Seeing is Believing: The Effect of Television on the Identity and Lives of Hispanic People *

Andrew Kao†

January 2020

Abstract

Here's an abstract

*We would like to thank XYZ and Trip from SatelliteGuys for technical advice.

†University of Chicago, andrewkao@uchicago.edu.

1 Introduction

Mass media lets us know what the outside world thinks, and this shapes the way that we think.

- Media plays a large role in shaping our lives
- Latino consumption of broadcast TV remains relevant
- Relevant subquestion: how identity is affected

Three domains

- Education
- Firms
- Politics

The high level research question is to look at the effect of reinforcing identity within Hispanic populations on their schooling outcomes. Specifically, I'll be using the influence of Spanish language television as the channel by which identity is reinforced, and look at how it affects everything from graduation rates to disciplinary action taken to math abilities and English proficiency for Hispanic students in public schools. In short, if I have access to more programming from my home country, does this make me less engaged in school (perhaps because there are more distractions or because it socially ostracizes me etc.), or does this make me perform better (perhaps because l have more role models or because I have something to talk with peers about in school, and hence motivation to attend/perform)?

There's good reason to believe that identity, as reinforced through mass media, has a large effect on the lives people lead. @CITE Oberholzer-Gee, Waldfogel (AER 2009) demonstrate that the presence of Spanish language local news increases Hispanic voter turnout, while @CITE Yanigazawa-Drott (QJE 2014) shows that radio broadcasts in Rwanda contributed to the violence and genocide that took place in the 90s. It would be reasonable to think then, that there could be a meaningful effect of Spanish language TV on education.

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2 Data

2.1 Broadcast TV and Geography

The central instrument in this paper is the discontinuity in coverage contours introduced via FCC regulation.

Coverage Contours Digital and satellite TV stations operate by broadcasting signals from a central antenna, and the field strength at a given point resulting from this antenna is a mechanical product of several factors: The antenna's ERP (Effective Radiated Power, which is the amount of input power given to the antenna adjusted for idiosyncrasies in the antenna that may boost

or attenuate the effective power), the antenna's HAAT (High Above Average Terrain), and the distance from the point to the antenna.

This signal declines in strength as one grows more distant from the station, making it subject to interference. The FCC regulation OET Bulletin No. 69 @CITE protects signals for commercial TV stations from interference in a contour area for which service holds at 50% of locations 90% of the time.[1] An example of this coverage contour can be seen in Figure 1; note that they tend to be sizable enough to fully cover major metropolitan areas, with contours boundaries ending substantially beyond them.

To build the coverage contours of SLTV stations in the US, we collected a list of the callsigns for all SLTV stations via the TMS (a large provider of data on TV, movies, and other media) API.[2] There are 100 of these stations located across the United States. These callsigns were then matched against data from the FCC's OET Bulletin 69 and the FCC's CDBS Database to directly obtain the relevant coverage contour boundaries as prescribed and regulated by the FCC. [3] A map of all these contours can be seen in Figure 2.

Geocoding Location data for outcomes was all collected in the form of text addresses. To transform this into proper spatial data/coordinates, two geocoding tools were used: (1) ArcGIS, which has its own proprietary database of locations. Over 99% of addresses were successfully matched to one location and geocoded. This was used to geocode the schooling data, as well as portions of the campaign contribution data. (2) The US Census Geocoder, which contains the census database of locations. Over 80% of addresses were successfully matched to one location and geocoded.[4] This was used to geocode the business data, as well as portions of the campaign contribution data. It is unlikely for non-geocoded addresses to be correlated with the instrument, given the relatively narrow band around the contour retained for the spatial regression discontinuity.

For data that take the form of spatial points (such as the location of a school), determining its distance to the boundary and whether the datapoint falls within the coverage boundary is a straightforward process. For data that cover a wider area (such as a county), in the standard specification, the area is said to fall within the coverage boundary if at least some portion of it does, and the distance from the area to the boundary is taken as the minimum distance from the boundary to the area. In locations covered by multiple SLTV stations, the distance to the boundary is taken as the distance to the closest boundary.

[1] There is a small adjustment made for different channel numbers, which have varying noise-limited coverage.

[2] A TV station is defined to be SLTV if at least one of the primary broadcasts languages are Spanish.

[3] 2015 coverage contour data is used due to the 'FCC Spectrum Repack' that began in 2018, which relocates a number of signals, affecting the reception and coverage for a substantial number of stations.

[4] The US Census geocoder, unlike the ArcGIS geocoder, is free. However, due to the higher precision of the ArcGIS geocoder, data constructed from it is used wherever possible.

2.2 Controls and Other Non-Outcome Data

Controls at the county level are sourced from IPUMS and consist of basic relevant demographic information: population, income, percent of county that is Hispanic etc. County level data is mapped to its relevant location using census data as well.

Data on migration comes from the 2011-2015 ACS, which reports the number of people moving from each origin county to destination county (aggregated over the years).[5] This sample also contains migration flows by Hispanic origin, allowing us to determine whether they move based on geographic boundaries.

Finally, data for specific outcomes are discussed under their relevant section.

3 Empirical Strategy

To isolate the causal effect of Spanish language television, I adopt the technique used in Velez and Newman (2019) and generalize it from three counties to the entirety of the US.[6] Newman and Velez exploit a FCC (Federal Communications Commission) regulation which determines the distance from a TV station in which the station's broadcast signal is protected from interference.

The instrument consists of two variables interacted: First, a dummy whether the outcome data falls

This creates a natural regression discontinuity, where the decaying strength of a signal over distance is combined with this cutoff in broadcast protection to create a split among people just inside and outside these coverage 'contours' that are presumably comparable save for their access to broadcast TV.

In the case of Spanish language TV in particular, this should allow me to examine its causal effect on Hispanic populations for spatially located outcomes, such as public schooling results. It's worth noting that these contours are purely determined by an algorithm that looks at things like local elevation and antennae strength, so that the cutoffs are located in more or less random locations, and that coverage is large enough that these contours tend to cut across towns and suburbs, rather than cities. Finally, regressions using US census data indicate that Hispanic people do not migrate across counties in response to these contours.

A standard regression thus looks like restricting the universe of schools to only those within a small radius of the contour boundary, where the key independent variable of interest is an indicator for the school being inside or outside the boundary.

[5] Historically, approximately 15% of the ACS migration data has been allocated (imputed based on salient characteristics). @CITTE(https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/)

[6] The paper was retracted in 2019, but this was due to usage of unauthorized data, and unrelated to the efficacy of the underlying identification strategy.

3.1 Main Specification

A standard regression thus looks like restricting the universe of schools to only those within a small radius of the contour boundary, where the key independent variable of interest is an indicator for the school being inside or outside the boundary, interacted with the distance to the boundary:

$$Y_i^{j,k} = \beta_0 + \beta \mathbb{I}[InsideContour_i] \times Distance_i + \gamma X_i + \delta Z^j + \epsilon_i^k \quad \epsilon \overset{iid}{\sim} N(0, \sigma_i^{k^2})$$

where Y_i is an outcome for school i in county j and school district k, X is a vector of school-level controls, and Z is a vector of county-level controls. Errors are often clustered by school district, meaning that $Corr(\sigma_i^k, \sigma_{i'}^k) \neq 0$ is permissible.

By limiting the analysis to a small distance from the contour boundary (100 KM/63 miles by default), we also minimize the potential concerns of omitted variable bias etc., as these schools must now be at least fairly close to one another, meaning that they probably share many overarching characteristics.

3.2 Migration

4 Public Schools

4.1 Data

The data on public schools comes from the US Department of Education's CRDC (Civil Rights Data Collection) dataset in 2015. In order to prevent discrimination and for transparency purposes, all public schools in the United States are required to report a substantial amount of information for the CRDC on an annualized basis.[7]

It's a very large dataset with a ton of outcome/control variables, but importantly, it breaks down all major variables of interest by ethnicity. These variables includes graduation rates, chronic absenteeism, suspensions, expulsions, arrests, bullying, AP test results, English proficiency, math class performances, gifted program enrolment etc., so I can look at effects on both the top and bottom end of the distribution, and examine potential mechanisms driving outcomes.

As mentioned, the locations of these schools are found using ArcGIS.

4.2 Results

4.3 Discussion

Interpret magnitudes

[7] In practice, this data is not released to the public every year. Furthermore, not all schools report all data (or correct data) required of them, which is why the number of observations for different variables in this dataset fluctuates

Table 1: School-District Level Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Distance to Boundary	17,280	136.855	146.751	0.000	15.786	217.567	806.543
SLTV Coverage Dummy	17,280	0.292	0.455	0.000	0.000	1.000	1.000
% County Hispanic	17,280	7.051	11.950	0.000	0.668	6.974	97.216
Log(Population)	17,280	11.618	1.840	5.869	10.242	13.110	15.997
Log(Income)	17,280	9.428	0.257	7.976	9.257	9.593	10.245

Note: Distance to SLTV Boundary measured in KM

Table 2: School Level Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Total Students	96,349	524.859	449.354	2.000	254.000	662.000	14,164.000
# Hispanic Students	91,019	143.195	243.873	2.000	13.000	166.000	7,675.000
Contains Grade 1	96,350	0.538	0.499	0	0	1	1
Contains Grade 6	96,350	0.364	0.481	0	0	1	1
Contains Grade 9	96,350	0.253	0.435	0	0	1	1
Hispanic Suspension Dummy	94,535	0.382	0.486	0.000	0.000	1.000	1.000
Hispanic Chronic Absentees	94,540	22.920	57.838	0.000	0.000	22.000	2,131.000
# Teachers	93,934	35.219	33.892	1.000	19.000	44.000	6,031.000

Note: Dummies indicate whether event occurred in the school over the past year

Evidence of Mechanism Targeting based on identity

5 Firms

5.1 Data

5.2 Results

5.3 Discussion

6 Campaign Contributions

6.1 Data

6.2 Results

6.3 Discussion

7 Conclusion

Summary

Future work: Political angle, examining mechs

References

Velez, Yamil Ricardo, and Benjamin J. Newman. 2019. "Tuning In, Not Turning Out: Evaluating the Impact of Ethnic Television on Political Participation." *American Journal of Political Science*, 63(4): 808–823.

Figures and Tables

Figure 1: Coverage Map for WUVC-DT

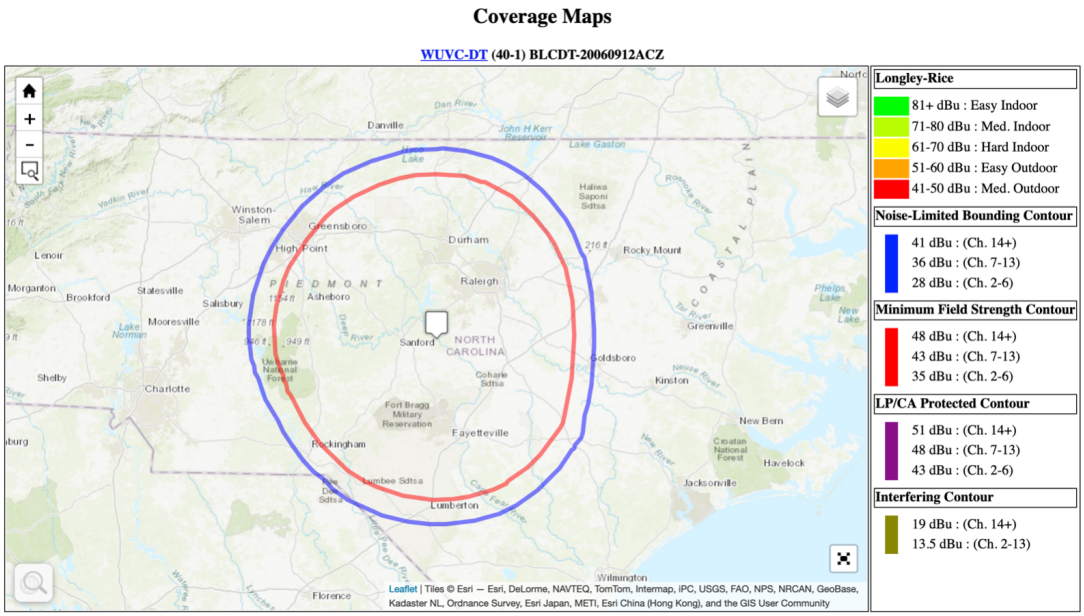

Figure 2: The Coverage Contours of Spanish Language TV stations

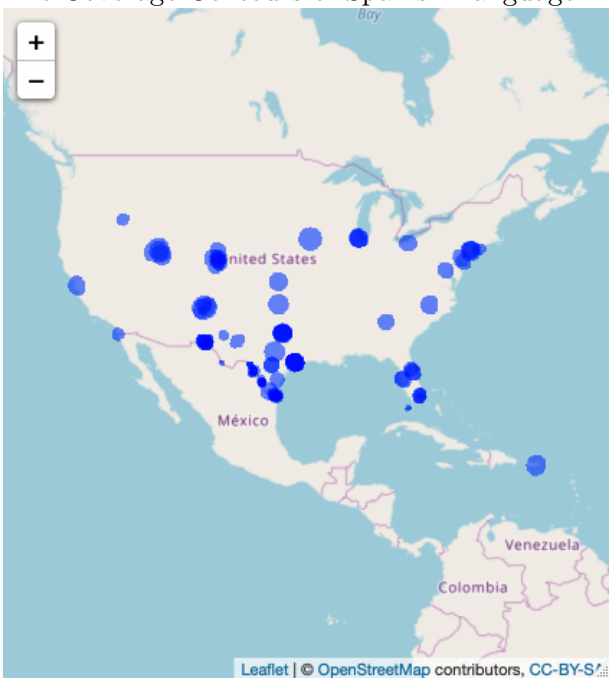

Table 3: Effect of TV on Migration, Outside Sample Distance Dummy

	Dependent variable:		
	mig		
	(1)	(2)	(3)
TV	−138.970***	−160.743***	−164.748***
	(50.833)	(55.860)	(58.288)
origLogPop	55.128***	49.692***	54.916***
	(16.276)	(10.915)	(17.009)
destLogPop	79.360**	75.183**	72.917**
	(31.339)	(29.864)	(28.813)
origpcHisp		424.714***	380.709***
		(149.604)	(130.054)
destpcHisp		490.885***	518.338***
		(145.334)	(159.358)
origLogInc			−58.140
			(90.270)
destLogInc			29.220
			(25.991)
mi_to_county	−0.181***	−0.219***	−0.220***
	(0.061)	(0.064)	(0.065)
Constant	−1,446.295***	−1,395.887***	−1,156.459**
	(520.832)	(457.051)	(584.710)
Observations	3,704	3,704	3,704
R^2	0.045	0.064	0.064
Adjusted R^2	0.044	0.062	0.062
Residual Std. Error	646.360 (df = 3699)	640.108 (df = 3697)	640.222 (df = 3695)
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 4: Effect of TV on Reverse Migration, Outside Sample Distance Dummy

	Dependent variable:		
	revMig		
	(1)	(2)	(3)
TV	−272.468***	−302.891***	−290.716***
	(87.512)	(96.017)	(95.484)
origLogPop	161.229***	136.370***	138.851***
	(59.972)	(40.537)	(47.270)
destLogPop	148.127**	144.794**	156.419**
	(63.158)	(64.019)	(66.248)
origpcHisp		894.758**	890.891***
		(372.920)	(323.861)
destpcHisp		683.396***	574.860***
		(191.365)	(178.543)
origLogInc			−17.479
			(161.210)
destLogInc			−121.820**
			(62.089)
mi_to_county	−0.442**	−0.504***	−0.506***
	(0.176)	(0.172)	(0.172)
Constant	−3,472.526**	−3,281.295***	−2,122.032*
	(1,386.592)	(1,181.058)	(1,169.812)
Observations	1,526	1,526	1,526
R^2	0.091	0.118	0.119
Adjusted R^2	0.089	0.115	0.114
Residual Std. Error	1,015.579 (df = 1521)	1,001.034 (df = 1519)	1,001.478 (df = 1517)
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 5: Effect of TV on Hispanic Donations to Trump, 100 KM Radius

	Dependent variable:		
	donations		
	(1)	(2)	(3)
intersects	2.941***	2.506**	2.175**
	(1.079)	(1.093)	(1.072)
distance	0.061	0.062	0.068
	(0.123)	(0.123)	(0.120)
dist2	−0.0002	−0.0002	−0.0002
	(0.001)	(0.001)	(0.001)
logPop	12.674***	12.919***	8.877***
	(0.586)	(0.595)	(0.674)
pcHispanic		9.646**	37.604***
		(4.019)	(4.584)
income			0.004***
			(0.0004)
intersects:distance	−0.049	−0.039	−0.059
	(0.083)	(0.083)	(0.082)
intersects:dist2	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)
Constant	−125.487***	−129.366***	−139.563***
	(6.528)	(6.721)	(6.643)
Observations	3,479	3,479	3,479
R^2	0.193	0.194	0.226
Adjusted R^2	0.191	0.192	0.224
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 6: Effect of TV on Hispanic Donations to Trump, 100 KM Radius

	Dependent variable:		
	donations_d		
	(1)	(2)	(3)
intersects	1.767***	1.342*	1.191*
	(0.682)	(0.690)	(0.684)
distance	0.024	0.025	0.028
	(0.078)	(0.077)	(0.077)
dist2	0.00001	0.00005	0.0001
	(0.001)	(0.001)	(0.001)
logPop	6.643***	6.881***	5.039***
	(0.371)	(0.376)	(0.430)
pcHispanic		9.393***	22.133***
		(2.538)	(2.923)
income			0.002***
			(0.0002)
intersects:distance	−0.012	−0.003	−0.012
	(0.053)	(0.053)	(0.052)
intersects:dist2	0.002**	0.002**	0.002**
	(0.001)	(0.001)	(0.001)
Constant	−66.314***	−70.092***	−74.738***
	(4.128)	(4.245)	(4.237)
Observations	3,479	3,479	3,479
R^2	0.140	0.143	0.161
Adjusted R^2	0.138	0.141	0.159
Note:		*p<0.1; **p<0.05; ***p<0.01	

Table 7: Effect of TV on Hispanic Donations to Clinton, 100 KM Radius

	Dependent variable:		
	donations		
	(1)	(2)	(3)
intersects	0.966	0.610	0.454
	(0.777)	(0.787)	(0.781)
distance	0.090	0.091	0.093
	(0.088)	(0.088)	(0.088)
dist2	−0.001	−0.001	−0.001
	(0.001)	(0.001)	(0.001)
logPop	5.182***	5.382***	3.480***
	(0.422)	(0.428)	(0.491)
pcHispanic		7.899***	21.049***
		(2.895)	(3.340)
income			0.002***
			(0.0003)
intersects:distance	−0.066	−0.057	−0.067
	(0.060)	(0.060)	(0.060)
intersects:dist2	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)
Constant	−52.593***	−55.770***	−60.566***
	(4.703)	(4.841)	(4.841)
Observations	3,479	3,479	3,479
R^2	0.078	0.080	0.095
Adjusted R^2	0.076	0.078	0.093
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 8: Effect of TV on Hispanic Donations to Clinton, 100 KM Radius

	Dependent variable:		
	donations_d		
	(1)	(2)	(3)
intersects	0.153	0.049	0.014
	(0.181)	(0.183)	(0.182)
distance	0.009	0.009	0.009
	(0.021)	(0.021)	(0.020)
dist2	−0.00002	−0.00001	−0.00000
	(0.0002)	(0.0002)	(0.0002)
logPop	1.274***	1.333***	0.900***
	(0.098)	(0.100)	(0.114)
pcHispanic		2.305***	5.296***
		(0.673)	(0.777)
income			0.0005***
			(0.0001)
intersects:distance	0.003	0.005	0.003
	(0.014)	(0.014)	(0.014)
intersects:dist2	0.0004*	0.0004*	0.0004*
	(0.0002)	(0.0002)	(0.0002)
Constant	−12.861***	−13.788***	−14.879***
	(1.094)	(1.125)	(1.126)
Observations	3,479	3,479	3,479
R^2	0.084	0.087	0.102
Adjusted R^2	0.082	0.085	0.100
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 9: Effect of TV on IHS(Hispanic Out of School Suspension)

	Dependent variable:			
	IHS(# Hispanic Out of School Suspension)			
	(1)	(2)	(3)	(4)
TV Dummy	0.189^{***}	0.053^{***}	0.072^{***}	0.033^{**}
	(0.020)	(0.016)	(0.016)	(0.016)
TV Dummy × Distance to Boundary	0.013^{***}	0.003^{***}	0.005^{***}	0.005^{***}
	(0.001)	(0.001)	(0.001)	(0.001)
TV Dummy × Distance2	-0.0002^{***}	-0.00001	-0.00003	-0.00002
	(0.00002)	(0.00002)	(0.00002)	(0.00002)
Distance to Boundary (meters)	-0.006^{***}	-0.004^{***}	-0.004^{***}	-0.006^{***}
	(0.001)	(0.001)	(0.001)	(0.001)
Distance2	0.00005^{***}	0.00004^{***}	0.00004^{***}	0.00005^{***}
	(0.00001)	(0.00001)	(0.00001)	(0.00001)
% County Hispanic	1.356^{***}	-0.300^{***}	-0.326^{***}	-0.550^{***}
	(0.044)	(0.041)	(0.040)	(0.042)
Log(Population)	-0.218^{***}	-0.430^{***}	-0.371^{***}	-0.575^{***}
	(0.023)	(0.019)	(0.019)	(0.022)
# Teachers at School		0.007^{***}	0.005^{***}	0.006^{***}
		(0.0003)	(0.0003)	(0.0003)
# Hispanic Students		0.002^{***}	0.002^{***}	0.002^{***}
		(0.00003)	(0.00003)	(0.00003)
Total Students		0.0001^{***}	0.0001^{***}	0.00004^{*}
		(0.00002)	(0.00002)	(0.00002)
Contains Grade 1			-0.545^{***}	-0.558^{***}
			(0.011)	(0.011)
Contains Grade 6			0.202^{***}	0.192^{***}
			(0.010)	(0.010)
Contains Grade 9			0.011	0.010
			(0.013)	(0.013)
Log(Income)				0.067^{***}
	15			(0.004)
Observations	45,947	45,947	45,947	45,947
R^2	0.067	0.344	0.400	0.404
Adjusted R^2	0.067	0.344	0.400	0.403

Table 10: Effect of TV on IHS(Hispanic # Harassment Victims)

	Dependent variable:			
	IHS(# Hispanic Victims of Harassment)			
	(1)	(2)	(3)	(4)
TV Dummy	0.021***	0.018***	0.018***	0.022***
	(0.004)	(0.004)	(0.004)	(0.004)
TV Dummy × Distance to Boundary	−0.001*	−0.001**	−0.001**	−0.001**
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
TV Dummy × Distance2	0.00000	0.00000	0.00000	0.00000
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
Distance to Boundary (meters)	−0.0004**	−0.0004*	−0.0004*	−0.0003
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Distance2	0.00000*	0.00000*	0.00000*	0.00000
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
% County Hispanic	0.023**	−0.005	−0.005	0.015
	(0.010)	(0.011)	(0.011)	(0.011)
Log(Population)	0.060***	0.048***	0.051***	0.070***
	(0.005)	(0.005)	(0.005)	(0.006)
# Teachers at School		0.001***	0.001***	0.001***
		(0.0001)	(0.0001)	(0.0001)
# Hispanic Students		0.00003***	0.00004***	0.00004***
		(0.00001)	(0.00001)	(0.00001)
Total Students		−0.00002***	−0.00003***	−0.00002***
		(0.00001)	(0.00001)	(0.00001)
Contains Grade 1			−0.037***	−0.036***
			(0.003)	(0.003)
Contains Grade 6			0.027***	0.028***
			(0.003)	(0.003)
Contains Grade 9			−0.009**	−0.009**
			(0.004)	(0.004)
Log(Income)				−0.006***
				(0.001)
Observations	45,894	45,894	45,894	45,894
R^2	0.008	0.014	0.021	0.022
Adjusted R^2	0.007	0.014	0.021	0.022

Table 11: Effect of TV on IHS(APs Taken)

	Dependent variable:			
	IHS(APs Taken by Hispanic Students)			
	(1)	(2)	(3)	(4)
TV Dummy	0.307***	0.223***	0.232***	0.166***
	(0.065)	(0.048)	(0.047)	(0.047)
TV Dummy × Distance to Boundary	0.016***	0.007*	0.006*	0.008**
	(0.005)	(0.004)	(0.004)	(0.004)
TV Dummy × Distance2	−0.0001*	−0.00002	−0.00002	−0.00002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Distance to Boundary (meters)	−0.0002	0.003	0.003	−0.002
	(0.004)	(0.003)	(0.003)	(0.003)
Distance2	−0.00005	−0.0001*	−0.0001**	−0.00002
	(0.00005)	(0.00003)	(0.00003)	(0.00003)
% County Hispanic	2.358***	1.012***	1.042***	0.764***
	(0.124)	(0.108)	(0.107)	(0.111)
Log(Population)	−0.319***	−0.033	−0.044	−0.266***
	(0.072)	(0.054)	(0.054)	(0.060)
# Teachers at School		−0.005***	−0.005***	−0.005***
		(0.0005)	(0.0005)	(0.0005)
# Hispanic Students		0.001***	0.001***	0.001***
		(0.00003)	(0.00003)	(0.00003)
Total Students		0.0003***	0.0003***	0.0003***
		(0.00003)	(0.00003)	(0.00003)
Contains Grade 1			−0.532***	−0.564***
			(0.126)	(0.124)
Contains Grade 6			−0.170**	−0.225***
			(0.068)	(0.067)
Contains Grade 9			0.153*	0.189**
			(0.079)	(0.078)
Log(Income)				0.098***
				(0.012)
Observations	2,342	2,342	2,342	2,342
R^2	0.311	0.626	0.634	0.644
Adjusted R^2	0.309	0.624	0.632	0.642

Table 12: Effect of TV on IHS(APs Passed)

	Dependent variable:			
	IHS(APs Passed by Hispanic Students)			
	(1)	(2)	(3)	(4)
TV Dummy	0.305***	0.242***	0.251***	0.184***
	(0.061)	(0.052)	(0.052)	(0.052)
TV Dummy × Distance to Boundary	0.005	−0.003	−0.004	−0.002
	(0.005)	(0.004)	(0.004)	(0.004)
TV Dummy × Distance2	−0.00004	0.00005	0.0001	0.00005
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Distance to Boundary (meters)	0.005	0.007**	0.008**	0.003
	(0.004)	(0.003)	(0.003)	(0.003)
Distance2	−0.0001*	−0.0001***	−0.0001***	−0.0001
	(0.00004)	(0.00004)	(0.00004)	(0.00004)
% County Hispanic	1.902***	1.306***	1.332***	1.053***
	(0.118)	(0.117)	(0.117)	(0.122)
Log(Population)	0.144**	0.383***	0.377***	0.153**
	(0.069)	(0.058)	(0.059)	(0.065)
# Teachers at School		−0.005***	−0.005***	−0.004***
		(0.001)	(0.001)	(0.001)
# Hispanic Students		0.001***	0.001***	0.001***
		(0.00004)	(0.00004)	(0.00004)
Total Students		0.0004***	0.0004***	0.0004***
		(0.00003)	(0.00003)	(0.00003)
Contains Grade 1			−0.216	−0.248*
			(0.137)	(0.136)
Contains Grade 6			−0.186**	−0.241***
			(0.074)	(0.074)
Contains Grade 9			0.133	0.169**
			(0.086)	(0.085)
Log(Income)				0.098***
				(0.013)
Observations	2,342	2,342	2,342	2,342
R^2	0.195	0.429	0.433	0.447
Adjusted R^2	0.193	0.426	0.430	0.443

Table 13: Effect of TV on IHS(LEP)

	Dependent variable:			
	IHS(Hispanic # Limited English Proficiency)			
	(1)	(2)	(3)	(4)
TV Dummy	0.388***	0.123***	0.079***	0.068***
	(0.027)	(0.023)	(0.022)	(0.022)
TV Dummy × Distance to Boundary	0.013***	0.010***	0.009***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
Distance to Boundary (meters)	−0.006***	−0.005***	−0.004***	−0.005***
	(0.0004)	(0.0003)	(0.0003)	(0.0003)
% County Hispanic	4.237***	0.977***	1.061***	0.994***
	(0.066)	(0.062)	(0.060)	(0.063)
Log(Population)	0.561***	0.367***	0.253***	0.191***
	(0.035)	(0.029)	(0.028)	(0.033)
# Teachers at School		−0.0001	0.002***	0.003***
		(0.001)	(0.0005)	(0.0005)
# Hispanic Students		0.005***	0.004***	0.004***
		(0.00004)	(0.00004)	(0.00004)
Total Students		0.0001***	0.0003***	0.0003***
		(0.00003)	(0.00003)	(0.00003)
Contains Grade 1			0.338***	0.334***
			(0.016)	(0.016)
Contains Grade 6			−0.278***	−0.281***
			(0.015)	(0.015)
Contains Grade 9			−0.840***	−0.840***
			(0.019)	(0.019)
Log(Income)				0.020***
				(0.006)
Observations	46,709	46,709	46,709	46,709
R^2	0.175	0.427	0.479	0.479
Adjusted R^2	0.175	0.427	0.479	0.479
Note:	19		*p<0.1; **p<0.05; ***p<0.01	

Table 14: Effect of TV on IHS(Gifted)

	Dependent variable:			
	IHS(Hispanic # Gifted Students)			
	(1)	(2)	(3)	(4)
TV Dummy	0.228***	0.074***	0.080***	0.068***
	(0.025)	(0.021)	(0.021)	(0.021)
TV Dummy × Distance to Boundary	0.029***	0.022***	0.022***	0.022***
	(0.002)	(0.002)	(0.002)	(0.002)
TV Dummy × Distance2	−0.0003***	−0.0002***	−0.0002***	−0.0002***
	(0.00003)	(0.00002)	(0.00002)	(0.00002)
Distance to Boundary (meters)	−0.009***	−0.008***	−0.008***	−0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
Distance2	0.0001***	0.0001***	0.0001***	0.0001***
	(0.00001)	(0.00001)	(0.00001)	(0.00001)
% County Hispanic	4.585***	2.582***	2.644***	2.531***
	(0.059)	(0.057)	(0.056)	(0.060)
Log(Population)	0.952***	0.563***	0.630***	0.524***
	(0.036)	(0.031)	(0.031)	(0.037)
# Teachers at School		0.002***	0.001	0.001
		(0.0005)	(0.0005)	(0.0005)
# Hispanic Students		0.002***	0.002***	0.002***
		(0.00004)	(0.00004)	(0.00004)
Total Students		0.001***	0.001***	0.001***
		(0.00003)	(0.00003)	(0.00003)
Contains Grade 1			−0.441***	−0.445***
			(0.017)	(0.017)
Contains Grade 6			0.062***	0.061***
			(0.015)	(0.015)
Contains Grade 9			−0.297***	−0.292***
			(0.021)	(0.021)
Log(Income)				0.030***
	20			(0.006)
Observations	28,577	28,577	28,577	28,577
R^2	0.309	0.516	0.532	0.533
Adjusted R^2	0.309	0.516	0.532	0.532

Table 15: Effect of TV on IHS(Gifted)

	Dependent variable:			
	IHS(Hispanic # Gifted Students)			
	(1)	(2)	(3)	(4)
TV Dummy	0.333***	0.149***	0.155***	0.144***
	(0.024)	(0.020)	(0.020)	(0.020)
TV Dummy × Distance to Boundary	0.009***	0.008***	0.008***	0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Distance to Boundary (meters)	−0.003***	−0.003***	−0.003***	−0.003***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
% County Hispanic	4.584***	2.578***	2.640***	2.530***
	(0.059)	(0.057)	(0.056)	(0.060)
Log(Population)	0.960***	0.565***	0.630***	0.527***
	(0.036)	(0.031)	(0.031)	(0.037)
# Teachers at School		0.002***	0.001	0.001*
		(0.0005)	(0.0005)	(0.0005)
# Hispanic Students		0.002***	0.002***	0.002***
		(0.00004)	(0.00004)	(0.00004)
Total Students		0.001***	0.001***	0.001***
		(0.00003)	(0.00003)	(0.00003)
Contains Grade 1			−0.442***	−0.446***
			(0.017)	(0.017)
Contains Grade 6			0.059***	0.058***
			(0.015)	(0.015)
Contains Grade 9			−0.303***	−0.298***
			(0.021)	(0.021)
Log(Income)				0.029***
				(0.006)
Observations	28,577	28,577	28,577	28,577
R^2	0.306	0.514	0.531	0.531
Adjusted R^2	0.306	0.514	0.530	0.531
Note:	21		*p<0.1; **p<0.05; ***p<0.01	

Figure 3: Map of School Districts in the US