

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	53.415141	4.449049	12.006	< 2e-16	***
age	0.006926	0.016278	0.425	0.6705	
diab2	3.711781	0.858455	4.324	1.58e-05	***
diab3	1.592217	2.303387	0.691	0.4895	
diab9	-10.725069	13.392579	-0.801	0.4233	
bmi	0.405759	0.044394	9.140	< 2e-16	***
smoke2	-0.694542	1.567011	-0.443	0.6576	
smoke3	-1.956533	0.823625	-2.376	0.0176	*
smokeunknown	-0.818030	0.758689	-1.078	0.2810	
country2	-0.211203	0.962821	-0.219	0.8264	
country3	0.542703	0.882382	0.615	0.5386	
race	0.634491	0.286423	2.215	0.0268	*
education11	-5.257500	4.205879	-1.250	0.2114	
education12	-7.929671	4.879077	-1.625	0.1042	
education13	-4.351901	3.958374	-1.099	0.2717	
education14	-9.037549	8.485529	-1.065	0.2869	
education15	-0.576010	3.944652	-0.146	0.8839	
education66	-10.780274	5.533896	-1.948	0.0515	.
education9	-1.373364	5.699486	-0.241	0.8096	
educationunknown	4.876840	3.614911	1.349	0.1774	
gender2	-2.408136	0.530495	-4.539	5.87e-06	***
sedentary	-5.217825	3.504917	-1.489	0.1367	
activitycCounts	0.001073	0.002310	0.465	0.6423	

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 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 13.32 on 2929 degrees of freedom

Multiple R-squared: 0.07472, Adjusted R-squared: 0.06777

F-statistic: 10.75 on 22 and 2929 DF, p-value: < 2.2e-16

# 0304 – Linear Regression (sy):

Call:

```
lm(formula = sy_bp ~ age + diab + bmi + smoke + country + race +
    education + gender + sedentary + activitycCounts, data = bp_di_train)
```

Residuals:

Min	1Q	Median	3Q	Max
-63.954	-11.608	-1.383	9.246	112.402

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	93.406313	6.256811	14.929	< 2e-16	***
age	0.685131	0.022893	29.928	< 2e-16	***
diab2	-0.119970	1.207267	-0.099	0.9208	
diab3	3.551053	3.239312	1.096	0.2731	
diab9	5.647566	18.834326	0.300	0.7643	
bmi	0.481981	0.062432	7.720	1.58e-14	***
smoke2	0.613575	2.203727	0.278	0.7807	
smoke3	-1.758072	1.158284	-1.518	0.1292	
smokeunknown	-0.280129	1.066964	-0.263	0.7929	
country2	-0.149026	1.354039	-0.110	0.9124	
country3	1.485806	1.240917	1.197	0.2313	
race	0.317168	0.402805	0.787	0.4311	
education11	-0.319388	5.914835	-0.054	0.9569	
education12	-4.805316	6.861570	-0.700	0.4838	
education13	-3.986878	5.566762	-0.716	0.4739	
education14	2.183700	11.933416	0.183	0.8548	
education15	-1.698201	5.547464	-0.306	0.7595	
education66	-0.064595	7.782459	-0.008	0.9934	
education9	2.794989	8.015332	0.349	0.7273	
educationunknown	-7.835756	5.083742	-1.541	0.1233	
gender2	-1.063364	0.746049	-1.425	0.1542	
sedentary	-9.118748	4.929054	-1.850	0.0644	.
activitycCounts	-0.006065	0.003249	-1.867	0.0620	.

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 18.74 on 2929 degrees of freedom

Multiple R-squared: 0.3478, Adjusted R-squared: 0.3429

F-statistic: 71 on 22 and 2929 DF, p-value: < 2.2e-16

### 0304 – MULTINOMIAL LOG REG:

```
> summary(logistic_model)
```

Call:

```
multinom(formula = stage_number ~ age + bmi + smoke + country +  
  race + gender + sedentary + activitycCounts, data = logistic_train)
```

Coefficients:

	(Intercept)	age	bmi	smoke2	smoke3	smokeunknown	country2	country3
1	-4.172234	0.04450062	0.05876920	-0.54019186	-0.04624991	0.1386441	-0.22108941	0.132668111
2	-4.146437	0.05136623	0.07468188	-0.13512836	-0.21749532	-0.1312166	-0.02730198	-0.232227349
3	-6.784479	0.09376191	0.09327821	0.07615523	-0.05445952	0.2025091	-0.02492148	-0.007741009
4	-7.733024	0.10413425	0.05115986	-0.77275267	-0.64219854	-0.3755819	0.26942084	0.414323902

  

	race	gender2	sedentary	activitycCounts
1	0.12172105	-0.6325930	-1.806446	0.0004918209
2	0.09295944	-0.7592610	-1.751541	-0.0004594396
3	0.14207494	-0.4108714	-2.987817	-0.0010347094
4	0.11817836	0.1571073	-2.123390	-0.0048041278

Std. Errors:

	(Intercept)	age	bmi	smoke2	smoke3	smokeunknown	country2	country3	race
1	0.5246778	0.003995537	0.01089803	0.4234270	0.1988744	0.1777681	0.2396328	0.2058304	0.06965155
2	0.5074290	0.003826932	0.01017973	0.3286381	0.1794660	0.1613863	0.2164969	0.2177772	0.06607823
3	0.5488096	0.004302734	0.01044803	0.3731199	0.1888962	0.1749559	0.2236487	0.2082173	0.06639927
4	0.6804348	0.009203533	0.02043465	1.0759649	0.3532526	0.3355315	0.4464880	0.3581547	0.13107363

  

	gender2	sedentary	activitycCounts
1	0.1287734	0.5766925	0.0004575856
2	0.1213113	0.5526210	0.0004651787
3	0.1215243	0.5284494	0.0005176915
4	0.2370232	0.6830363	0.0011458223

Residual Deviance: 7034.661

AIC: 7130.661

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## 0506 – Linear Regression (di)

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	43.341593	5.477824	7.912	3.59e-15	***
age	0.041677	0.016291	2.558	0.01057	*
diab2	1.880225	0.870146	2.161	0.03079	*
diab3	0.175240	2.111878	0.083	0.93387	
diab9	-3.172599	13.472212	-0.235	0.81384	
bmi	0.344178	0.041763	8.241	2.57e-16	***
smoke2	-0.065929	1.639300	-0.040	0.96792	
smoke3	-1.614491	0.868370	-1.859	0.06310	.
smokeunknown	-1.408301	0.795620	-1.770	0.07682	.
country2	-1.186561	0.999287	-1.187	0.23517	
country3	-0.150457	0.942359	-0.160	0.87316	
race	0.969709	0.308106	3.147	0.00166	**
education11	5.333260	5.277192	1.011	0.31228	
education12	1.596256	6.029360	0.265	0.79122	
education13	4.747669	5.001450	0.949	0.34257	
education14	1.637315	6.951212	0.236	0.81380	
education15	5.314701	5.061139	1.050	0.29376	
education66	2.421889	6.142248	0.394	0.69339	
education9	1.731988	8.216803	0.211	0.83307	
educationunknown	11.079389	4.781950	2.317	0.02058	*
gender2	-2.050464	0.542381	-3.780	0.00016	***
sedentary	1.212979	3.690654	0.329	0.74244	
activitycCounts	0.005651	0.002361	2.393	0.01676	*

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 13.4 on 2842 degrees of freedom

Multiple R-squared: 0.07069, Adjusted R-squared: 0.06349

F-statistic: 9.826 on 22 and 2842 DF, p-value: < 2.2e-16

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# 0506 – Linear Regression (sy)

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	101.571348	7.080182	14.346	< 2e-16	***
age	0.608330	0.021056	28.891	< 2e-16	***
diab2	-4.895903	1.124678	-4.353	1.39e-05	***
diab3	-3.458049	2.729639	-1.267	0.205312	
diab9	-9.108490	17.413068	-0.523	0.600957	
bmi	0.468188	0.053980	8.673	< 2e-16	***
smoke2	-0.181294	2.118824	-0.086	0.931820	
smoke3	-3.072355	1.122383	-2.737	0.006232	**
smokeunknown	-0.410964	1.028352	-0.400	0.689457	
country2	0.042926	1.291596	0.033	0.973490	
country3	-1.954871	1.218015	-1.605	0.108613	
race	1.278919	0.398232	3.211	0.001335	**
education11	-2.137324	6.820862	-0.313	0.754037	
education12	-0.979889	7.793053	-0.126	0.899948	
education13	-1.838116	6.464462	-0.284	0.776169	
education14	3.540352	8.984562	0.394	0.693575	
education15	-0.214225	6.541611	-0.033	0.973878	
education66	-5.578276	7.938962	-0.703	0.482334	
education9	-1.141246	10.620361	-0.107	0.914433	
educationunknown	-8.758211	6.180754	-1.417	0.156589	
gender2	-2.522674	0.701037	-3.598	0.000326	***
sedentary	-16.154536	4.770234	-3.387	0.000717	***
activitycCounts	-0.002181	0.003052	-0.715	0.474966	

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 17.32 on 2842 degrees of freedom

Multiple R-squared: 0.3311, Adjusted R-squared: 0.3259

F-statistic: 63.95 on 22 and 2842 DF, p-value: < 2.2e-16

# 0506 – MULTINOMIAL LOG REG:

## Coefficients:

	(Intercept)	age	bmi	smoke2	smoke3	smokeunknown	country2	country3
1	-2.763795	0.02913949	0.03644474	-0.6309469	-0.07254276	0.1479219	-0.38914616	-0.29992630
2	-5.022379	0.04430916	0.08555479	0.4563135	0.04646565	0.1722211	-0.47426582	-0.24182251
3	-7.479582	0.08586326	0.09714554	-0.2266510	-0.39034268	-0.0712293	0.08239807	0.01915525
4	-12.200632	0.13292743	0.09141725	0.1345965	-0.45707279	-0.2211526	0.52699316	-0.63262990

  

	race	gender2	sedentary	activitycCounts
1	0.04896526	-0.7392458	-1.1624803	0.0004673221
2	0.09172192	-0.8828919	-0.7113903	0.0004675844
3	0.33842097	-0.6490346	-2.1379599	-0.0001026030
4	0.20096208	0.5975966	-4.0219623	-0.0017461104

## Std. Errors:

	(Intercept)	age	bmi	smoke2	smoke3	smokeunknown	country2	country3	race
1	0.4982222	0.003658717	0.010103325	0.4413750	0.1987493	0.1768233	0.2224466	0.2194948	0.06965499
2	0.4864478	0.003635387	0.009228437	0.3268172	0.1927009	0.1760861	0.2231007	0.2126228	0.06816617
3	0.5333646	0.004148675	0.009509279	0.3906962	0.1884618	0.1721212	0.2452794	0.2111928	0.07504347
4	0.1077249	0.009092676	0.020218941	0.1870761	0.4678624	0.4359139	0.5913429	0.7581534	0.18741812

  

	gender2	sedentary	activitycCounts
1	0.1239452	0.60951845	0.0004531392
2	0.1199174	0.56315964	0.0004555133
3	0.1219038	0.54828106	0.0005005236
4	0.3435788	0.06209366	0.0013440337

Residual Deviance: 6660.083

AIC: 6756.083