multi-variate correlation matrix

Obs	Age	FEV_L	Height	Sex	Smoker
1	3	1.404	40	Male	Non-Smoker
2	3	1.072	33	Female	Non-Smoker
3	4	0.839	42	Female	Non-Smoker
4	4	1.569	41.5	Female	Non-Smoker
5	4	1.577	44	Female	Non-Smoker

multi-variate correlation matrix

The CORR Procedure

3 Variables:	Age FEV_L Height

Simple Statistics						
Variable	**N**	**Mean**	**Std Dev**	**Sum**	**Minimum**	**Maximum**
Age	652	9.92945	2.95713	6474	3.00000	19.00000
FEV_L	652	2.63752	0.86745	1720	0.79100	5.79300
Height	652	58.28436	6.22179	38001	33.00000	73.50000

Pearson Correlation Coefficients, N = 652 Prob > |r| under H0: Rho=0			
	Age	**FEV_L**	**Height**
Age	1.00000	0.75655 <.0001	0.83141 <.0001
FEV_L	0.75655 <.0001	1.00000	0.86451 <.0001
Height	0.83141 <.0001	0.86451 <.0001	1.00000

Visualization of multivariate correlation

The CORR Procedure

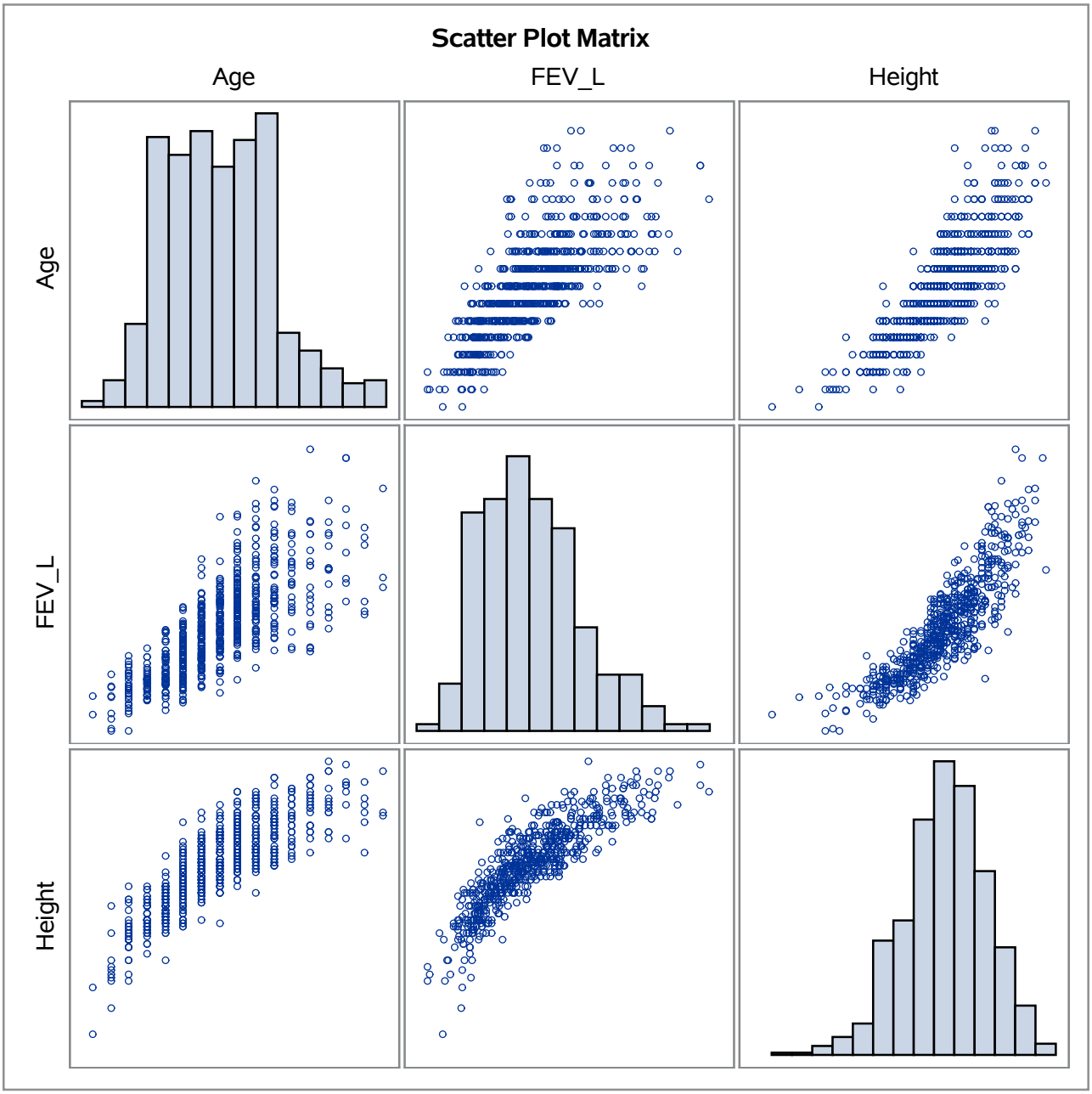
3 Variables:	Age FEV_L Height

Simple Statistics						
Variable	**N**	**Mean**	**Std Dev**	**Sum**	**Minimum**	**Maximum**
Age	652	9.92945	2.95713	6474	3.00000	19.00000
FEV_L	652	2.63752	0.86745	1720	0.79100	5.79300
Height	652	58.28436	6.22179	38001	33.00000	73.50000

Pearson Correlation Coefficients, N = 652 Prob > |r| under H0: Rho=0			
	Age	**FEV_L**	**Height**
Age	1.00000	0.75655 <.0001	0.83141 <.0001
FEV_L	0.75655 <.0001	1.00000	0.86451 <.0001
Height	0.83141 <.0001	0.86451 <.0001	1.00000

Visualization of multivariate correlation

The CORR Procedure



Visualization of correlation for the appropriate model

The CORR Procedure

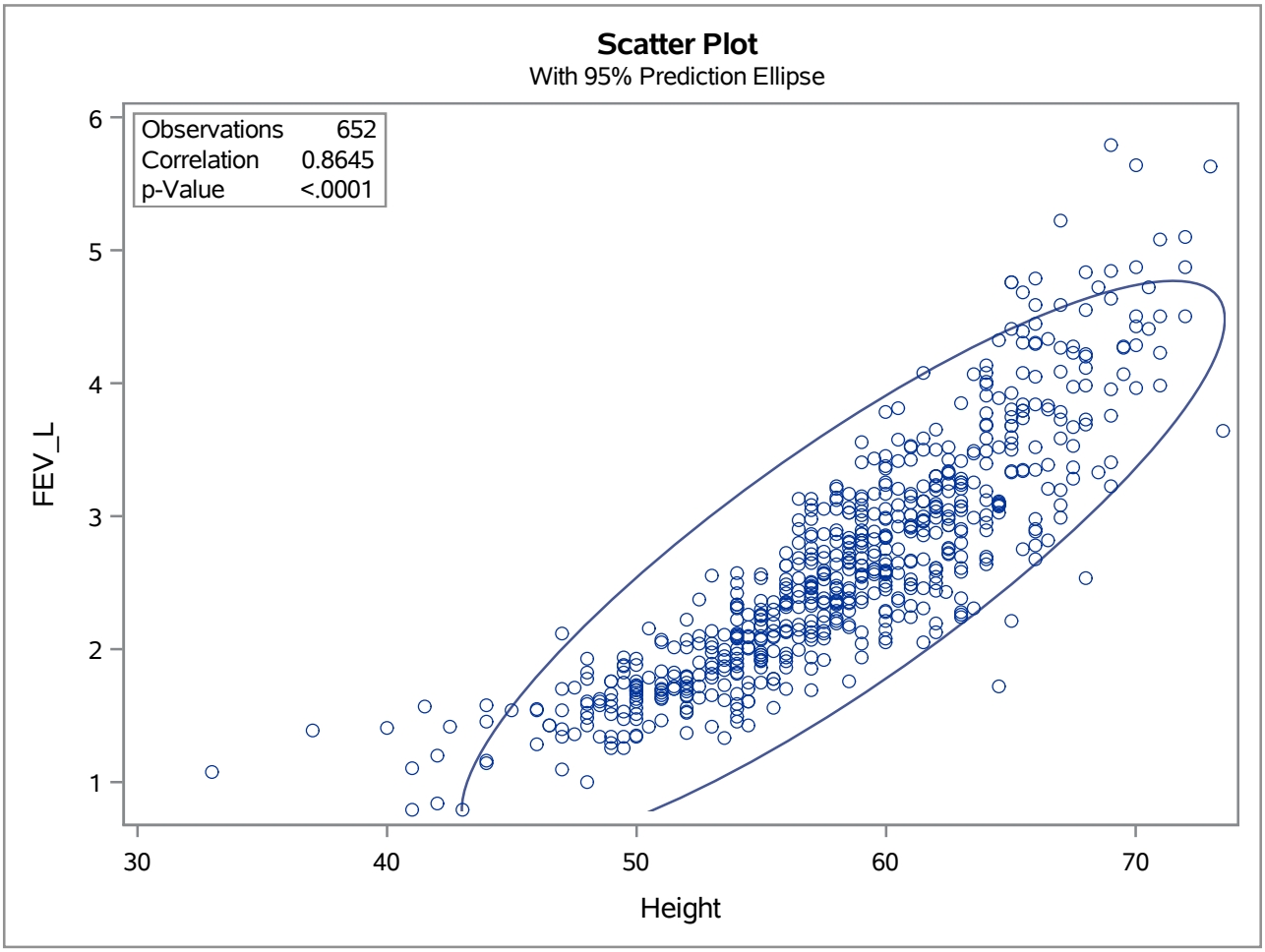
2 Variables:	Height FEV_L

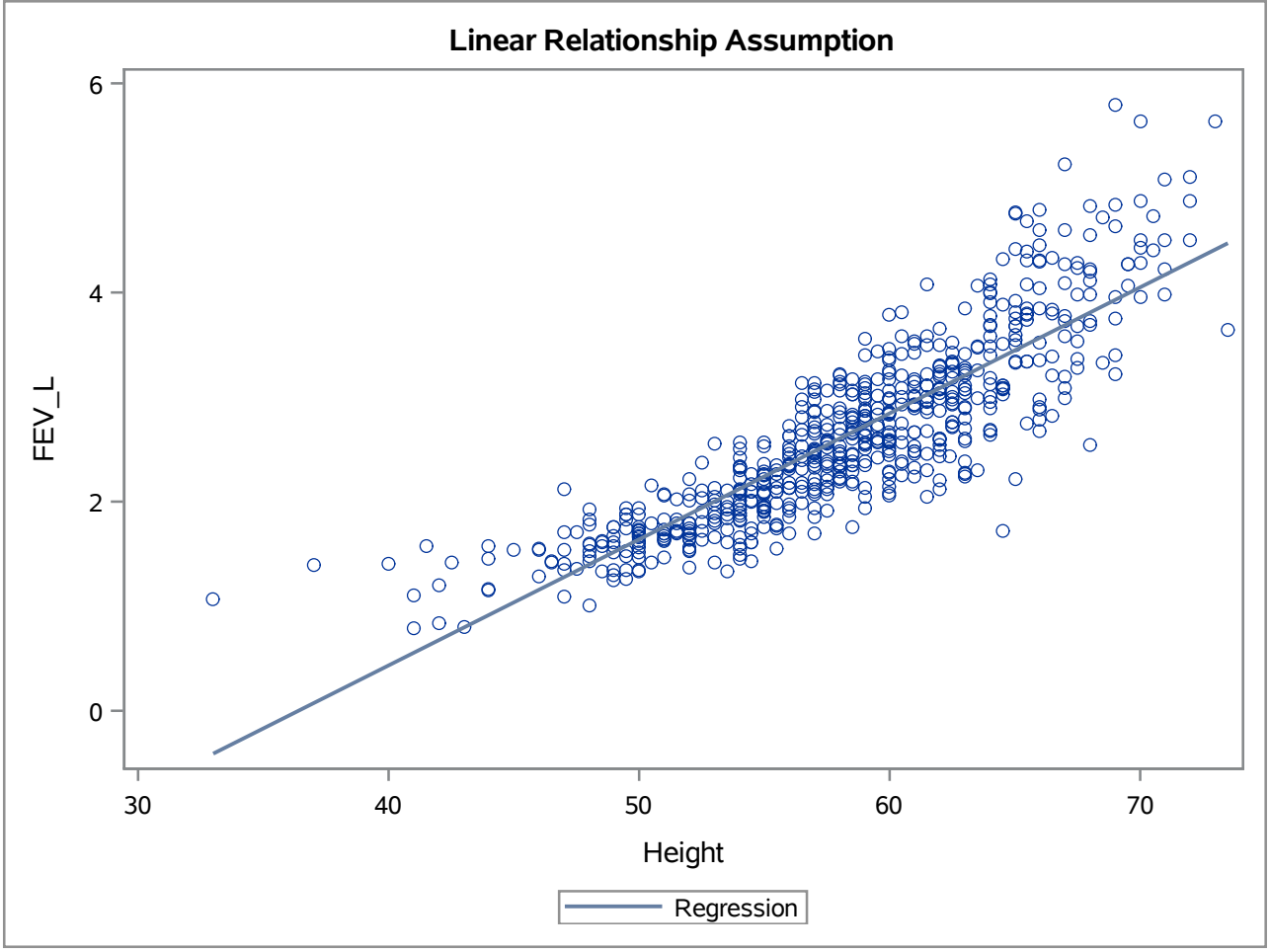
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
Height	652	58.28436	6.22179	38001	33.00000	73.50000
FEV_L	652	2.63752	0.86745	1720	0.79100	5.79300

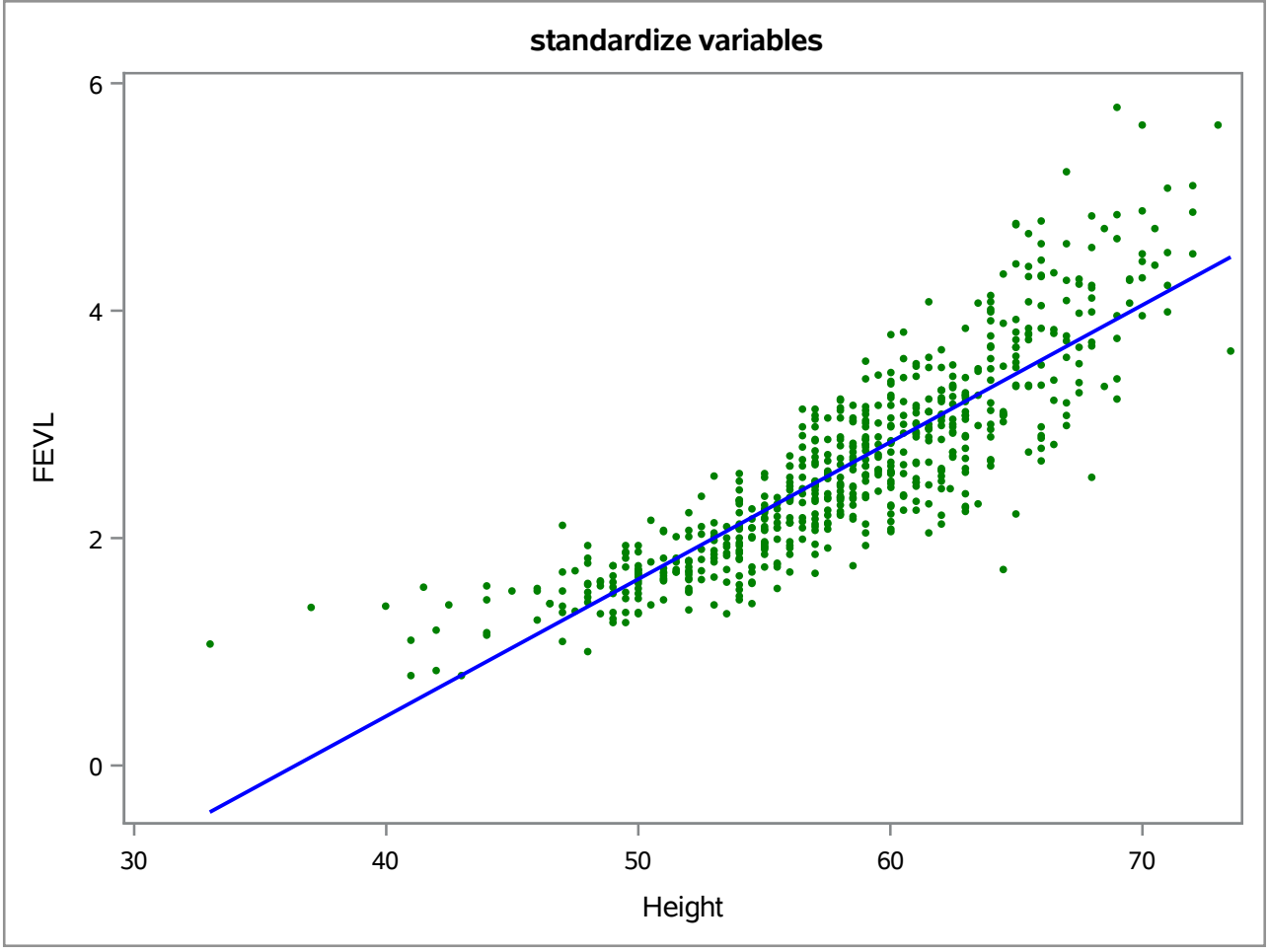
Pearson Correlation Coefficients, N = 652 Prob > |r| under H0: Rho=0		
	Height	FEV_L
Height	1.00000	0.86451 <.0001
FEV_L	0.86451 <.0001	1.00000

Visualization of correlation for the appropriate model

The CORR Procedure




Linear Relationship Assumption
6
4
2
0
FEV_L
30
40
50
60
70
Height
Regression


standardize variables
6
4
2
0
FEVL
30
40
50
60
70
Height

Check autocorrelation

The AUTOREG Procedure

Dependent Variable	FEV_L

Check autocorrelation

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	123.753324	**DFE**	650
MSE	0.19039	**Root MSE**	0.43634
SBC	779.792133	**AIC**	770.832044
MAE	0.32963922	**AICC**	770.850534
MAPE	13.3503511	**HQC**	774.306954
		Total R-Square	0.7474

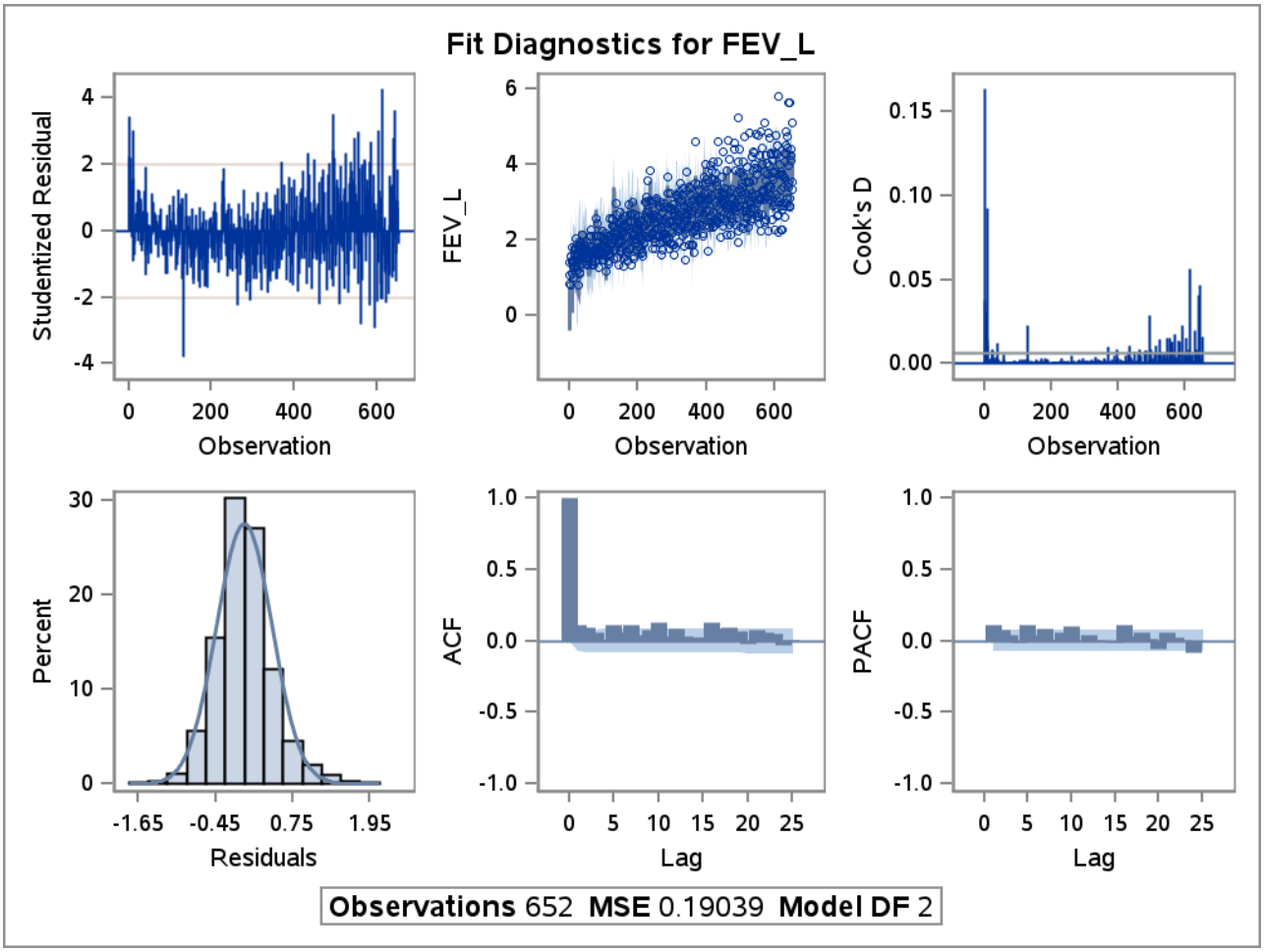
Durbin-Watson Statistics			
Order	**DW**	**Pr < DW**	**Pr > DW**
1	1.7652	0.0012	0.9988
2	1.7965	0.0047	0.9953
3	1.8517	0.0324	0.9676
4	1.9478	0.2818	0.7182

NOTE: Pr<DW is the p-value for testing positive autocorrelation, and Pr>DW is the p-value for testing negative autocorrelation.

Parameter Estimates					
Variable	**DF**	**Estimate**	**Standard Error**	**t Value**	**Approx Pr > |t|**
Intercept	1	-4.3875	0.1611	-27.23	<.0001
Height	1	0.1205	0.002749	43.85	<.0001

Check autocorrelation

The AUTOREG Procedure



Regression Model with Fit Diagnostics

The REG Procedure
Model: MODEL1
Dependent Variable: FEV_L

Number of Observations Read	652
Number of Observations Used	652

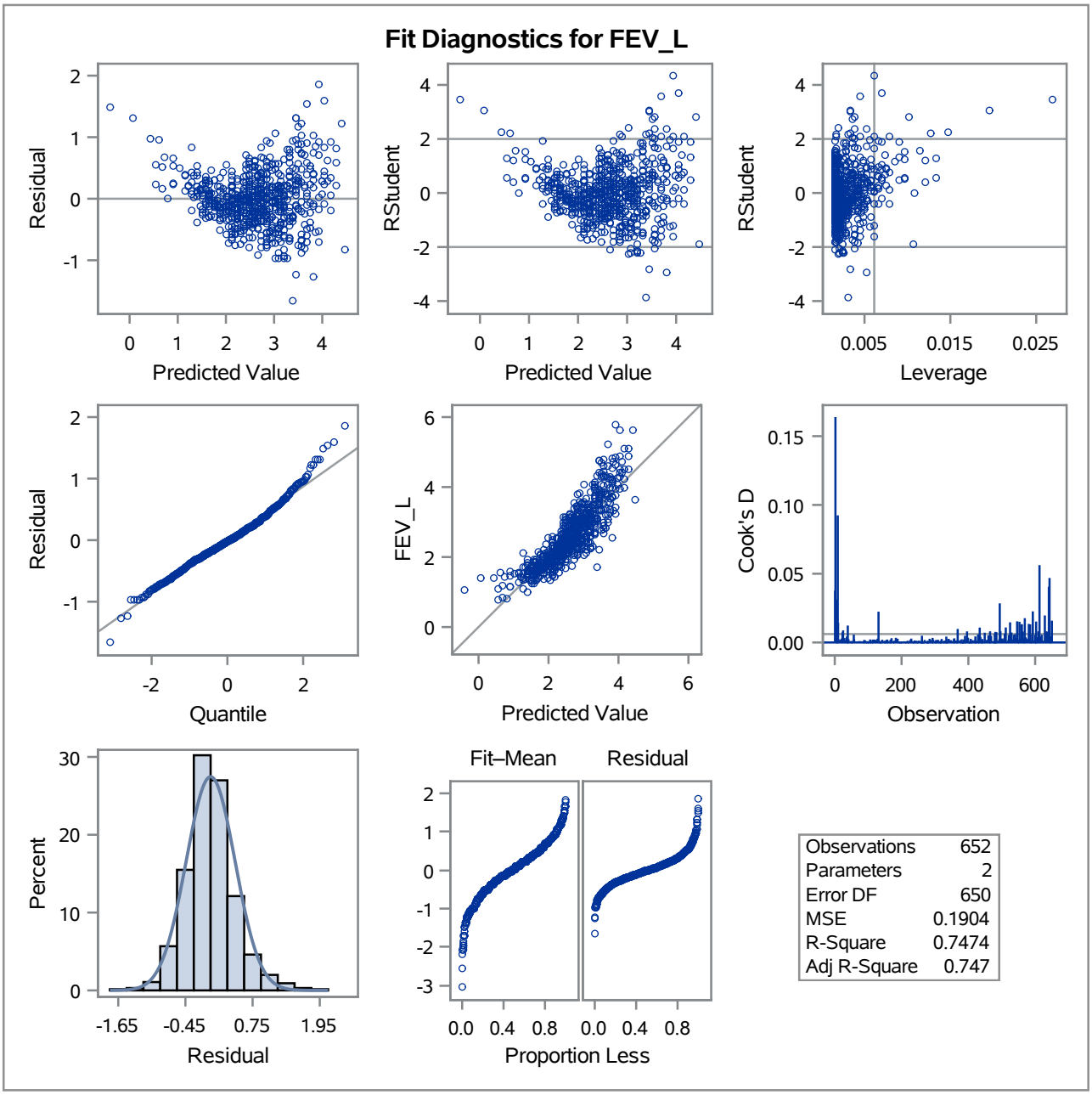
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	1	366.10530	366.10530	1922.93	<.0001
Error	650	123.75332	0.19039		
Corrected Total	651	489.85862			

Root MSE	0.43634	**R-Square**	0.7474
Dependent Mean	2.63752	**Adj R-Sq**	0.7470
Coeff Var	16.54344		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	1	-4.38753	0.16111	-27.23	<.0001
Height	1	0.12053	0.00275	43.85	<.0001

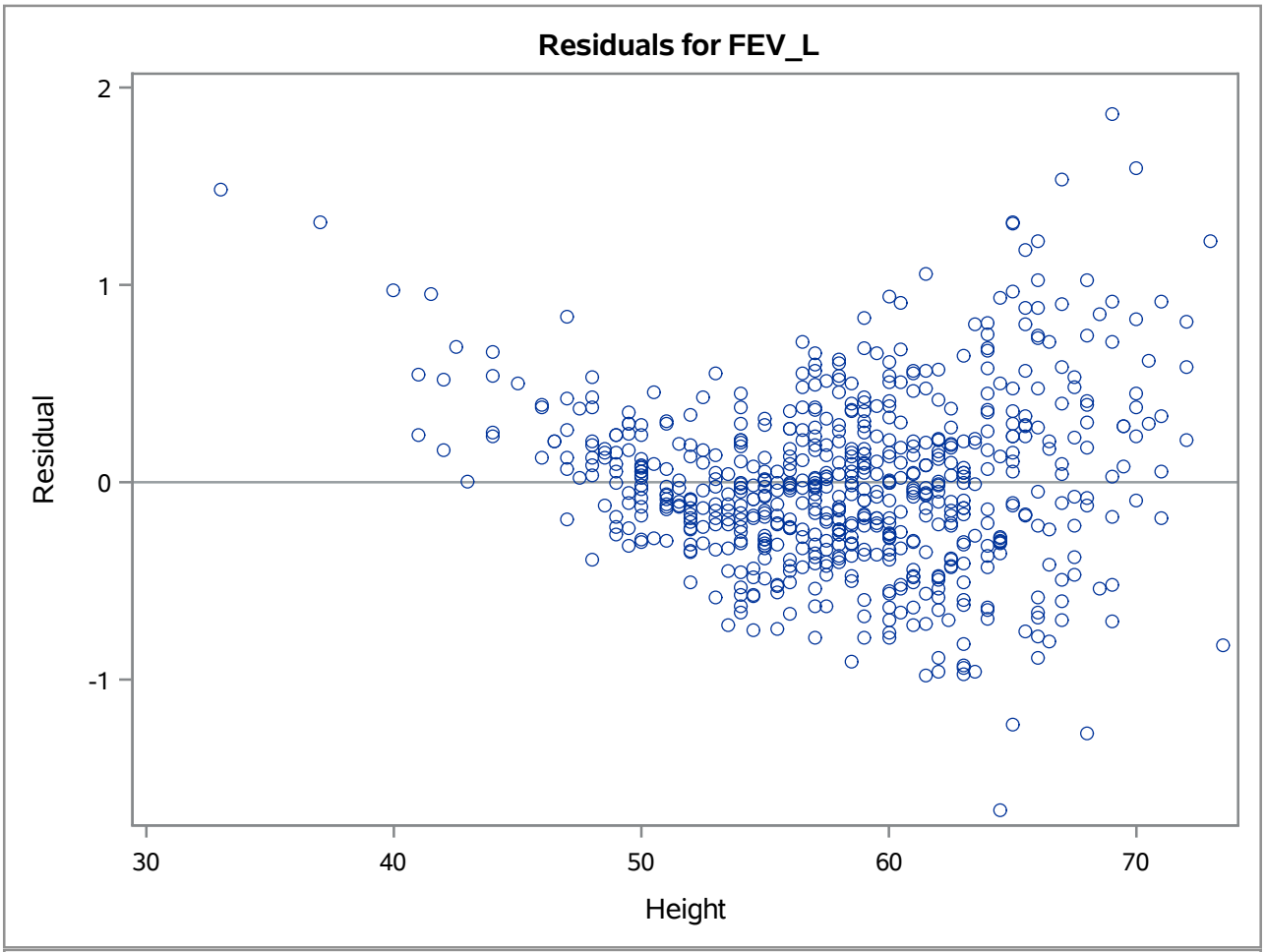
Regression Model with Fit Diagnostics

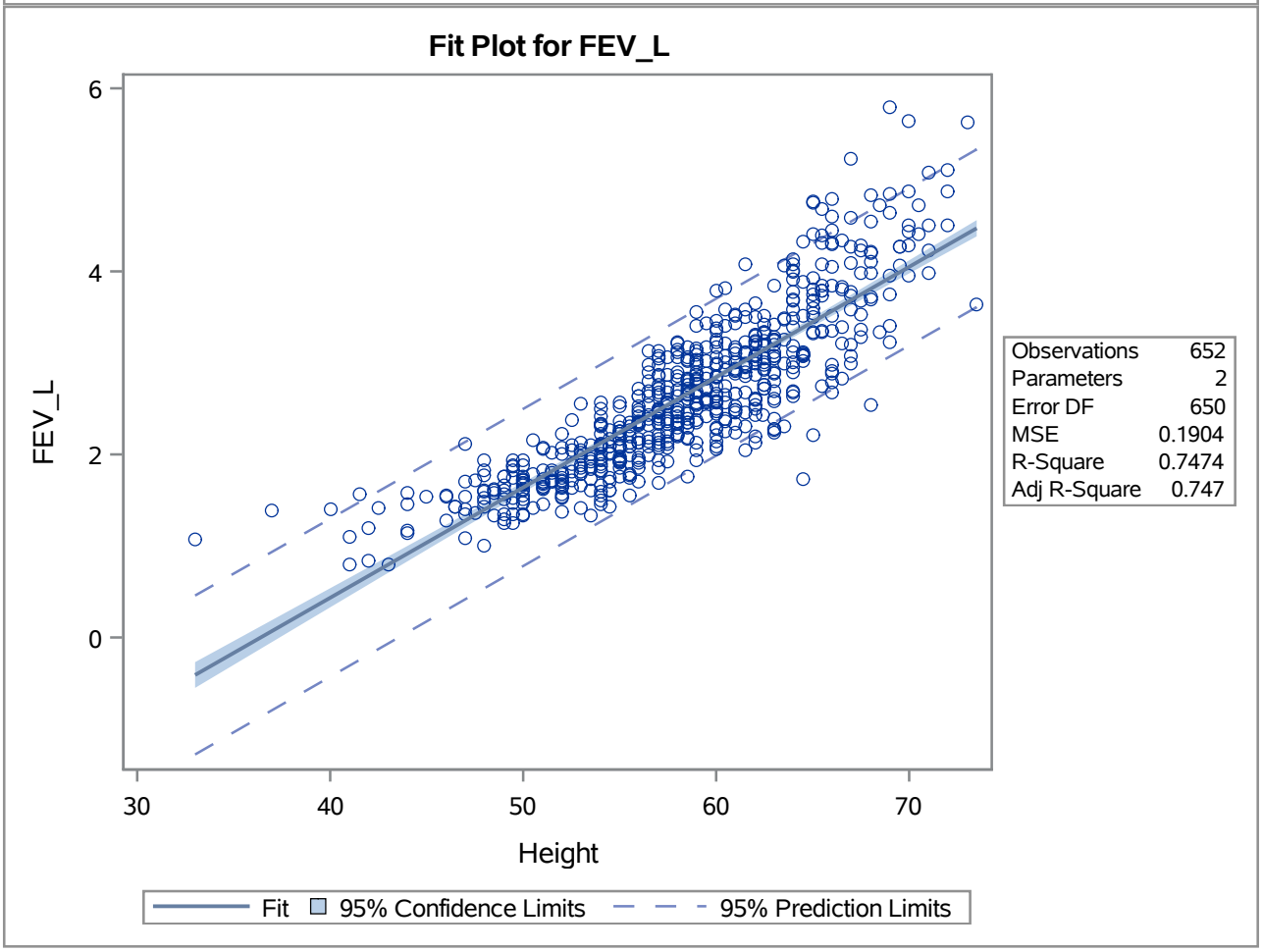
The REG Procedure
Model: MODEL1
Dependent Variable: FEV_L



Regression Model with Fit Diagnostics

The REG Procedure
Model: MODEL1
Dependent Variable: FEV_L






Regression Line with Slope and Intercept
Parameter Estimates
Intercept = -4.388
Slope (x-coefficient) = 0.1205
R-squared = 0.7474
FEV_L
Height
0
2
4
6
30
40
50
60
70