

Dataset : Europe

Target variable : math

Features : all (both for student and school)

```
gm3 <- lm(math ~ gender + immigration + language + hisced + grade_rep + belonging + bullied +
+ ESCS_status + teacher_support + emo_sup +
+ learn_time_math + short_edu_mat + short_edu_staff +
+ stu_behav + teach_behav + immigration:language + immigration:hisced +
+ immigration:grade_rep + immigration:fear_failure +
+ immigration:teacher_support + immigration:emo_sup +
+ immigration:short_edu_mat + immigration:short_edu_staff + immigration:stu_behav)
```

Residuals:

Min	1Q	Median	3Q	Max
-316.26	-50.31	1.59	52.02	273.32

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	548.296687	2.155508	254.370	< 2e-16 ***
gender	19.256914	0.683428	28.177	< 2e-16 ***
immigration	-10.269285	3.059624	-3.356	0.000790 ***
language	-3.067893	0.638990	-4.801	1.58e-06 ***
hisced	-6.043778	0.409902	-14.744	< 2e-16 ***
grade_rep	-71.846994	1.137970	-63.136	< 2e-16 ***
belonging	-0.908551	0.327759	-2.772	0.005573 **
bullied	-4.666225	0.394200	-11.837	< 2e-16 ***
ESCS_status	28.898873	0.599811	48.180	< 2e-16 ***
teacher_support	-1.370056	0.369449	-3.708	0.000209 ***
emo_sup	1.752076	0.395029	4.435	9.21e-06 ***
learn_time_math	-0.034067	0.004135	-8.240	< 2e-16 ***
short_edu_mat	-1.926536	0.421616	-4.569	4.90e-06 ***
short_edu_staff	-1.803563	0.458182	-3.936	8.28e-05 ***
stu_behav	-8.994868	0.435353	-20.661	< 2e-16 ***
teach_behav	7.735985	0.446640	17.320	< 2e-16 ***
immigration:language	3.439359	0.959235	3.586	0.000337 ***
immigration:hisced	-1.472979	0.561482	-2.623	0.008709 **
immigration:grade_rep	9.377898	2.237159	4.192	2.77e-05 ***
immigration:fear_failure	3.585186	0.812714	4.411	1.03e-05 ***
immigration:teacher_support	-2.021592	0.909903	-2.222	0.026304 *
immigration:emo_sup	-3.568617	0.914460	-3.902	9.54e-05 ***
immigration:short_edu_mat	2.503220	1.028117	2.435	0.014905 *
immigration:short_edu_staff	-2.686842	1.090991	-2.463	0.013791 *
immigration:stu_behav	-6.893909	1.038691	-6.637	3.23e-11 ***

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

Residual standard error: 75.42 on 50289 degrees of freedom
Multiple R-squared: 0.2415, Adjusted R-squared: 0.2411
F-statistic: 667.1 on 24 and 50289 DF, p-value: < 2.2e-16

Dataset : Europe

Target variable : read

Features : all (both for student and school)

```
gm3 <- lm(read ~ gender + immigration + language + hisced + grade_rep + fear_failure + belonging + bullied +
+ ESCS_status + teacher_support + emo_sup + learn_time_read + short_edu_staff +
+ stu_behav + teach_behav + immigration:grade_rep + immigration:fear_failure + immigration:belonging +
+ immigration:teacher_support + immigration:emo_sup +
+ immigration:short_edu_mat + immigration:stu_behav)
```

Residuals:

Min	1Q	Median	3Q	Max
-396.81	-54.39	1.42	56.81	300.72

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	573.416929	2.135729	268.488	< 2e-16 ***
gender	-14.275483	0.754223	-18.927	< 2e-16 ***
immigration	-8.339638	1.355321	-6.153	7.65e-10 ***
language	-6.134707	0.517867	-11.846	< 2e-16 ***
hisced	-7.983368	0.412797	-19.340	< 2e-16 ***
grade_rep	-67.059053	1.233772	-54.353	< 2e-16 ***
fear_failure	3.470286	0.421711	8.229	< 2e-16 ***
belonging	-2.381367	0.387405	-6.147	7.96e-10 ***
bullied	-5.394080	0.431207	-12.509	< 2e-16 ***
ESCS_status	30.539924	0.650451	46.952	< 2e-16 ***
teacher_support	2.105352	0.401541	5.243	1.58e-07 ***
emo_sup	4.485483	0.430561	10.418	< 2e-16 ***
learn_time_read	-0.060994	0.003521	-17.321	< 2e-16 ***
short_edu_staff	-1.534658	0.426731	-3.596	0.000323 ***
stu_behav	-8.307013	0.467467	-17.770	< 2e-16 ***
teach_behav	7.703691	0.484849	15.889	< 2e-16 ***
immigration:grade_rep	7.629651	2.412011	3.163	0.001561 **
immigration:fear_failure	2.362429	0.984561	2.399	0.016422 *
immigration:belonging	4.616397	0.958040	4.819	1.45e-06 ***
immigration:teacher_support	-3.236620	0.989940	-3.270	0.001078 **
immigration:emo_sup	-3.938774	1.011855	-3.893	9.93e-05 ***
immigration:short_edu_mat	2.610385	0.943318	2.767	0.005655 **
immigration:stu_behav	-8.710681	1.074920	-8.104	5.46e-16 ***

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

Residual standard error: 81.97 on 50291 degrees of freedom
Multiple R-squared: 0.2193, Adjusted R-squared: 0.219
F-statistic: 642.3 on 22 and 50291 DF, p-value: < 2.2e-16

Dataset : Denmark

Target variable : math

Features : all (both for student and school)

```
gm3 <- lm(math ~ gender + immigration + language + hisced + grade_rep + belonging +
  + ESCS_status + teacher_support + school_changes + learn_time_math +
  + stud_teach_ratio + stu_behav + immigration:language +
  + immigration:grade_rep + immigration:bullied + immigration:ESCS_status +
  + immigration:stud_teach_ratio)
```

Residuals:

Min	1Q	Median	3Q	Max
-255.352	-49.020	3.198	49.523	234.740

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	533.41247	9.47739	56.283	< 2e-16 ***
gender	12.98169	2.42188	5.360	8.83e-08 ***
immigration	-60.00501	9.28704	-6.461	1.18e-10 ***
language	-7.49247	3.67812	-2.037	0.041718 *
hisced	-5.59988	1.62834	-3.439	0.000590 ***
grade_rep	-32.34642	10.05410	-3.217	0.001306 **
belonging	-2.38799	1.19319	-2.001	0.045427 *
ESCS_status	34.55754	2.32981	14.833	< 2e-16 ***
teacher_support	6.76390	1.41752	4.772	1.90e-06 ***
school_changes	-7.62160	1.68905	-4.512	6.61e-06 ***
learn_time_math	-0.03922	0.01020	-3.846	0.000122 ***
stud_teach_ratio	0.49897	0.17044	2.928	0.003438 **
stu_behav	-6.03733	1.34650	-4.484	7.56e-06 ***
immigration:language	9.56063	4.69160	2.038	0.041639 *
immigration:grade_rep	30.76458	14.62121	2.104	0.035437 *
immigration:bullied	-7.03271	3.22888	-2.178	0.029465 *
immigration:ESCS_status	-18.15688	3.70318	-4.903	9.84e-07 ***
immigration:stud_teach_ratio	2.00062	0.65626	3.049	0.002316 **

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

Residual standard error: 72.33 on 3680 degrees of freedom
Multiple R-squared: 0.1859, Adjusted R-squared: 0.1821
F-statistic: 49.43 on 17 and 3680 DF, p-value: < 2.2e-16

Dataset : Denmark

Target variable : read

Features : all (both for student and school)

```
gm3 <- lm(read ~ gender + immigration + language + hisced + grade_rep +
  + ESCS_status + teacher_support + emo_sup + school_changes + learn_time_read +
  + stu_behav + teach_behav + immigration:ESCS_status +
  + immigration:stud_teach_ratio + immigration:teach_behav)
```

Residuals:

Min	1Q	Median	3Q	Max
-258.809	-54.793	2.236	55.375	245.743

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	555.977655	10.032973	55.415	< 2e-16 ***
gender	-21.180821	2.622813	-8.076	9.01e-16 ***
immigration	-52.300788	9.591552	-5.453	5.28e-08 ***
language	-7.311263	2.497041	-2.928	0.003433 **
hisced	-5.745873	1.772271	-3.242	0.001197 **
grade_rep	-28.583253	7.963895	-3.589	0.000336 ***
ESCS_status	37.961010	2.545292	14.914	< 2e-16 ***
teacher_support	7.683016	1.550633	4.955	7.57e-07 ***
emo_sup	6.414686	1.470205	4.363	1.32e-05 ***
school_changes	-10.834552	1.832499	-5.912	3.68e-09 ***
learn_time_read	-0.034580	0.009077	-3.810	0.000141 ***
stu_behav	-6.053770	1.777553	-3.406	0.000667 ***
teach_behav	4.142589	1.856925	2.231	0.025749 *
immigration:ESCS_status	-19.721094	4.002318	-4.927	8.70e-07 ***
immigration:stud_teach_ratio	1.849024	0.690869	2.676	0.007475 **
immigration:teach_behav	-8.044008	3.775143	-2.131	0.033173 *

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

Residual standard error: 78.69 on 3682 degrees of freedom
Multiple R-squared: 0.205, Adjusted R-squared: 0.2018
F-statistic: 63.29 on 15 and 3682 DF, p-value: < 2.2e-16

Dataset : Great Britain

Target variable : math

Features : all (both for student and school)

```
gm3 <- lm(math ~ gender + fear_failure + bullied + ESCS_status +  
  + short_edu_mat + stu_behav + teach_behav + immigration:school_changes +  
  + immigration:short_edu_mat + immigration:short_edu_staff + immigration:teach_behav)
```

Residuals:

Min	1Q	Median	3Q	Max
-257.701	-53.501	1.712	56.358	266.092

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	493.101	2.850	173.041	< 2e-16	***
gender	28.876	3.601	8.018	1.69e-15	***
fear_failure	4.947	1.789	2.766	0.00572	**
bullied	-4.619	1.680	-2.750	0.00600	**
ESCS_status	25.070	1.998	12.546	< 2e-16	***
short_edu_mat	-8.567	1.917	-4.469	8.22e-06	***
stu_behav	-17.237	2.305	-7.479	1.06e-13	***
teach_behav	17.598	3.056	5.758	9.62e-09	***
immigration:school_changes	-10.512	3.879	-2.710	0.00677	**
short_edu_mat:immigration	17.346	5.972	2.905	0.00371	**
immigration:short_edu_staff	-13.705	5.827	-2.352	0.01875	*
teach_behav:immigration	-11.728	5.529	-2.121	0.03402	*

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

Residual standard error: 81.43 on 2313 degrees of freedom
Multiple R-squared: 0.1756, Adjusted R-squared: 0.1716
F-statistic: 44.78 on 11 and 2313 DF, p-value: < 2.2e-16

Dataset : Great Britain

Target variable : read

Features : all (both for student and school)

```
gm3 <- lm(read ~ language + fear_failure + bullied + ESCS_status + teacher_support + learn_time_read +  
  + short_edu_mat + stu_behav + teach_behav + immigration:learn_time_read + immigration:class_size +  
  + immigration:short_edu_mat + immigration:short_edu_staff)
```

Residuals:

Min	1Q	Median	3Q	Max
-277.758	-59.585	1.381	62.200	280.721

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	530.09399	5.90776	89.728	< 2e-16	***
language	-9.50184	3.60391	-2.637	0.00843	**
fear_failure	10.04759	1.85502	5.416	6.71e-08	***
bullied	-4.48260	1.81626	-2.468	0.01366	*
ESCS_status	22.65224	2.20036	10.295	< 2e-16	***
teacher_support	5.60158	2.03336	2.755	0.00592	**
learn_time_read	-0.08130	0.01982	-4.103	4.23e-05	***
short_edu_mat	-6.41084	2.06582	-3.103	0.00194	**
stu_behav	-16.79731	2.51633	-6.675	3.08e-11	***
teach_behav	14.81921	3.10883	4.767	1.99e-06	***
learn_time_read:immigration	0.08562	0.03398	2.520	0.01181	*
immigration:class_size	-0.96300	0.41453	-2.323	0.02026	*
short_edu_mat:immigration	14.51167	6.36975	2.278	0.02280	*
immigration:short_edu_staff	-13.83782	6.31324	-2.192	0.02849	*

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

Residual standard error: 88.61 on 2311 degrees of freedom
Multiple R-squared: 0.1485, Adjusted R-squared: 0.1437
F-statistic: 30.99 on 13 and 2311 DF, p-value: < 2.2e-16