Deaths by Intentional Self-harm in the State of Texas in 2013

The dataset focuses on death rates for Texas between the years of 2012 and 2016 by county specifically, on deaths that were deemed “International self-harm.” Some of the included causes of death were suicide, self-poisoning, self-harm by drowning, etc. The dataset does not specifically focus on self-harm as counselors conceptualize the behavior. This difference in conceptualization raises awareness for how the behavior can perceived differently at a societal level. The dataset includes the urbanization status of each county within Texas for the year 2013. The counties were also broken up into regions within Texas. Adding these variables to the death rates in 2013 in Texas will potentially provide information that may confirm previous notions about self-harm. Firstly, if there is significance in the relationship between gender and urbanization status of county. Secondly, if there is significance in the relationship between gender and region of Texas.

Texas has a total of 254 counties, however after merging all variables needed there were 83 counties included. The decrease in number may be due to lack of demographic information on death rates in the remaining 171 counties within Texas. To provide descriptive statistics on the rates of deaths due to intentional self-harm in Texas, observations yielding ‘Na’ were removed resulting in 59 counties. Table 1. describes the total deaths by means of intentional self-harm for the state of Texas in 2013.

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| Table 1. Descriptive Statistics of Deaths by Intentional Self-harm in counties within Texas in 2013 | | | | | | | | |
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| Variable |  | Observations | Mean | Median | S.D. | Min. | Max. | Variance |
| Deaths | | 59 | 317,123 | 128,641 | 462,861 | 18,554 | 2,174,151 | 2.1424E+11 |
| Note: Not all counties within Texas are included. | | | |  |  |  |  |  |

Typically, stigma surrounding intentional self-harm, which generally means suicide for governmental purposes, males complete more often than women. In Table 2. We can see that more observations in the sample were male possibly relating to the aforementioned stigma.

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| Table 2. Descriptive Statistics of Deaths by Intentional Self-harm in counties within Texas in 2013 by Gender | | | | | | | |
|  |  |  |  |  |  |  |  |
| Variable |  | Observations | Mean | Median | S.D. | Min. | Max. |
| Male |  | 48 | 230,779 | 82,487 | 380,062 | 18,554 | 2,162,702 |
| Female | | 11 | 693,898 | 434,395 | 609,713 | 111,653 | 2,174,151 |
| Note: Not all counties had information listed for both genders. | | | | |  |  |  |

The lifestyle in urban versus rural areas can potentially impact depression leading to death by intentional self-harm. A concern when merging the datasets was the category deemed “rural” was no longer available. This may be due to the lack of information from these specific counties. The other added factor is the merging based on urbanization of a county is specific to the year 2013. In that year, counties that are identified as rural did not have any deaths to report.

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| Table 4. Urbanization Description | | | | | | | | |
| Code | Description |  |  |  |  |  |  |  |
| 1 | Metro - Counties in metro areas of 1 million population or more | | | | |  |  |  |
| 2 | Metro - Counties in metro areas of 250,000 to 1 million population | | | | | |  |  |
| 3 | Metro - Counties in metro areas of fewer than 250,000 population | | | | | |  |  |
| 4 | Nonmetro - Urban population of 20,000 or more, adjacent to a metro area | | | | | |  |  |
| 5 | Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area | | | | | | |  |
| 6 | Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area | | | | | |  |  |
| 7 | Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area | | | | | |  |  |
| 8 | Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area | | | | | | |  |
| 9 | Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area | | | | | | | |

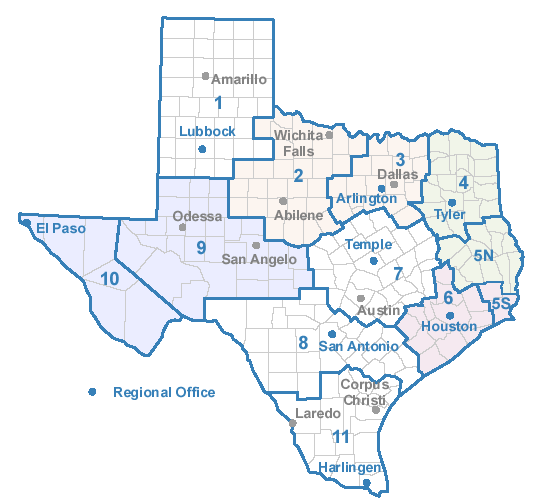
Table 4. outlines the descriptions of urbanization status for the counties of Texas. Also, when removing observations of ‘NAs’ the category of ‘Nonmetro not adjacent to metro area’ was removed. The two descriptive variables left were Metro and Nonmetro adjacent to a metro area. Table 5. were the remaining variable’s descriptive statistics for the deaths caused by intentional self-harm for Texas counties meeting the description of Metro and Nonmetro urbanization status in the year 2013.

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| Table 5. Descriptive Statistics of Deaths by Intentional Self-harm in counties within Texas in 2013 by Urbanization Status | | | | | | | |
|  |  |  |  |  |  |  |  |
| Variable | | Observations | Mean | Median | S.D. | Min. | Max. |
| Metro Counties | | 56 | 332,592 | 136,067 | 470,245 | 18,554 | 2,174,151 |
| Nonmetro counties (Adjacent to a Metro Area) | | 3 | 28,375 | 25,713 | 10,899 | 19,054 | 40,358 |
| Note: Two categories of status are not included. | |  |  |  |  |  |  |

To gain a better understanding of the relationship and differences of deaths by gender, regions of Texas were also considered. Possibly having significant differences could raise awareness of areas most affected and understanding of differences among regions could provide clinicians the opportunity to focus mental health services within those areas in the state of Texas.

Figure 1. taken from Texas Department of Health Care

Figure 1.



services provide the mapping for how Texas Regions were

included in the dataset. Table 6. Provides descriptive statistics

of the deaths in counties based on these regions. The table

shows a majority of the observations are focused in the North

Texas region while West Texas was very limited. This could

possibly be due the fact that commonly when thinking of Texas demographics

North Texas has some of the larger cities compared to West Texas. Typically, this region does not have large population except when considering El Paso falls into this region.

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| Table 6. Descriptive Statistics of Deaths by Intentional Self-harm in counties within Texas in 2013 by Region of Texas | | | | | | | |
|  |  |  |  |  |  |  |  |
| Variable | | Observations | Mean | Median | S.D. | Min. | Max. |
| North Texas | | 25 | 282,775 | 77,061 | 388,545 | 19,054 | 1,253,902 |
| West Texas |  | 5 | 207,036 | 75,553 | 189,034 | 56,886 | 421,752 |
| Central Texas |  | 10 | 206,466 | 140,641 | 195,591 | 37,870 | 565,721 |
| South Texas |  | 8 | 354,419 | 187,470 | 358,780 | 44,150 | 922,744 |
| East Texas |  | 11 | 518,700 | 167,721 | 821,206 | 18,554 | 2,174,151 |
| Note: Regions are as described by the Texas Department for Health Care Services. | | | | |  |  |  |

The expected frequencies and observed frequencies between variables were close. These finding can be found in Table 7. and Table 8. Of the deaths in 2013 who were male 94% were living in a metro area and of the deaths that occurred in a nonmetro area 100% were male. Though the sample was largely men this aligns with previous mentioned stigma about men completing suicide more often than women. Of the deaths in a nonmetro area zero were female.

Though no females completed suicide in a nonmetro area, 20% of the deaths occurring in the north, west, and central regions in Texas were female. The majority of deaths in both males and females were living in the northern region of Texas. This could possibly align with the concept that the majority of deaths by both genders were typically living in metro areas.

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| Table 7. Gender and Urbanization Status of Counties in Texas | | | |
| Expected Frequencies in Parentheses | | | |
| Urbanization | | | |
| Gender | Metro | Non-Metro | Total |
| Male | 45(37) | 3(2) | 48 |
| Female | 11(2) | 0(0) | 11 |
| Total | 56 | 3 | 59 |
| Note: There were no female deaths for Non-metro counties. | | | |

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| Table 8. Gender and Regions of Texas | | | | | | |
| Expected Frequencies in Parentheses | | | | | | |
| Regions of Texas | | | | | |  |
| Gender | North | West | Central | South | East | Total |
| Male | 20 (16) | 4 (3) | 8 (7) | 7 (6) | 9 (7) | 48 |
| Female | 5 (1) | 1 (0) | 2 (0) | 1 (0) | 2 (0) | 11 |
| Total | 25 | 5 | 10 | 8 | 11 | 59 |
| Note: Regions are as described by the Texas Department for Health Care Services. | | | | |  |  |

A Chi Square test was run through R script to provide analysis on statistical significance between the variables. There was no significant difference in the proportion in gender who died by intentional self-harm in different regions of Texas, *x2(4)* = 0.25, p>.05. From this information we are able to infer that death by intentional self-harm affects both genders across all regions of Texas. Making the need for clinicians to train appropriately to provide proper client care.

There was no significant difference in the proportion in gender who died by intentional self-harm in metro versus nonmetro counties within Texas, *x2 (1)* =0.01, p>.05. Clinicians may not need to focus services specifically to areas based on urbanization, but services should be available in all areas. Although the results of the chi square were not significant the information presents similarly with previous literature surrounding stigma among gender difference in suicide rates. Although rural areas of Texas were not considered in this data which could have provided more on lifestyle assumptions, looking at urbanization provided information on where potential services could be beneficial.