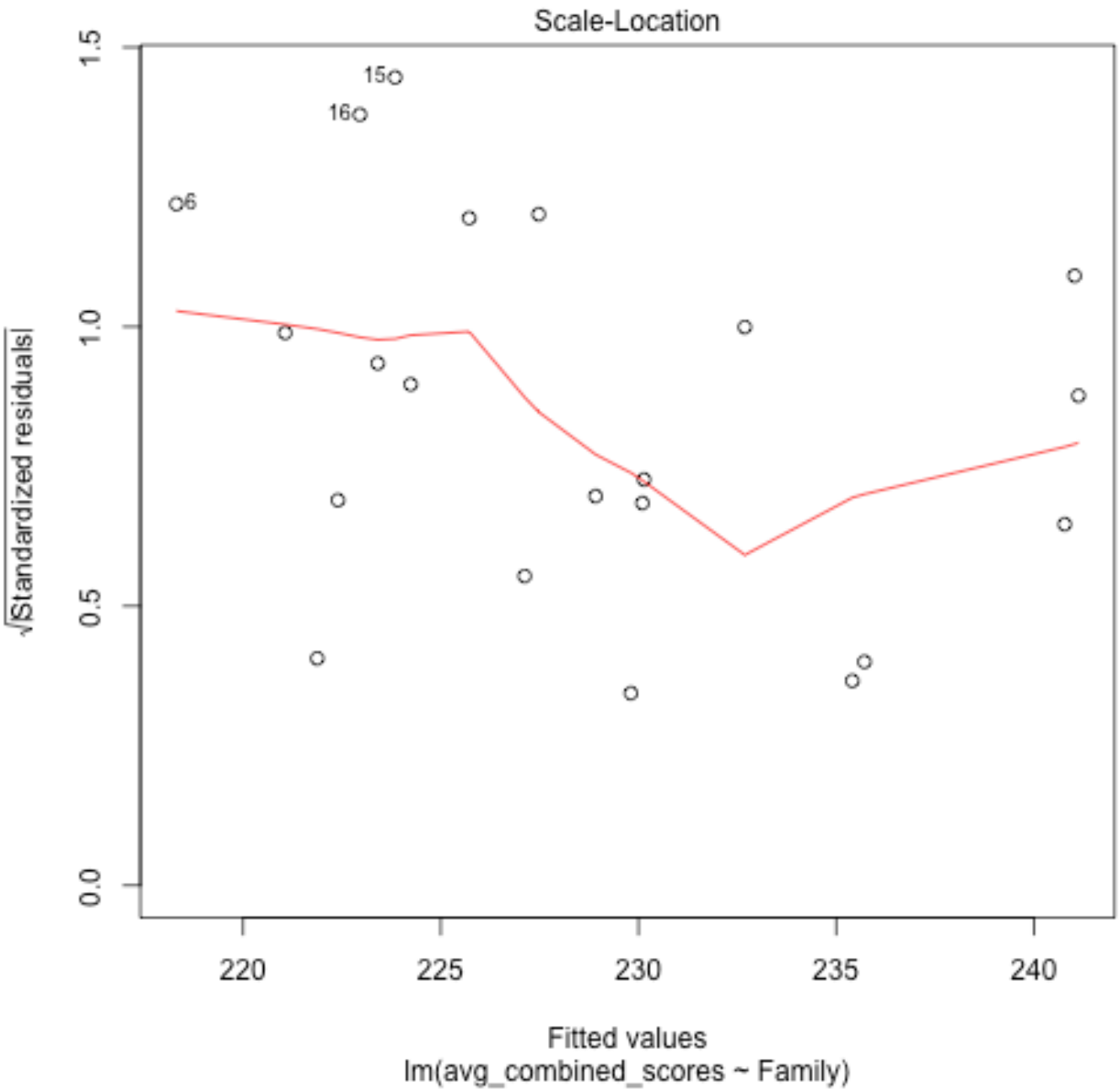
Diagnostic plots of Family 2014

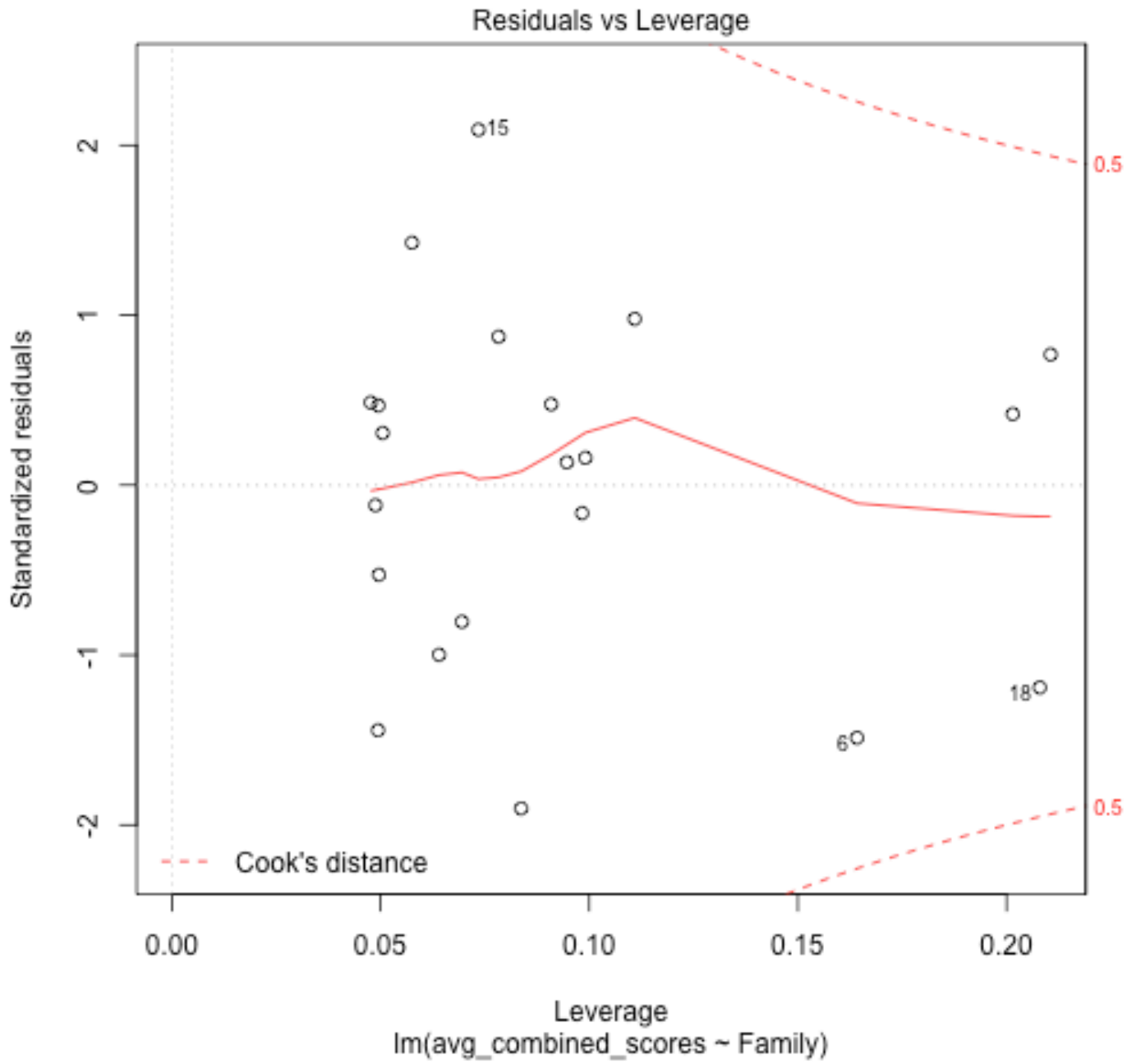
FINISHED

```
%r
plot(lm_Family_2014)
```


Residuals vs Fitted
Residuals
10
5
0
-5
15
16
7
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Family)


Normal Q-Q
Standardized residuals
Theoretical Quantiles
lm(avg_combined_scores ~ Family)
15
6
16
-2
-1
0
1
2

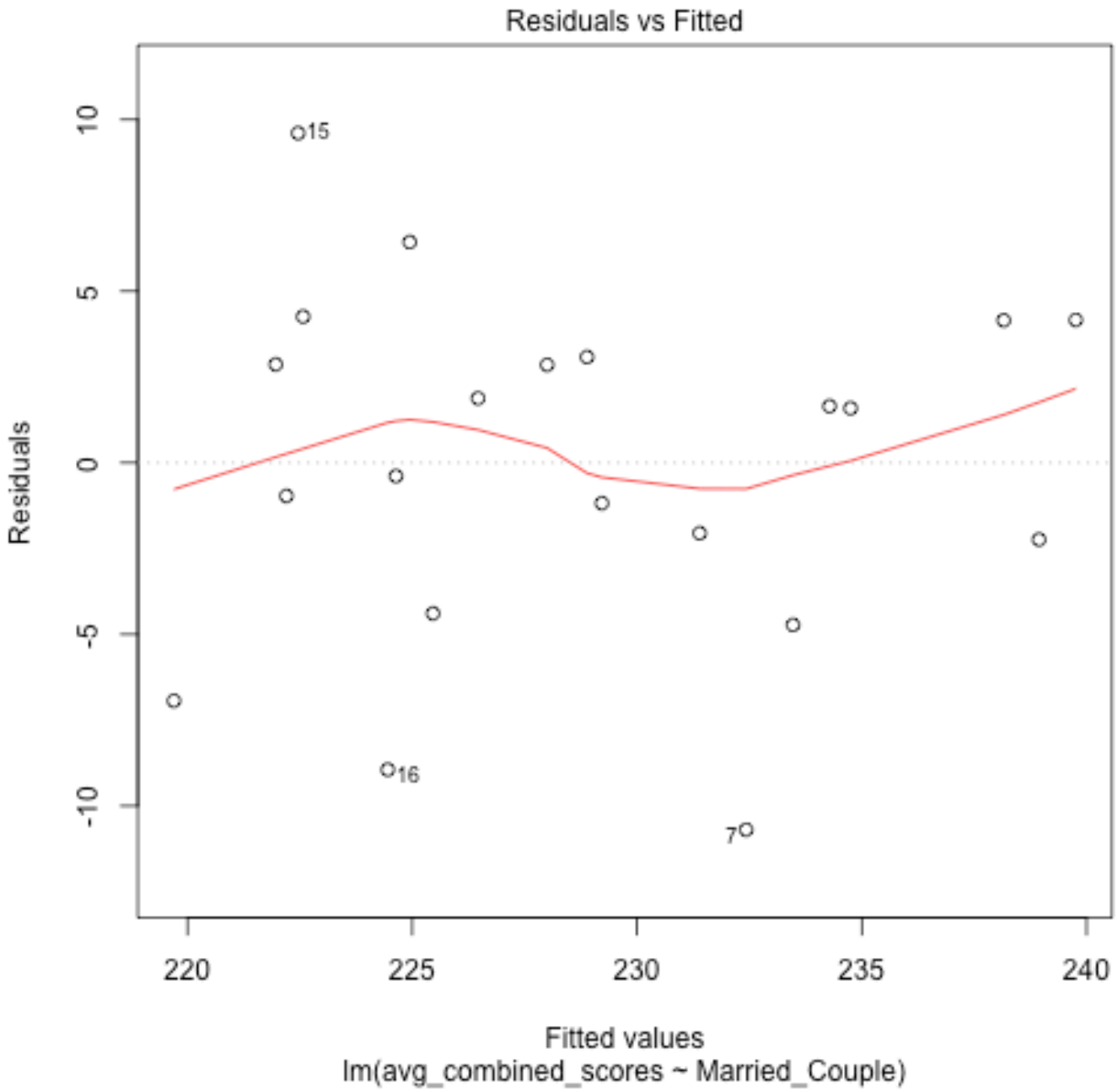

Scale-Location
√|Standardized residuals|
1.5
1.0
0.5
0.0
15
16
6
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Family)

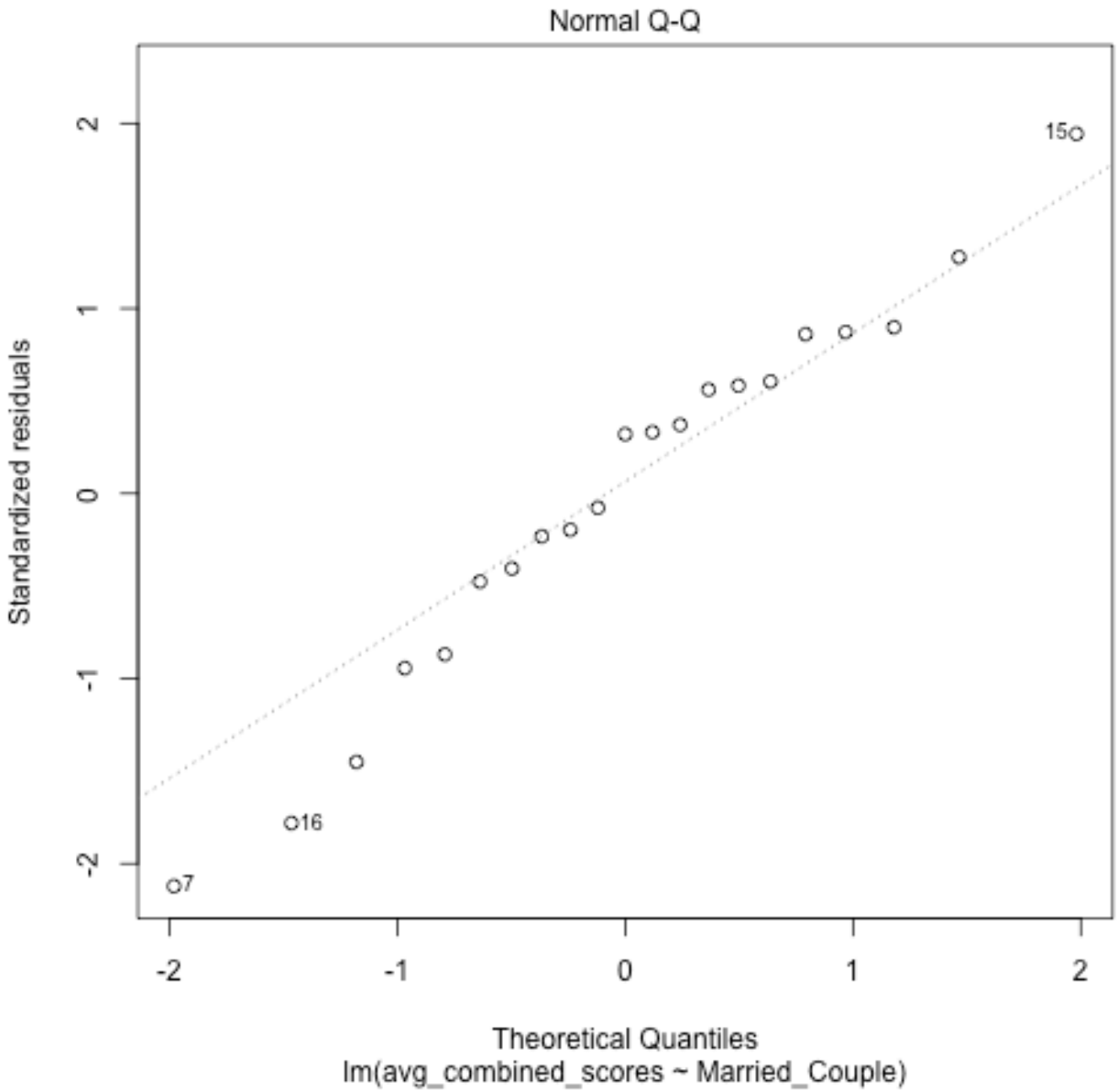


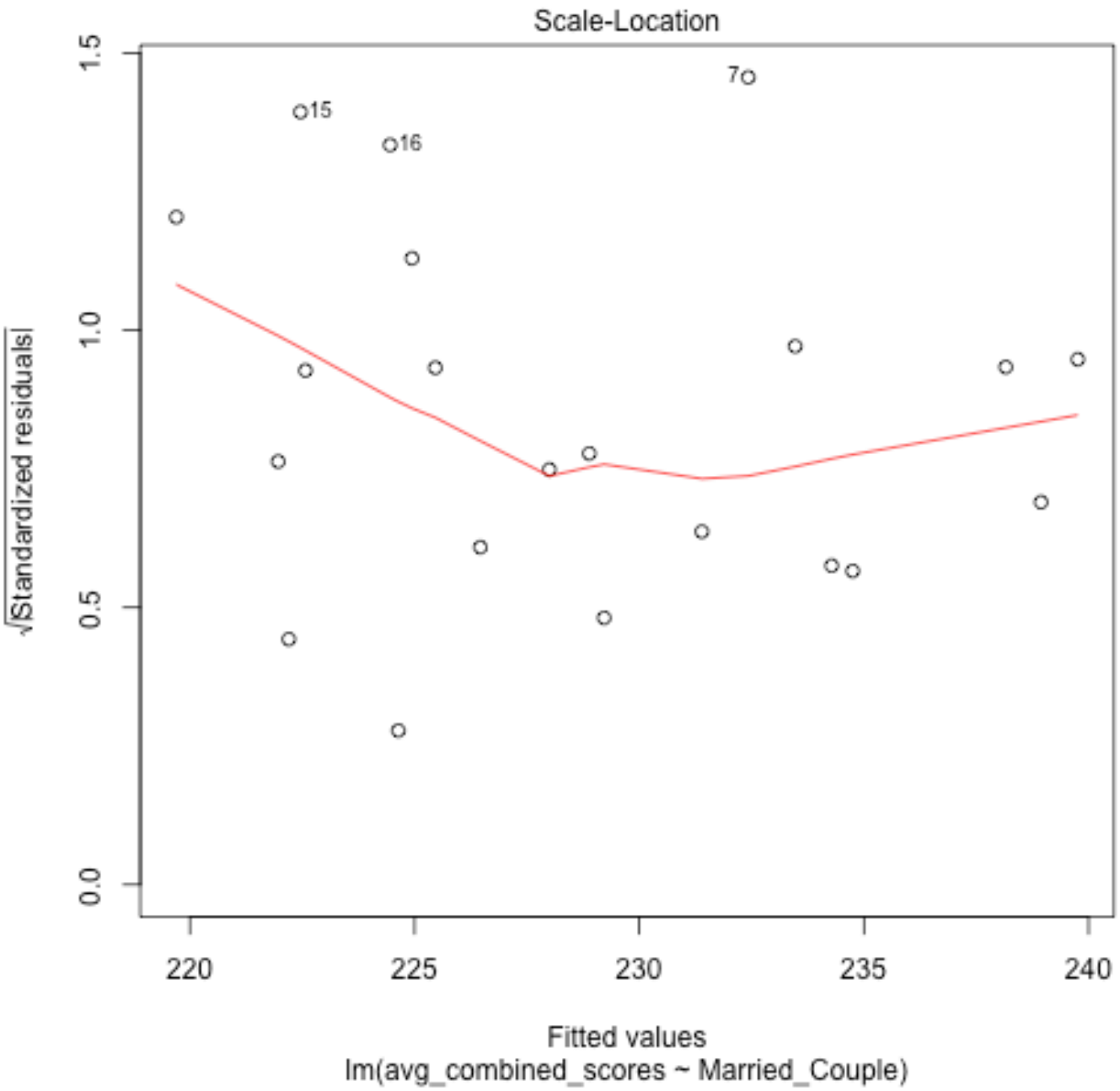
Diagnostic plots of Married Couple 2014

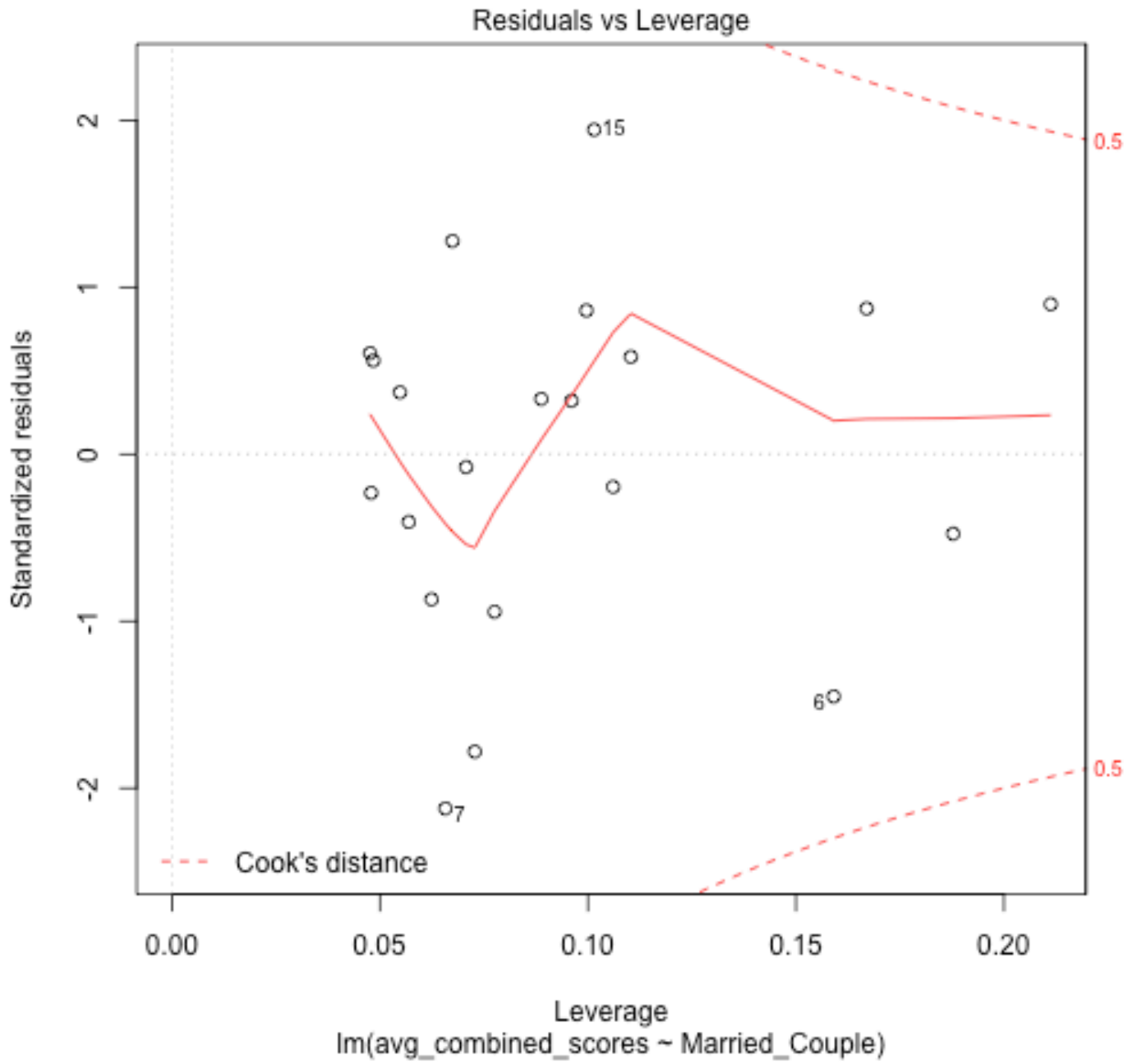
FINISHED

```
%r
plot(lm_Married_Couple_2014)
```


Residuals vs Fitted
Residuals
10
5
0
-5
-10
15
16
7
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Married_Couple)


Normal Q-Q
Standardized residuals
Theoretical Quantiles
lm(avg_combined_scores ~ Married_Couple)
15
16
7
-2
-1
0
1
2

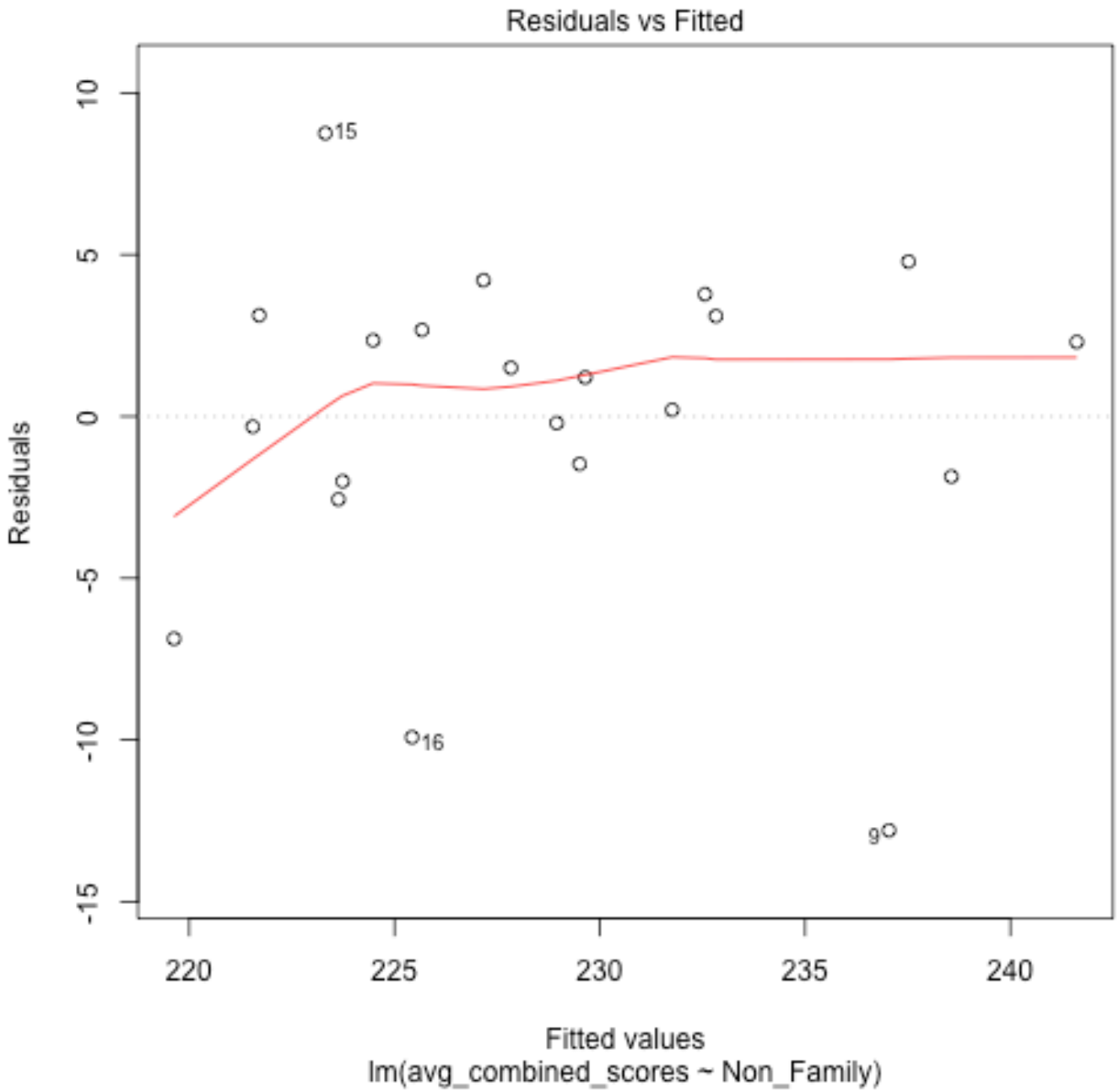

Scale-Location
√|Standardized residuals|
1.5
1.0
0.5
0.0
7
15
16
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Married_Couple)

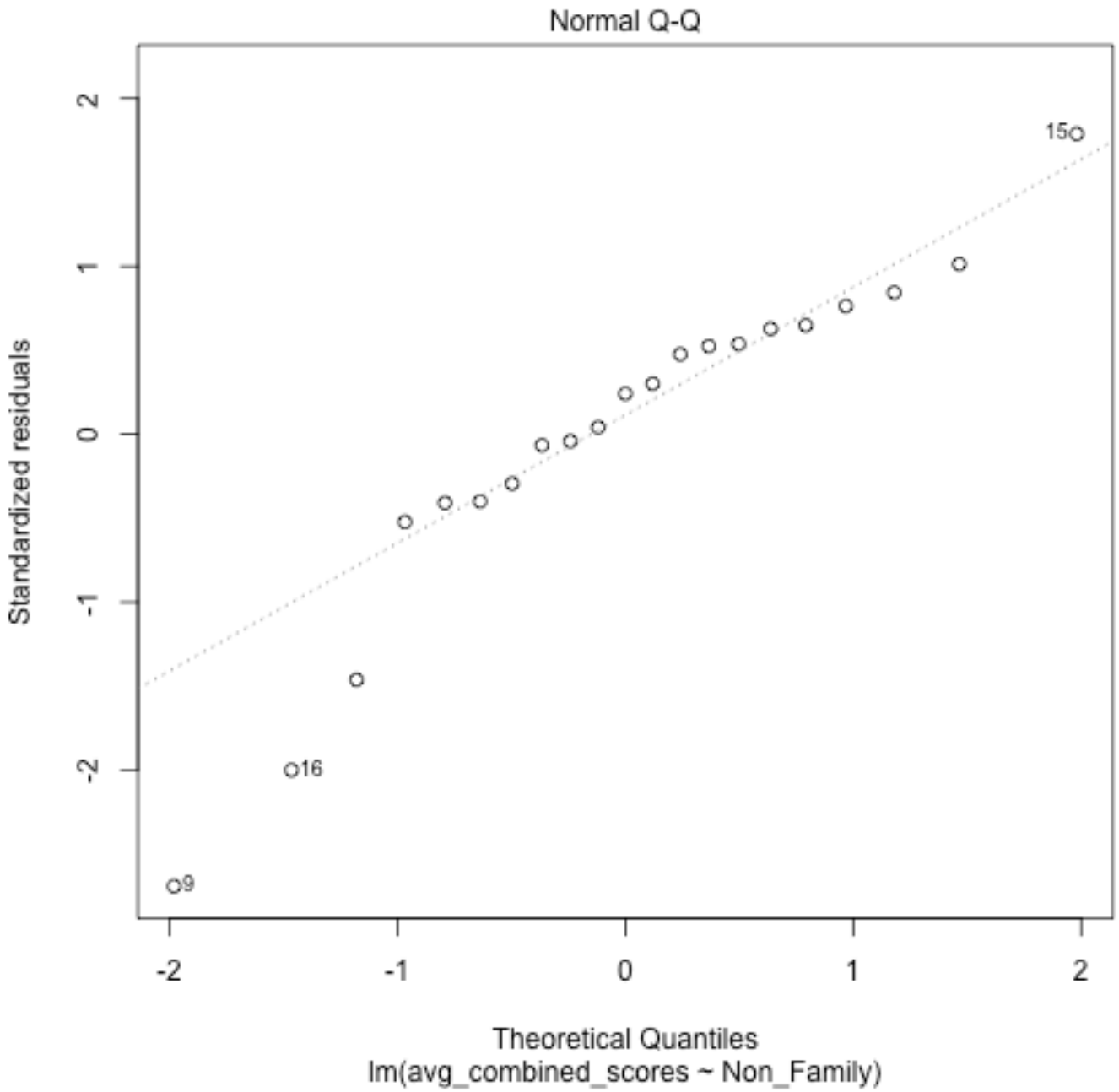


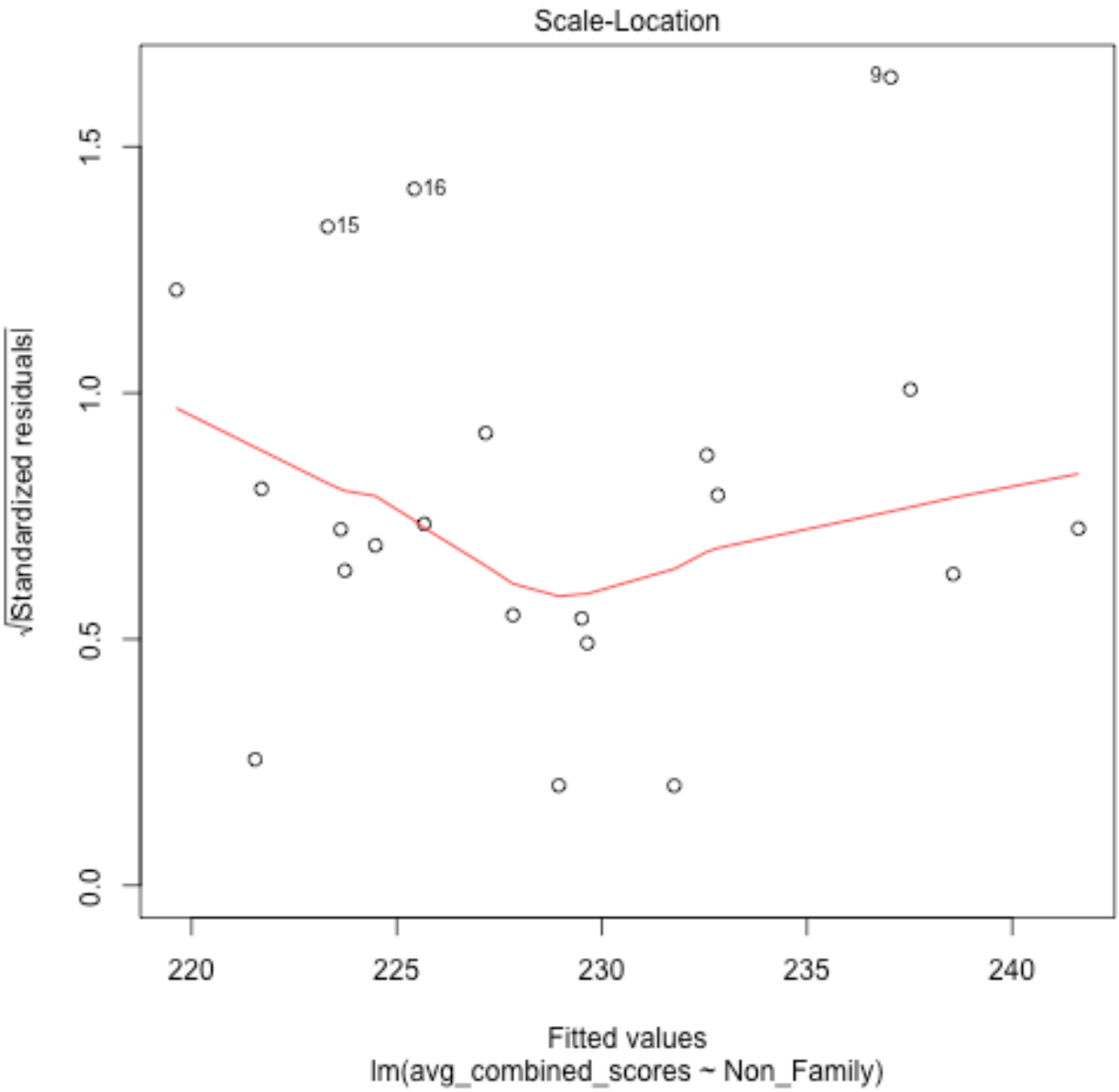
Diagnostic plots of Non Family 2014

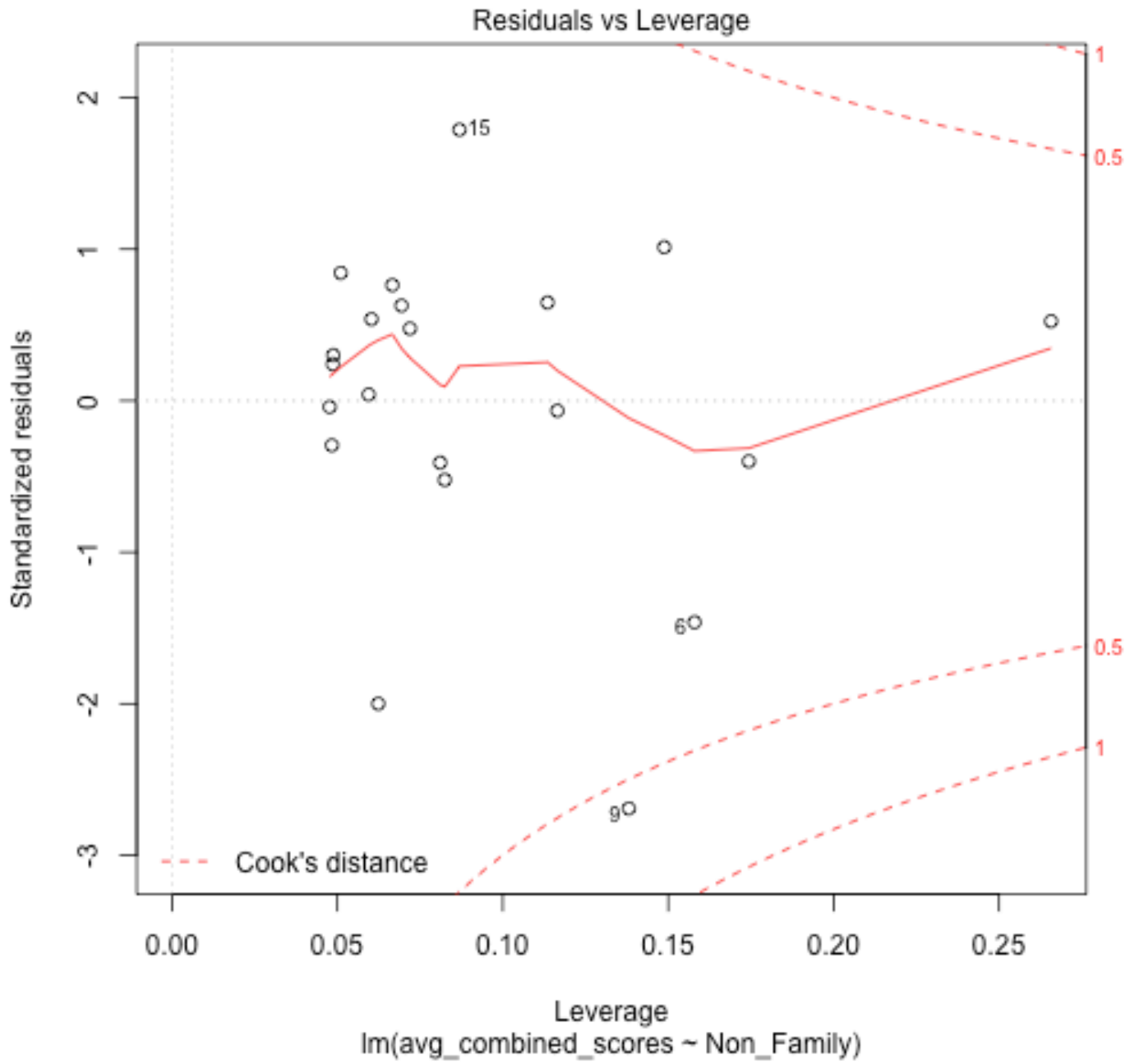
FINISHED

```
%r
plot(lm_Non_Family_2014)
```


Residuals vs Fitted
Residuals
Fitted values
lm(avg_combined_scores ~ Non_Family)
15
16
9
10
5
0
-5
-10
-15
220
225
230
235
240


Normal Q-Q
Standardized residuals
Theoretical Quantiles
lm(avg_combined_scores ~ Non_Family)
15
16
9
2
1
0
-1
-2

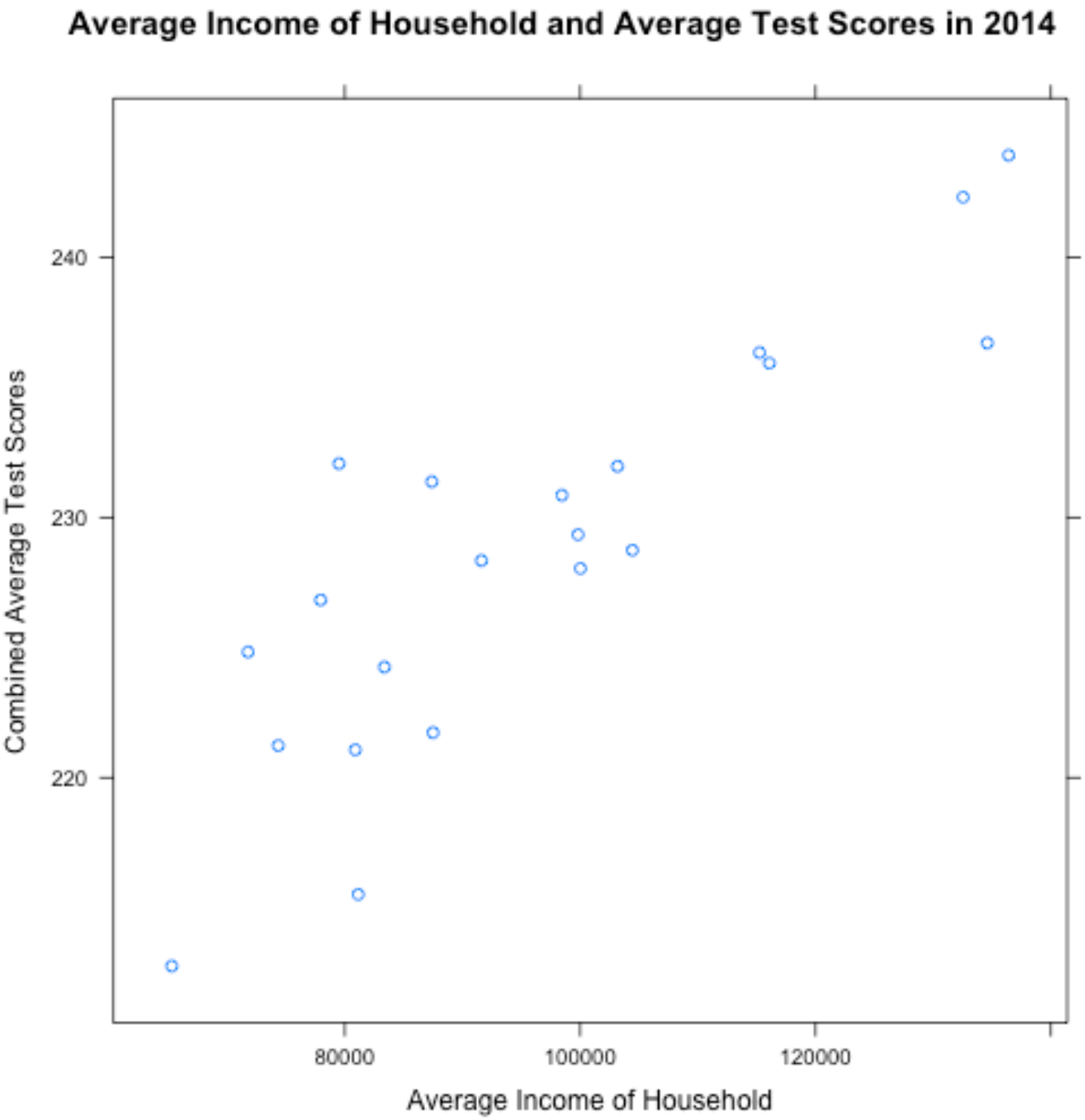

Scale-Location
9
16
15
1.5
1.0
0.5
0.0
√|Standardized residuals|
220
225
230
235
240
Fitted values
lm(avg_combined_scores ~ Non_Family)



Scatterplot of Household's Income and Average Test Scores 2014

FINISHED

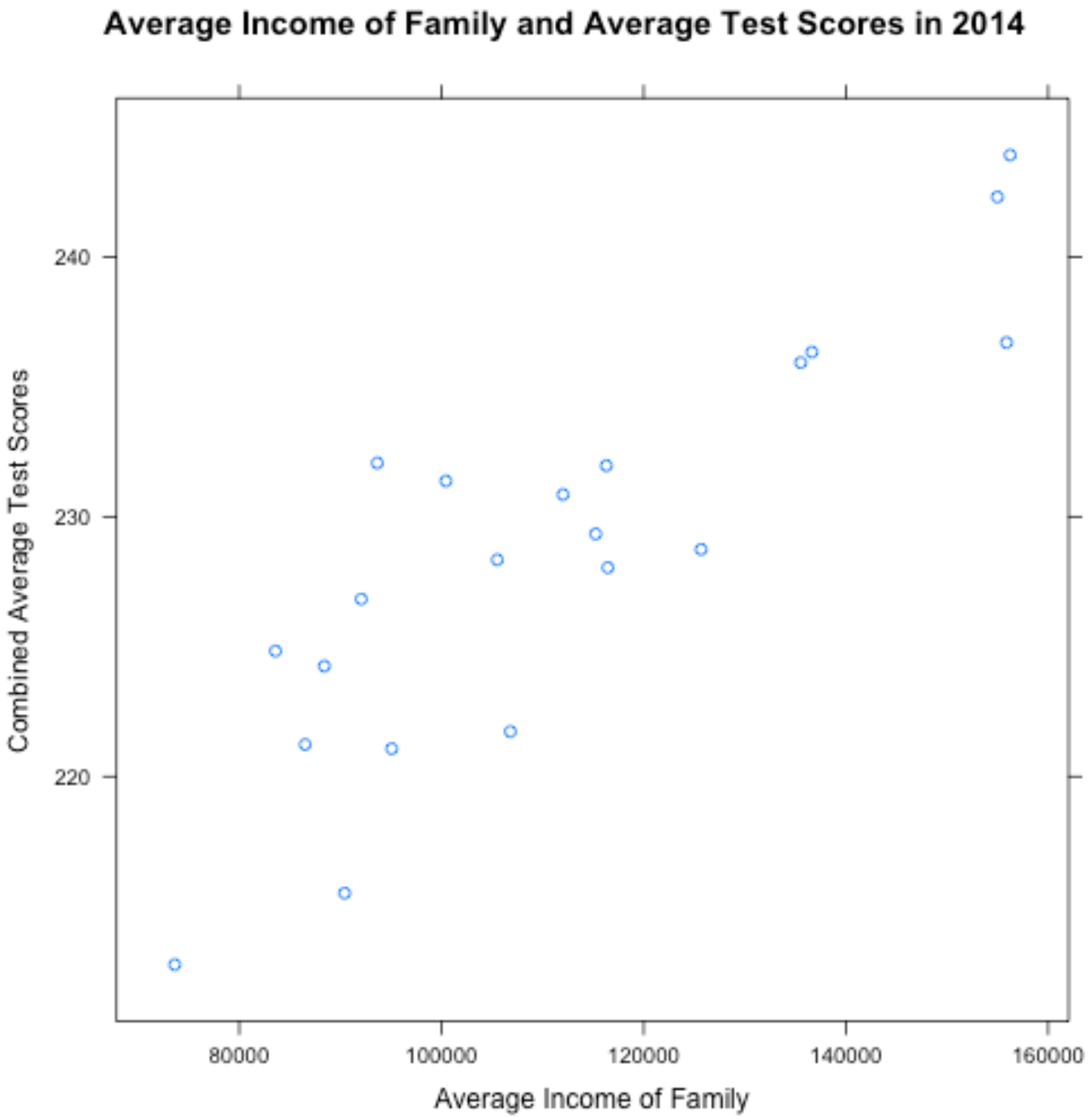
```
%r
require(lattice)
xyplot(avg_combined_scores ~ Household, data = data2014_HH_avgincome,
       xlab = "Average Income of Household",
       ylab = "Combined Average Test Scores",
       main = "Average Income of Household and Average Test Scores in 2014"
)
```



Scatterplot of Family's Income and Average Test Scores 2014

FINISHED

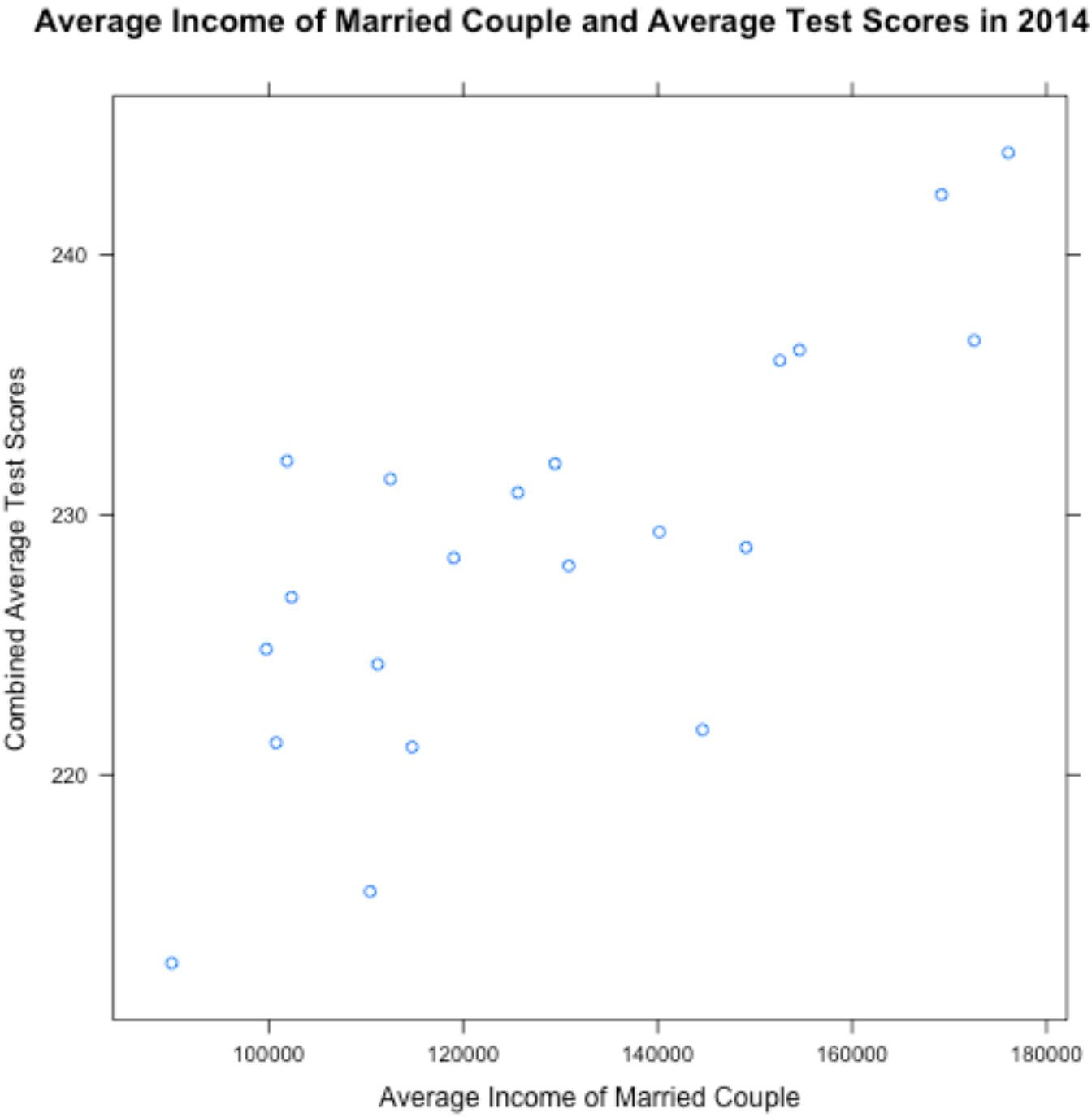
```
%r
require(lattice)
xyplot(avg_combined_scores ~ Family, data = data2014_HH_avgincome,
       xlab = "Average Income of Family",
       ylab = "Combined Average Test Scores",
       main = "Average Income of Family and Average Test Scores in 2014"
)
```



Scatterplot of Married Couple's Income and Average Test Scores 2014

FINISHED

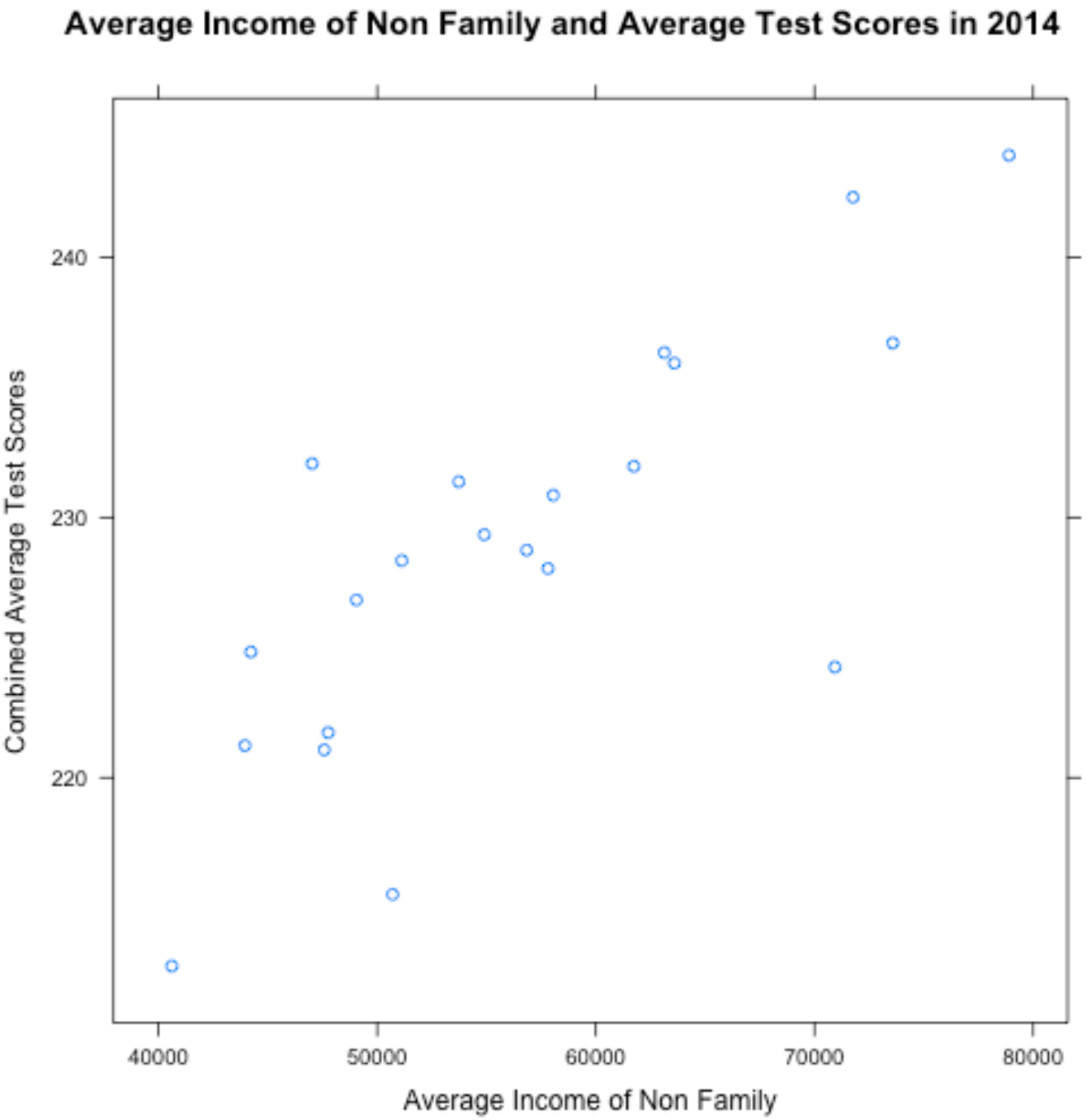
```
%r
require(lattice)
xyplot(avg_combined_scores ~ Married_Couple, data = data2014_HH_avgincome,
       xlab = "Average Income of Married Couple",
       ylab = "Combined Average Test Scores",
       main = "Average Income of Married Couple and Average Test Scores in 2014"
)
```



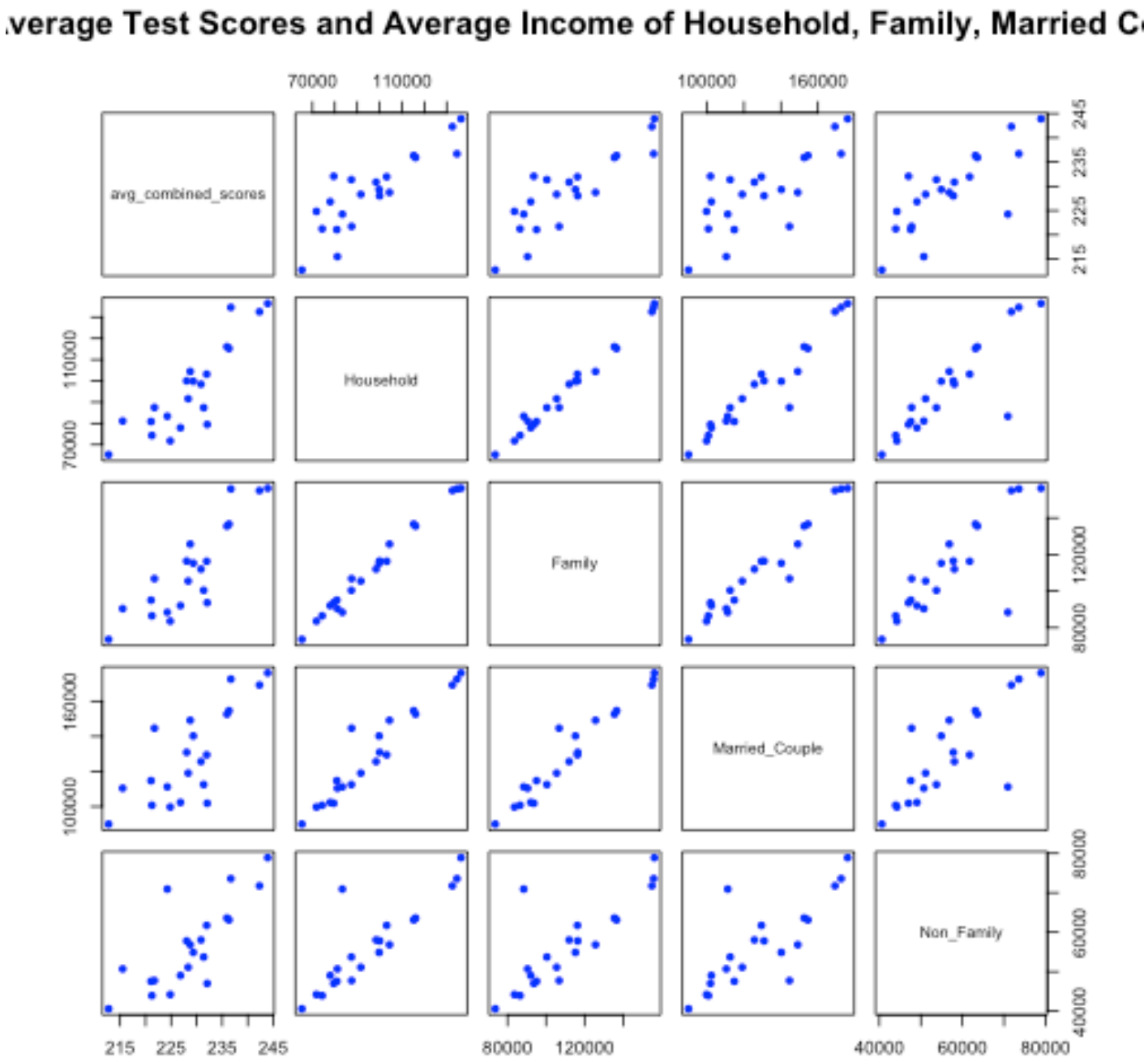
Scatterplot of Non Family's Income and Average Test Scores 2014

FINISHED

```
%r
require(lattice)
xyplot(avg_combined_scores ~ Non_Family, data = data2014_HH_avgincome,
       xlab = "Average Income of Non Family",
       ylab = "Combined Average Test Scores",
       main = "Average Income of Non Family and Average Test Scores in 2014"
)
```




```
%r                                                                    FINISHED
matrix_2014 = data2014_HH_avgincome[,c(2:6)]
plot(matrix_2014, pch=16, col="blue", main="Matrix Scatterplot of Average Test Scores and
    Average Income of Household, Family, Married Couple, and Non Family")
```


verage Test Scores and Average Income of Household, Family, Married C
avg_combined_scores
Household
Family
Married_Couple
Non_Family
70000
110000
100000
160000
215
225
235
245
80000
120000
40000
60000
80000

%r

READY