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Professor Raj Chetty

Economics 50

Empirical Project

El Segundo Barrio: Economic Development and Segregation in El Paso, Texas

El Paso, Texas is the second largest city in the Southwest[1], with a population of 678,598[2] as of 2020. El Paso, home to a community called El Segundo Barrio, sits along the US-Mexico border and has been a popular stopping point for Mexican immigrants for over a century. While El Paso's history extends back to 1827, it wasn't until the 1880s that El Paso's population began to expand rapidly; during these ~50 years, El Paso's population grew from 15 people to 736 (in 1880), with large majority being *Chicano*—someone of Mexican origin or descent.[3] The 1880s was a defining decade for El Paso as its smallness and isolation were altered with the arrival of the railroads in 1881. By the end of the decade, El Paso had an estimated population of 10,388, with only a 20.4% Chicano makeup.[4] El Paso quickly became a transportation center, and its economy received a strong stimulus as raw material demand increased in the Eastern U.S. Commerce, industry, and agriculture prospered as trade with Mexico increased.[5]

Outnumbered by the new Anglo (white) population, Chicanos were relegated to relative powerlessness. These Anglo invasions began immediately After the War of 1846, which ended in 1848. However, the invasions extended into the later parts of the century, with ethnic tensions

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[1] "El Paso — Google Arts & Culture." *Google Arts & Culture*, https://artsandculture.google.com/entity/el-paso/m0100mt?hl=en. Accessed 18 April 2023.

[2] "El Paso, Texas Population History | 1920 - 2022." *Biggest US Cities*, 18 January 2023, https://www.biggestuscities.com/city/el-paso-texas. Accessed 18 April 2023.

[3] Martinez, Oscar Jeri. "The Chicanos of El Paso An Assessment of Progress." *ScholarWorks@UTEP*, https://scholarworks.utep.edu/cgi/viewcontent.cgi?article=1006&context=ep-books. Accessed 18 April 2023.

[4] Ibid

[5] Ibid

heightening with the Salt War of 1877-1878, during which residents of San Elizario violently resisted the Anglo invaders. [6] El Paso's election of 1883 marked a significant loss of political influence for the Chicanos in El Paso, as the county seat from the area's largest Mexican American population—Ysleta— was lost to the Anglos. [7] Throughout the next century, El Paso's Chicano population percentage began to increase, even reaching 54.5% in 1900 and climaxing to 66.9% in 1930. However, they remained discriminated against and underrepresented in economic growth and opportunity. [8]

Throughout the 20th century, El Paso enacted several laws and practices that targeted Chicanos in El Paso. Marking the end of unrestricted entry of Mexican nationals into the US, the Immigration Act of 1917 imposed a literacy test and an $8 head tax (the equivalent of $182.91 in 2022) on immigrants at a time in which farm wages were as low as 10 or 15 cents and 3.5 kilos of corn per working day—most of which extended from sunrise to sunset.[9] Even more severe, the Immigration Act of 1917 allowed the US government to provide El Paso with Zyklon B, developed by the German Vermin-Combating Corporation, to be used along the border point Mexican workers used to enter the US as a fumigating agent at the El Paso delousing station.[10]

Journalist Alexander Cockburn reported that in that year alone: "Health Service agents 'bathed and deloused' 127,123 Mexicans at the bridge between Juárez and El Paso."[11] The *El Paso Herald* reported in 1920 that "Hydrocyanic acid gas, the most poisonous known, more deadly even than that used on the battlefields of Europe, is employed in the fumigation

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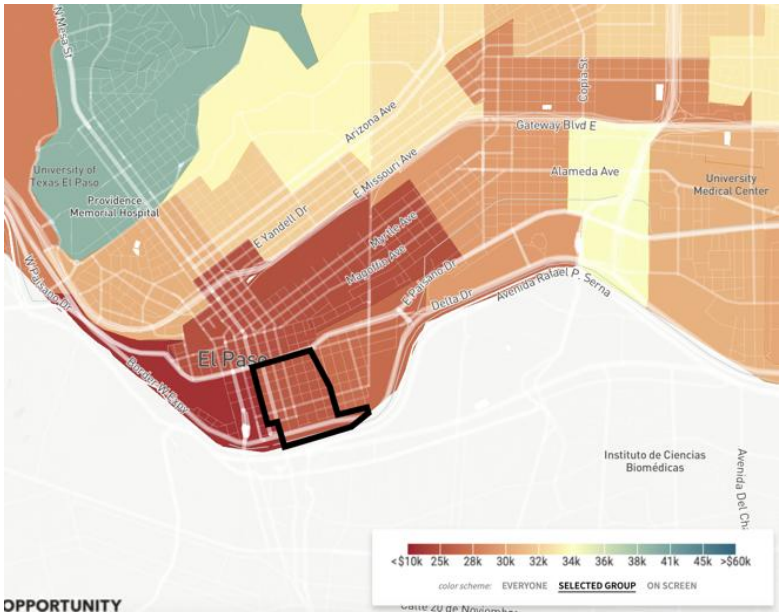
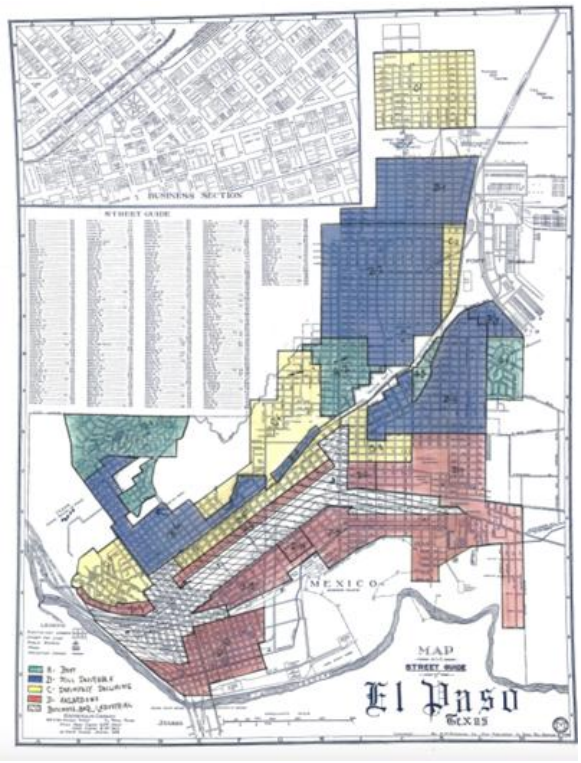
[6] Martinez, Oscar Jeri. "The Chicanos of El Paso An Assessment of Progress." *ScholarWorks@UTEP*, https://scholarworks.utep.edu/cgi/viewcontent.cgi?article=1006&context=ep-books. Accessed 18 April 2023.
[7] Ibid
[8] Ibid
[9] Ibid
[10] Cockburn, Alexander. "Zyklon B on the US Border." *The Nation*, 21 June 2007, https://www.thenation.com/article/archive/zyklon-b-us-border/. Accessed 20 April 2023.
[11] Ibid

process."[12] These processes continued well into the 1950s an estimated tens of thousands of documented cancers, birth defects, and deaths.[13] Because of its location along the bridge entry point and discriminative housing laws, El Segundo Barrio became a largely-Hispanic neighborhood. Additionally, El Segundo Barrio had been deemed a HOLC D "Hazardous" zone in the 1940s, diminishing any potential investments in the area. The maps below show the redlining zones established in El Paso and the current household income at age 35 for the 25th percentile in all races—note that there is not enough census data for non-Hispanic people in El Segundo Barrio, and as such, data subsets for other ethnicities and races is not provided by the Opportunity Atlas. Many years later, prioritizing economic development over the Chicanos' living preferences, El Paso County began gentrifying the area in 1968, reducing the population from 20,000 to somewhere between 8,000-13,000 residents in only six years.[14]



[12]Ibid
[13]Ibid
[14] Paredes, Martin. "Segundo Barrio: Decades Of Gentrification." *El Paso News*, 19 January 2022, https://elpasonews.org/2022/01/19/segundo-barrio-decades-of-gentrification/. Accessed 20 April 2023.



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Today, despite people identifying as "Hispanic or Latino" making up 82.9% of El Paso's population, they remain economically disadvantaged.[16] In pursuant of my interest in quantifying the consequences of historical discrimination in El Paso, I will leverage the data presented by Chetty et al. in The Opportunity Atlas, an online database that connects 2000 and 2010 census data to federal income tax returns, to understand better El Paso's current socioeconomic divide and the lasting effects El Paso's discriminatory actions have on its large Hispanic population. I hypothesize that these discriminatory actions have caused long-lasting economic consequences for Hispanics living in El Paso, and even more so for those living in El Segundo Barrio, which

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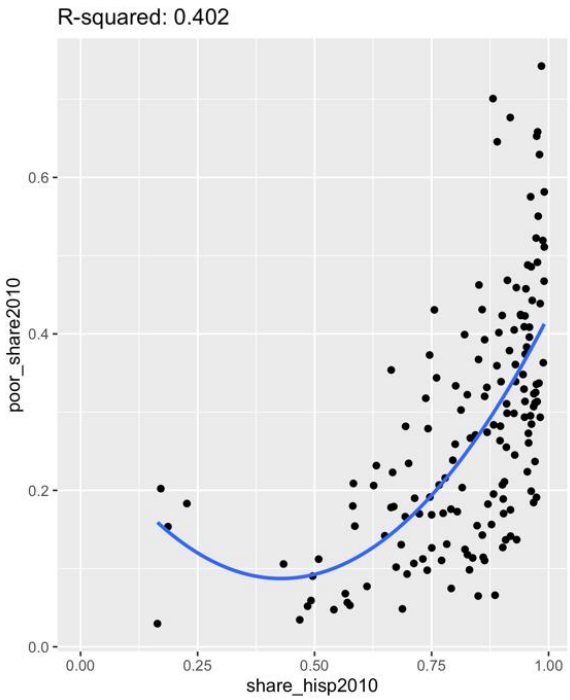
[15] *Mapping Inequality: Redlining in New Deal America*, https://dsl.richmond.edu/panorama/redlining/#loc=13/31.737/-106.495&city=el-paso-tx&area=D5. Accessed 20 April 2023; *The Opportunity Atlas*, https://www.opportunityatlas.org/. Accessed 19 April 2023.

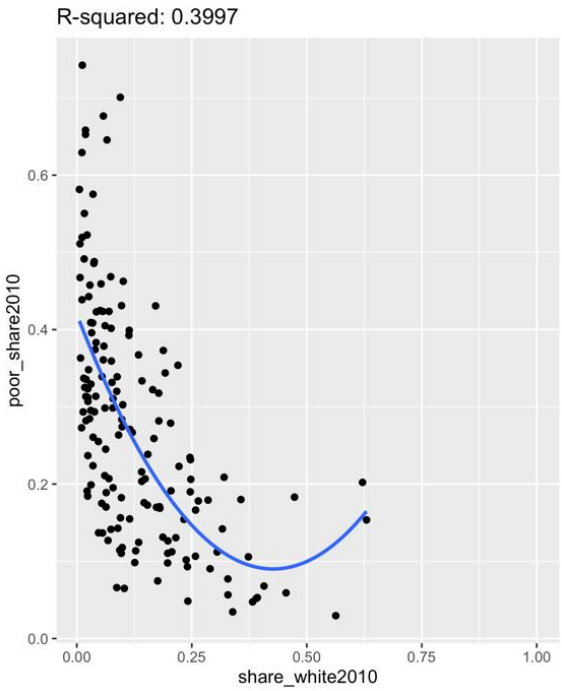
[16] "El Paso County, Texas." *Census Bureau*, https://www.census.gov/quickfacts/fact/table/elpasocountytexas/RHI725221. Accessed 20 April 2023.

are still present today. Beyond that, I argue that because of this institutionalized discrimination, Hispanic people in El Paso are more economically affected by factors such as the employment rate, college attendance rates, and the poor share.

To assess the generational impacts of discriminatory practices in El Paso on Hispanic individuals, I conducted a correlational analysis of share_hisp2010 on poor_share2010 and a correlational analysis of share_white2010 on poor_share2010. An almost opposite relationship between the variables is highlighted, showing that the racial demographic of residents does impact the share of poor residents in the tract. In general, larger shares of Hispanic residents are correlated with larger shares of poor residents, and smaller shares of White residents are correlated with larger shares of poor residents.

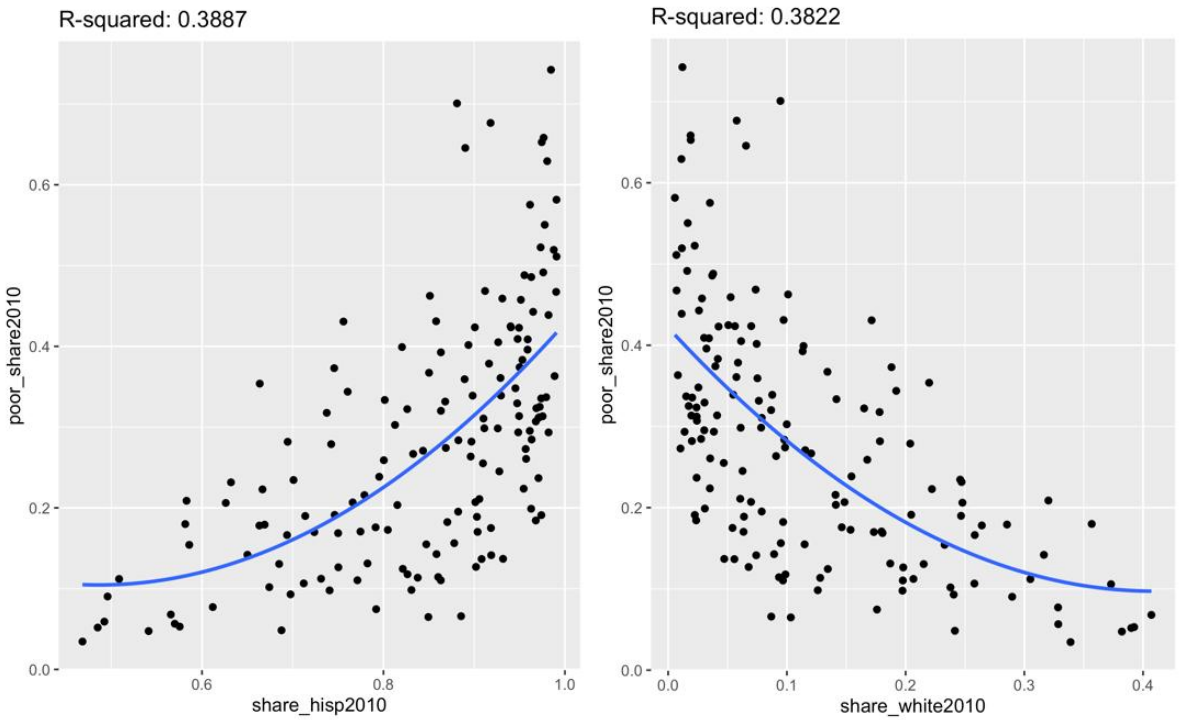
Note that the r-squared values of these experiments are ~0.4, and, as such, they show very important trends among the variability of the data; while 0.4 might seem like a small number, there are many other metrics that might impact the poor share, and the demographic seems to be an important factor to consider in future causal assessments.





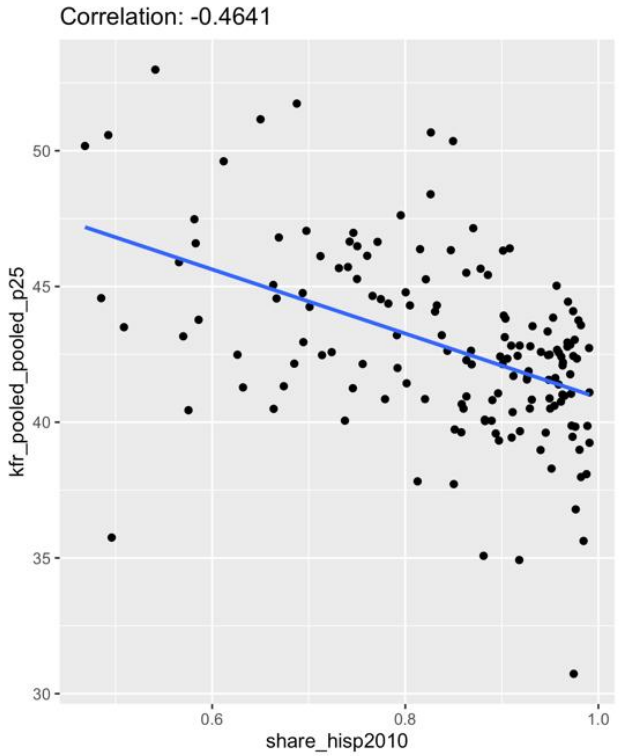
Additionally, these graphs might be skewed by the outliers in share_hisp2010 and share_white2010. Note that I deemed these to be outliers as the mean share of Hispanics across El Paso census tracts in 2010 was 81.7796. Adjusting for outliers in both variables, we arrive at the following clearer relationship[17].

[17] Moving forward, all my analyses, unless otherwise stated, will adjust for outliers in the share of Hispanics in El Paso census tracts.



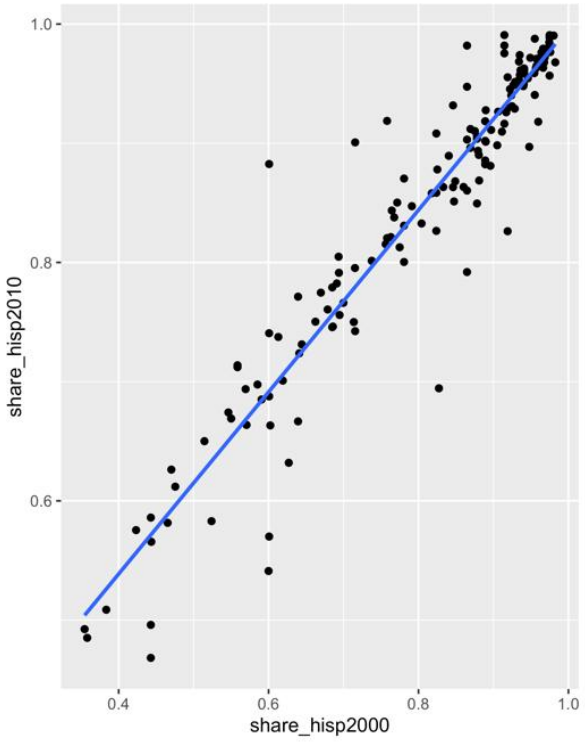
Note that the tract with the largest poor share in 2010 was Tract 48141001900, otherwise known as El Segundo Barrio.

Moving onto social mobility at the 25th income percentile, we find a negative relationship between the Hispanic share of tracts in 2010 and the average income percentile of children whose parents were at the 25th income percentile, with a correlation of -0.4641. Again we find another correlation that reveals an economic disadvantage of living in largely-Hispanic tracts. Note that this analysis was completed on the 25th income percentile of parents from all races, showing that these effects seem to not only target Hispanic people but also Hispanic neighborhoods. While further testing is required for specific neighborhoods, this does align with the historical context provided earlier. El Segundo Barrio had one of the worst five average child income percentiles.



Having identified several measures that reveal the negative economic effects of living in largely Hispanic neighborhoods, I was interested in understanding the geographical movements of Hispanics across tracts from 2000 to 2010 to check if El Paso was becoming more segregated. I found that, with a 0.9504 correlation coefficient, the Hispanic share in 2010 can be found by $share_{hisp2010} = 0.7633 \cdot share_{hisp2000} + 0.2334$. This meant that, on average, the share of Hispanic people had increased across all tracts in these 10 years, regardless of the tracts' initial share of Hispanic people.[18]

[18] Note that, up until this point, I had excluded the outliers in share_hisp2000 in order to better understand the correlation between share_hisp2000 and share_hisp2010. As my analysis becomes more holistic across all tracts in El Paso, I shift to include the outliers as I believe they are worth mentioning and do not carry any extra weight that can offset my analysis.

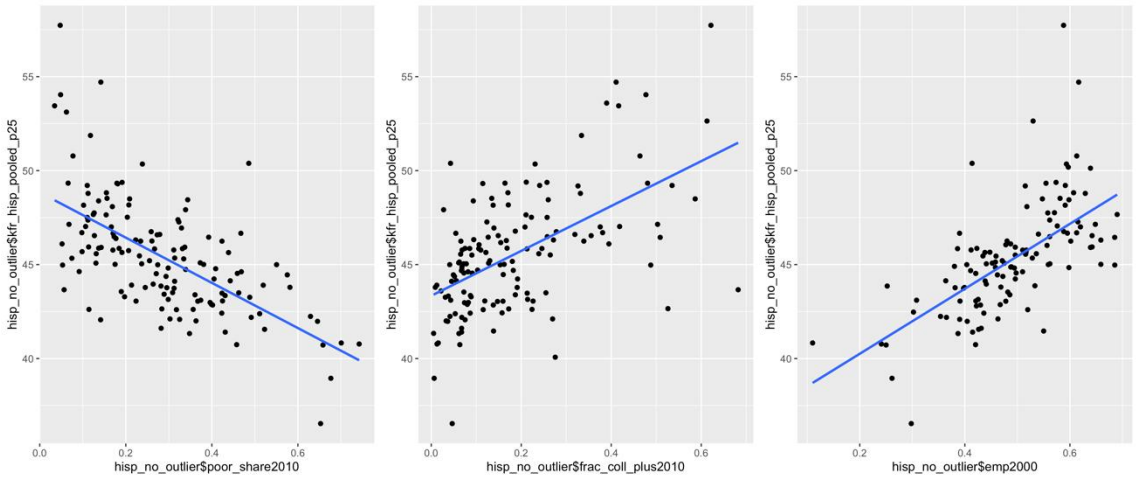


Across all 155 tracts, 136 had an increase in their share of the Hispanic population from 2000 to 2010, and 19 had a decrease. While this may seem alarming, after adjusting for the mean growth experienced across El Paso (3.805%), we find that 67 (41.6%) tracts had a growth above the mean growth experienced across El Paso tracts and 94 (58.4%) tracts had a growth below the mean growth experienced across El Paso tracts. Further analysis of these tracts reveals that a majority (51) of tracts that experienced growth above the mean had an initial lower Hispanic share than the average and a majority (82) of tracts that experienced growth below the mean had an initial higher Hispanic share than the average. While this seems to imply less segregation in El Paso, further testing is required to understand the magnitude of these directional changes in the shares of Hispanic people.

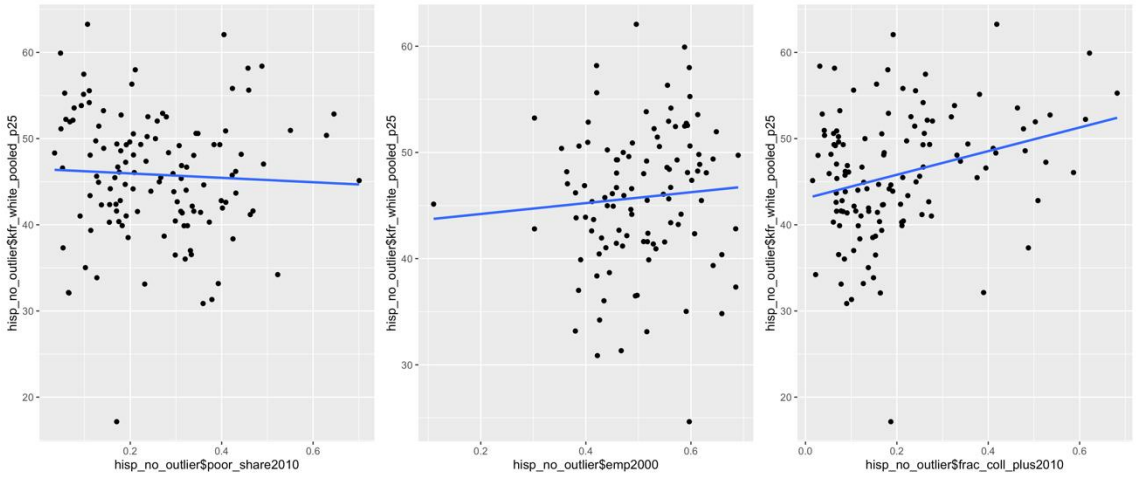
In order to assess the implications institutionalized discrimination and current economic disadvantage have on Hispanic populations, I will focus on how the college attendance rates, employment rates, and poor share rates impact the income of Hispanic children whose parents

were at the 25th percentile. I focus once again on the 25th percentile in order to assess economic mobility. I will analyze the slope and the correlation coefficient as the slope reveals the impact an increase in a metric's measurement has on the 25th percentile statistic and the correlation coefficient reveals how strongly correlated the two variables are.

Initial analysis shows a strong correlation between these factors on the 25th percentile statistic for Hispanic children. A correlational analysis with the poor share in 2010 reveals a best-fit line with a slope of -0.030 and intercept of 1.646, with a correlation coefficient of -0.601. A correlational analysis with the employment rate in 2000 reveals a best-fit line with slope 0.0187 and intercept -0.347, with a correlation coefficient of 0.568. A correlational analysis with the fraction of residents with a college degree or more in 2010 reveals a best-fit line with a slope of 0.0259 and intercept of -1.002, with a correlation coefficient of 0.557.



Further analysis for White children reveals much less correlated data, with correlation coefficients of -0.049, 0.067, and 0.279, respectively.



The data above shows that these economic factors are far more correlated with the social mobility of Hispanic families than of White families in El Paso. Note that this correlational analysis suggests that a causal relationship between these economic factors and the social mobility of El Paso's Hispanic population should be explored further with additional testing especially since, in relation to the White population, the correlation coefficients were 12.27, 8.48, and 2.00 times larger.

My analyses have revealed several things: (1) there is a strong relationship between the share of Hispanic or White people and the poor share in a tract, (2) there is a slightly strong correlation between the share of Hispanic or White people and the overall economic mobility, more clearly defined as the 25th percentile statistic, (3) there is a very strong correlation between the share of Hispanic people in tracts in 2000 and 2010, although more testing is needed to assess whether this is a result of increased segregation or simply because the two are naturally correlated, and (4) economic metrics such as the poor share, the employment rate, and the fraction of residents with a college degree or more are far more correlated with social mobility for Hispanic El Pasoans than White El Pasoans. Additionally, El Segundo Barrio, with a very

large Hispanic ratio of above 95%, has the highest poor rate in El Paso and one of the lowest values of economic mobility.

While my analyses revealed considerable correlations that might be the result of causal relationships between the variables, my methods did not include any causal tests or quasi-experiments that can argue causation exists between the variables I tested. Despite the covariates shown in my data, even those with strong correlation coefficients, it is possible that other confounding variables that have not been considered are impacting the variables I tested. Other limitations exist in the dataset itself – most of the data provided by the Opportunity Atlas exists from government sources and excludes undocumented residents of El Paso, which is estimated to be over 50,000 people.[19] Additionally, my correlational analyses are limited as certain variables are skewed by the overwhelming majority of Hispanics (83%) in El Paso; my correlational analyses of economic factors at the end might have a calculation of overall social mobility skewed by the majority of Hispanics. To better understand this relationship, subsetting the data by race would be beneficial.

Expanding on my work, I would like to implement a quasi-experiment and a multivariate regression. With more data used originating throughout the past century, I can run a quasi-experimental design that allows me to test the impact of certain depriving programs on Hispanics in El Paso. This would allow me to better understand the effect of programs like border bathing, the Immigration Act of 1917's literacy tests and head tax, and the gentrification in El Segundo Barrio. This might be challenging to do, though, as I would have to argue that aside from the

[19]Hooper, Kate. "County Data (48141): Unauthorized Population." *Migration Policy Institute*, https://www.migrationpolicy.org/data/unauthorized-immigrant-population/county/48141. Accessed 21 April 2023.

action taken, the populations are similar – this would be difficult to argue, for example, with the Immigration Act of 1917 as the alternative was the illegal entry into the United States, and these populations were likely, not comparable. Another interesting expansion would be a multivariate regression analysis that better tests for the impacts certain economic factors have on the social mobility of Hispanic El Pasoans. Rather than running separate regression analyses, a multivariate regression would allow me to test several variables at once and to better understand the relationships that exist within them.

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