

Appendix I - Statistics of variables used in the Indexes

Variable	Mean	Std. Desv.
<i>Standard of living</i>		
Television	0.810	0.392
Refrigerator	0.859	0.348
Washing machine	0.377	0.382
Car	0.873	0.163
Housekeeper	0.891	0.094
Computer	0.842	0.365
Bathroom	0.982	0.133
<i>Violence index (happened at school:)</i>		
Aggression against teachers	0.324	0.468
Aggression against students	0.834	0.372
Murder Attempt	0.037	0.189
Threat against the principal	0.166	0.372
Robbery	0.092	0.289
Theft	0.027	0.161
Students consume alcohol	0.261	0.439
Students use drugs	0.226	0.418
White arms	0.244	0.430
Fire arms	0.047	0.213
<i>Infrastructure index (bad quality of:)</i>		
Roof	0.444	0.497
Wall	0.401	0.490
Floor	0.395	0.489
Hall	0.350	0.477
Courtyard	0.394	0.489
Corridor	0.329	0.470
Classroom	0.466	0.499
Door	0.569	0.495
Window	0.506	0.500
Bathroom	0.580	0.494
Kitchen	0.397	0.489
Electrical installation	0.547	0.498
Hidraulic installation	0.572	0.495
Lighting	0.345	0.475
Ventilation	0.411	0.492

Data: Saeb (2015)

Appendix II – Saeb scores by Brazilian regions

	Math	Portuguese
Northeast	245.368 (0.506)	244.022 (0.543)
North	245.418 (0.723)	245.351 (0.810)
Southeast	260.848 (0.297)	258.522 (0.291)
South	262.126 (0.506)	259.089 (0.500)
Central-West	259.253 (0.633)	258.594 (0.616)
Observations	287,785	287,785

Note: Robust SEs clustered by school in parentheses.
Data: Saeb (2015).

Appendix III – OLS Regressions of math and Portuguese proficiency, by race

	Math				Portuguese			
	White	Brown	Black	Ind.	White	Brown	Black	Ind.
Male	9.142*** (0.307)	9.828*** (0.261)	8.481*** (0.517)	10.467*** (1.118)	-13.700*** (0.323)	-12.860*** (0.284)	-14.308*** (0.624)	-13.657*** (1.176)
Age 1	-0.165 (1.343)	0.326 (1.068)	0.520 (2.165)	-0.430 (3.954)	-0.905 (1.686)	0.300 (1.011)	-2.460 (2.373)	-1.675 (4.512)
Age 2	-5.368*** (0.392)	-5.650*** (0.342)	-3.872*** (0.617)	-6.016*** (1.218)	-5.280*** (0.407)	-5.288*** (0.333)	-4.768*** (0.687)	-6.288*** (1.285)
Age 3	-24.870*** (0.559)	-20.286*** (0.391)	-18.089*** (0.779)	-18.003*** (1.631)	-25.970*** (0.554)	-20.706*** (0.433)	-18.740*** (0.839)	-17.789*** (1.951)
Work	-2.987*** (0.490)	-3.356*** (0.414)	-2.887*** (0.727)	-2.377 (1.831)	-8.330*** (0.492)	-8.596*** (0.430)	-8.079*** (0.864)	-7.028*** (2.144)
Std. liv. idx	0.529*** (0.150)	0.940*** (0.129)	1.499*** (0.221)	0.178 (0.511)	0.999*** (0.141)	1.604*** (0.132)	1.706*** (0.255)	0.547 (0.512)
Unipar.	-4.116*** (0.363)	-2.889*** (0.292)	-1.329** (0.540)	0.262 (1.127)	-2.597*** (0.350)	-2.953*** (0.294)	-2.282*** (0.612)	-0.291 (1.311)
Ed. moth. 1	4.812*** (0.492)	4.331*** (0.346)	3.478*** (0.747)	4.495*** (1.502)	5.623*** (0.460)	4.939*** (0.378)	4.049*** (0.960)	5.417*** (1.721)
Ed. moth. 2	8.751*** (0.419)	7.051*** (0.337)	6.677*** (0.657)	6.521*** (1.335)	9.149*** (0.416)	8.670*** (0.346)	8.468*** (0.726)	8.381*** (1.437)
Ed. moth. 3	14.458*** (0.602)	12.221*** (0.573)	10.652*** (0.961)	14.937*** (2.624)	12.832*** (0.584)	11.312*** (0.604)	8.972*** (1.071)	10.619*** (2.397)
Ed. father 1	2.569*** (0.455)	1.563*** (0.345)	1.557** (0.679)	0.530 (1.486)	4.412*** (0.445)	2.618*** (0.366)	2.509*** (0.757)	3.669** (1.618)
Ed. father 2	5.716*** (0.413)	5.304*** (0.334)	4.833*** (0.699)	2.638* (1.460)	8.512*** (0.415)	7.486*** (0.354)	7.835*** (0.726)	4.595*** (1.541)
Ed. father 3	8.444*** (0.656)	6.747*** (0.583)	3.881*** (1.055)	1.885 (2.239)	10.416*** (0.608)	7.658*** (0.582)	5.318*** (1.138)	4.672** (2.257)
Sch. meeting	1.728*** (0.361)	1.918*** (0.278)	1.326** (0.522)	2.083* (1.135)	1.899*** (0.346)	2.282*** (0.309)	2.915*** (0.606)	1.899 (1.257)
Night shift	-10.03*** (1.991)	-1.353 (1.749)	-3.523 (3.001)	-16.16*** (4.604)	-9.621*** (2.393)	-2.429 (2.092)	-7.056 (5.032)	-13.911** (6.158)
Class size	0.071 (0.049)	0.140*** (0.034)	0.118* (0.062)	-0.064 (0.116)	0.174*** (0.041)	0.169*** (0.036)	0.104* (0.059)	0.156 (0.133)
Age-cp. cl.	1.870 (1.572)	2.112* (1.151)	1.435 (1.636)	-2.788 (3.629)	1.278 (1.333)	2.715** (1.089)	-1.624 (1.580)	-0.911 (3.774)
Grade-cp. cl.	-1.970*** (0.598)	-2.607*** (0.431)	-2.651*** (0.619)	-2.308* (1.198)	-1.838*** (0.507)	-1.969*** (0.450)	-3.068*** (0.730)	-0.981 (1.373)
Cl. racial cp.	-13.43*** (1.881)	4.752*** (1.480)	11.929*** (2.676)	1.615 (6.105)	-5.555*** (1.743)	7.348*** (1.545)	15.896*** (2.896)	8.561 (6.769)
N-white tch.	-2.421*** (0.499)	-2.219*** (0.378)	-1.645*** (0.612)	0.594 (1.313)	-3.274*** (0.495)	-2.039*** (0.392)	-1.121* (0.663)	-1.290 (1.429)
Male teacher	1.105** (0.510)	0.995*** (0.385)	0.968 (0.674)	2.665** (1.267)	0.969** (0.491)	1.157*** (0.412)	1.091 (0.712)	2.816** (1.435)
Exp. Teach. 1	-0.433 (1.711)	0.686 (0.959)	0.261 (1.253)	-1.809 (2.411)	0.419 (1.156)	0.701 (1.068)	1.173 (1.652)	1.674 (3.369)
Exp. Teach. 2	0.609	1.776*	1.651	0.388	1.789	1.549	2.631	4.831

	(1.728)	(0.963)	(1.276)	(2.469)	(1.157)	(1.074)	(1.648)	(3.384)
Exp. Teach. 3	1.849	2.466**	1.241	2.457	2.397**	2.259**	3.908**	5.727
	(1.750)	(0.982)	(1.323)	(2.696)	(1.190)	(1.091)	(1.678)	(3.713)
Pos. teacher	2.314***	1.806***	1.472**	1.015	0.452	0.087	-0.481	0.895
	(0.549)	(0.433)	(0.703)	(1.446)	(0.511)	(0.471)	(0.850)	(1.647)
Tch. corrects	8.756***	8.450***	8.313***	5.299***	7.760***	7.849***	7.922***	5.916***
	(0.426)	(0.359)	(0.627)	(1.325)	(0.409)	(0.356)	(0.711)	(1.448)
N-white Prin.	-2.069***	-1.301***	-2.180***	-0.628	-2.514***	-1.487***	-2.683***	-0.482
	(0.658)	(0.444)	(0.681)	(1.420)	(0.541)	(0.456)	(0.738)	(1.637)
Male Princ.	-1.064*	-0.838*	-0.823	-1.047	-0.374	-0.234	-0.181	1.207
	(0.562)	(0.449)	(0.656)	(1.358)	(0.500)	(0.465)	(0.766)	(1.643)
Exp. Princ. 1	-4.124	-3.400	-1.612	-4.007	-3.270	-1.746	-0.741	8.632
	(2.991)	(2.455)	(3.347)	(5.432)	(2.769)	(2.089)	(3.294)	(6.505)
Exp. Princ. 2	-3.974	-3.072	-2.020	-7.611	-2.653	-1.970	-1.686	7.039
	(2.885)	(2.376)	(3.239)	(5.287)	(2.642)	(2.004)	(3.086)	(6.358)
Exp. Princ. 3	-2.551	-2.548	-0.597	-7.280	-1.315	-1.327	-0.609	7.941
	(2.918)	(2.391)	(3.258)	(5.267)	(2.659)	(2.028)	(3.130)	(6.321)
Pos. Principal	2.596***	1.772***	3.008***	1.147	2.360***	1.390**	2.220**	1.028
	(0.928)	(0.622)	(0.982)	(2.015)	(0.739)	(0.671)	(1.079)	(2.461)
S.bad infr.Idx.	-0.243**	-0.168**	-0.235**	-0.477*	-0.216**	-0.235***	-0.202	-0.610**
	(0.096)	(0.074)	(0.115)	(0.276)	(0.086)	(0.077)	(0.128)	(0.307)
Violence idx.	-1.711***	-1.262***	-0.783***	-0.869**	-1.385***	-1.012***	-0.941***	-0.555
	(0.155)	(0.119)	(0.178)	(0.376)	(0.138)	(0.122)	(0.208)	(0.446)
Urban	2.430	5.162***	8.170***	12.749***	7.033***	5.588***	2.171	17.705***
	(2.173)	(1.152)	(2.485)	(3.859)	(1.735)	(1.246)	(2.246)	(4.891)
Reg. 1	-1.656	-1.514**	1.909	-5.550**	0.706	0.472	3.606***	-7.300***
	(1.129)	(0.750)	(1.235)	(2.255)	(1.118)	(0.808)	(1.301)	(2.807)
Reg. 2	10.454***	7.683***	3.026***	10.243***	9.354***	7.337***	2.790***	8.807***
	(0.838)	(0.609)	(0.963)	(2.153)	(0.798)	(0.617)	(1.004)	(2.213)
Reg. 3	8.361***	8.663***	6.279***	8.289***	9.164***	10.153***	8.625***	8.463***
	(1.007)	(0.826)	(1.537)	(2.916)	(0.960)	(0.863)	(1.538)	(3.120)
Reg. 4	12.387***	10.784***	8.417***	6.711***	12.831***	12.674***	11.754***	7.925***
	(0.966)	(0.738)	(1.169)	(2.215)	(0.942)	(0.756)	(1.354)	(2.339)
Const.	244.172***	226.121***	215.747***	232.085***	240.581***	230.099***	227.349***	206.195***
	(4.950)	(3.175)	(5.134)	(8.789)	(4.130)	(3.058)	(4.921)	(10.291)
N. Obs.	106,508	142,938	31,871	6,468	106,392	142,775	31,828	6,467
R ²	0.1099	0.0953	0.0780	0.1461	0.1304	0.1123	0.1065	0.1689

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels. Robust SEs clustered by school in parentheses.

Data: Saeb (2015)

Appendix IV – RIF Equations of student math proficiency by race

	<i>White</i>			<i>Brown</i>			<i>Black</i>			<i>Indigenous</i>		
	10 th	50 th	90 th	10 th	50 th	90 th	10 th	50 th	90 th	10 th	50 th	90 th
Male	4.198*** (0.490)	12.009*** (0.468)	9.134*** (0.545)	4.705*** (0.363)	11.414*** (0.374)	13.038*** (0.540)	3.768*** (0.651)	11.631*** (0.812)	10.351*** (0.944)	2.092* (1.093)	15.201*** (1.894)	15.276*** (2.370)
Age 1	-0.095 (2.043)	2.362 (2.311)	-1.924 (1.954)	-0.549 (1.296)	-0.045 (1.518)	3.398 (2.327)	-4.133 (2.748)	2.308 (3.140)	1.723 (4.587)	0.579 (3.244)	2.023 (6.603)	-3.288 (8.733)
Age 2	-5.224*** (0.536)	-6.553*** (0.556)	-2.937*** (0.675)	-3.915*** (0.445)	-6.865*** (0.438)	-5.692*** (0.737)	-1.887*** (0.668)	-5.958*** (0.985)	-5.042*** (1.245)	-1.383 (1.079)	-10.579*** (2.051)	-4.364 (2.860)
Age 3	-26.734*** (1.053)	-30.258*** (0.781)	-14.685*** (0.581)	-14.452*** (0.604)	-24.127*** (0.540)	-21.050*** (0.646)	-10.742*** (0.968)	-23.869*** (1.264)	-20.895*** (1.226)	-9.783*** (1.748)	-24.143*** (3.013)	-22.013*** (2.794)
Work	-4.327*** (0.912)	-2.734*** (0.709)	-2.636*** (0.699)	-2.962*** (0.575)	-3.127*** (0.593)	-3.582*** (0.765)	-2.879*** (1.011)	-4.630*** (1.201)	-2.204* (1.244)	-2.341 (1.706)	-1.293 (3.243)	-3.721 (3.040)
Std. of living Idx.	0.435** (0.205)	0.639*** (0.214)	0.411* (0.248)	0.425** (0.184)	0.883*** (0.179)	1.233*** (0.236)	0.978*** (0.276)	1.560*** (0.360)	1.709*** (0.424)	0.099 (0.468)	0.287 (0.844)	1.973* (1.034)
Unipar.	-1.992*** (0.569)	-4.730*** (0.536)	-5.455*** (0.519)	-0.960** (0.420)	-2.535*** (0.401)	-5.621*** (0.538)	-0.073 (0.659)	-1.100 (0.829)	-3.282*** (0.940)	-0.767 (1.115)	0.469 (1.990)	-2.352 (2.467)
Educ. mother 1	5.877*** (0.792)	5.557*** (0.874)	2.317*** (0.707)	2.952*** (0.524)	5.455*** (0.489)	3.452*** (0.666)	2.037** (0.909)	5.536*** (1.250)	3.021** (1.308)	0.644 (1.490)	6.902*** (2.617)	1.840 (3.106)
Educ. mother 2	7.554*** (0.689)	10.976*** (0.642)	5.418*** (0.626)	4.067*** (0.473)	7.947*** (0.474)	8.861*** (0.683)	4.864*** (0.797)	9.931*** (1.002)	7.079*** (1.277)	1.527 (1.288)	7.379*** (2.388)	6.608** (2.860)
Educ. mother 3	8.346*** (0.824)	17.397*** (0.843)	15.140*** (1.234)	5.102*** (0.606)	11.918*** (0.703)	19.592*** (1.305)	3.368*** (1.092)	12.323*** (1.392)	17.491*** (2.035)	1.684 (1.698)	17.051*** (4.002)	24.219*** (5.401)
Educ. father 1	2.628*** (0.721)	3.421*** (0.752)	0.026 (0.684)	1.542*** (0.474)	2.634*** (0.510)	0.478 (0.658)	1.554* (0.870)	2.392** (1.118)	-0.044 (1.325)	-0.430 (1.473)	2.118 (2.670)	2.195 (3.039)
Educ. father 2	4.515*** (0.674)	7.044*** (0.630)	3.870*** (0.660)	3.370*** (0.425)	6.148*** (0.444)	6.711*** (0.743)	1.316* (0.797)	5.986*** (1.081)	5.737*** (1.546)	1.432 (1.253)	5.408** (2.456)	4.755 (2.990)
Educ. father 3	4.824***	9.735***	10.825***	1.882***	6.867***	12.605***	0.799	3.048**	5.954***	0.010	2.476	11.640**

	(0.838)	(0.886)	(1.305)	(0.663)	(0.706)	(1.295)	(1.172)	(1.554)	(2.184)	(1.890)	(3.591)	(4.919)
School meeting	1.183**	2.553***	2.210***	1.184***	1.522***	3.559***	-0.096	1.465*	4.020***	-0.303	4.842**	-1.577
	(0.535)	(0.525)	(0.548)	(0.428)	(0.370)	(0.560)	(0.639)	(0.863)	(0.940)	(1.248)	(1.944)	(2.221)
Night shift	-13.179**	-12.373***	-4.233***	-0.544	-1.586	-1.009	-7.718	-0.885	-3.957	-17.379**	-25.051***	4.447
	(5.208)	(2.986)	(1.190)	(2.788)	(2.410)	(2.103)	(6.405)	(5.129)	(3.236)	(8.763)	(7.680)	(5.346)
Class size	0.059	0.077	0.061	0.025	0.158***	0.208***	-0.068	0.140	0.213**	-0.077	-0.122	0.383**
	(0.055)	(0.074)	(0.062)	(0.046)	(0.042)	(0.066)	(0.061)	(0.107)	(0.084)	(0.137)	(0.197)	(0.154)
Age-comp. class	1.841	2.075	3.429	1.454	1.959	3.532	2.041	-0.016	2.275	-2.509	-6.382	2.842
	(1.467)	(1.870)	(2.554)	(1.073)	(1.283)	(2.254)	(1.678)	(2.364)	(3.136)	(3.577)	(5.669)	(6.150)
Gr.-comp. class	-1.428**	-2.391***	-2.147***	-1.370***	-2.770***	-3.368***	-0.909	-2.913***	-3.801***	-1.834	-3.741*	2.906
	(0.642)	(0.791)	(0.802)	(0.508)	(0.510)	(0.802)	(0.675)	(0.953)	(1.067)	(1.174)	(2.027)	(2.498)
Class racial cmp.	-0.321	-17.625***	-18.787***	6.622***	6.155***	-0.884	8.564***	15.890***	8.292**	10.089	-9.956	-5.522
	(2.327)	(2.501)	(3.081)	(1.879)	(1.799)	(2.793)	(2.834)	(4.426)	(3.984)	(8.116)	(8.757)	(8.515)
N.-white teacher	-2.167***	-2.691***	-2.600***	-1.746***	-2.321***	-2.882***	-1.263*	-2.339**	-1.593	2.085	-1.017	3.238
	(0.640)	(0.724)	(0.688)	(0.482)	(0.462)	(0.686)	(0.692)	(0.960)	(1.064)	(1.286)	(2.207)	(2.466)
Male teacher	1.253**	1.601**	-0.489	0.631	1.304***	1.672**	0.485	2.228**	1.711	1.751	1.752	9.372***
	(0.629)	(0.696)	(0.763)	(0.446)	(0.471)	(0.714)	(0.758)	(0.985)	(1.177)	(1.328)	(2.153)	(2.330)
Exp. Teacher 1	-0.857	-0.536	0.213	0.002	0.549	-0.230	-1.710	-0.338	3.300	-3.097	-5.152	5.204
	(1.487)	(2.364)	(1.636)	(0.933)	(1.076)	(2.148)	(1.355)	(2.225)	(2.228)	(2.449)	(4.183)	(6.216)
Exp. Teacher 2	0.209	0.891	0.722	1.067	1.749	1.169	-0.957	0.585	4.584**	-2.407	-0.560	2.654
	(1.479)	(2.394)	(1.621)	(0.881)	(1.078)	(2.197)	(1.376)	(2.251)	(2.268)	(2.329)	(4.250)	(6.251)
Exp. Teacher 3	1.359	2.116	2.358	0.948	2.507**	2.114	-0.688	0.053	3.966*	0.226	1.562	8.351
	(1.509)	(2.440)	(1.665)	(0.944)	(1.103)	(2.220)	(1.413)	(2.387)	(2.270)	(2.434)	(4.724)	(6.367)
Pos. Maths teac.	0.207	3.334***	3.142***	0.827*	1.748***	3.485***	-0.410	2.672**	1.286	-1.039	1.628	1.476
	(0.642)	(0.733)	(0.909)	(0.468)	(0.523)	(0.823)	(0.881)	(1.038)	(1.276)	(1.358)	(2.431)	(3.020)
Teacher corrects	7.272***	10.547***	7.473***	6.466***	9.830***	9.300***	5.542***	10.287***	9.329***	1.629	4.471*	8.272***
	(0.758)	(0.734)	(0.610)	(0.506)	(0.484)	(0.654)	(0.914)	(0.977)	(1.108)	(1.665)	(2.330)	(2.720)
N.-white Princ.	-3.479***	-2.139**	-1.338	-1.878***	-1.792***	-0.295	-1.579**	-3.175***	-2.143*	1.375	-0.609	-3.411

	(0.703)	(0.893)	(0.866)	(0.496)	(0.512)	(0.845)	(0.731)	(1.098)	(1.140)	(1.258)	(2.428)	(2.635)
Male Principal	-0.916	-0.898	-2.080***	-0.598	-0.520	-1.497*	0.180	-0.641	0.168	-0.955	-0.729	-4.160
	(0.618)	(0.759)	(0.790)	(0.482)	(0.527)	(0.782)	(0.711)	(1.017)	(1.114)	(1.530)	(2.185)	(2.668)
Exp. Principal 1	0.469	-3.129	-9.570	-0.492	-1.274	-10.336**	-0.735	-1.322	-4.254	-6.191*	-4.103	-1.797
	(2.643)	(3.104)	(6.492)	(1.951)	(2.280)	(5.265)	(2.950)	(3.737)	(6.062)	(3.698)	(9.715)	(8.920)
Exp. Principal 2	1.259	-3.090	-10.069	0.094	-0.501	-10.684**	0.242	-3.103	-1.923	-6.767*	-9.341	-7.343
	(2.489)	(2.963)	(6.382)	(1.672)	(2.164)	(5.151)	(2.795)	(3.489)	(5.926)	(3.473)	(9.548)	(8.387)
Exp. Principal 3	2.876	-0.914	-9.718	-0.192	0.108	-8.813*	0.467	-0.882	-0.137	-6.590*	-9.620	-6.834
	(2.523)	(3.021)	(6.377)	(1.687)	(2.187)	(5.185)	(2.827)	(3.526)	(5.967)	(3.475)	(9.554)	(8.575)
Pos. Principal	0.896	2.622**	2.722**	1.975**	1.711**	1.615	1.273	3.924**	4.879***	-1.028	0.143	7.717**
	(0.925)	(1.311)	(1.100)	(0.882)	(0.710)	(1.222)	(1.073)	(1.655)	(1.478)	(2.059)	(3.417)	(3.096)
Sch. bad inf. Idx.	-0.225**	-0.317**	-0.391***	-0.039	-0.210**	-0.116	-0.166	-0.237	-0.142	-0.844**	-0.279	-0.081
	(0.107)	(0.127)	(0.135)	(0.074)	(0.087)	(0.135)	(0.121)	(0.170)	(0.201)	(0.389)	(0.389)	(0.421)
Violence index	-1.052***	-2.064***	-1.783***	-0.534***	-1.326***	-2.021***	-0.562***	-0.524*	-1.632***	-0.378	-1.068*	-1.623**
	(0.182)	(0.209)	(0.213)	(0.126)	(0.137)	(0.216)	(0.194)	(0.279)	(0.311)	(0.436)	(0.591)	(0.694)
Urban	1.339	4.367	-1.752	2.867	6.901***	4.522**	3.195	14.355***	5.452*	17.625***	13.357**	5.244
	(1.986)	(3.595)	(2.997)	(2.429)	(1.529)	(1.827)	(3.086)	(4.911)	(2.819)	(4.676)	(6.318)	(3.539)
Reg. 1	-1.801	-1.425	-0.823	-0.128	-2.717***	-2.116*	2.347*	0.047	6.309***	-2.319	-10.714***	-6.061**
	(1.795)	(1.502)	(1.377)	(0.892)	(0.893)	(1.175)	(1.344)	(1.840)	(2.179)	(2.721)	(3.755)	(2.990)
Reg. 2	7.683***	13.641***	6.908***	3.578***	7.833***	10.827***	0.342	2.491*	7.397***	4.828***	13.692***	17.731***
	(1.181)	(1.114)	(1.064)	(0.668)	(0.738)	(1.037)	(0.959)	(1.497)	(1.551)	(1.747)	(3.554)	(3.178)
Reg. 3	12.464***	11.049***	-0.814	7.583***	10.594***	5.110***	6.846***	7.676***	4.894**	9.282***	7.686	10.372**
	(1.395)	(1.347)	(1.399)	(1.000)	(1.037)	(1.435)	(1.500)	(2.343)	(2.300)	(2.634)	(4.897)	(5.286)
Reg. 4	12.256***	16.154***	5.646***	7.253***	12.219***	12.601***	5.052***	8.894***	12.044***	0.827	10.991***	12.002***
	(1.305)	(1.274)	(1.374)	(0.929)	(0.900)	(1.355)	(1.242)	(1.791)	(1.997)	(1.970)	(3.624)	(4.218)
Const.	183.341***	234.262***	324.549***	180.064***	217.051***	286.870***	181.866***	203.051***	262.549***	182.028***	241.509***	259.357***
	(4.421)	(6.752)	(8.655)	(4.064)	(3.379)	(6.533)	(5.533)	(8.386)	(8.273)	(7.253)	(15.389)	(13.655)
Obs.	106.508			142.938			31.871			6.468		
R ²	0.0297	0.0753	0.0354	0.0208	0.0675	0.0373	0.0333	0.0566	0.0175	0.0798	0.0976	0.0483

Note: Robust SEs clustered by school in parentheses.

Data: Saeb (2015)

Appendix V – RIF Equations of student Portuguese proficiency by race

	<i>White</i>			<i>Brown</i>			<i>Black</i>			<i>Indigenous</i>		
	10 th	50 th	90 th	10 th	50 th	90 th	10 th	50 th	90 th	10 th	50 th	90 th
Male	-21.823*** (0.763)	-15.174*** (0.476)	-8.328*** (0.525)	-15.549*** (0.572)	-14.738*** (0.398)	-8.747*** (0.419)	-13.689*** (0.878)	-16.139*** (0.891)	-8.357*** (0.858)	-21.823*** (0.763)	-15.174*** (0.476)	-8.328*** (0.525)
Age 1	-0.935 (2.294)	0.709 (2.866)	-2.355 (2.166)	-0.904 (1.580)	1.492 (1.559)	1.260 (1.838)	-4.101 (3.412)	-2.514 (3.159)	-0.604 (3.282)	-0.935 (2.294)	0.709 (2.866)	-2.355 (2.166)
Age 2	-7.164*** (0.797)	-6.916*** (0.594)	-2.577*** (0.643)	-4.710*** (0.539)	-6.267*** (0.465)	-4.183*** (0.509)	-4.339*** (0.964)	-4.568*** (0.941)	-5.031*** (0.971)	-7.164*** (0.797)	-6.916*** (0.594)	-2.577*** (0.643)
Age 3	-34.545*** (1.414)	-32.673*** (0.748)	-14.640*** (0.602)	-21.367*** (0.955)	-25.483*** (0.604)	-15.227*** (0.573)	-16.079*** (1.444)	-19.927*** (1.223)	-14.031*** (1.044)	-34.545*** (1.414)	-32.673*** (0.748)	-14.640*** (0.602)
Work	-12.986*** (1.224)	-9.214*** (0.695)	-5.184*** (0.797)	-12.458*** (0.896)	-9.613*** (0.629)	-5.888*** (0.561)	-8.800*** (1.509)	-8.476*** (1.155)	-3.644*** (1.300)	-12.986*** (1.224)	-9.214*** (0.695)	-5.184*** (0.797)
Std. of living Idx.	1.061*** (0.279)	1.188*** (0.208)	0.886*** (0.224)	1.875*** (0.275)	1.749*** (0.188)	1.205*** (0.188)	1.565*** (0.415)	2.012*** (0.378)	1.137*** (0.293)	1.061*** (0.279)	1.188*** (0.208)	0.886*** (0.224)
Unipar.	-1.298* (0.726)	-3.178*** (0.530)	-4.096*** (0.604)	-1.358** (0.552)	-3.102*** (0.427)	-3.700*** (0.446)	-0.420 (0.970)	-3.197*** (0.900)	-1.733** (0.769)	-1.298* (0.726)	-3.178*** (0.530)	-4.096*** (0.604)
Educ. mother 1	7.510*** (1.081)	6.525*** (0.761)	3.777*** (0.716)	3.627*** (0.725)	6.336*** (0.534)	4.732*** (0.571)	3.860*** (1.334)	4.210*** (1.448)	1.289 (1.033)	7.510*** (1.081)	6.525*** (0.761)	3.777*** (0.716)
Educ. mother 2	9.863*** (0.860)	11.363*** (0.634)	8.248*** (0.661)	5.594*** (0.697)	10.635*** (0.502)	9.518*** (0.541)	5.967*** (1.161)	9.802*** (1.003)	5.693*** (0.942)	9.863*** (0.860)	11.363*** (0.634)	8.248*** (0.661)
Educ. mother 3	7.524*** (1.208)	16.749*** (0.840)	15.880*** (1.030)	4.730*** (0.906)	13.730*** (0.829)	15.565*** (1.075)	2.914* (1.671)	8.254*** (1.414)	9.444*** (1.377)	7.524*** (1.208)	16.749*** (0.840)	15.880*** (1.030)
Educ. father 1	5.280*** (0.994)	6.236*** (0.675)	2.725*** (0.679)	2.762*** (0.682)	2.776*** (0.523)	1.627*** (0.536)	2.789** (1.265)	2.990*** (1.068)	1.656* (0.856)	5.280*** (0.994)	6.236*** (0.675)	2.725*** (0.679)
Educ. father 2	9.447*** (0.874)	11.350*** (0.628)	7.416*** (0.679)	5.458*** (0.601)	9.095*** (0.539)	6.908*** (0.576)	4.231*** (1.078)	9.722*** (1.184)	6.079*** (0.844)	9.447*** (0.874)	11.350*** (0.628)	7.416*** (0.679)
Educ. father 3	7.746***	14.091***	12.939***	1.894**	8.453***	10.735***	2.021	7.027***	6.343***	7.746***	14.091***	12.939***

	(1.177)	(0.896)	(1.157)	(0.952)	(0.790)	(0.974)	(1.730)	(1.487)	(1.488)	(1.177)	(0.896)	(1.157)
School meeting	0.989	2.275***	2.991***	1.180**	2.853***	3.199***	1.898**	3.856***	2.168***	0.989	2.275***	2.991***
	(0.695)	(0.502)	(0.540)	(0.499)	(0.465)	(0.424)	(0.941)	(0.849)	(0.718)	(0.695)	(0.502)	(0.540)
Night shift	-22.879***	-7.076**	-2.687	-9.965**	-3.994	3.113	-16.048	-9.927*	-2.474	-22.879***	-7.076**	-2.687
	(6.782)	(3.202)	(1.652)	(4.247)	(2.758)	(1.940)	(10.695)	(5.307)	(4.190)	(6.782)	(3.202)	(1.652)
Class size	0.057	0.294***	0.203***	0.043	0.216***	0.253***	0.002	0.069	0.127	0.057	0.294***	0.203***
	(0.078)	(0.055)	(0.061)	(0.055)	(0.050)	(0.045)	(0.088)	(0.080)	(0.081)	(0.078)	(0.055)	(0.061)
Age-comp. class	0.477	1.644	1.730	1.970	2.826**	3.053**	-4.169	0.295	-4.085**	0.477	1.644	1.730
	(2.237)	(1.773)	(1.881)	(1.618)	(1.385)	(1.439)	(2.541)	(2.159)	(1.779)	(2.237)	(1.773)	(1.881)
Gr.-comp. class	-1.804**	-2.723***	-2.097***	-1.185*	-2.184***	-2.346***	-3.189***	-2.778***	-2.624***	-1.804**	-2.723***	-2.097***
	(0.862)	(0.665)	(0.670)	(0.641)	(0.577)	(0.552)	(1.110)	(0.912)	(0.944)	(0.862)	(0.665)	(0.670)
Class racial cmp.	3.742	-9.203***	-9.594***	13.131***	8.462***	0.957	24.306***	16.365***	7.703**	3.742	-9.203***	-9.594***
	(3.163)	(2.283)	(2.769)	(2.443)	(2.072)	(1.993)	(4.768)	(3.583)	(3.503)	(3.163)	(2.283)	(2.769)
N.-white teacher	-4.445***	-4.027***	-2.736***	-2.476***	-2.075***	-1.405***	-1.126	-0.702	-0.639	-4.445***	-4.027***	-2.736***
	(0.902)	(0.659)	(0.683)	(0.657)	(0.528)	(0.529)	(1.036)	(0.881)	(0.783)	(0.902)	(0.659)	(0.683)
Male teacher	1.696*	1.061	0.015	1.177*	0.973*	0.891	1.900*	0.836	0.159	1.696*	1.061	0.015
	(0.883)	(0.648)	(0.697)	(0.636)	(0.556)	(0.542)	(1.143)	(0.997)	(0.839)	(0.883)	(0.648)	(0.697)
Exp. Teacher 1	1.500	1.407	0.536	1.776	1.361	-0.975	2.535	0.551	0.195	1.500	1.407	0.536
	(2.149)	(1.228)	(1.218)	(1.446)	(1.372)	(1.376)	(2.378)	(2.100)	(1.611)	(2.149)	(1.228)	(1.218)
Exp. Teacher 2	3.156	3.177***	0.879	2.303	2.775**	0.224	0.571	2.144	2.300	3.156	3.177***	0.879
	(2.142)	(1.218)	(1.169)	(1.442)	(1.370)	(1.385)	(2.375)	(2.086)	(1.530)	(2.142)	(1.218)	(1.169)
Exp. Teacher 3	2.921	4.074***	1.820	2.392	3.253**	1.353	4.504*	3.560*	1.725	2.921	4.074***	1.820
	(2.222)	(1.267)	(1.195)	(1.483)	(1.392)	(1.408)	(2.437)	(2.155)	(1.572)	(2.222)	(1.267)	(1.195)
Pos. Maths teac.	1.263	0.678	0.382	-1.191	-0.175	0.676	-1.712	-0.115	-0.555	1.263	0.678	0.382
	(0.929)	(0.712)	(0.766)	(0.760)	(0.623)	(0.627)	(1.386)	(1.105)	(0.937)	(0.929)	(0.712)	(0.766)
Teacher corrects	11.868***	8.712***	5.580***	10.549***	8.372***	5.803***	7.632***	8.975***	3.728***	11.868***	8.712***	5.580***
	(0.943)	(0.630)	(0.606)	(0.726)	(0.507)	(0.502)	(1.250)	(0.946)	(0.784)	(0.943)	(0.630)	(0.606)
N.-white Princ.	-3.812***	-3.243***	-1.846**	-2.464***	-1.566***	-0.729	-4.594***	-2.234**	-0.418	-3.812***	-3.243***	-1.846**

	(0.962)	(0.713)	(0.737)	(0.656)	(0.584)	(0.574)	(1.126)	(0.941)	(0.897)	(0.962)	(0.713)	(0.737)
Male Principal	0.426	-0.946	-1.127*	-0.230	0.398	-1.247**	1.530	0.034	-1.936**	0.426	-0.946	-1.127*
	(0.896)	(0.665)	(0.681)	(0.668)	(0.603)	(0.583)	(1.137)	(0.985)	(0.878)	(0.896)	(0.665)	(0.681)
Exp. Principal 1	-3.457	-2.192	-10.728*	0.184	-1.540	-6.049*	-2.774	-0.281	-5.259	-3.457	-2.192	-10.728*
	(3.631)	(3.279)	(6.047)	(2.294)	(2.696)	(3.454)	(3.890)	(3.756)	(4.436)	(3.631)	(3.279)	(6.047)
Exp. Principal 2	-2.054	-2.691	-10.713*	-1.282	-2.283	-4.944	-3.686	-0.708	-7.160*	-2.054	-2.691	-10.713*
	(3.338)	(3.131)	(5.986)	(2.127)	(2.586)	(3.393)	(3.572)	(3.560)	(3.987)	(3.338)	(3.131)	(5.986)
Exp. Principal 3	-0.562	-0.695	-9.449	-0.822	-1.916	-4.218	-3.531	0.020	-4.747	-0.562	-0.695	-9.449
	(3.389)	(3.153)	(5.964)	(2.166)	(2.615)	(3.412)	(3.659)	(3.610)	(4.026)	(3.389)	(3.153)	(5.964)
Pos. Principal	0.952	3.917***	3.869***	0.923	1.674**	1.555*	1.511	1.358	1.585	0.952	3.917***	3.869***
	(1.269)	(0.951)	(0.962)	(0.912)	(0.850)	(0.813)	(1.740)	(1.434)	(1.167)	(1.269)	(0.951)	(0.962)
Sch. bad inf. Idx.	-0.131	-0.197*	-0.167	-0.374***	-0.309***	-0.079	-0.250	-0.252	-0.134	-0.131	-0.197*	-0.167
	(0.152)	(0.116)	(0.123)	(0.112)	(0.100)	(0.098)	(0.191)	(0.167)	(0.146)	(0.152)	(0.116)	(0.123)
Violence index	-1.423***	-1.648***	-1.349***	-1.042***	-1.081***	-1.213***	-0.797**	-1.124***	-0.944***	-1.423***	-1.648***	-1.349***
	(0.259)	(0.188)	(0.219)	(0.179)	(0.155)	(0.166)	(0.312)	(0.275)	(0.226)	(0.259)	(0.188)	(0.219)
Urban	11.060***	9.428***	3.578	3.141	6.441***	6.766***	-0.283	-0.233	2.908	11.060***	9.428***	3.578
	(3.940)	(2.159)	(2.195)	(2.223)	(1.905)	(1.083)	(3.331)	(3.657)	(4.578)	(3.940)	(2.159)	(2.195)
Reg. 1	3.120	0.695	-2.504*	4.425***	-1.563	-0.352	7.082***	3.522**	0.777	3.120	0.695	-2.504*
	(2.259)	(1.506)	(1.354)	(1.299)	(1.052)	(0.887)	(1.969)	(1.763)	(1.441)	(2.259)	(1.506)	(1.354)
Reg. 2	5.852***	13.645***	8.589***	3.267***	8.483***	9.186***	-1.038	3.214**	5.281***	5.852***	13.645***	8.589***
	(1.573)	(1.059)	(1.045)	(0.989)	(0.797)	(0.764)	(1.561)	(1.301)	(1.173)	(1.573)	(1.059)	(1.045)
Reg. 3	15.022***	11.688***	0.322	12.146***	13.043***	5.018***	8.485***	10.864***	5.434***	15.022***	11.688***	0.322
	(1.862)	(1.306)	(1.289)	(1.398)	(1.129)	(1.058)	(2.576)	(2.349)	(1.798)	(1.862)	(1.306)	(1.289)
Reg. 4	15.157***	17.682***	7.556***	12.812***	15.286***	9.350***	7.403***	12.818***	9.947***	15.157***	17.682***	7.556***
	(1.752)	(1.300)	(1.516)	(1.118)	(1.018)	(0.976)	(1.890)	(1.730)	(1.931)	(1.752)	(1.300)	(1.516)
Const.	172.568***	232.520***	310.303***	173.679***	227.321***	290.448***	169.980***	230.489***	297.821***	172.568***	232.520***	310.303***
	(6.891)	(4.847)	(7.943)	(4.336)	(4.279)	(4.154)	(6.874)	(6.705)	(7.541)	(6.891)	(4.847)	(7.943)
Obs.	106.392			142.775			31.828			6.467		
R ²	0.0542	0.0903	0.0286	0.0382	0.0805	0.0347	0.0349	0.0735	0.0392	0.0872	0.1059	0.0502

Note: Robust SEs clustered by school in parentheses.

Data: Saeb (2015).