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

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Abstract

Here's an abstract

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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.

Compared to other viewers of television, Hispanics are uniquely likely to watch television in a social context rather than watching alone—this is partially driven by the fact that non-Hispanic households have 40% more TV sets per person than Hispanic ones (**?**). This social aspect, wherein SLTV is watched with family/friends (or people that speak Spanish), may be one way in which identity is reinforced through television.

More directly, SLTV programming is simply more likely to contain content that is directly salient to a Hispanic person's identity. This occurs not only because of the language of the broadcast, but also its content: roughly 20% of programming on SLTVs are telenovelas produced in foreign (Latin American) countries, with a similar proportion of programming dedicated to non-locally produced news and paid programming, which may come from abroad as well.[1]

[1] The statistics come from **?**, but unfortunately, the dataset they use do not allow them to precisely determine from whence the programming originated.

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.[2] An example of this coverage contour can be seen in Figure 3; 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.[3] 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. [4] A map of all these contours can be seen in Figure 4.

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.[5] This was used to geocode the business data, as well as portions of the campaign

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

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

[4] 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 (Fletcher, Heald and Hildreth, 2018).

[5] 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.

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.

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).[6] 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.[7] 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.

This creates a natural spatial 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 us to examine its causal effect on Hispanic populations for spatially located outcomes. As mentioned, these contours are purely determined by an algorithm and is only dependent on physical variables like local elevation and antennae strength. Thus, the precise regulatory boundaries are located in more or less random

[6] Historically, approximately 15% of the ACS migration data has been allocated, or imputed based on salient characteristics (United States Census Bureau (2020*a*)).

[7] 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.

locations, and coverage is large enough that these contours tend to cut across towns and suburbs, rather than large cities — television networks are not constructing their antennas to be just large enough to only cover the most dense and populous areas. This implies that network executives, if they are aiming to maximize profit, ratings, or audiences, would not consider these boundaries at the forefront of their calculus.

In order for the causal effect of SLTV to be identified, the actual coverage of the contours must be uncorrelated with any of the other determinants for the outcome variables with which we are interested. One reassurance is that the interference protection regulation, OET Bulletin 69, was only codified in 1977 — in contrast, Univision, the largest owner of SLTV stations, was founded in 1955, and had built a substantial number of their television stations and antennas by 1977.[8] Nonetheless, one may be concerned that SLTV stations target areas with more Hispanic people, or wealthier communities, or more populous areas, all of which are factors that could affect the areas of interest. Hence, we include explicit controls for these variables in the regression.

The instrument therefoore consists of two variables interacted: First, a dummy for whether the outcome data falls within a SLTV station's coverage contour boundaries, and second, the distance from the outcome of interest to the closest coverage boundary. To guarantee similarity between the people inside and outside the boundaries, only data points located within a distance of 100 KM of the boundary are kept.[9]

Several concerns that potentially remain:

- *Can we guarantee that it is Hispanic people who watch SLTV?* If it were the case that non-Hispanic people were frequent viewers of SLTV, the interpretation of the main effects would potentially be different: we would be looking at the effect of SLTV on all people. Thus, though outcomes restrict the analysis to how the lives of Hispanic people change, this could be driven by, for instance, white people treating Hispanic people differently due to having viewed SLTV. This does not empirically bear out—only 4% of total SLTV station programming watched can be attributed to non-Hispanic people, a number that is only as high as it is because some SLTV stations also broadcast in English. (**?**) Similarly, $< 1\%$ of all programming watched by non-Hispanics is in the Spanish language.

- *How do we account for the possibility of selection?* It is theoretically possible that Hispanic people move in response to these television coverage contour boundaries, and that the effects seen are therefore a result of Hispanic people self-sorting. If this were true, it would be a fairly remarkable result—people moving in significant quantities for access to better television

[8] Though Telemundo, the second largest owner of SLTV, was technically founded in 1984, the stations it initially acquired were built in 1954. It also primarily expanded through the acquisition of existing stations, rather than building out its own new ones.

[9] Using a round number in kilometers rather than miles makes the cutoff less likely to be correlated with some real-world phenomena.

in a way that influences life outcomes ranging from education to business to politics. As the subsection on Migration beneath demonstrates, the selection story does not appear to be borne out by the data.

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.[10]

The dataset contains information on a total of 96,350 schools across 17,280 school districts. Figure 5 contains a map of these schools, while summary statistics for the variables of interest can be found at Table @REF..

The outcome data from the CRDC can be split into two categories:

- **Academic Achievements:** We focus on two outcomes that track the effect of television on the top end of the academic distribution of students: the number of Advanced Placement

[10] 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. Some data, such as that on AP examinations, are not mandatory, but the bulk of outcome variables are, with non-compliance on the mandatory data typically representing $< 1\%$ of total data.

(AP) classes students enrol in and pass, as well as the number of students placed into gifted programs, and one outcome on the bottom: the number of students with Limited English Proficiency (LEP).

The AP program is administered by the College Board, and defines a standardized college-level curriculum that is taught to high school students in AP Classes. In conjunction with AP Classes, AP Exams are national examinations which are designed to test mastery of material taught in AP classes. These exams are given scores ranging from 1 to 5, with scores below a 3 marked as a failed exam. Even among the selective students who opt into these classes (22% in 2015[11]), a substantial number of students who take these exams fail them - approximately 35% (College Board (2020*b*)).

Gifted and talented programs are "programs during regular school hours that provide special educational opportunities including accelerated promotion through grades and classes and an enriched curriculum for students who are endowed with a high degree of mental ability or who demonstrate unusual physical coordination, creativity, interest, or talent." (**?**) These programs, while not mandatory, are common across school districts, and vary in their implementation.

LEP students (also called English Learner students) are students that, as a result of their limited command over the English language, have difficulty participating in regular school activities.[12] 9% of all public school students are considered LEP, and while students are placed into the program is at the discretion of individual school districts, all districts must provide language assistance services and have staff qualified to implement the LEP programs.[13]

- **Disciplinary Issues:** Three forms of academic discipline are considered as outcome variables: the number of out of school suspensions, the number of absences, and the amount of harassment and bullying on the basis of race/ethnicity experienced by students.

  Out of school suspensions are instances "in which a child is temporarily removed from his/her regular school for at least half a day (but less than the remainder of the school year) for disciplinary purposes to another setting (e.g., home, behavior center)." (**?**) We consider only students without disabilities, and note that depending on school policy, educational services

[11] Data computed from number of high school graduates in 2015 (National Student Clearinghouse Research Center (2015*a*)), and number of seniors who sat an AP exam in 2015. This is how the College Board currently tracks national AP participation (no comparable summary statistic was released in 2015) (College Board (2015*b*))

[12] The specific definition of a LEP student depends on individual state regulation, but must also satisfy the criteria outlined under Title IX of the Elementary and Secondary Education Act (US Department of Education (2004)). The most salient features of Title IX are that students must either not speak English as a native language or come from an environment where non-English languages are dominant, and also face substantial difficulty in engaging with others on the basis of their English ability.

[13] Department of Justice and Department of Education (2015*c*) contains a full enumeration of the responsibilities school districts have. It further includes requirements such as ensuring equal access to various school programs etc.

may still be provided during this time.[14]

A chronically absent student is one "who is absent 15 or more school days during the school year. A student is absent if he or she is not physically on school grounds and is not participating in instruction or instruction-related activities at an approved off-grounds location for at least half the school day." (**?**) Each day for which a student is absent for 50 percent or more of the school day is counted. Absences are counted regardless of whether they are excused or not, and so include absences due to illness, needing to care for a family member, or simple truancy.

Harassment or bullying on the basis of race, color, or national origin "refers to intimidation or abusive behavior toward a student based on actual or perceived race, color, or national origin. Harassing conduct may take many forms, including verbal acts and name-calling, as well as non-verbal behavior, such as graphic and written statements, or conduct that is physically threatening, harmful or humiliating. The conduct can be carried out by school employees, other students, and non-employee third parties. Bullying on the basis of race, color, or national origin constitutes racial harassment." (**?**) Though there are other categories of bullying and harassment reported (and other types of infractions and disciplinary measures taken), these are less directly relevant to the question at hand.

Notably, all the outcome information described above is also provided for Hispanic subpopulations — hence, the outcome of interest is generally the number of Hispanic students passing AP tests, or being bullied on the basis of their ethnicity, etc. These variables are all reported at the school level.

School level controls include the number of teachers, the number of total students, the number of Hispanic students, as well as dummies for whether the school contains a primary school, middle school, and high school. Demographic control variables are sourced at the county level (income, percent Hispanic, population) from IPUMs as described in the Data section. These schools are geolocated using ArcGIS.

4.2 Results

Table 9 presents the standard specification for the education dataset, looking at the effect of television on schools within 100 KM of a coverage contour. For each of these measures of academic achievement, column (1) includes only county level controls, column (2) adds controls for school size (number of students and teachers), and column (3) adds controls for whether the school contains primary/middle/high school divisions. Panel A examines the effect of television on the IHS of the number Hispanic students considered gifted,[15] while panel B and C look at the effect on the number

[14]Students with disabilities served under IDEA face substantially different suspension policy.

[15] IHS, or inverse hyperbolic sine, is comparable to the log transformation, but allows for 0s to be considered

of Hispanic students enrolled in an AP course or passing at least one AP course respectively. The coefficient of interest, the dummy for whether the school is located within a coverage contour or not, is significant at the 5% level for all columns and panels. The effect sizes are modest, but non-trivial: an approximately 1.5% increase in the number of gifted students, and increases on the order of roughly 5% for the number of students involved in Advanced Placement curricula.

Table 10 examines the effect of SLTV on disciplinary incidents: Panel A presents the effect on the number of Hispanic students ever given an out of school suspension over the prior school year, while Panel B presents this on the number of Hispanic students considered chronically absent. These results are all significant at the 1% level for all columns and panels. The effect sizes are comparable to that regarding academic achievement, displaying a 1.5% decrease in the number of students suspended, and a 7% decrease in the number of students who are chronically absent.

Table 11 examines the effect of SLTV on outcomes more directly tied to identity: Panel A presents the effect on the number of students categorized as having Limited English Proficiency. These effects are significant at the 1% level, and represent a 3-4% increase in the number of students designated under this category. Panel B, on the other hand, presents the effect on the number of Hispanic students who are ever victims of harassment on the basis of their ethnicity. These results are significant at the 10% and 5% levels, and account for a small .2% bump in the number of such cases.

Robustness To test the robustness of these results, we present Table 12, which uses as its outcome variable the number of Hispanic students passing the AP. We choose to present robustness on this outcome in particular due to its lower sample size — it is a priori the most likely to be underpowered. Column (1) presents the baseline results (it is identical to column (3) of Table 9), while column (2) includes the interaction of the TV dummy with the distance to the boundary squared. This is plausibly relevant to the main effect, given that television signals decay in strength in proportion to the square of the distance. Columns (3) and (6) reduce the cutoff distance from the boundary to one half and one third of the original 100 KM limit. Column (4) includes county level fixed effects. Column (5) additionally controls for the total number of APs passed by all students. The robustness checks hold up across the board with all columns maintaining significance, although the 33 KM boundary limit is close to underpowered. Robustness checks on the other outcome variables of interest hold up to a similar analysis.

Finally, we may be concerned about the potential effects of spatial autocorrelation in the data. A Moran's I test using 4 nearest neighbours between the schools indicate that there is spatial autocorrelation at any reasonable level α. Hence, Table 13 presents two alternate models that control for the effects of spatial autocorrelation. Column (2) uses a spatially autoregressive lag model, wherein the outcome variable may be correlated with its neighbours. Column (3) uses a spatially autoregressive error model, wherein the presence of missing spatial covariates (causing

correlated errors) is adjusted for. In both cases, the alternate models yield results that closely resemble the standard specification in column (1).

4.3 Discussion

Evidence of Identity as a Mechanism The results in Table 11 provide some concrete evidence that identity changes as a result of the effect of television. We believe that access to SLTV reinforces Hispanic identities, making them more salient to the Hispanic individuals consuming the broadcast programs. The most direct evidence for this stems from the results on harassment and bullying based on ethnicity. Given that very few non-Hispanic people view SLTV programming, the fact that more Hispanic students are bullied on the basis of their ethnicity suggests that some change must be occurring within the students along this dimension.[16]

greater television coverage contour boundary find their Hispanic identity to be more salient. The greater number of Hispanic students classified under Limited English Proficiency (LEP) demonstrates a lower degree of command over the English language

Looking first at

Do not harass or bully on the basis of ethnicity at higher rates

These increases in disciplinary outcomes can have serious downstream effects beyond the disciplinary event itself: the literature suggests that not only are suspended students at immediate risk of academic harm and further disciplinary issues (@CITE Arcia), but that these students are also more likely to be incarcerated as adults (Wolf and Kupchik, 2017). Non-disciplined students appear to suffer from spillover effects in their academic performance as well. (@CITE perry schools)

5 Firms

5.1 Data

Why Florida

Principal Name Classification To determine whether a business is owned and run by a Hispanic person or not,

Firm Name Classification Unlike the names of firm principals, there is no readily available or standardized method to determine whether a firm's name is characteristic of a Hispanic identity or not.

[16] This increase in bullying does not appear to be the result of 'retaliation' to Hispanic students bullying others: the coefficient only attenuates slightly when further controlling for the total number of students bullied, and running the main specification with the number of Hispanic students as perpetrators of race/ethnicity based bullying yields an insignificant negative coefficient.

5.2 Results

5.3 Discussion

6 Campaign Contributions

6.1 Data

Donor Name Classification Following the approach taken to firms, donor names are also classified using

6.2 Results

6.3 Discussion

7 Conclusion

Summary

Future work: Political angle, examining mechs, complement or substitute with other news

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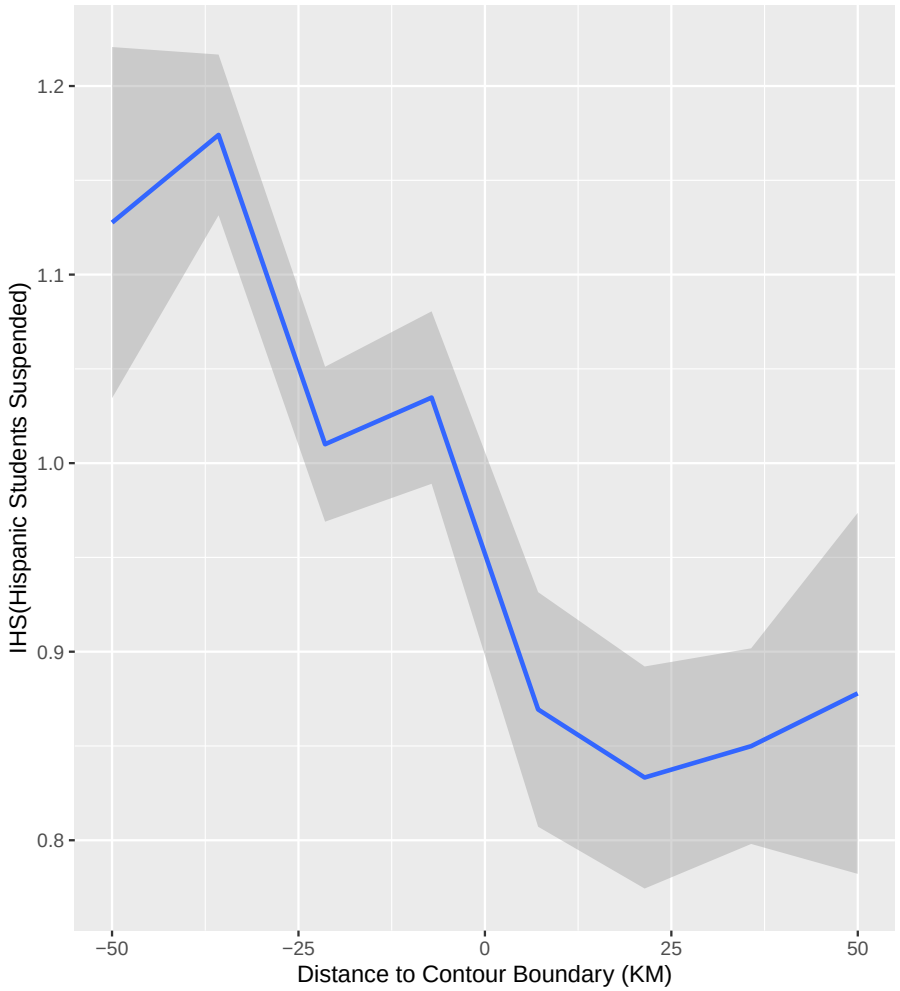
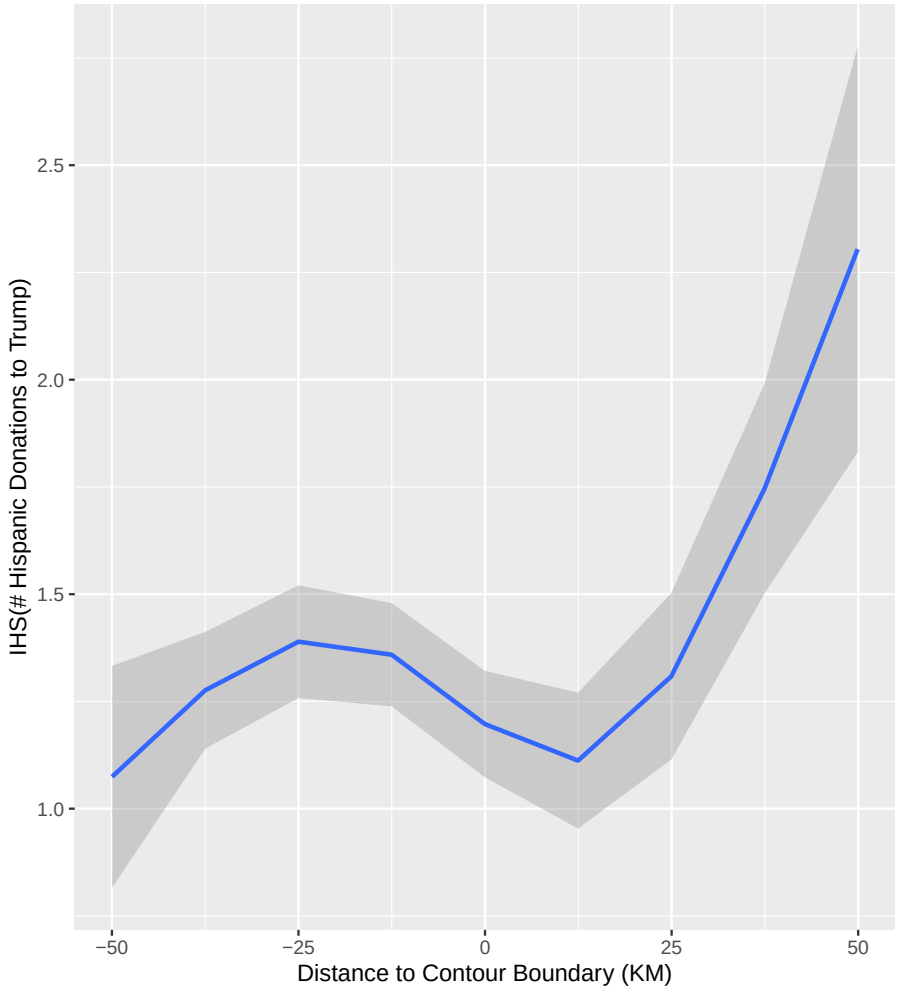
Figures and Tables

Figure 1: IHS(# Hispanic Students Suspended) by Distance to Contour Boundary



Notes: The figure presents data at a school level, where a smoothed average of the inverse hyperbolic sine transformed counts of Hispanic students suspended is plotted against the distance of the school to the closest Spanish Language Television station contour boundary. Positive distances denote schools that are located within the boundary, while negative distances denote schools outside of them.

Figure 2: IHS(# Hispanic Donations to Trump) by Distance to Contour Boundary



Notes: The figure presents data aggregated into squares of size approximately 1.5 KM^2, where a smoothed average of the inverse hyperbolic sine transformed counts of Hispanic campaign contributions to Trump for the 2016 election is plotted against the distance of the school to the closest Spanish Language Television station contour boundary. Positive distances denote schools that are located within the boundary, while negative distances denote schools outside of them.

Figure 3: Coverage Map for WUVC-DT

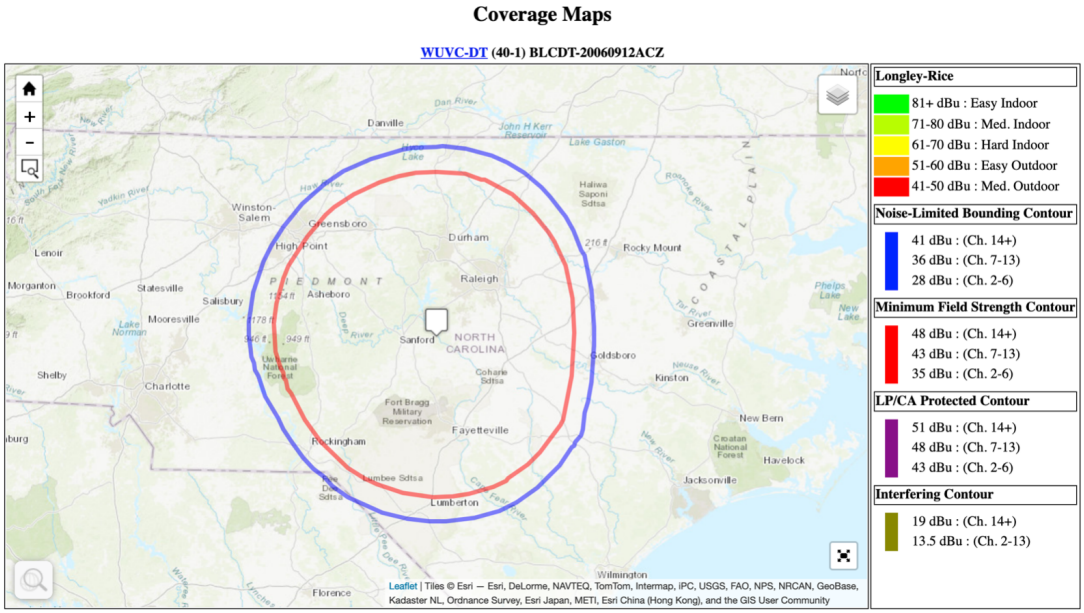


Figure 4: The Coverage Contours of Spanish Language TV stations

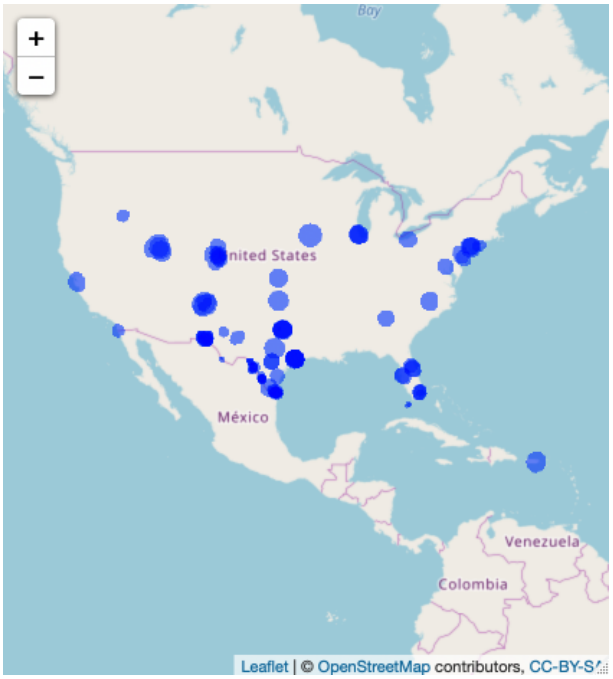


Figure 5: Map of School Districts in the US

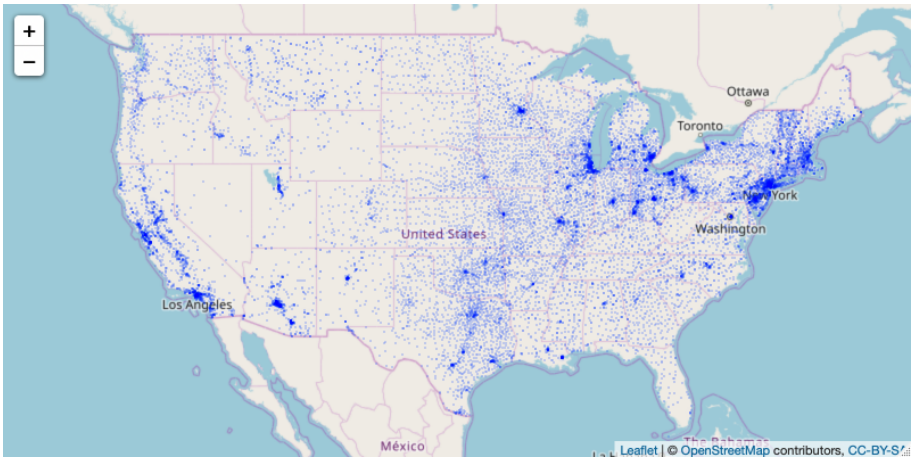


Table 1: School-District Level Summary Statistics

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

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: Influence of Spanish Language Television on Hispanic Academic Achievement

Panel A: IHS(# Hispanic Gifted Students)	(1)	(2)	(3)
TV Dummy	0.016***	0.015**	0.013**
	(0.006)	(0.006)	(0.006)
TV Dummy × Distance to Boundary	0.001***	0.001***	0.001***
	(0.0001)	(0.0001)	(0.0001)
Distance to Boundary (meters)	0.0002	−0.0002	−0.0002
	(0.0003)	(0.0003)	(0.0003)
# Hispanic Students	0.003***	0.002***	0.002***
	(0.00003)	(0.00004)	(0.00004)
Observations	26,065	26,065	26,065
Panel B: IHS(# Hispanic Students Taking AP)			
TV Dummy	0.072***	0.051***	0.047***
	(0.016)	(0.015)	(0.015)
TV Dummy × Distance to Boundary	0.002***	0.002***	0.003***
	(0.0003)	(0.0003)	(0.0003)
Distance to Boundary (meters)	−0.003***	−0.004***	−0.004***
	(0.001)	(0.001)	(0.001)
# Hispanic Students	0.002***	0.001***	0.001***
	(0.00004)	(0.0001)	(0.0001)
Observations	6,089	6,089	6,089
Panel C: IHS(# Hispanic Students Passing AP)			
TV Dummy	0.034**	0.042***	0.039***
	(0.014)	(0.013)	(0.013)
TV Dummy × Distance to Boundary	0.0003	0.0003	0.0003
	(0.0003)	(0.0002)	(0.0002)
Distance to Boundary (meters)	0.002**	0.002*	0.001
	(0.001)	(0.001)	(0.001)
# Hispanic Students	0.001***	0.001***	0.001***
	(0.00003)	(0.00004)	(0.00004)
Observations	2,205	2,205	2,205
County Controls	Yes	Yes	Yes
School Size Controls	No	Yes	Yes
School Type Controls	No	No	Yes

Notes: The table presents coefficient estimates from regressions at the school level, only keeping schools within 100 KM of a contour boundary. The dependent variables are inverse hyperbolic sine transformed counts of Hispanic students in gifted programs in Panel A, Hispanic students enrolled in AP courses in Panel B, and Hispanic students passing AP courses in Panel C. The key dependent variable of interest is the TV Dummy, which tracks whether the school is within a coverage contour boundary for a Spanish language television station. This is interacted with the distance to the boundary. County controls include log income, log population, and percentage county Hispanic for the county which the school is located in. School size controls account for the number of teachers and total number of students at the school, while school type controls include dummies for whether the school contains a primary, middle, and high school division. All regressions also control for the number of Hispanic students enrolled at the school. Standard errors are given in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 10: Influence of Spanish Language Television on Hispanic Disciplinary Outcomes

Panel A: IHS(# Hispanic Out of School Suspensions)	(1)	(2)	(3)
TV Dummy	-0.011^{**}	-0.018^{***}	-0.016^{***}
	(0.005)	(0.005)	(0.005)
TV Dummy × Distance to Boundary	0.0004^{***}	0.001^{***}	0.001^{***}
	(0.0001)	(0.0001)	(0.0001)
Distance to Boundary (meters)	-0.002^{***}	-0.002^{***}	-0.002^{***}
	(0.0002)	(0.0002)	(0.0002)
# Hispanic Students	0.003^{***}	0.002^{***}	0.002^{***}
	(0.00002)	(0.00003)	(0.00003)
Observations	40,864	40,864	40,864
Panel B: IHS(# Hispanic Students Chronically Absent)			
TV Dummy	-0.067^{***}	-0.073^{***}	-0.074^{***}
	(0.006)	(0.006)	(0.006)
TV Dummy × Distance to Boundary	0.001^{***}	0.001^{***}	0.001^{***}
	(0.0001)	(0.0001)	(0.0001)
Distance to Boundary (meters)	-0.006^{***}	-0.006^{***}	-0.006^{***}
	(0.0003)	(0.0003)	(0.0003)
# Hispanic Students	0.004^{***}	0.003^{***}	0.003^{***}
	(0.00003)	(0.00004)	(0.00004)
Observations	40,869	40,869	40,869
County Controls	Yes	Yes	Yes
School Size Controls	No	Yes	Yes
School Type Controls	No	No	Yes

Notes: The table presents coefficient estimates from regressions at the school level, only keeping schools within 100 KM of a contour boundary. The dependent variables are inverse hyperbolic sine transformed counts of Hispanic students who have received an out of school suspension in the prior year in Panel A, and Hispanic students chronically absent (over 15 days a year) in Panel B. The key dependent variable of interest is the TV Dummy, which tracks whether the school is within a coverage contour boundary for a Spanish language television station. This is interacted with the distance to the boundary. County controls include log income, log population, and percentage county Hispanic for the county which the school is located in. School size controls account for the number of teachers and total number of students at the school, while school type controls include dummies for whether the school contains a primary, middle, and high school division. All regressions also control for the number of Hispanic students enrolled at the school. Standard errors are given in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 11: Influence of Spanish Language Television on Hispanic Identity

Panel A: IHS(# Hispanic Students Limited English Proficiency)	(1)	(2)	(3)
TV Dummy	0.040***	0.039***	0.031***
	(0.007)	(0.007)	(0.007)
TV Dummy × Distance to Boundary	0.003***	0.003***	0.003***
	(0.0001)	(0.0001)	(0.0001)
Distance to Boundary (meters)	−0.002***	−0.002***	−0.002***
	(0.0004)	(0.0004)	(0.0003)
# Hispanic Students	0.004***	0.004***	0.004***
	(0.00003)	(0.00004)	(0.00004)
Observations	40,864	40,864	40,864
Panel B: IHS(# Hispanic Victims of Ethnicity-Based Harassment)			
TV Dummy	0.003**	0.002*	0.002*
	(0.001)	(0.001)	(0.001)
TV Dummy × Distance to Boundary	−0.0001**	−0.00005*	−0.00005*
	(0.00002)	(0.00002)	(0.00002)
Distance to Boundary (meters)	−0.0004***	−0.0004***	−0.0004***
	(0.0001)	(0.0001)	(0.0001)
# Hispanic Students	0.0001***	0.00003***	0.00004***
	(0.00001)	(0.00001)	(0.00001)
Observations	40,811	40,811	40,811
County Controls	Yes	Yes	Yes
School Size Controls	No	Yes	Yes
School Type Controls	No	No	Yes

Notes: The table presents coefficient estimates from regressions at the school level, only keeping schools within 100 KM of a contour boundary. The dependent variables are inverse hyperbolic sine transformed counts of Hispanic students who have Limited English Proficiency Panel A, and Hispanic students bullied or harassed on the basis of their identity in Panel B. The key dependent variable of interest is the TV Dummy, which tracks whether the school is within a coverage contour boundary for a Spanish language television station. This is interacted with the distance to the boundary. County controls include log income, log population, and percentage county Hispanic for the county which the school is located in. School size controls account for the number of teachers and total number of students at the school, while school type controls include dummies for whether the school contains a primary, middle, and high school division. All regressions also control for the number of Hispanic students enrolled at the school. Standard errors are given in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 12: Robustness of Influence of Spanish Language Television on Hispanic Students Passing the AP

	IHS(# Hispanic Students Passing AP)					
	(1)	(2)	(3)	(4)	(5)	(6)
TV Dummy	0.039***	0.049***	0.044***	0.044***	0.036***	0.032*
	(0.013)	(0.017)	(0.016)	(0.017)	(0.013)	(0.018)
TV Dummy × Distance to Boundary	0.0003	0.0001	0.001	0.001*	0.0001	0.001
	(0.0002)	(0.001)	(0.001)	(0.0004)	(0.0004)	(0.001)
Distance to Boundary (meters)	0.001	0.012***	0.006***	0.006***	0.003**	0.001
	(0.001)	(0.003)	(0.002)	(0.002)	(0.002)	(0.004)
# Hispanic Students	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.00004)	(0.00004)	(0.00005)	(0.0002)	(0.00004)	(0.0001)
Total APs Passed					0.003***	
					(0.0001)	
Observations	2,205	2,205	1,525	1,525	1,525	1,095
County/School Controls	Yes	Yes	Yes	Yes	Yes	Yes
Distance Cutoff (KM)	100	100	50	50	50	$33\ \frac{1}{3}$
Distance^2 Interaction	No	Yes	No	No	No	No
County F.E.	No	No	No	Yes	No	No

Notes: The table presents coefficient estimates from regressions at the school level. The dependent variable is the inverse hyperbolic sine transformed counts of Hispanic students who have passed an AP exam. The key dependent variable of interest is the TV Dummy, which tracks whether the school is within a coverage contour boundary for a Spanish language television station. This is interacted with the distance to the boundary. County and school controls include log income, log population, percentage county Hispanic for the county which the school is located in, and the number of teachers, total number of students at the school, and dummies for whether the school contains a primary, middle, and high school division. Various distance cut-offs to the boundary are presented, as well as the TV dummy interacted with the square of the distance. All regressions also control for the number of Hispanic students enrolled at the school. Standard errors are given in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 13: Spatial Robustness of Influence of Spanish Language Television on Hispanic Victims of Ethnicity-Based Harassment

	IHS(# Hispanic Victims of Harassment)		
	(1)	(2)	(3)
TV Dummy	0.003^{**}	0.002^{***}	0.003^{*}
	(0.001)	(0.001)	(0.002)
TV Dummy × Distance to Boundary	-0.0001^{**}	-0.0001^{***}	-0.0001^{**}
	(0.00002)	(0.00001)	(0.00003)
Observations	40,811	40,811	40,811
Log Likelihood		−4,304.916	−4,299.820
σ^2		0.072	0.072
Akaike Inf. Crit.		8,629.833	8,619.640
Wald Test (df = 1)		686.149^{***}	686.981^{***}
LR Test (df = 1)		657.312^{***}	667.505^{***}
County/School Controls	Yes	Yes	Yes
Model	OLS	SAR Lag	SAR Error

Notes: The table presents coefficient estimates from regressions at the school level, only keeping schools within 100 KM of a contour boundary. The dependent variable is the inverse hyperbolic sine transformed counts of Hispanic students who are bullied or harassed on the basis of their ethnicity. The key dependent variable of interest is the TV Dummy, which tracks whether the school is within a coverage contour boundary for a Spanish language television station. This is interacted with the distance to the boundary. County and school controls include log income, log population, percentage county Hispanic for the county which the school is located in, and the number of teachers, total number of students at the school, and dummies for whether the school contains a primary, middle, and high school division. The SAR Lag model is a spatial autoregressive lag model and the SAR Error model is a spatial autoregressive error model, both with weight matrices based on 4 nearest neighbours. Standard errors are given in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.