Code:

surveytemp <- lm(Age~., data = responses)

stepwise = ols\_step\_both\_p(surveytemp, detail = TRUE)

stepwise

plot(stepwise)

Output:

Stepwise Selection Summary

--------------------------------------------------------------------------------------------------------

Added/ Adj.

Step Variable Removed R-Square R-Square C(p) AIC RMSE

--------------------------------------------------------------------------------------------------------

1 Education addition 0.432 0.430 316.8150 4372.5636 2.1361

2 Weight addition 0.457 0.454 266.1000 4267.9113 2.0975

3 Reliability addition 0.469 0.466 242.7740 4233.2672 2.0780

4 `Questionnaires or polls` addition 0.482 0.477 210.2590 4194.7261 2.0500

5 Elections addition 0.489 0.485 195.5640 4174.5830 2.0368

6 `Foreign languages` addition 0.495 0.489 187.7360 4147.8193 2.0300

7 `Compassion to animals` addition 0.496 0.490 179.6430 4112.5911 2.0233

8 Geography addition 0.496 0.490 180.4740 4076.7827 2.0248

9 `Branded clothing` addition 0.497 0.490 173.6320 4063.0178 2.0182

10 Health addition 0.501 0.494 167.1720 4053.6151 2.0117

11 Chemistry addition 0.506 0.498 156.0440 4003.2911 2.0022

12 `Changing the past` addition 0.509 0.501 150.8670 3994.8893 1.9967

13 Smoking addition 0.515 0.505 137.5510 3958.6790 1.9865

14 `Internet usage` addition 0.521 0.510 125.3330 3951.8647 1.9761

15 `Fun with friends` addition 0.525 0.513 114.0990 3929.5325 1.9648

16 Latino addition 0.533 0.520 98.2130 3886.3855 1.9492

17 PC addition 0.537 0.524 90.4590 3862.9008 1.9410

18 `Sci-fi` addition 0.537 0.523 82.2620 3847.0636 1.9320

19 `Appearence and gestures` addition 0.539 0.525 59.4880 3812.8833 1.9083

20 Thriller addition 0.542 0.527 56.4810 3805.8893 1.9043

21 `Cheating in school` addition 0.544 0.529 56.9370 3790.0549 1.9040

22 `Self-criticism` addition 0.546 0.530 55.8760 3772.7188 1.9021

23 `Countryside, outdoors` addition 0.548 0.532 53.1620 3757.8097 1.8984

24 Animated addition 0.550 0.533 51.2640 3747.7688 1.8955

25 Ageing addition 0.552 0.535 50.0090 3742.4343 1.8932

26 Waiting addition 0.554 0.537 49.5500 3729.7315 1.8918

27 Opera addition 0.557 0.539 47.2320 3723.3036 1.8884

28 `Classical music` addition 0.560 0.541 43.9790 3695.5138 1.8840

29 `Thinking ahead` addition 0.562 0.543 42.1780 3693.6429 1.8811

30 `Parents' advice` addition 0.564 0.545 39.8830 3683.0926 1.8776

31 `Fantasy/Fairy tales` addition 0.568 0.548 37.3480 3668.1944 1.8738

32 `Only child` addition 0.571 0.550 36.3360 3658.9251 1.8717

33 `House - block of flats` addition 0.573 0.552 35.7970 3646.0578 1.8700

34 Dance addition 0.573 0.551 35.7320 3629.5960 1.8689

35 `Hiphop, Rap` addition 0.575 0.553 35.5990 3617.1359 1.8677

36 Gardening addition 0.580 0.558 22.8640 3583.2234 1.8523

37 `Daily events` addition 0.583 0.560 22.9510 3562.7875 1.8512

38 `Judgment calls` addition 0.585 0.561 22.2520 3557.8271 1.8492

Parameter Estimates

-----------------------------------------------------------------------------------------------------------------------

model Beta Std. Error Std. Beta t Sig lower upper

-----------------------------------------------------------------------------------------------------------------------

(Intercept) 20.367 0.871 23.372 0.000 18.656 22.077

Educationcurrently a primary school pupil -3.751 0.863 -0.102 -4.348 0.000 -5.445 -2.058

Educationdoctorate degree 3.317 0.878 0.090 3.777 0.000 1.593 5.040

Educationmasters degree 3.759 0.277 0.361 13.557 0.000 3.214 4.303

Educationprimary school -3.064 0.277 -0.300 -11.043 0.000 -3.609 -2.519

Educationsecondary school -1.073 0.164 -0.186 -6.523 0.000 -1.395 -0.750

Weight 0.027 0.005 0.133 5.027 0.000 0.016 0.037

Reliability 0.209 0.074 0.070 2.809 0.005 0.063 0.355

`Questionnaires or polls` -0.272 0.062 -0.106 -4.387 0.000 -0.393 -0.150

Elections 0.153 0.044 0.086 3.460 0.001 0.066 0.239

`Foreign languages` -0.134 0.063 -0.054 -2.124 0.034 -0.258 -0.010

`Compassion to animals` 0.167 0.056 0.071 2.999 0.003 0.058 0.276

Geography 0.067 0.054 0.031 1.239 0.216 -0.039 0.174

`Branded clothing` -0.090 0.052 -0.042 -1.716 0.086 -0.193 0.013

Health 0.185 0.068 0.070 2.742 0.006 0.053 0.318

Chemistry -0.139 0.049 -0.069 -2.851 0.004 -0.234 -0.043

`Changing the past` -0.150 0.054 -0.068 -2.788 0.005 -0.256 -0.044

Smokingformer smoker 0.166 0.214 0.023 0.774 0.439 -0.254 0.585

Smokingnever smoked -0.625 0.222 -0.091 -2.820 0.005 -1.061 -0.190

Smokingtried smoking -0.311 0.185 -0.055 -1.675 0.094 -0.675 0.053

`Internet usage`less than an hour a day 0.091 0.192 0.011 0.474 0.635 -0.286 0.468

`Internet usage`most of the day 0.870 0.199 0.104 4.366 0.000 0.479 1.261

`Internet usage`no time at all 0.206 1.339 0.004 0.154 0.878 -2.423 2.835

`Fun with friends` -0.232 0.091 -0.062 -2.548 0.011 -0.411 -0.053

Latino 0.109 0.056 0.052 1.956 0.051 0.000 0.219

PC 0.128 0.057 0.060 2.246 0.025 0.016 0.240

`Sci-fi` -0.190 0.054 -0.090 -3.494 0.001 -0.297 -0.083

`Appearence and gestures` -0.230 0.074 -0.077 -3.114 0.002 -0.375 -0.085

Thriller 0.116 0.058 0.050 2.002 0.046 0.002 0.230

`Cheating in school` -0.083 0.057 -0.037 -1.462 0.144 -0.194 0.028

`Self-criticism` -0.114 0.059 -0.049 -1.933 0.054 -0.230 0.002

`Countryside, outdoors` 0.106 0.058 0.046 1.822 0.069 -0.008 0.219

Animated -0.231 0.074 -0.101 -3.129 0.002 -0.376 -0.086

Ageing 0.094 0.051 0.047 1.861 0.063 -0.005 0.193

Waiting 0.149 0.066 0.053 2.247 0.025 0.019 0.280

Opera 0.207 0.069 0.088 3.017 0.003 0.072 0.342

`Classical music` -0.167 0.066 -0.075 -2.513 0.012 -0.297 -0.036

`Thinking ahead` 0.139 0.062 0.057 2.255 0.024 0.018 0.260

`Parents' advice` -0.218 0.081 -0.067 -2.686 0.007 -0.378 -0.059

`Fantasy/Fairy tales` 0.184 0.079 0.077 2.336 0.020 0.029 0.338

`Only child`yes -0.290 0.151 -0.045 -1.924 0.055 -0.586 0.006

`House - block of flats`house/bungalow -0.250 0.134 -0.044 -1.866 0.062 -0.514 0.013

Dance 0.161 0.063 0.068 2.560 0.011 0.037 0.284

`Hiphop, Rap` -0.122 0.055 -0.060 -2.240 0.025 -0.230 -0.015

Gardening 0.111 0.060 0.046 1.851 0.065 -0.007 0.228

`Daily events` 0.115 0.061 0.046 1.869 0.062 -0.006 0.235

`Judgment calls` -0.123 0.070 -0.043 -1.761 0.079 -0.260 0.014

-----------------------------------------------------------------------------------------------------------------------