

STRUCTURAL VIOLENCE IN TEXAS COUNTIES: AN ETHICAL PROBLEM WITH UNCONTROVERSIAL POLICY SOLUTIONS

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Abstract

When we think about violence in America, it is usually the tragic images of mass shootings that come to mind. These are horrific events that take the lives of Americans all too often, and, in spite of generating universal revulsion among Americans, they appear to resist any hope of a policy solution because of how this problem sits directly on the broad and deep partisan divide that currently characterizes American politics. This destructive, kinetic type of violence is not alone in causing Americans to suffer premature death because there is another type of violence that is less noticeable and much less likely to capture the full attention of the media or the policy process. This is nonetheless an insidious kind of violence that is very lethal and is known as structural violence, which is a social pathology that manifests itself in the premature death of numerous Americans whose misfortunes stem only from the fact that they do not have equal access to quality health care, a safe environment, and those other opportunities that allow them to live a complete and fulfilling life. We demonstrate the widespread lethality associated with structural violence by examining life expectancies of residents of Texas' 254 counties, where we highlight the disparities that exist in how long individuals, particularly those of different races and ethnicities, are likely to live. With these data, we then provide a mapping of the numerous residents of Texas counties who have died prematurely. In our analysis we offer some simple, uncontroversial policy solutions to help ensure that we increase the number of Americans who can live complete and fulfilled lives.

Introduction

It is an unfortunate fact of American life that we all too often witness senseless and tragic acts of mass violence. While the violence we see varies in terms of location, the numbers and characteristics of the victims, and the instruments of violence employed in the commission of such horrible acts, it typically comes in two different forms. The first is the most familiar type of mass violence and involves such

things as acts of terrorism, like the tragic events of 9/11, which Americans witnessed as the smoldering towers of the original World Trade Center collapsed after being struck by hijacked aircraft. It also involves mass violence that is witnessed in the form of home-grown mass killings of the innocent, particularly, mass shootings, where individuals with firearms purposely seek to create the largest amount of human carnage possible with the weapons and ammunition they possess.

These forms of mass violence are disheartening to observe because they all too often occur in what we think of as safe zones, that is, schools where children are the victims, like in Newtown, Connecticut and Parkland, Florida, or public gathering spaces where individuals and families are enjoying a film in an Aurora, Colorado movie theatre or an outdoor country music concert in Las Vegas. These horrific acts of violence have even occurred during church services, like the racism-motivated murder of members of an African American congregation in Charleston, South Carolina in 2015.

These acts of violence are perpetrated by individuals, and, as a result, they are known as behavioral violence, a form that is both kinetic and deadly. To be sure, this kind of violence generates universal revulsion and condemnation in all who witness it, but, unfortunately, it is not the most common type of violence many Americans are forced to endure. This is because there is a second type of mass violence that occurs in America – and in most countries around the world for that matter – and it is much more prevalent than its behavioral counterpart. Indeed, this kind of violence is truly lethal, taking the lives of far more Americans and people in other nations than acts of terrorism or mass shootings put together. Nonetheless, its incidence is almost unnoticed because it occurs much more subtly than behavioral violence in how it deprives individuals of living the full lives that those fortunate enough to avoid it are allowed to live. This is because it is an insidious form of violence known as structural violence, and the source of this quiet killer is unequal access to income and basic services such as health care, education, and other essentials such as clean water and air, which more often than not results in such social pathologies as premature death and immorally high rates of infant mortality.¹

¹There are social indicators other than those concerning public health that tell us about individuals who are subjected to structural violence, and these would include such things as incidences of disease contraction like COVID-19 or being subjected to higher than average rates of deadly crime.

Structural violence then is distinct from its behavioral counterpart not only in terms of it being more subtle, most often going unnoticed because it does not quickly capture the attention of the print and broadcast media, but more importantly because it is below the political radar unlike kinetic violence. This is important because structural violence typically does not engage the policy process in a way that invokes the virtually unbridgeable political divide that has increasingly defined American politics. This is perhaps best illustrated by political actors attempting to craft solutions to any type of problem associated with gun violence, which invariably heads into policy roadblocks set up by America's current political divisions. Because structural violence operates below the news media's radar, it does not typically provoke the political divisions that we witness when actors in the policy process respond to acts of behavioral violence. What this means is that, while behavioral violence will most likely continue to occur with no evidence of letting up, we have a much better chance of addressing the sources of structural violence with meaningful policy solutions.

Our purpose in the paper is to investigate this problem of structural violence by, first, defining structural violence and then providing some background discussion as to how it has been treated in the academic literature. This will also include a discussion of one investigation into the premature deaths of females in certain states in India and provinces in China during defined periods of time. We then turn to identifying and mapping the occurrence of structural violence and the human toll it takes. We will accomplish this by examining the life expectancies of residents of all 254 counties in the State of Texas. Our purpose in analyzing these county data is to show just how close this type of violence is to the daily lives of individual Americans in one of the county's largest and most diverse states, but we also want to detail how its incidence is clearly connected to the problems of race and inequality that exist in Texas and naturally in other U.S. states. We conclude our efforts with some thoughts on how to have the policy process address this problem and note that, while the policy process is so often unable to produce any effective solutions, particularly for such problems as gun violence and mass shootings even though they generate universal condemnation, it may actually be more able to deal with this insidious form of violence in American life.

The Causes and Consequences of Structural Violence

As stated briefly above, structural violence does not immediately generate the horror, disgust, and disbelief that behavioral violence

does because it is not manifested in the kinds of tragic, kinetic events that occur all too often in gathering places for children and adults in the United States. Indeed, structural violence occurs in the shadows of the country and out of the primary vision of many citizens and leaders. Even the actual victims of structural violence are typically not aware of the way that basic institutional arrangements in the United States lead to the profound social pathologies that they experience, which again are every bit as lethal as acts of behavioral violence. The reason for this is that, while structural violence does lead to harm in every sense of the term, it does so in a way that is almost invisible as its deleterious impacts earn their lethal status slowly, almost silently, by accumulating over extended periods of time. This is also because structural violence impacts individuals who are not responsible for the social pathologies it produces, which, again, emanate from institutional arrangements that are sustained by extant socio-economic structures and processes that, taken together, prevent certain individuals from having equal access to those necessities of life that allow individuals to enjoy full and prosperous lives.

The problem of Americans experiencing life expectancies well below the national average due to unequal access to life's essentials was first defined in an essay on peace research by Johan Galtung.² In this thought-provoking essay, Galtung (1969) explored the distinctions that exist between peace and violence in the hope of obtaining a better understanding of the phenomena with which peace researchers were beginning to grapple. In this essay, Galtung also explores several distinctions with respect to the different types of violence that exist, and among them he highlights the differences that exist between violence that is personal and direct from that which is structural and indirect. He notes that structural and indirect violence is built into the manner in which a society is put together whereby individuals, due to unequal access to life's essentials, are denied the opportunity to live to their full life expectancy. As a result, these individuals do not live as long as those individuals who are fortunate enough to have sufficient access to adequate nutrition, health care, education, and those other factors that allow for long and healthy lives.³ As stated briefly above, this structural inequality is partner to other deleterious consequences such as high infant mortality rates,

² See Galtung (1969).

³ Sen (1999) refers to this unequal access as a deprivation of basic freedoms, and, with this characterization, he restructures the entire economic development debate in terms that go beyond measures of income inequality to equal access to education, health care, personal security, which he sees as basic to individual freedom.

but whatever social pathology it causes, structural violence is most often tied to differences in socio-economic status, race and ethnicity, geography or region, gender, religion, and the other ways that societies are segmented.

While domestic socio-economic factors are most often attributed to the occurrence of structural violence, there is a growing literature that is uncovering an expanded set of factors that are responsible for this problem's ongoing deleterious consequences. The work of medical anthropologist, Paul Farmer, is illustrative here. While investigating connections between the history of Haiti as a slave colony and the contemporary medical problems its people face, particularly how tuberculosis and AIDS disproportionately impact certain parts of the Haitian population compared to others, Farmer (2004) notes how this unequal distribution of these maladies goes beyond Haiti's very uneven distribution of wealth. Specifically, in addition to Haiti's manifest problem of poverty, Farmer (2004) notes how its history as a slave colony combined with its leaders adopting economic policies based on neoliberal ideas to solve the country's development problems has helped keep nearly all Haitians, save for a small top-tier elite class in the country – which directly benefits from its direct connection to the international economy – from enjoying equal access to health care, resulting in many more of its poor suffering disproportionately from such diseases as AIDS and tuberculosis.⁴

In another investigation, the Nobel-prize winning economist, Amartya Sen, turned to China and India to explain why so many women in various regions of these countries during certain periods of time had perished prematurely. Amartya Sen has been called the conscience of the dismal science,⁵ and to uncover this tragedy of Chinese and Indian females experiencing premature death, he began with the well-established notion that women make up the majority of the world's population compared to their male counterparts. He illustrated this phenomenon by presenting a simple sex ratio, that is, the raw number of males divided into the raw number of females. He reasoned that, if access to the necessities of life were equally available

⁴ These ideas in Farmer's argument are based on the work of Wallerstein (1974).

⁵ While the origins of referring to the discipline of Economics as the dismal science is usually traced to Thomas Carlyle, the he referred to 19th century Political Economy in this way remains in dispute. Some argue it was a reference to the pessimistic predictions of Malthus while others argue it stemmed from his support of continuing slavery rather than relying on market forces to deal with the future of this horrific institution. See Levy (2001) for an interesting discussion of this controversy. What is not in dispute is that Amartya Sen was called the conscience of the dismal science because of the positive impact his work had on such problems as poverty, famines, feminism, and equality in economic development.

to females as they are to males, that is, if biology alone determines the number of years males and females typically live, then the ratio should range between 1.05 and 1.06. In spite of this, examining data from certain regions in China, South Asia, and West Asia, Sen (1990) notes that ratios of 0.94 or lower were not uncommon.

Sex ratios producing quotients below 1 are troubling because, as Sen (1990) notes, women have lower death rates "...when they get roughly similar treatment in matters of life and death." Sen also notes that there is sometimes significant within-country variation with respect to the life expectancies of women, particularly in countries like India and China. In the former, Sen (1990) found that in some states, like Punjab and Haryana, the ratio of women to men was 0.86 but in other states, like the State of Kerala, it was at the expected level of 1.03. Using the Chinese statistical yearbooks, Sen found ratios as low as 0.94 in 1979, 0.93 in 1985, and 0.94 in 1989.

These below normal ratios led Sen to investigate the possible causes of these unfortunate patterns and ruled out two of the most commonly cited factors. One involved a country having a sexist or misogynist culture such as certain nations in East and South Asia are reputed to have. While there may be some truth to this label for certain aspects of East and South Asian cultures, he concluded that it cannot explain the lower sex ratios he uncovered simply because such a label cannot subsume the within-country differences he identified. Sen also rejected simple poverty and underdevelopment explanations because he identified other poor countries as well as poorer regions within India as having sex ratios that indicated clearly that women were living to their full life expectancy.

In place of poverty, development, and culture, Sen notes first that one must examine the complexities associated with how economic and social factors as well as other explanatory variables can lead to such within- and between-country differences in female survival rates. This led to a focus on the inequities that exist for women in some families whereby the status and power of women is not equivalent to those of males, and, as a result, women suffer from an unequal distribution of essential benefits. These are part of what is known in the scholarly literature as "cooperation conflicts" that can negatively affect the power and status of women within their own homes. In some cases, indeed many more than one would facetly think, these status and power deficits can lead to shortages of nutrition, health care, and other essentials that ultimately lead to the premature death for females in that society.

Sen (1990) outlines four factors that not only help level the playing field for women but also elevate their power and status within their own homes, allowing them equal access to the necessities of life and reducing their chances of premature death. First, there is a distinct advantage for women who earn an income outside of the home and, second, for those whose work is recognized as contributing to the wellbeing of the home. In some cases, women may earn income, but its contribution to their power and status as females increases only with the amount it involves and the extent to which it is independent of the home, that is, income earned outside of the home. Third, the power and status of women is increased in direct proportion to the extent that female individuals own their own economic resources, which will offer them a position of strength compared to women who do not. Finally, the fourth factor Sen (1990) mentions concerns the extent to which other members of households, as well as the communities within which they live, have a clear recognition that females are indeed suffering from deprivation and there is at least some effort to alter this to provide women a more equitable access to the necessities of life in their respective households and communities.

This discussion of the academic literature suggests that we must consider several factors when conducting an empirical investigation of structural violence if we are to understand where and why it occurs, and if we are to have any chance of being successful at designing and implementing policy solutions aimed at its eradication. Specifically, we know that there will be a racial/ethnic component to this social pathology, and we also know that the incidence of structural violence will be related to the maldistribution of access to such socio-economic necessities as opportunities for gainful employment and sufficient income levels as well as opportunities for quality education and healthcare. In addition to these factors, higher incidences of premature death that are the avoidable consequence of structural violence will definitely spring from all other aspects of social, political, and economic underdevelopment that lead to opportunity deficits, limiting individuals' abilities to pursue and obtain a life that is fulfilling.

As stated briefly above, we will investigate structural violence empirically to reveal the prevalence of this unnecessary social pathology, particularly the all too high number of individuals who perish prematurely because of the root causes of structural violence, and why it takes on the distribution patterns it does. This case will be in one of the United States' largest and most diverse states, the State of Texas, which is an apt case to investigate the incidence, consequences, and causes of structural violence. This is true because

investigating structural violence in Texas counties will allow us to gather and present data that will confirm our expectations about why and against whom structural violence strikes. The analysis we complete will also offer some surprising patterns that we did not expect going into this empirical analysis of Texas counties. Both confirming expectations and uncovering surprising patterns that will be important parts of our analysis because they both contribute to a complete understanding of this unfortunate phenomenon in the United States. In addition to this, it is only with as complete an understanding as possible that we can hope to offer an effective policy response that will have any chance of addressing this very unnecessary problem of certain Americans being unable to live complete and fulfilling lives because they are all too likely to suffer from premature death.

Mapping Texans Who Die Prematurely

While the State of Texas is the U.S.'s second largest in terms of land area behind the State of Alaska and the second most populous behind the State of California, it is in so many other ways a national leader in terms of the diversity of its landscape, population, and economy. For example, the State of Texas is well known for its production of fossil fuels, but, at the same time, it is also generates more wind energy per capita than any other state in the U.S. In addition to this, its landscape is also perhaps the country's most diverse, including piney forests in the east, rolling prairies in the north, mountains and hills in central Texas and the Big Bend area, flat lands in the western plains of Llano Estacado, coastal areas along the Gulf of Mexico, and lush, productive land in its southern tip. This diversity of landscapes is reflected in the fact that Texas has more counties, the principal geo-political subdivision of the state, than any other state at 254.

Another aspect of Texas' diversity is witnessed in the number and characteristics of the residents of its 254 counties. For example, the state's most populous county is Harris which houses the City of Houston, one of the nation's most diverse, and contains nearly 5 million residents. There are several other Texas counties that contain over one million residents, and these include Dallas County at over 2 million and Tarrant County (Fort Worth) at nearly 2 million as well as Bexar County (San Antonio) and Travis County (Austin) both of which have over one million residents.⁶ At the other end of the continuum are counties that are so underpopulated as to have fewer than 1,000 residents. These low-population counties are in just about

⁶ There are also a number of counties that are just under one million residents like El Paso and Collin Counties.

every corner of the state and include Borden County, population 641, in West Texas and Kenedy County, population 416, on the Gulf of Mexico, south of Corpus Christi and north of Brownsville. There are also a significant number of counties that have just over 1,000 residents and, thus, are also very small in terms of population.

The diversity of Texas counties is also reflected in the different life expectancies of their residents. Current life expectancy in the United States is 78.93, and this is a number of years that is significantly behind that for many countries, including Japan, Hong Kong, Switzerland, Spain, Italy, and Singapore, which range from 83.57 to 84.89 years. Life expectancy in the State of Texas is also lower than that of these countries, and it is also slightly less than that for the United State at large at 78.50 years. There is more to this slightly lower life expectancy in Texas as the data in in Table 1 indicate. Specifically, these data tell us that there are stark differences in the life expectancies of men vs. women in Texas but also in terms of which county an individual resides in. The data are the average life expectancy for Texans living in the ten best counties and the ten worst counties. These data are also separated for males vs. females since there are significant gender differences in life expectancy of residents in Texas' counties.

The first pattern revealed in Table 1 is the anticipated fact that life expectancies for males are lower than they are for females, and this is true whether we are examining counties with the highest life expectancies or those with the lowest life expectancies. On average, female life expectancies are over five percentage points higher than those for males in the United States, and the same is true for the State of Texas where the life expectancy for females is 79.6 years but a much lower 74.1 years for males. We also see from the data in the table that, as we move from high life expectancy counties to those that are at the lower end, the gap between male and female life expectancies increases. We also see from the data that the life expectancy gap, that is the difference between those counties with higher life expectancies compared to those with the lowest life expectancies was great for males. Indeed, the gap between the best and worst performing counties was just under seven percentage points for females, but it was just over ten percentage points for males in Texas.

We see from the data in Table 1 that there are counties in Texas, albeit few, where males and females tend to live somewhat longer than the national average. On the other hand, there are far more Texas counties where the opposite is true, that is, where both males and females live shorter lives than would be expected at the national

level. This would describe most of Texas' counties, and, given these patterns, our next task is to determine what factors account for the variance we witness across the numerous counties of the State of Texas in terms of the life expectancies of males and females. This effort will involve an analysis of a number of factors that are measured in the aggregate at the level of county, and, to begin this analysis, we turn first to the variable that is to be explained, that is the life expectancy of both males and females in the two hundred and fifty four counties that comprise the State of Texas.

Dependent Variable

Given the data presented above, our purpose in the analysis that follows is to estimate statistical models that will allow us to calibrate the factors that account for why average life expectancies are higher in some Texas counties than in others. This means that the variable to be explained is simply the life expectancy for residents measured at the county level, and this includes both male and female life expectancy. To account for the differences we see across Texas counties for males and females, we must consider a number of socio-economic factors, particularly those that have been revealed in the scholarly literature to possess explanatory power.

Independent Variables

The explanatory factors we include in the models we estimate begin with indicators of the economic characteristics of a county. To this end, we include, first, a county's population, which as noted above involves an incredibly wide range from nearly five million to fewer than one thousand residents. Because of this wide range of county populations, we enter this variable in our models as the natural log of a county's population. In addition to the number of residents, Texas counties are distinguished in terms of whether their population is growing or declining, which offers us a way to calibrate whether a county is healthy and vibrant, or whether it is declining, telling us that conditions there are behooving residents to flee for other more desirable places. The average population growth rate since 2010 was 2.12% for all of Texas' 254 counties, but just over one-fifth of Texas counties experienced a population growth rate of over 20%. In contrast to this, 37% of Texas counties experienced a decline in population, and some of these rates of population decline were as high as 20%. This indicator of population growth is entered into our models as negative or positive percentage, depending on whether a county's population since 2010 expanded or contracted.

We also wanted to be certain that we captured the wealth and poverty of Texas counties, and, to accomplish this, we included two

measures. The first is the median income of all 254 Texas counties, which averaged \$38,681 but like population took on a very wide range of values. Indeed, county median income ranged from a low of \$17,556 and \$19,418 in Starr and Zavala Counties to a high of \$81,856 in Collin County on the north side of Dallas.⁷ We also wanted to determine the extent to which variation in life expectancy across Texas counties was due to poverty levels in these counties, and, to this end, we include the poverty rate of each county. County poverty rates are measured as the percentage of a county's population that is below the national poverty line and, like median income, counties revealed a wide range of poverty rates. The average percentage of a county population in poverty was 16.4% which is a rather high percentage, but 10% of Texas counties had rates of 10% or less and one quarter of Texas counties had poverty rates of over 20%.

We included three other sets of factors in our models to help explain the variation we observed in male and female life expectancy across Texas counties. The first of these is the role that we know from the literature that education plays in in the economic development of communities and countries. Our measure of education is the percentage of college graduates in each of Texas' 254 counties. Next, we know that there are racial and ethnicity components to structural violence and, thus, the variations we mapped in male and female life expectancy. Consequently, we included two indicators to capture these effects, and this first is designed to capture the racial face of structural violence and is measured by the percentage of county residents who are African American. Next, we also wanted to capture the ethnic aspect of structural violence and included the percentage of a county's population that is Hispanic. Both indicators involved wide ranges of values across Texas counties. Specifically, the percentage of county residents who were African American ranged from less than 1%, which characterized over 50 counties, to over one-fifth of Texas counties where over 20% of residents were African American. We also see that the Hispanic population of Texas Counties averaged 23%, but this was below 5% in some counties to several counties that were over 90% Hispanic.⁸

The social and economic indicators discussed thus far have been included in the models we estimate below to capture the direct impact of these various factors on variation in county life expectancies for both males and females. We also recognize that any

⁷ Because of this wide range of median incomes, this variable will be entered into the models we estimate below as the natural log of a county's median income.

⁸ These included Zavala, Webb, and Starr Counties, all of which are in South Texas.

direct effects we identify may not be the same for all of Texas' county residents and that some impacts may in fact be different for different groups of residents. Specifically, poverty rates and impacts associated with income and education levels may work in *sui generis* ways for county residents who are African American compared to whites and other ethnicities.⁹ For the analysis we conduct below, we capture these effects by including three interaction terms in our models, the first for African Americans and income, the second for African Americans and education, and the third for African Americans and poverty.

With both the dependent and independent variables defined and measured, we turn next to the format that our models will take given the task we have set out of explaining the variance in male and female life expectancy across the counties of Texas. The models we will estimate below take on the form,

$$Y_i^* = \alpha + X_{i...i-k}\beta + \varepsilon \quad i = 254,$$

where Y^* is a continuously valued, unobserved variable estimating the average number of years that residents of the i th county of Texas' two hundred and fifty four live, and this is captured for both male and female residents of that i th county, and $X_{i..i-k}$ is a one by ten vector containing the covariates. From the above discussion, we recall that two of the covariates are log-transformed continuous variables, capturing (1) a county's population and (2) a county's median income; five of the covariates are continuous variables capturing (3) the percentage of a county's residents who are college graduates, (4) the population growth of a county over the ten-year period from 2010, (5) the percentage of a county's residents living below the poverty line, (6) the percentage of a county's residents who are African American, and (7) the percentage of a county's residents who are Hispanic; and three interaction terms capturing (8) the interaction between African American residents and income, (9) the interaction of African American residents and college education, and (10) the interaction of African American residents and poverty.

Results of estimating our statistical models are presented in Table 2 for male life expectancies and Table 3 for female life expectancies.¹⁰ With respect to the average male life expectancy in the 254 counties of the State of Texas, the results in Table 2 confirm our expectations

⁹ See Farmer (1996) for a discussion of race and structural violence.

¹⁰ Diagnostic tests (Cook's D) revealed strong outlier impacts associated with the two lowest population counties. These two counties were removed from the analysis, which explains why the N 's for the estimated models are 252 and not 254.

about what explains the differences we witness across Texas' counties, but they also offer at least one unexpected result. As we would expect, living in a high-income community that is vibrant, as indicated by a county experiencing positive population growth, helped pushed male life expectancies higher. Specifically, for every unit increase in a county's log transformed median income, life expectancy grew by almost 200%. We do have to note here that this is a very strong relationship, which makes it worth reporting even though it is just out of range of the standard 95% level of confidence. We also see from the results in Table 2 that living in a growing and vibrant community did have a positive impact on male life expectancy, albeit a very small one to be sure.

Perhaps the most important of our expected results is the strong, negative impact associated with the percentage of a county's residents being African American. The coefficient on this variable tells us that for every 2.08 percentage increase in the population of African Americans living in a county, the average life expectancy for males in that county will decline by one year. This is a very significant impact that becomes even more clear when we consider the extent to which counties differ in terms of what percentage of their respective residents are African American. Specifically, an increase in the percentage of African American residents from 5% to 10% will result in a decline in male life expectancy of 2.4 years, while an increase from 5% to 15% will lead to an average decline of 4.8 years. Moreover, if a county's percentage of African Americans increases from 5% to 25%, male life expectancy is expected to decline by 9.6 years, that is, almost an entire decade.

Race then is clearly the most important factor leading to the lower life expectancies we witness across Texas counties, and while we also see that higher incomes for African Americans does result in an increase in life expectancy, this increment was not nearly enough to counter the incredibly deleterious impacts of race on life expectancy. While the extent of race's negative impact on the life expectancy of males was surprising, its overall impact was expected. The same cannot be said for the percentage of residents in Texas counties who are Hispanic, which did not involve any significant impact on the life expectancy of males. This same lack of impact was also true for female life expectancy as the results in Table 3 indicate, but more than this, we also see that the percentage of a county's residents who are African American also had no statistically significant impact on female life expectancy, even though its sign was in the expected, negative direction. In addition to this, there was only one statistically significant coefficient in the table of results for female life expectancy,

and that was the positive effect associated with a county experiencing population growth, which was small but positive and statistically significant.

As mentioned above, we recall that Texas is a state of many regions, and these regions are distinct in terms of geography, but they are also distinct with respect to the ethnic and racial makeup of their residents. The data in Table 4 involve dividing the state into seven regions and then mapping these regions in terms of the percentages of their residents who are African American and, also, with respect to the life expectancies of their male residents. Both of these factors are presented as ranges, specifically, the minimum and maximum values of these indicators. In terms of the percentages of African American residents, we see that there are counties in each region that have very low percentages of African American residents but that there are regions that contain counties with large proportions of residents who are African American. This is particularly true of East Texas, which has counties with the highest percentages of African Americans, followed by Central Texas and the Dallas-Fort Worth Metroplex.

We also see that regions are distinct with respect to male life expectancies where some have a narrower range than others. We notice from these data that the regions with both the lowest and highest male life expectancies are also those with the largest range in terms of residents who are African American. In light of these data, our next question is how much we would expect the life expectancy of males to decline if a region's percentage of African American county residents went from the regional minimum to its maximum. These predicted values are in the rightmost column, and we see that expected male life expectancies would drop the most in the regions that contain counties with the greatest range of life expectancies and percentages of African Americans. The greatest drop would occur in the counties of East Texas at a drop in life expectancy of fourteen and a half years. This expected decline in male life expectancy was followed by Central Texas counties at a decline of 11.85 y and then the DFW Metroplex as a 10.5 year drop.

Clearly the racial makeup of a county is the best predictor of the extent to which its male residents will have a normal life expectancy or one that is below the expected number of years. This undesirable finding leaves us then with the final empirical question of how many Texans have died prematurely? While there is no single method to estimate how many residents of Texas counties died prematurely, we begin with the idea that we do have an expectation of how long residents of Texas counties are expected to live, given equal access to all of life's necessities. When we compare these expectations to the

actual distribution of population in each county, we can estimate the number of individuals who have not lived to their full life expectancy. Looking at male residents of Texas counties, we estimate that more than 350,000 male residents of Texas's 254 counties have experienced premature death based only on data we examine for 2010. This is an astonishingly high number that should not be ignored by policy leaders in these counties.

Eliminating the Ethical Problem of Structural Violence

The findings presented above tell us that the premature death experienced by so many residents of Texas counties, particularly African American residents, is an ethical problem that behooves us to design and implement a policy solution so that unequal life expectancies across the State of Texas can be equalized. This then leads to the difficult question of what public policies can be designed and implemented that will help begin the process of eliminating structural violence, particularly, the racially based differences in male life expectancy with which it is associated, and any serious answer must first inquire into what level of government is most appropriate to design and implement the policies that can correct this pathology of premature death. Naturally, there is no quick answer to this difficult question, but even a perfunctory attempt to provide an answer must rest on the position that efforts by all levels of government will be necessary to equalize life expectancy across racial lines, even though different levels of government will address different aspects of this problem.

Clearly, a policy response from the federal government is absolutely necessary because eliminating the racially based disparities that exist in male life expectancy is in part a supply problem that only the government in Washington, D.C. has the financial means to address. What we mean by supply problem is that raising life expectancy of Americans of all racial and ethnic groups will require guaranteeing every American access to affordable and quality health insurance, and this is something that the federal government is best situated to accomplish. This idea of a supply problem also refers to the notion that it is only the federal government that has sufficient fiscal capacity to provide the funding necessary to be certain that all communities, both in Texas and throughout the United States, have sufficient supplies of high-quality physicians, nurses, medical technicians, and health facilities to make available the medical care necessary to eliminate this very treatable form of structural violence. Such policy efforts then render a federal response necessary, but there are two reasons in particular that a federal response alone will not be

sufficient to equalize male life expectancy, even if such a response is something we could be certain would happen in the near term.

The first of these reasons is related to the above discussion about national policy responses we have witnessed in the past to mass shootings. The point is that, federal funding for supplies of medical equipment and personnel is somewhat different from a policy that addresses mass shootings in terms of the potential for developing a consensus because increasing the supply of such facilities and personnel is both less controversial politically and also more possible because it is also the provenance of certain nongovernmental organizations like the American Medical Association and the American Nurses Association. On the other hand, providing access to affordable and quality health care for all Americans, a necessary aspect of addressing inequality of the life expectancies of Texas counties, is unfortunately a very different matter, as we know only too well how politically divided the policy process has been with respect to providing all Americans with access to affordable and quality health insurance.

While the recent pandemic and social movements against racial inequality and police brutality could conceivably push the federal policy process closer to favorable consensus on these supply issues, including quality and affordable health insurance for all, the important point here is that, even a perfect federal response on health care and the distribution of medical facilities and personnel, will not be enough to eliminate structural violence and equalize life expectancies of the residents of the counties of Texas or any other locality in the United States. The reason for this is that simply meeting the supply needs necessary to guarantee equal access to those health necessities that can equalize life expectancy does not necessarily mean that there will be an equitable distribution of those essentials at local levels. This is because distributions of such essentials are very much influenced by political institutions and processes at the local level.

We can perhaps best understand this problem of supply distribution at local levels by referring to an interesting point made by Amartya Sen (1999), who dedicated his career to studying the causes and consequences of such tragic phenomena as famines and hunger. His work covered many nations at many levels of development, but his insights between pre- and post-colonial India are particularly important here because of the fact that colonial India was subject to famines, which often led to mass starvation, but once India achieved its independence, it no longer endured these tragic events. Sen attributes this difference to many factors, but he also notes that, while

the federal government of post-independence India took sufficient action to prevent famines from continuing to break out, India still suffers from hunger and malnutrition, which remain a serious problem in some regions of the country. The relevant insight we can derive from this observation is that, while national governments are competent at solving certain problems, like the occurrence of famines or providing supplies of life's essentials like clean air and water, they cannot solve all problems, particularly those problems that involve local distributions of what should be indivisible public goods provided by national-level governments. This means that variations in the distribution of such things as adequate nutrition in India or life expectancies in the counties of Texas, derive from local institutions and processes at local levels.

This is a conundrum which makes clear that, even with federal policies guaranteeing both health care and sufficient supplies of medical personnel and equipment to all communities throughout the United States, differences in life expectancies for groups of residents in certain localities are likely to persist. This is because, even with adequate supplies of those necessities that help guarantee full and healthy lives, such essentials may not necessarily be available to all individuals at local levels. This is the problem of an equitable distribution, which can vary significantly at local levels due to the influence of a number of different factors, and while federal policy efforts can have a positive and mitigating influence overall, it is factors specific to different localities that also determine how equal distributions of all public goods will be.

For example, the federal government may provide a sufficient policy response to guarantee clean air and water to all residents of a hypothetical community, which on its face indicates that all residents of that community should have equal access to these life essentials if the policy response does in fact lead to clean air and water. The problem is that, if local land development policies and real estate practices direct members of certain racial and ethnic groups to living in limited and less desirable areas of that community, the result can certainly be that not all residents have equal access to clean air and water and, overall, a pollution-free environment. This is why the United States may be a world leader in the production of the most advanced technological research, but not all Americans are the beneficiaries of the fruits of such research.

To address this issue in the context of the racial disparities that exist in the life expectancies of residents of certain Texas counties, we need a set of initiatives at the local level that avoid the invocation of partisan divisions that exist at higher levels of government and, thus,

prevent policy makers at those levels from effectively addressing problems like the inequities that lead to racially based differences in life expectancy in Texas or any other state in the U.S. This is important because scholarly studies of policy efforts to improve the lives of Americans by eliminating those environmental problems and social pathologies that prevent some Americans from living to their full life expectancy are typically focused on this process at the national level. Unfortunately, a focus on the federal government, while important, will not solve the problem of racially driven differences in life expectancies across the counties of Texas without concurrent policy efforts that can be undertaken at the local level. Such a focus will require two emphases, the first involving the continued collection and analysis of data at the local level so that the impacts associated with more unexamined factors can be calibrated and better measures of the most important explanatory factors can be derived and a second effort that involves the continued development of a locally based, bottom-up perspective on solving the problems that local communities face. One such perspective, discussed at length by Katz and Nowak (2017) is known as the “New Localism,” and it has highlighted great success stories on how some urban and metropolitan areas in the United States have begun building more racially and ethnically inclusive, economically vibrant communities by connecting and enhancing public, private, civic, and nonprofit networks at the local level. This then is a promising perspective to investigate how such networks can be effective at eliminating the inequalities we witness in the life expectancies of different racial and ethnic groups in the U.S.’s localities.

Even though the work of politics invokes images of hopeless division and policy immobility, it is at this level that a true, uncontroversial effort can be initiated to address this structural violence problem of certain county residents not living to their respective full life expectancies. The first step in this effort requires communication, specifically, notifying political authorities in counties most affected by this structural violence problem with the fact that a segment of their residents are suffering and in need of attention. The counties of Texas have a chief executive, a County Judge, and they also have a legislative body, the Commissioners’ Courts, and the first step in designing and enacting a bottom-up approach to this unnecessary problem is to inform all of these county leaders that the problem does in fact exist. Next, continuing this information dissemination effort, it is necessary to be certain that counties affected in such a deleterious way use all official channels to be sure that all county residents are apprised of this social pathology, and this can be accomplished

through mainstream and social media outlets as well as community nonprofit organizations.

This information campaign is simply the first step, and it does not guarantee a solution. However, without this information campaign, the inability to provide a solution will be guaranteed because without knowledge that this structural violence problem exists, there is no reason to proceed with any policy effort that is designed to eliminate it. This means that the next step is open depending on the conditions that lead directly to the social pathology of premature death in the first place. This may mean a direct effort of medical infrastructure expansion so that access to health benefits are in sufficient supply to provide all county residents with the care necessary to begin equalizing life expectancies. Next, there may be more of a distribution problem where supply is adequate but access is not because of geography reasons. This will then require a different effort that combines bringing citizens to the wellness care they need or bringing the wellness care more directly to residents in need. Finally, there are a host of indirect efforts that county policy makers can initiate that revolve around encouraging more education and economic opportunity, and they may also involve efforts to get more federal resources to county residents to deal with distribution and supply deficits so that available health resources are less restricted from reaching county populations.

These are just a few of the types of bottom-up efforts that can be initiated to begin dealing with the racially-based inequities in life expectancy we have witnessed in the life expectancy of residents of Texas counties. These however, will not be effective without first a complete recognition of the ethical problem that exists in Texas counties with respect to African American Texans, on average, not living to their full life expectancy and then communicating this pathology to local policy makers who then can begin the process of addressing these unconscionable and unethical social pathologies that exist in the counties of the State of Texas.

Table 1
Life Expectancy in Texas: Ten Best and Ten Worst Counties

Males		Females	
Collin	80.5	Williamson	83.7
Williamson	79.8	Hidalgo	83.4
Cass	79.1	Collin	83.1
Fort Bend	78.8	Burnet	82.9
Travis	78.2	Cameron	82.7
Hidalgo	78.0	Webb	82.5
Denton	77.9	Comal	82.5
Hayes	77.7	Jeff Davis	82.3
Kendall	77.5	El Paso	82.3
Rockwall	77.5	Culberson	82.3
Males		Females	
Anderson	70.2	Falls	76.9
Polk	70.7	Newton	77.2
Newton	70.9	Limestone	77.2
Falls	71.0	Liberty	77.5
Limestone	71.1	Potter	77.6
Liberty	71.3	Ector	77.8
Orange	71.5	Loving	77.8
Shelby	71.7	Orange	77.8
Marion	71.9	Kaufman	77.8
Ector	72.0	Winkler	77.8
Source: Calculated by the Authors from the Texas Demographic Center.			

Table 2
Accounting for Male Life Expectancies in Texas Counties

	Coefficient	t-Ratio	P> t
County Population (Natural Log)	0.0496	0.61	0.541
Median County Income (Natural Log)	1.9991*	1.88	0.062
Percentage of College Graduates	0.0144	0.80	0.426
Population Growth Rate (2010-present)	0.0285**	2.45	0.015
Percentage of Residents in Poverty	-0.4791***	-3.36	0.001
Percentage of African Americans	0.0062	1.21	0.228
Percentage of Hispanic Residents	0.00001***	3.69	0.000
Interaction: African Am./Income	-0.0010	0.65	0.518
Interaction: African Am./Education	0.0043	1.11	0.270
Interaction: African Am./Poverty	51.8534***	4.54	0.000
Constant			
N	252		
F(10, 241)	16.95		
Pr. > F	0.0000		
R ²	0.36		

Source: Calculated by the Authors from the Texas Demographic Center.

*** P<.01, **P<.05, *P<.10

Table 3
Accounting for Male Life Expectancies in Texas Counties

	Coefficient	t-Ratio	P> t
County Population (Natural Log)	0.0878	1.28	0.201
Median County Income (Natural Log)	0.5658	0.63	0.530
	-0.0008	-0.50	0.957
Percentage of College Graduates	0.0252**	2.56	0.011
Population Growth Rate (2010-present)	0.0355	1.08	0.281
Percentage of Residents in Poverty	-0.1772	-1.47	0.142
Percentage of African Americans	0.0045	1.03	0.304
Percentage of Hispanic Residents	0.00001*	1.78	0.076
Interaction: African Am./Income	0.0002	0.12	0.904
Interaction: African Am./Education	-0.0015	-0.46	0.648
Interaction: African Am./Poverty	72.3544***	7.50	0.000
Constant			
N	252		
F(10, 241)	16.95		
Pr. > F	0.0000		
R ²	0.31		
Source: Calculated by the Authors from the Texas Demographic Center. *** P<.01, **P<.05, *P<.10			

Table 4
Race and Male Life Expectancy in Six Texas Regions

Region	African Am. Percentage: Min to Max	Avg. Life Expectancy: Min. to Max.	Min. To Max Change in Life Expectancy
Panhandle	0.0 to 11.6	72.0 to 75.4	-5.58 Years
West Texas	0.0 to 9.0	72.0 to 76.7	-4.33 Years
South Texas	0.1 to 14.1	72.4 to 78.0	- 6.73 Years
Central Texas	0.4 to 25.3	70.2 to 79.1	-14.42 Years
East Texas	3.3 to 33.8	72.4 to 80.0	-10.58 Years
DFW Metroplex	0.3 to 22.3		

Source: Calculated by the Authors from the Texas Demographic Center.

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