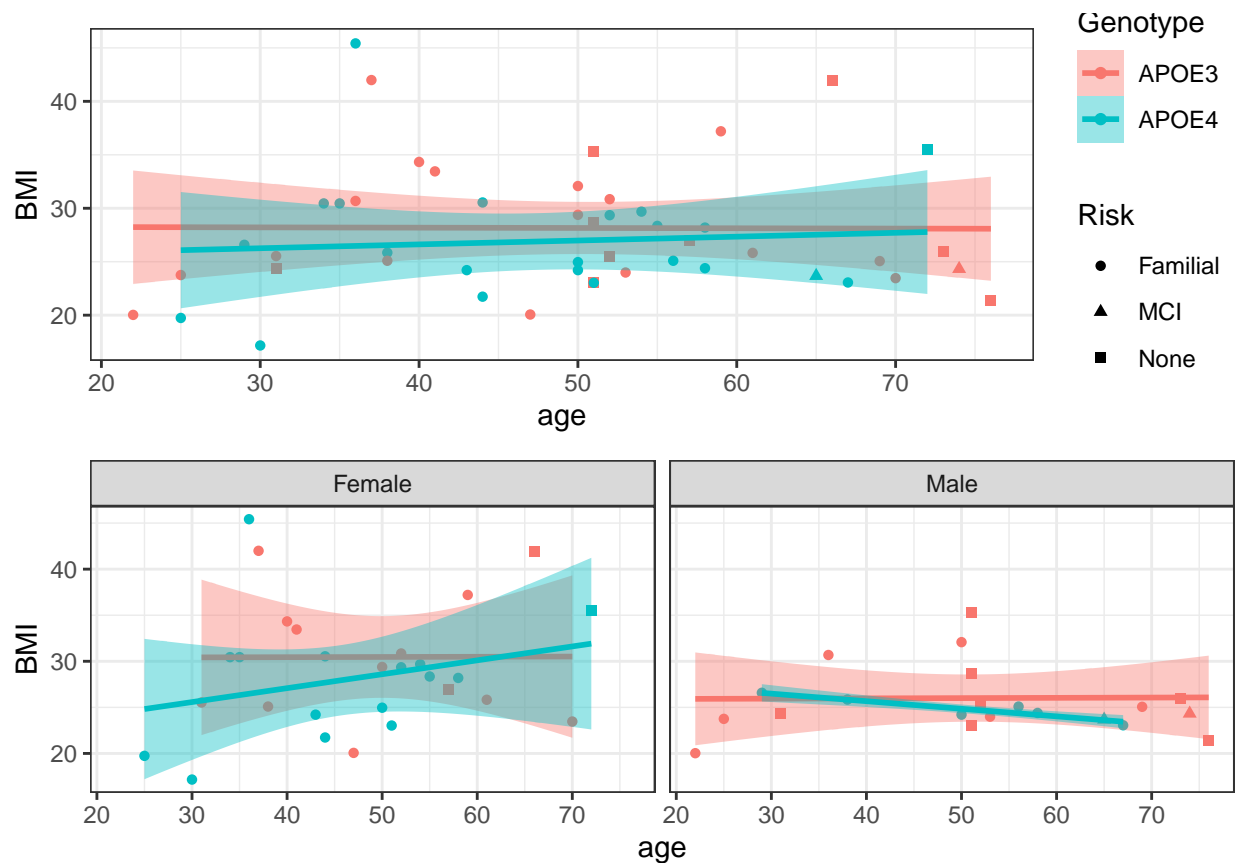


Physiological Visualizatiions

```
## 'geom_smooth()' using formula 'y ~ x'
```



```
##
## Call:
## lm(formula = BMI ~ age * Genotype * sex, data = geno_combined)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -10.4015  -3.5326  -0.5133   2.8534  18.9403
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   30.3585686   7.1666487   4.236 0.000125 ***
## age           0.0021935   0.1397763   0.016 0.987556
## GenotypeAPOE4 -9.3144056   9.3606755  -0.995 0.325545
## sexMale      -4.5007164   8.7053601  -0.517 0.607930
## age:GenotypeAPOE4  0.1487938   0.1895051   0.785 0.436867
```

```

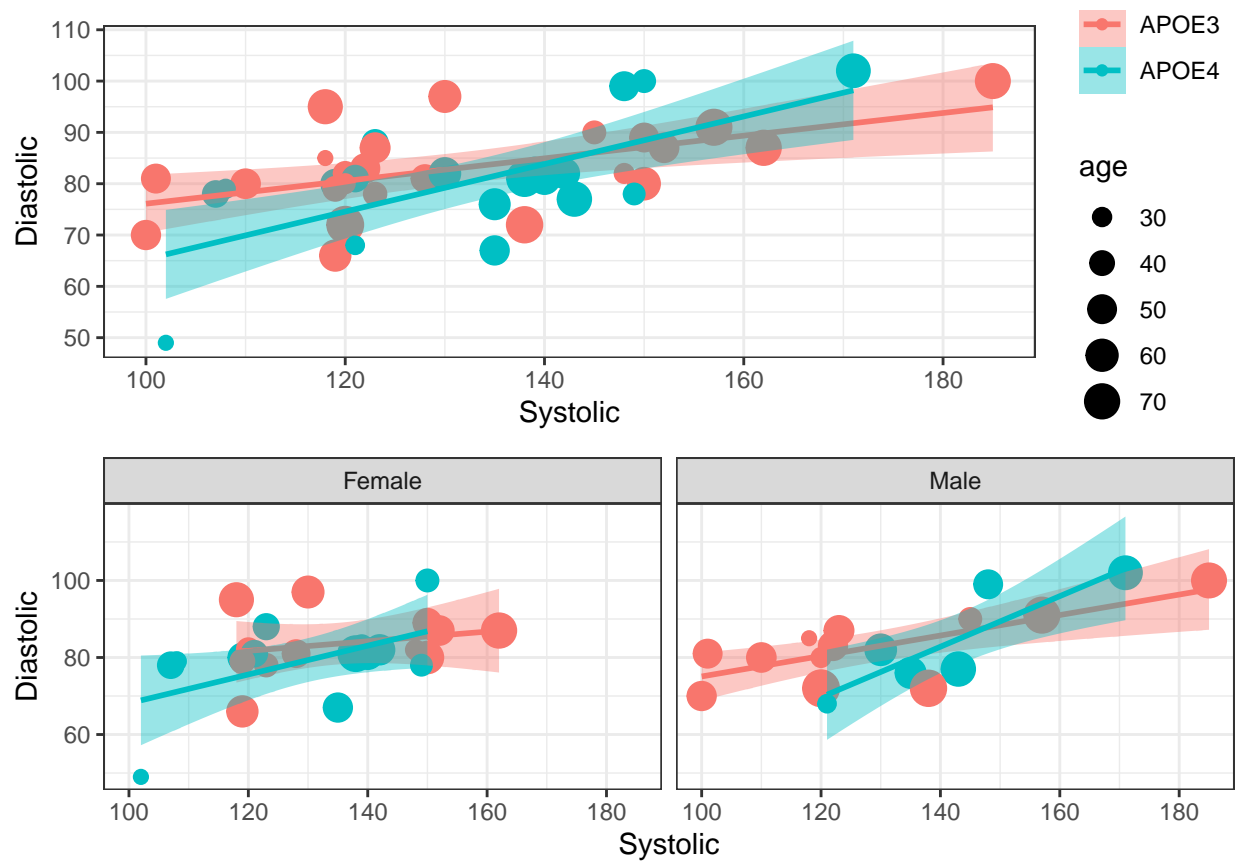
## age:sexMale          0.0007414  0.1672565   0.004 0.996485
## GenotypeAPOE4:sexMale 12.4152868 14.0133038   0.886 0.380804
## age:GenotypeAPOE4:sexMale -0.2339838  0.2717826  -0.861 0.394288
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 5.889 on 41 degrees of freedom
## Multiple R-squared:  0.1543, Adjusted R-squared:  0.009895
## F-statistic: 1.069 on 7 and 41 DF,  p-value: 0.4007

##
## Call:
## lm(formula = BMI ~ age * Genotype, data = combo_f)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -10.402  -4.943  -1.040   3.666  18.940
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    30.358569    8.562542   3.546  0.00165 **
## age              0.002193    0.167001   0.013  0.98963
## GenotypeAPOE4   -9.314406   11.183913  -0.833  0.41315
## age:GenotypeAPOE4  0.148794    0.226416   0.657  0.51733
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 7.036 on 24 degrees of freedom
## Multiple R-squared:  0.07298, Adjusted R-squared: -0.04289
## F-statistic: 0.6298 on 3 and 24 DF,  p-value: 0.6029

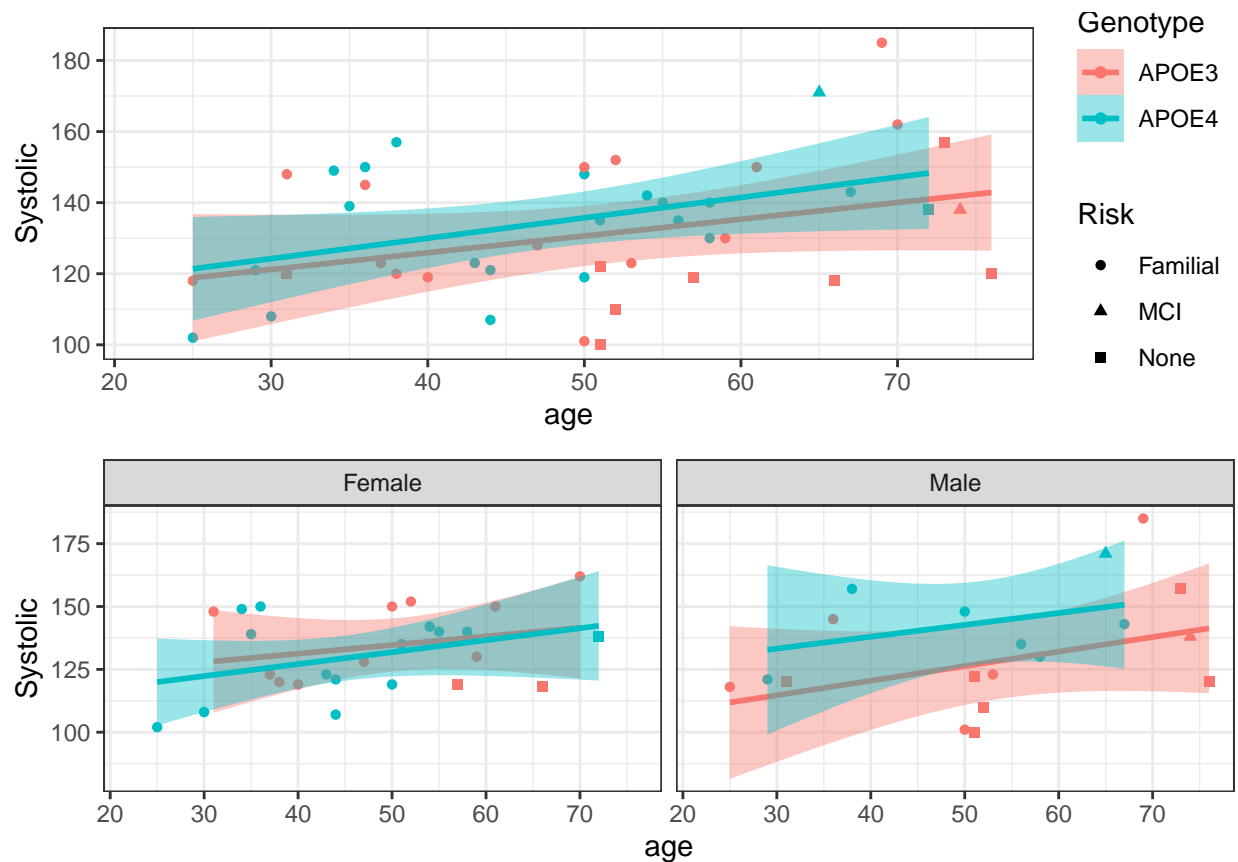
##
## Call:
## lm(formula = BMI ~ age * Genotype, data = combo_m)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -5.8956 -1.7474 -0.3917  0.2064  9.2544
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    25.857852    3.111770   8.310 2.17e-07 ***
## age              0.002935    0.057838   0.051   0.960
## GenotypeAPOE4    3.100881    6.566417   0.472   0.643
## age:GenotypeAPOE4 -0.085190    0.122670  -0.694   0.497
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.708 on 17 degrees of freedom
## Multiple R-squared:  0.06424, Adjusted R-squared: -0.1009
## F-statistic: 0.389 on 3 and 17 DF,  p-value: 0.7624

## 'geom_smooth()' using formula 'y ~ x'

```



```
## 'geom_smooth()' using formula 'y ~ x'
```

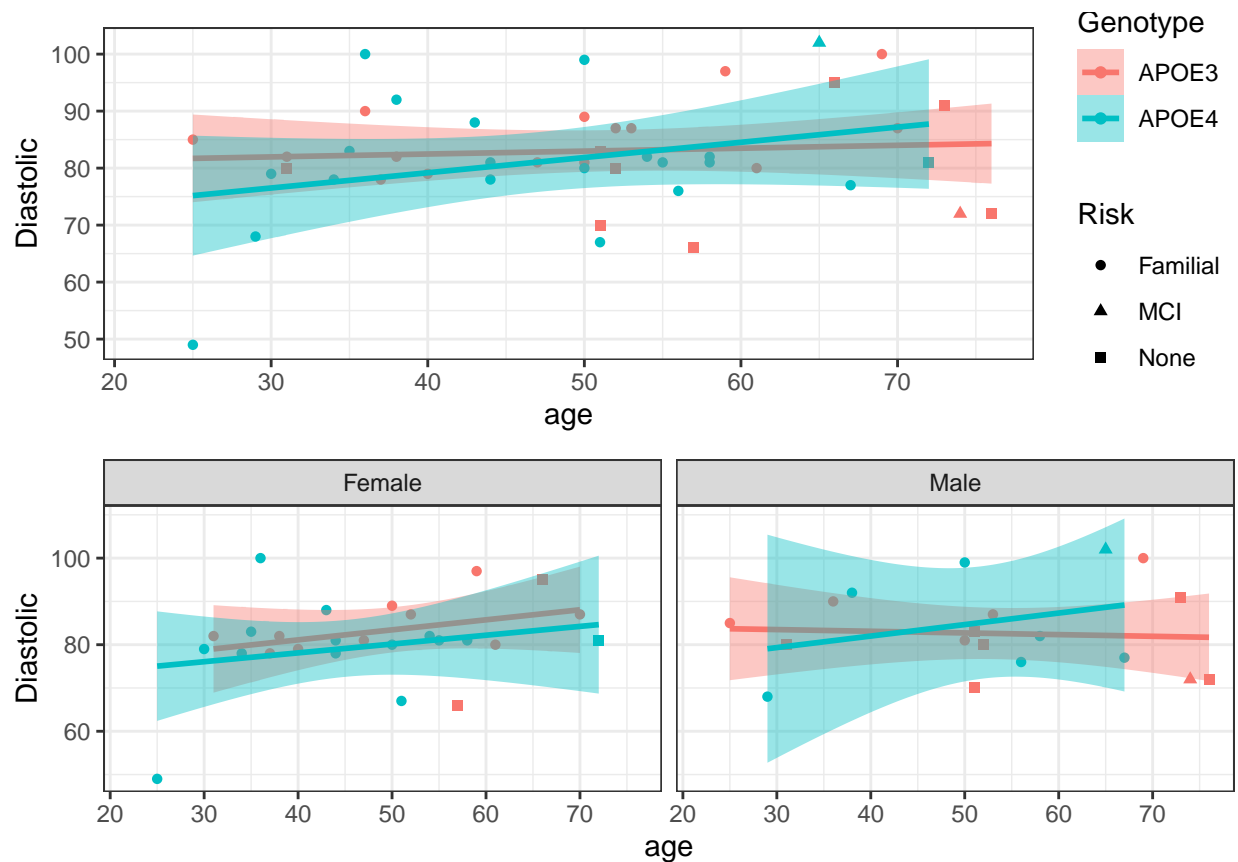


```
##
## Call:
## lm(formula = Systolic ~ age * Genotype * sex, data = geno_combined)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.852 -12.249  -4.852   14.293   47.734
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    117.4944    23.2963   5.043 1.23e-05 ***
## age              0.3439     0.4477   0.768  0.447
## GenotypeAPOE4   -9.4437    29.9762  -0.315  0.755
## sexMale        -20.1489    29.5434  -0.682  0.499
## age:GenotypeAPOE4  0.1320     0.6031   0.219  0.828
## age:sexMale       0.2347     0.5534   0.424  0.674
## GenotypeAPOE4:sexMale 31.1914    45.2957   0.689  0.495
## age:GenotypeAPOE4:sexMale -0.2386     0.8704  -0.274  0.786
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 18.4 on 37 degrees of freedom
## (4 observations deleted due to missingness)
## Multiple R-squared:  0.207, Adjusted R-squared:  0.05695
## F-statistic:  1.38 on 7 and 37 DF, p-value: 0.2429
```

```
##
## Call:
## lm(formula = Systolic ~ age * Genotype, data = combo_f)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -22.189 -11.827  -4.915   13.602   24.817
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    117.4944    20.0789   5.852 6.9e-06 ***
## age              0.3439     0.3859   0.891  0.382
## GenotypeAPOE4   -9.4437    25.8362  -0.366  0.718
## age:GenotypeAPOE4  0.1320     0.5198   0.254  0.802
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 15.86 on 22 degrees of freedom
## (2 observations deleted due to missingness)
## Multiple R-squared:  0.1344, Adjusted R-squared:  0.01635
## F-statistic: 1.138 on 3 and 22 DF,  p-value: 0.3554

##
## Call:
## lm(formula = Systolic ~ age * Genotype, data = combo_m)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.852 -14.127  -4.852   11.805   47.734
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)     97.3455    21.3210   4.566 0.000371 ***
## age              0.5786     0.3817   1.516 0.150387
## GenotypeAPOE4    21.7476    39.8501   0.546 0.593271
## age:GenotypeAPOE4 -0.1065     0.7365  -0.145 0.886926
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 21.59 on 15 degrees of freedom
## (2 observations deleted due to missingness)
## Multiple R-squared:  0.2532, Adjusted R-squared:  0.1038
## F-statistic: 1.695 on 3 and 15 DF,  p-value: 0.2107

## 'geom_smooth()' using formula 'y ~ x'
```

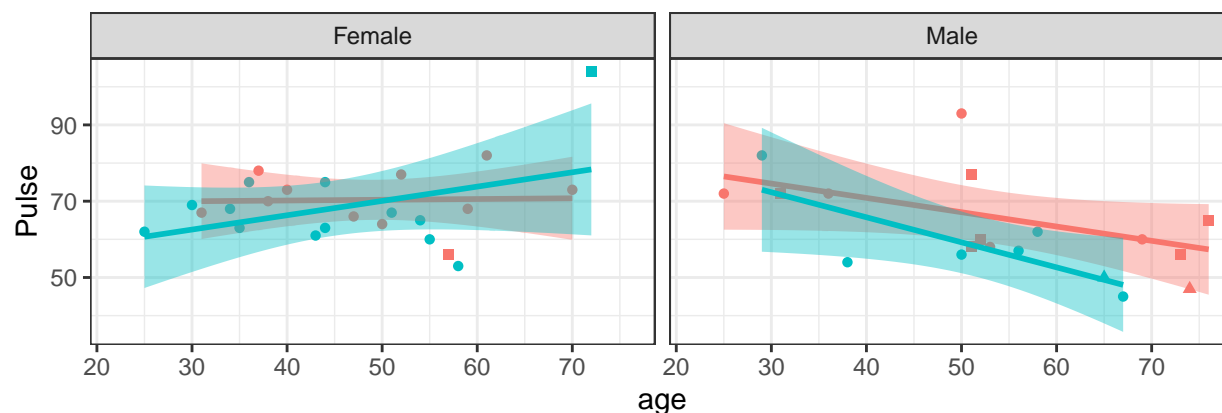
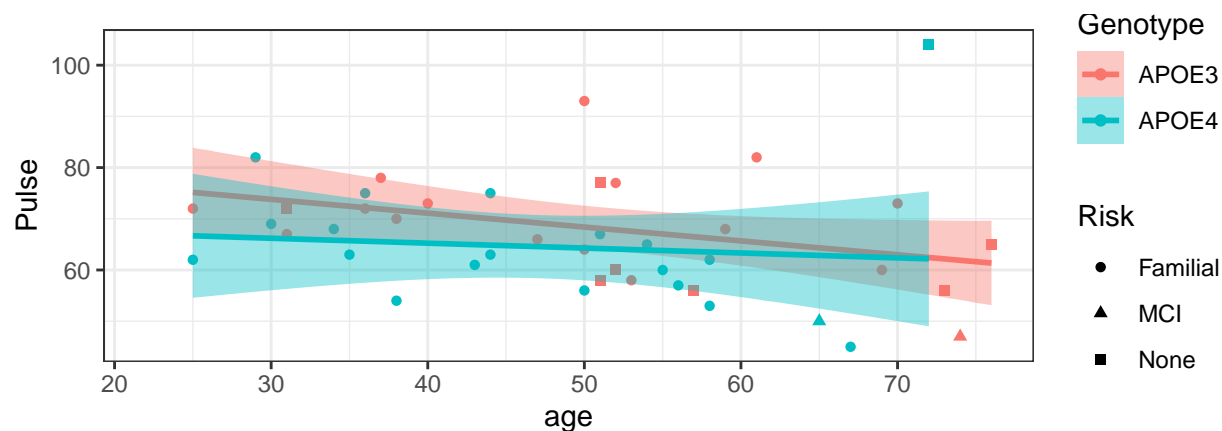


```
##
## Call:
## lm(formula = Diastolic ~ age * Genotype * sex, data = geno_combined)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.0485  -3.6360  -0.1482   5.5712  22.7076
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    71.84179   13.04030   5.509  2.9e-06 ***
## age             0.23174    0.25060   0.925   0.361
## GenotypeAPOE4   -1.89306   16.77939  -0.113   0.911
## sexMale         12.81075   16.53714   0.775   0.443
## age:GenotypeAPOE4 -0.02775    0.33758  -0.082   0.935
## age:sexMale      -0.27048    0.30976  -0.873   0.388
## GenotypeAPOE4:sexMale -11.39433  25.35465  -0.449   0.656
## age:GenotypeAPOE4:sexMale 0.33217    0.48721   0.682   0.500
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.3 on 37 degrees of freedom
## (4 observations deleted due to missingness)
## Multiple R-squared:  0.1092, Adjusted R-squared:  -0.05936
## F-statistic: 0.6478 on 7 and 37 DF, p-value: 0.7137
```

```
##
## Call:
## lm(formula = Diastolic ~ age * Genotype, data = combo_f)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.0485  -2.0170   0.4438   3.0743  22.7076
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    71.84179    12.61025     5.697 9.92e-06 ***
## age             0.23174     0.24233     0.956   0.349
## GenotypeAPOE4   -1.89306    16.22603    -0.117   0.908
## age:GenotypeAPOE4 -0.02775     0.32644    -0.085   0.933
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 9.958 on 22 degrees of freedom
## (2 observations deleted due to missingness)
## Multiple R-squared:  0.1224, Adjusted R-squared:  0.002756
## F-statistic: 1.023 on 3 and 22 DF,  p-value: 0.4015

##
## Call:
## lm(formula = Diastolic ~ age * Genotype, data = combo_m)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -12.677  -9.747  -1.716   7.959  18.020
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    84.65254    10.64275     7.954 9.24e-07 ***
## age            -0.03874     0.19054    -0.203   0.842
## GenotypeAPOE4  -13.28739    19.89186    -0.668   0.514
## age:GenotypeAPOE4  0.30442     0.36764     0.828   0.421
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.78 on 15 degrees of freedom
## (2 observations deleted due to missingness)
## Multiple R-squared:  0.06278, Adjusted R-squared: -0.1247
## F-statistic: 0.3349 on 3 and 15 DF,  p-value: 0.8003

## 'geom_smooth()' using formula 'y ~ x'
```



```
##
## Call:
## lm(formula = Pulse ~ age * Genotype * sex, data = geno_combined)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -20.072  -5.591  -1.439    6.511   25.885
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    69.40345   13.52376   5.132 1.08e-05 ***
## age              0.01949    0.26739   0.073  0.942
## GenotypeAPOE4   -18.10294   17.04985  -1.062  0.296
## sexMale         16.47070   16.81552   0.979  0.334
## age:GenotypeAPOE4  0.35589    0.34861   1.021  0.314
## age:sexMale     -0.39467    0.32173  -1.227  0.228
## GenotypeAPOE4:sexMale 24.26004   25.28987   0.959  0.344
## age:GenotypeAPOE4:sexMale -0.63696    0.49061  -1.298  0.203
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.12 on 35 degrees of freedom
## (6 observations deleted due to missingness)
## Multiple R-squared:  0.3526, Adjusted R-squared:  0.2232
## F-statistic: 2.724 on 7 and 35 DF, p-value: 0.02296
```

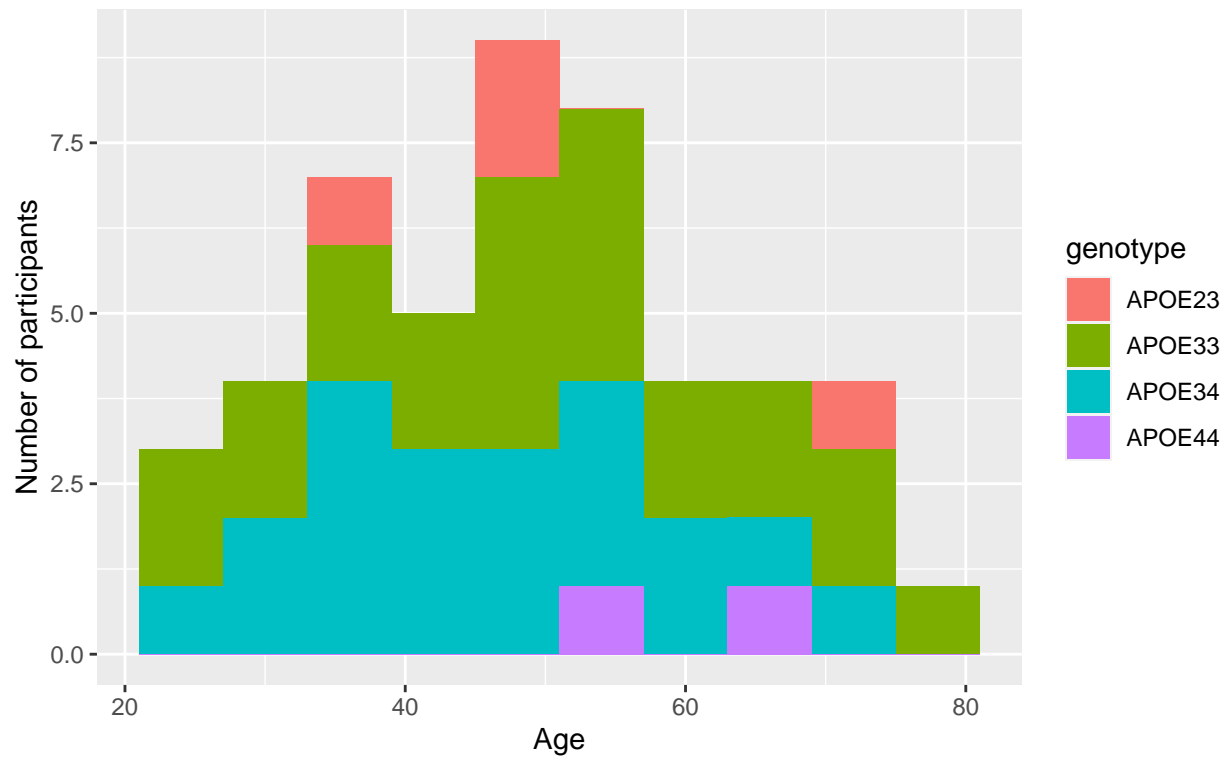


```
##
## Call:
## lm(formula = Pulse ~ age * Genotype, data = combo_f)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -20.0723  -5.2072  -0.7913   6.4745  25.6724
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    69.40345    13.61116     5.099 5.48e-05 ***
## age             0.01949     0.26912     0.072  0.943
## GenotypeAPOE4  -18.10294    17.16003    -1.055  0.304
## age:GenotypeAPOE4  0.35589     0.35086     1.014  0.323
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.18 on 20 degrees of freedom
## (4 observations deleted due to missingness)
## Multiple R-squared:  0.1337, Adjusted R-squared:  0.003728
## F-statistic: 1.029 on 3 and 20 DF,  p-value: 0.4011

##
## Call:
## lm(formula = Pulse ~ age * Genotype, data = combo_m)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -13.094  -5.430  -2.244   4.679  25.885
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    85.8742     9.9067     8.668 3.16e-07 ***
## age            -0.3752     0.1774    -2.115  0.0515 .
## GenotypeAPOE4     6.1571    18.5162     0.333  0.7441
## age:GenotypeAPOE4 -0.2811     0.3422    -0.821  0.4243
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.03 on 15 degrees of freedom
## (2 observations deleted due to missingness)
## Multiple R-squared:  0.4485, Adjusted R-squared:  0.3382
## F-statistic: 4.066 on 3 and 15 DF,  p-value: 0.02673
```

Cohort physiological distribution

Age by genotype



Cohort physiological distribution

Age by sex

