

Table 1*Student's Meta Score (Yearly Average)*

Academic Year	Number of Observations	Average
2015-2016	191,552	2.49
2016-2017	185,281	2.43
2017-2018	162,588	2.41
2018-2019	155,800	2.35

Table 2*Descriptive Statistics of Variables of Interest for the Ordinary Least Squares Estimation on the Academic Impact of Hurricane María on Displaced Students*

Variables	Average/ Proportion	Standard Deviation	Observations
Age	11.44	1.34	85,335
Displaced by María	0.013	0.11	85,335
Average in META 2019	2.19	0.77	85,335
Average in META 2017	2.605	0.85	85,335
Proportion of females	0.515	0.50	85,335
Number of family members	3.86	1.16	85,335
Proportion of students in main cities	0.36	0.48	85,335
Poverty Rate	0.80	0.40	85,335

Notes: The years refer to the fiscal period ending in June. Only valid observations with all the entries available are shown.

Source: Authors' calculations based on the Department of Education (2020)

Table 6*Heckman-Copula Estimation Results*

Dependent Variable: Student's Average META Score

	Model (HC 1)		Model (HC 2)		Model (HC 3)		Model (HC 4)	
n	437,255		433,192		437,255		433,192	
clusters	147,266		146,122		147,266		146,122	
Attrition equation								
Attrition=1 if data include a meta score for the student pre-Hurricane María but none post-hurricane.								
	coef.	p-value	coef.	p-value	coef.	p-value	coef.	p-value
Municipality median age in 2016	-0.0052**	0.023	-0.0040*	0.082	-0.0025	0.309	-0.0015	0.535
Municipality fertility rate in 2016	-0.0038	0.328	-0.0032	0.406	-0.0024	0.549	-0.0019	0.632
Municipality employment rate in 2016	-0.0017**	0.004	-0.0018**	0.003	-0.0012**	0.049	-0.0013**	0.033
Municipality % of owner-occupied households in 2016	-0.0017**	0.000	-0.0019**	0.001	-0.0022**	0.000	-0.0024**	0.000
Municipality % Travel Time to Work>30 minutes	0.7005**	0.000	0.6988**	0.000	0.6579**	0.000	0.6607**	0.000
Group1 -María High Impact	-0.0096	0.446	-0.0159	0.206	0.0354**	0.037	0.0258	0.129
Group2- María Medium Impact					0.0454**	0.000	0.0423**	0.000
Length of school interruption			0.0006**	0.000			0.0006**	0.000
Female	0.0228**	0.002	0.0228**	0.003	0.0228**	0.002	0.0228**	0.003
HH Income below Poverty Threshold	-0.0179**	0.034	-0.0179**	0.034	-0.0181**	0.032	-0.0181**	0.032
Presence of Disability	-0.0884**	0.000	-0.0878**	0.000	-0.0883**	0.000	-0.0878**	0.000
Non-Puerto Rican Hispanic	0.0775**	0.009	0.0783**	0.008	0.0806**	0.006	0.0813**	0.006
Other non-Puerto Rican	0.0269	0.728	0.0270	0.727	0.0286	0.713	0.0284	0.714
School poverty	-1.7668**	0.000	-1.7458**	0.000	-1.7693**	0.000	-1.7488**	0.000
Rural school zone	-0.3134**	0.000	-0.3031**	0.000	-0.3163	0.000	-0.3061**	0.000
constant	0.6073**	0.000	0.5459**	0.000	0.4751	0.000	0.4274**	0.000
Dependent variable: Student's Average META score								
	coef.	p-value	coef.	p-value	coef.	p-value	coef.	p-value
post María	0.2163**	0.000	0.2884**	0.000	0.2208**	0.000	0.3387**	0.000
Group1 -high impact	0.0445**	0.000	0.0434**	0.001	0.1360**	0.000	0.1349**	0.000
Group2- medium impact					0.1294**	0.000	0.1346**	0.000
Group1_post María (treatment effect)	-0.0651**	0.024	-0.0549*	0.059	-0.0739**	0.023	-0.0439	0.187
Group2_post María (treatment effect)					-0.0121	0.588	0.0045	0.843
Length of school interruption			-0.0012**	0.010			-0.0023**	0.000
HH Income below Poverty Threshold	-0.1866**	0.000	-0.1867**	0.000	-0.1867**	0.000	-0.1869**	0.000
Presence of Disability	-0.3864**	0.000	-0.3863**	0.000	-0.3849**	0.000	-0.3847**	0.000
Poverty post María	-0.0269**	0.040	-0.0265**	0.043	0.0100	0.639	0.0086	0.687

Disability post María	-0.1614**	0.000	-0.1629**	0.000	-0.1062**	0.000	-0.1111**	0.000
Group1*poverty*post María	-0.0534*	0.104	-0.0529	0.107	-0.0890**	0.016	-0.0859**	0.020
Group1 * disability*post María	-0.0429	0.152	-0.0411	0.169	-0.0991**	0.003	-0.0936**	0.005
Group2 * poverty* post María					-0.0511**	0.048	-0.0483*	0.062
Group2 *disability*post María					-0.0780**	0.001	-0.0730**	0.002
Female	0.1432**	0.000	0.1429	0.000	0.1443**	0.000	0.1440**	0.000
Non-Puerto Rican Hispanic	0.0473	0.112	0.0464	0.119	0.0662**	0.025	0.0655**	0.026
Other non-Puerto Rican	0.0254	0.747	0.0245	0.756	0.0259	0.742	0.0245	0.755
School Poverty Headcount	-1.7837**	0.000	-1.7791	0.000	-1.8131**	0.000	-1.8070**	0.000
Rural School Zone	0.0248**	0.001	0.0256	0.000	0.0103	0.166	0.0106	0.152
constant	3.4597**	0.000	3.4525	0.000	3.3939**	0.000	3.3856**	0.000
Wald test of independence	632.5**	0.000	623.9	0.000	652.2**	0.000	645.3**	0.000

Note:

All models presented include school grade indicator variables.

* Significant at a 0.10 level

**Significant at a 0.05 level

Table 7*PSM Results*

Dependent Variable: Student's average META Score.

Treatment Model: logit

Treatment Group 1 = enrolled in a highly impacted municipality in academic year 2017-2018

	Years Included	Students Included	Covariates:	# of Observations	ATET	p- value
Model (PSM 1)	2018 and 2019	all	poverty, disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural, year.	313,023	-0.0363**	0.000
Model (PSM 2)	2018	all	poverty, disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural	162,588	-0.0499**	0.000
Model (PSM 3)	2019	all	poverty, disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural	150,435	-0.0584**	0.000
Model (PSM 4)	2018 and 2019	all	poverty, disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural, year, <i>length of school interruption</i> .	309,101	-0.0274**	0.000
Model (PSM 5)	2018	all	poverty, disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural, <i>length of school interruption</i> .	160,657	-0.0387**	0.001
Model (PSM 6)	2019	all	poverty, disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural, <i>length of school interruption</i> .	148,444	-0.0220*	0.068

Model (PSM 7)	2018 and 2019	students living in households with income under the poverty threshold	disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural, year.	245,853	-0.0280**	0.000
Model (PSM 8)	2018	students living in households with income under the poverty threshold	disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural	126,426	-0.0272**	0.031
Model (PSM 9)	2019	students living in households with income under the poverty threshold	disability, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural	119,427	-0.0222*	0.073
Model (PSM 10)	2018 and 2019	students with disabilities	poverty, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural, year.	98,793	-0.0466**	0.000
Model (PSM 11)	2018	students with disabilities	poverty, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural	50,959	-0.0456**	0.012
Model (PSM 12)	2019	students with disabilities	poverty, school poverty, sex, school grade, non-Puerto Rican Hispanic, other non-Puerto Rican, household size, rural	47,834	-0.0668**	0.000

Table 8*OLS Estimation, Academic Impact of Hurricane María on Displaced Students*

	<i>Dependent variable:</i>		
	(2019 Average Score in standardized test – 2017 Average Score in standardized test)		
School Closed by Hurricane María	-0.085*** (0.025)	-0.06** (0.024)	-0.06** (0.024)
Poverty Level	-0.067*** (0.007)	-0.075*** (0.007)	-0.075*** (0.007)
Main Cities	0.028*** (.006)	0.024*** (.006)	0.024*** (.006)
Sex	-0.054*** (0.0055)	-0.06*** (0.0055)	-0.06*** (0.0055)
Age		0.07*** (0.002)	0.07*** (0.002)
Number of Family Members			0.001 (.002)
n-1	85,330	85,329	85,328
Adjusted R ²	0.003	0.016	0.02

Notes: Standard errors are shown in parenthesis. The *** indicates that the estimate was statistically significant at 99% confidence level and ** at 95% confidence level.

Source: Author's calculation based on the Department of Education (2020)

Table 9*Results from Duration Model Regression Analysis—Days to Dropout*

2018 Cohorts									
Covariates	2018 Eighth Grade Cohort				2018 10th Grade Cohort				
	Cox Proportional Hazards Regression		Parametric Regression (Weibull Distribution)		Cox Proportional Hazards Regression		Parametric Regression (Weibull Distribution)		
	Hazard Ratio	p-value	Hazard Ratio	p-value	Hazard Ratio	p-value	Hazard Ratio	p-value	p-value
María High Impact Group	0.945	0.625	0.944	0.621	0.635**	0.000	0.633**	0.000	
María Medium Impact Group	1.184**	0.031	1.181**	0.034	0.919	0.254	0.918	0.248	
HH Income below Poverty Threshold	1.445**	0.000	1.439**	0.000	1.790**	0.000	1.795**	0.000	
Presence of Disability	0.720**	0.000	0.722**	0.000	0.860*	0.052	0.859*	0.052	
7th grade Meta Score	0.468**	0.000	0.472**	0.000					
8th grade Meta Score					0.470**	0.000	0.468**	0.000	
Female	0.710**	0.000	0.713**	0.000	0.778**	0.000	0.777**	0.000	
Non-Puerto Rican	1.940**	0.002	1.951**	0.002	1.060	0.817	1.062	0.811	
Rural	0.861*	0.072	0.860*	0.070	0.776**	0.004	0.777**	0.004	
School Poverty Headcount	3.397**	0.022	3.443**	0.020	1.999**	0.044	2.009**	0.043	
Global Test for Proportional-Hazards Assumptions Chi ²	59.75 0.000**				23.660 0.002**				

2020 Cohorts					
	Cox Proportional Hazards Regression		2020 10th Grade Cohort		
	Parametric Regression (Weibull Distribution)		Cox Proportional Hazards Regression		Parametric Regression (Weibull Distribution)

Covariates	Hazard		Hazard		Hazard		Hazard	
	Ratio	<i>p</i> -value	Ratio	<i>p</i> -value	Ratio	<i>p</i> -value	Ratio	<i>p</i> -value
Earthquake High Impact Group	2.105**	0.044	2.107**	0.044	0.719	0.338	0.720	0.339
Earthquake Medium Impact Group	1.047	0.790	1.048	0.787	1.220**	0.031	1.220**	0.031
HH Income below Poverty Threshold	1.105	0.662	1.106	0.660	1.471**	0.003	1.470**	0.003
Presence of Disability	1.020	0.916	1.019	0.918	0.839*	0.098	0.842	0.104
Seventh grade Meta Score	0.605**	0.000	0.604**	0.000				
Eighth grade Meta Score					0.471**	0.000	0.472**	0.000
Female	0.851	0.350	0.851	0.350	0.764**	0.003	0.765**	0.003
Non-Puerto Rican	1.590	0.360	1.585	0.364	0.930	0.850	0.931	0.851
Rural	0.897	0.591	0.894	0.577	1.022	0.842	1.022	0.842
School Poverty Headcount	8.638*	0.073	8.277*	0.077	3.349*	0.056	3.324**	0.057
Global Test for Proportional-Hazards Assumptions Chi ²					9.710	0.374		

Note:

* Significant at a 0.10 level

**Significant at a 0.05 level