Disparities in Washington State

The Association between Population living in Poverty, People of Colour, No High School Diploma and Single Parent Households

Nikita Daharia

University of Washington

MHA Program Class of 2023

HSMGMT 570

Ken White, PhD, MHA

December 12th, 2021

Table of Contents

Introduction

The United States is the world's largest economy, and the epitome of industrialization. Because of its wealth and high standards of living, many Americans believe theirs to be one of the better—or outright best—countries in the world to live. But Poverty is still a big problem in the United States and ranks the second-highest in the rate of poverty among rich countries. Among America's population of 333 million are 724 billionaires and about 37 million people living below the federal poverty level, or 11 percent in 2020 (Doi.org, 2012).

Multiple analyses indicate that one thing is clear in the data: single parent families are more likely to face poverty, and they are more likely to be black. Black students are much less likely to graduate from high school and attend college than white students with the same family income (Doi.org, 2012).

Poverty and economic inequality are pressing human rights problems in the United States. But various studies make it evident that higher levels of poverty are to be seen amongst the people of colour, single parent households and families with no high school diploma.

Background

The data for this study was harvested from an interactive tool via the University of Washington Department of Environmental and Occupational Health Services (DEOHS) in collaboration with the Washington State Department of Health (DOH). This tool utilises data through the Washington Tracking Network and other partners across Washington State to "map 19 indicators of community health" (University of Washington Department of Environmental & Occupational Health Sciences, n.d.)

To develop the interactive map, communities were recruited to provide input over the course of two years. Fortunately, these communities included "groups representing communities of colour, immigrants, tribes, farmworkers, the elderly, and other groups," ensuring a diverse representation and more accurate information for the tool (University of Washington Department of Environmental & Occupational Health Sciences, n.d.).

For this study, 4 variables were pulled from the tool: People of Colour (Race/ Ethnicity), no high school diploma, single parent household and population living in poverty

<=185% of Federal poverty level. This data will be evaluated to determine race/ethnicity, lower education level and, single parent households have effects on the general population especially as it relates to impoverished populations from a broad perspective.

Literature Review

There is an "observed positive association between race/ethnicity, lower education, single parent households and poverty levels." implying that individuals who are born in a two parent household, have a high school diploma and identify as a Caucasian, have lower levels of poverty (Doi.org, 2012).

Poverty levels vary greatly across America's major social/ethnic groups. The highest poverty rates are those of American Indians and Blacks, 23 percent and 21 percent, respectively. The next highest group consists of Hispanics at 17 percent, followed by lows of 8 percent for Asians and whites (Doi.org, 2012).

Also importantly, poverty rates vary considerably by educational attainment. The proportions of adults living in poverty range from a high of 25 percent for those with no high school diploma to a low of 4 percent for those with a bachelor's degree or higher. Having a high school diploma places the poverty level at 13 percent (Doi.org, 2012).

Poverty is seen more often in single-parent households, especially among populations of colour . A study finds that, individuals who live in single-parent families as teens receive fewer years of schooling and are less likely to attain a high school diploma than those from two-parent families. The study, published in the journal *Education Next*, estimates the relationship between adolescents' family situations and their future educational attainment, and finds that the education gap between young adults who lived in single-parent families and those who lived in two-parent families widened substantially in recent years (Doi.org).

Because a single-parent household often means a single income. That increases the chances such a household will face poverty. According to a report card on racial and ethnic disparities, the most recent data available, shows that 71.2% of Black children in the county live in single-parent homes and their parents. That's more than double the percentage of white children: 27.3%. Further, children of adults living in poverty and in single income households also end up dropping out of school and receive fewer years of schooling (*Willamette Week*, 2020). There is an implied association between low income, no high school diploma, single

parent household and people of color. This study aims to visualise and analyse these associations.
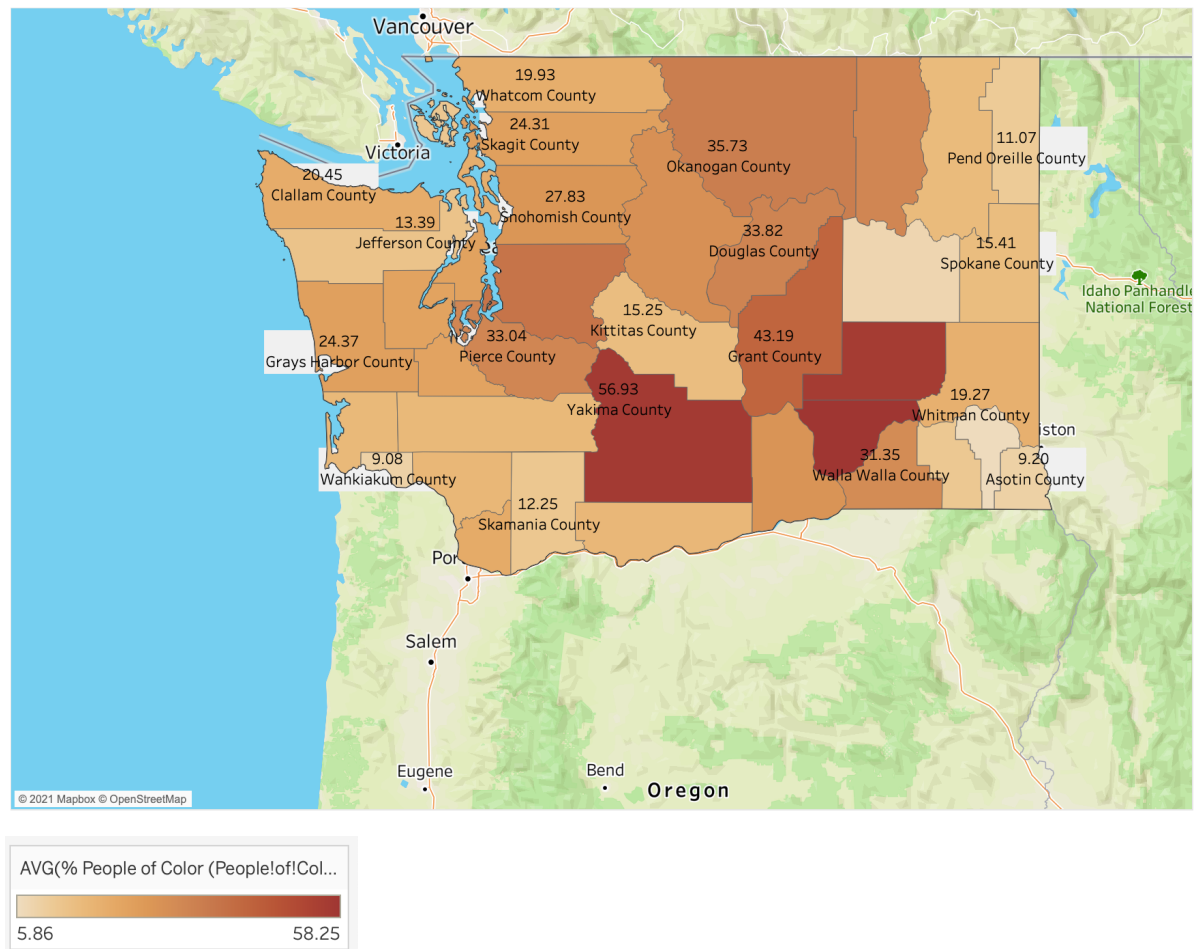

Visual Analyses

Viz 1:

Figure 1: Map based on Longitude (generated) and Latitude (generated). Colour shows an average of % people of color. The marks are labelled by average % people of colour and county. The data is filtered on Statefp, which keeps 53. The view is filtered on average of % people of colour , which ranges from 5.86 to 58.25. (Tableau: Viz 1 tab).

People of color refers to the sum of all race/ethnicity categories except White/Non-Hispanic. It includes Black, American Indian/Alaskan Native, Asian, Native Hawaiian-Other Pacific Islander and two or more races.

Figure 1 above shows the Average % of people of color in each county. Based on this graphic, the highest % of people of color are in Franklin County, Yakima and Adams county at 58.25%, 56.93% and 56.20%. Furthermore, Garfield, Lincoln and Wahkiakum county lead the lowest % of People of Color in each county at 5.86%, 7.73% and 9.03%. The darker shades of Brown represent a higher and the lighter shades represent a lower average % of people of color in each county.
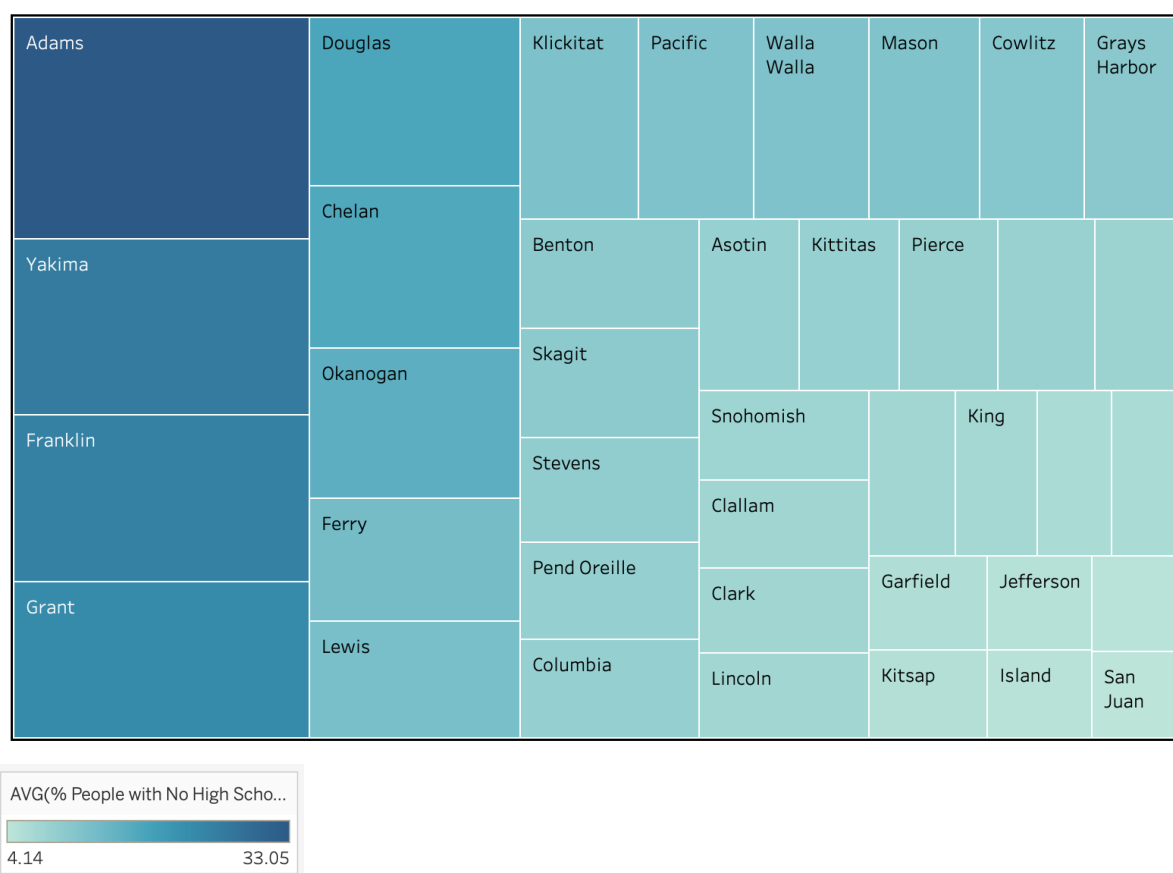
Viz 2:

Figure 2: Heatmap based on County (No School Diploma) and Average of % People with No High School Diploma. Color and Size shows the average % People with No High School Diploma. The marks are labelled by County and Average of % People with No High School Diploma. The view is filtered on County, which excludes State Total. (Tableau: Viz 2 tab).

Population with no high school diploma refers to when the education level is below high school diploma at county levels; (2012-2016). The Dimension used is County (No High School Diploma) has 45 members on this sheet and the measures used is Average of % People with No High School Diploma ranges from 4.14 to 33.05 on this sheet.

Figure 2 above shows the Average % of People with No High School Diploma in each county. Based on this graphic, the highest % of People are in Adams County at 33.05%. Furthermore, San Juan, Garfield and Wahkiakum counties lead the lowest % of People with No High School Diploma in each county at 4.14%, 5.57% and 7.89%. The darker shades of Blue represent a higher and the lighter shades of Blue represent a lower Average % of People with No High School Diploma in each county.
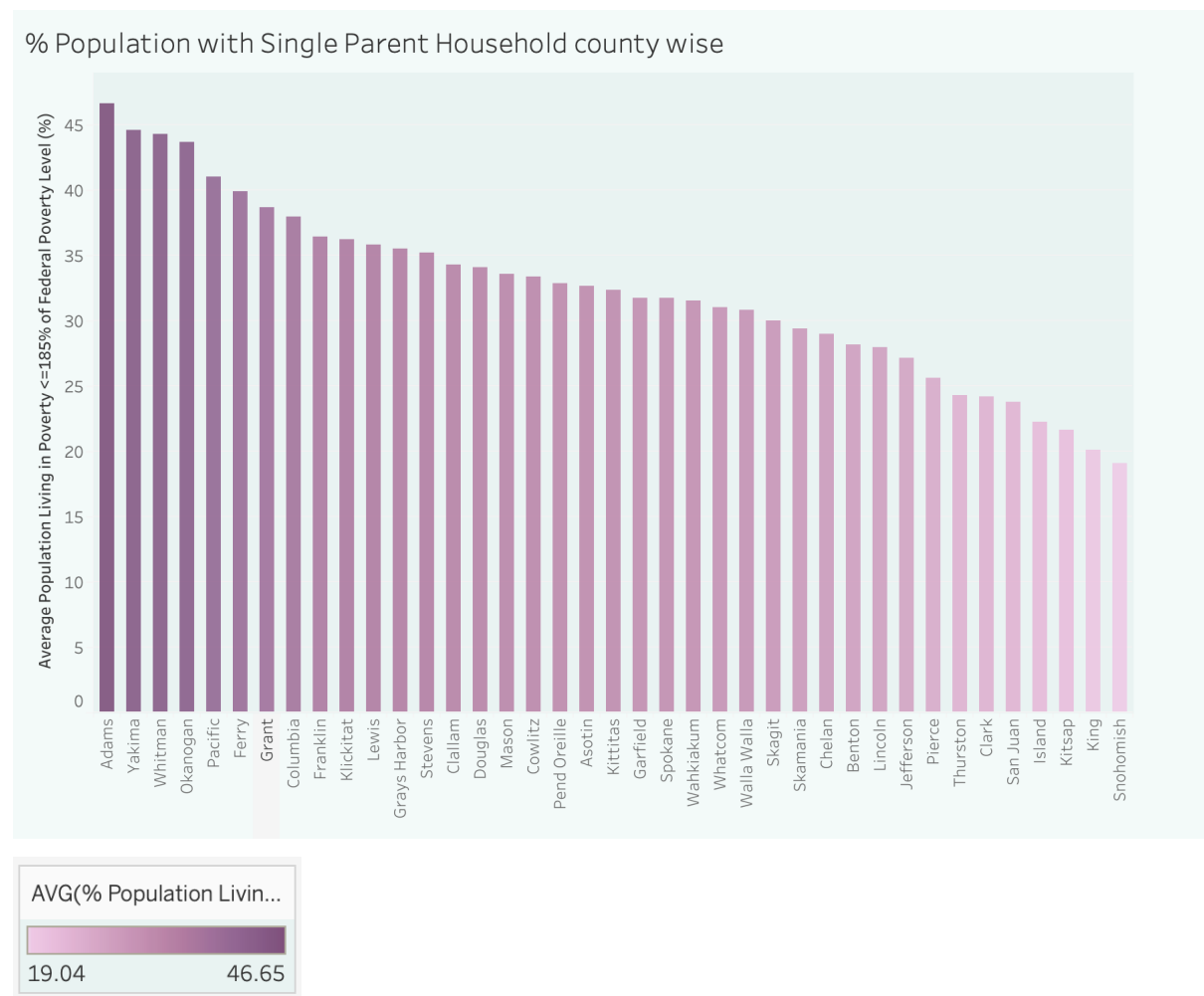
Viz 3:

Figure 3: shows a Vertical Bar Graph that represents Average of % Population Living in Poverty <=185% of Federal Poverty Level (%) for each County. Size shows the average of % People with No High School Diploma. The marks are labelled by County(No High School Diploma). The data is filtered on Statefp, which keeps 53. (Tableau: Viz 3 tab).

Single Parent Households refers to total number of households, the number of households with a single parent (male plus female) and percentage of households that are single-parent families with children under 18 years of age; county, (2012-2016). The

Dimension used is County (Population Living in Poverty) has 39 members on this sheet and the Measures used are Average of % Population Living in Poverty ranges from 19.04 to 46.65 on this sheet and Sum of Number of Population Living in Poverty ranges from 700 to 420,358 on this sheet.

Figure 3 above shows the Average % of People with a Single Parent Household in each county. Based on this graphic, the highest % of People with a Single Parent Household are in Adams and Yakima county at 46.65% and 44.57%. Furthermore, Snohomish county leads the lowest % of People with a Single Parent Household in each county at 19.04%. The darker shades of purple represent a higher and the lighter shades represent a lower Average % of People with a Single Parent Household in each county.
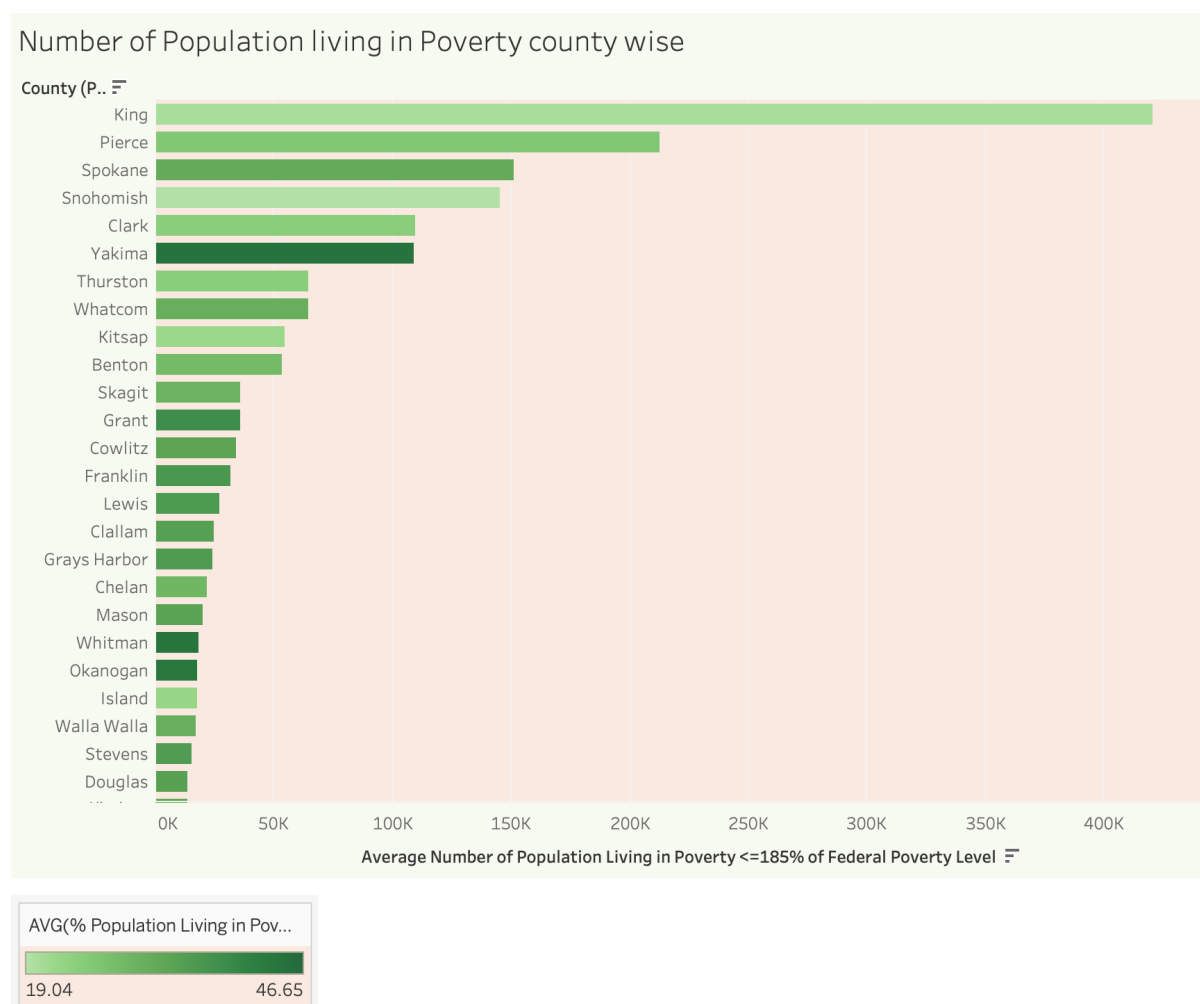
Viz 4:

Figure 4: Horizontal Bar Graph shows the Average Number of Population Living in Poverty <=185% of Federal Poverty Level for each County (Population Living in Poverty). Color shows average of % Population Living in Poverty <=185% of Federal Poverty Level (%). The view is filtered on County (Population Living in Poverty). (Tableau: Viz 4 tab).

Here, Poverty Level refers to Population Living in Poverty <=185% of Federal Poverty Level census tract; (2012-2016). The Dimensions used are County (Population Living in Poverty) has 39 members on this sheet and the Measures are Average of Number of Population Living in Poverty ranges from 700 to 420,358 on this sheet and Average of % Population Living in Poverty ranges from 19.04 to 46.65 on this sheet.

Figure 4 above shows the Average % Population Living in Poverty <=185% of Federal Poverty Level in each county. Based on this graphic, the highest Average % Population Living in Poverty are in Adams and Yakima County at 46.65% and 44.57%. Furthermore, Snohomish county leads the lowest Average % Population Living in Poverty in each county at 19.04%. The darker shades of Green represent a higher and the lighter shades of Green represent a lower Average % of People with No High School Diploma in each county.
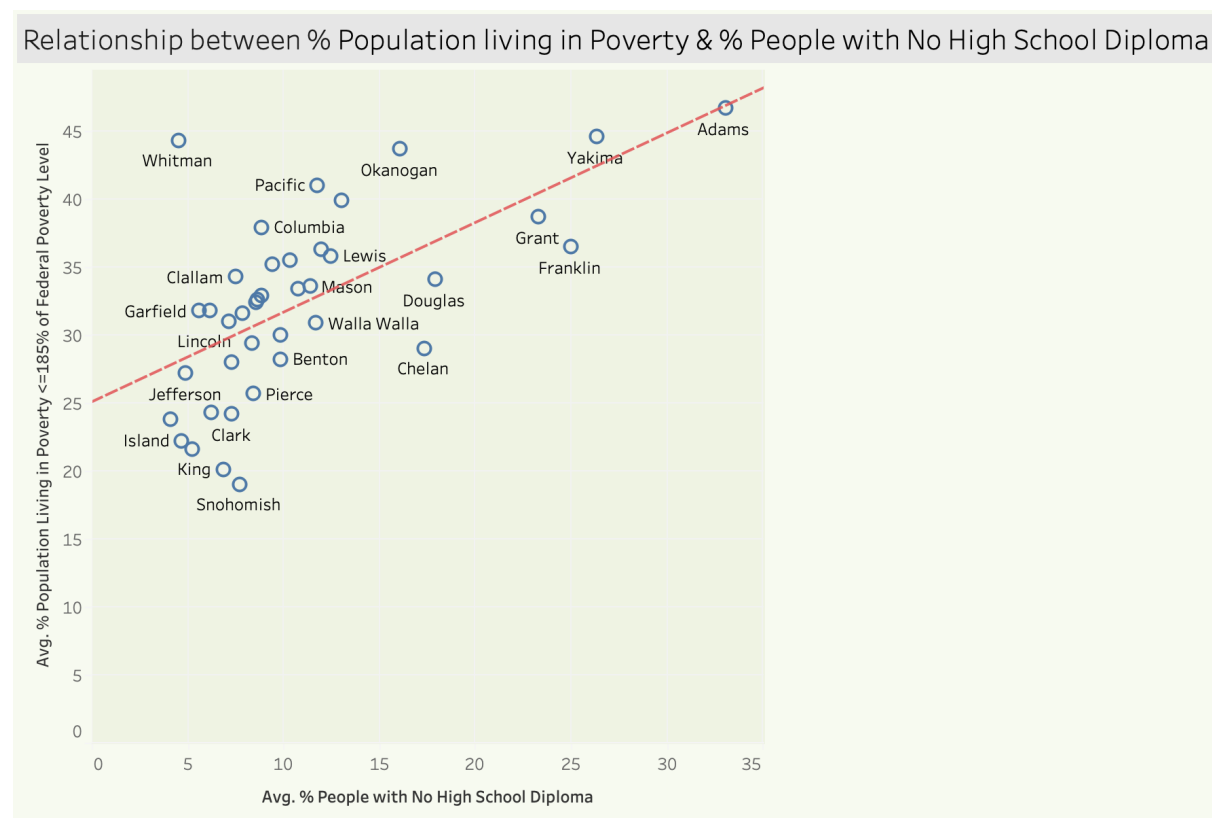
Relationship 1:

Figure 5: shows a Scatter Plot that represents relationships between Average of % People with No High School Diploma And Average of % Population Living in Poverty. (Tableau: Relation 1 tab).

The Dimensions used are County (No High School Diploma) and County (Population Living in Poverty) and have 39 members on this sheet. The Measures used are Average of % People with No High School Diploma ranges from 4.14 to 33.05 on this sheet and Average of % Population Living in Poverty ranges from 19.04 to 46.65 on this sheet.

Figure 5 above displays a Scatter Plot that shows that both variables have a positive correlation as the trend suggests that counties with a higher % of Population living in Poverty also have more people with no High School Diploma and vice versa. As the graphic shows: Adam county leads the state with 33.05% and 46.65% population with No High School Diploma and living below poverty, respectively. Per figure 5, San Juan, Island, King, Kitsap and Snohomish counties have the lowest populations with No High School Diploma and living below poverty.

Relationship 2:

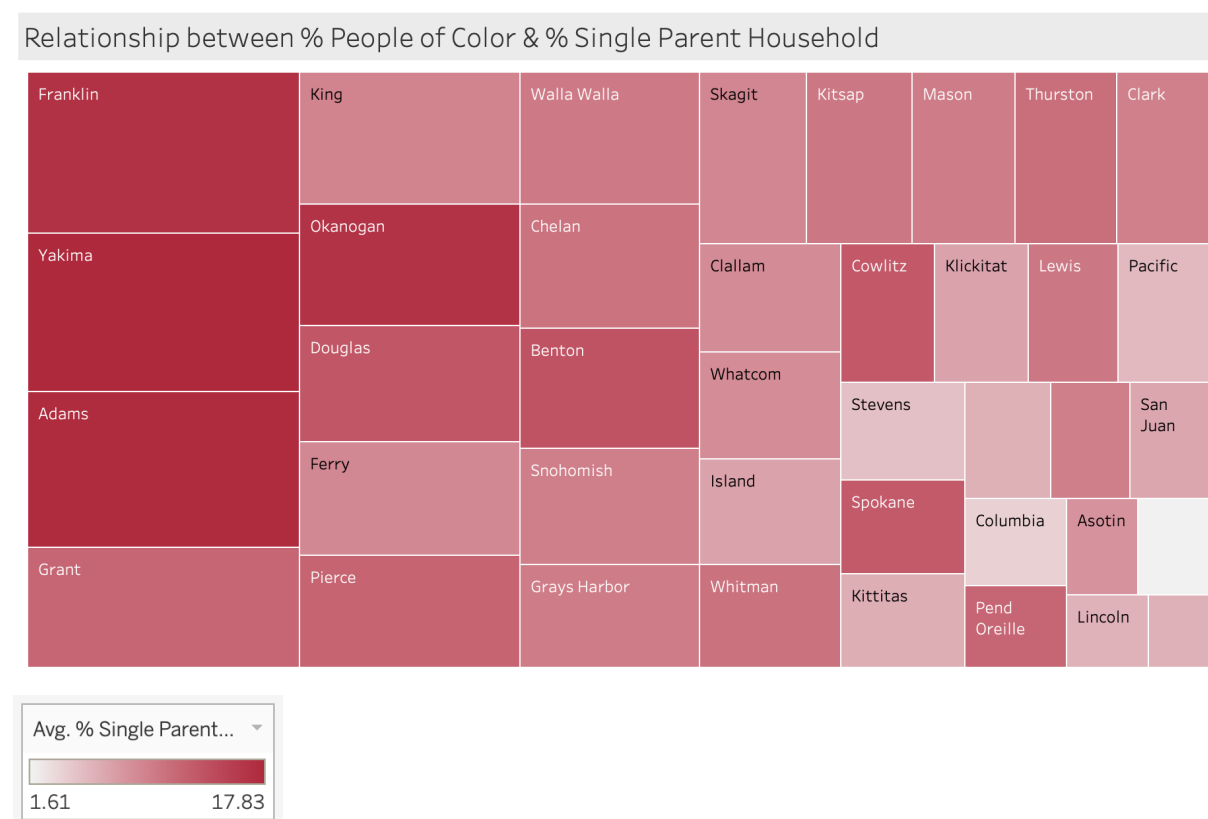Relationship between % People of Color & % Single Parent Household

Figure 6: represents a Heatmap which shows the relationship between Single Parent Households and People of Color. The Color and size show % Single Parent Households and Average of % People of Color. The marks are labeled by County Name (People of Color). The view is filtered on County Name. (Tableau: Relation 2 tab).

The Dimensions used are County Name (People of Color) has 39 members on this sheet and the Measures are Average of % People of Color ranges from 5.86% to 58.25% on this sheet and Average of % Single Parent Households ranges from 1.61% to 17.83% on this sheet.

Figure 6 above represents a Heat map that suggests both variables the % People of Colour and % Single Parent Household have a positive correlation and the darker shades of Red on the Heat map represent a higher % of People of Colour as well higher % of Single Parent households in all the counties. As the percent goes down, the shades of red become lighter for the respective counties. As the graphic shows: Franklin, Yakima and Adams county lead the state with 58.25% and 16.90%, 56.93% and 17.83% and 56.20% and 17.67 % People of Colour and % Single Parent Households, respectively. Per figure 5, Wahkiakum county has the lowest populations at 9.08% of People of Color and 1.61% of Single Parent Households respectively.
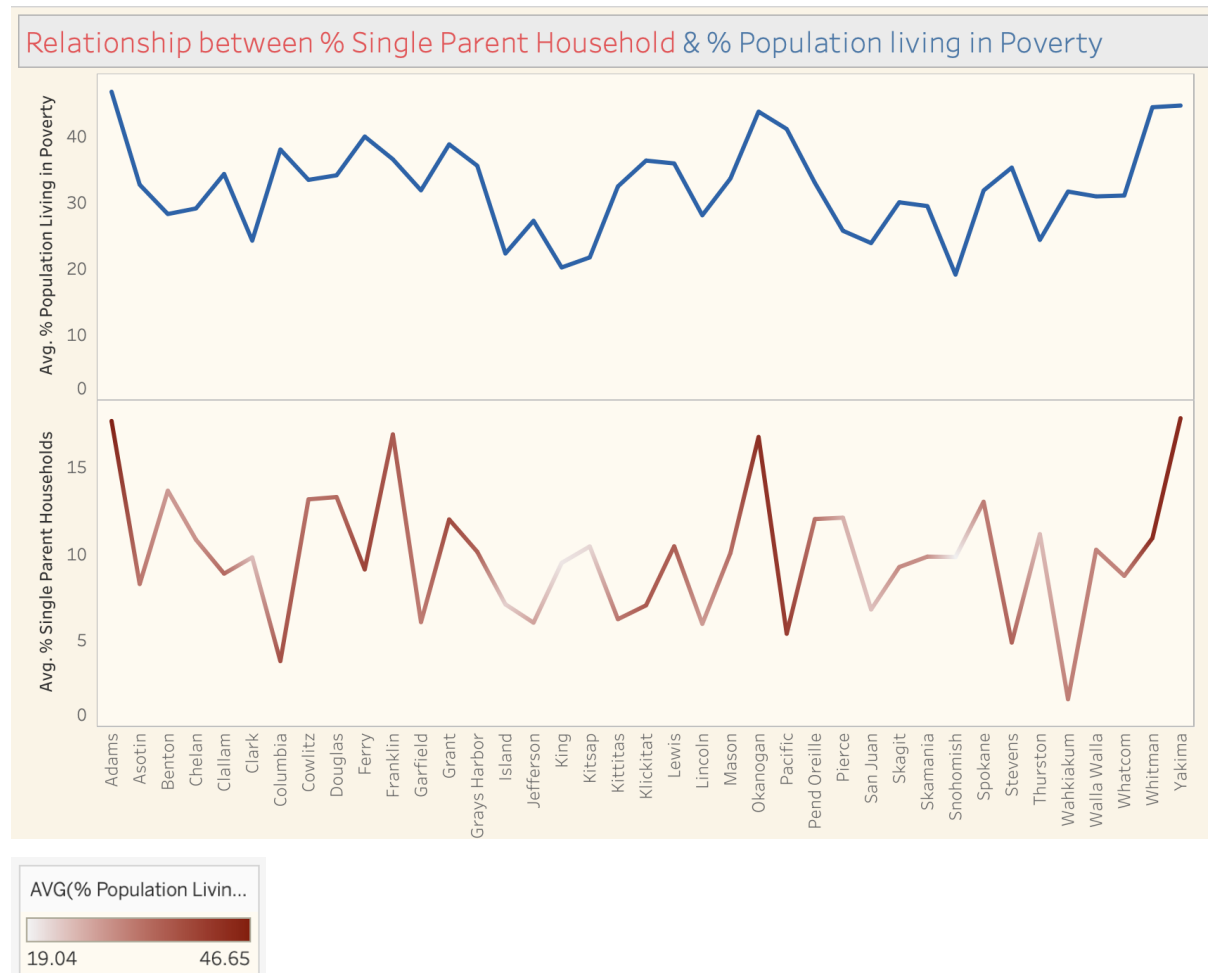
Relationship 3:

Figure 7: shows relationship between the % Single Parent Household and the % Population Living in Poverty <=185% of Federal Poverty Level for County (Population Living in Poverty). The view is filtered on County (Population Living in Poverty), which keeps 39 members. (Tableau: Relation 3 tab).

The Dimensions used are County (Population Living in Poverty) has 39 members on this sheet and Measures are Average of % Population Living in Poverty ranges from 19.04% to 46.65% on this sheet and Average of % Single Parent Households (Single Parent Household) ranges from 1.61% to 17.83% on this sheet.

Figure 7 above represents a Line Graph where the red line represents Average % Population Living in Poverty and the blue line represents Average % Single Parent Households in each county. The line graphs for both the variables look similar, both variables follow the same trend in some counties but are different in the others. This suggests a mild positive correlation between the two variables. This means that in some counties where the Average % Population Living in Poverty increases, the % Single Parent Households also increases and vice versa. As the graphic shows: Adams and Yakima county lead the state but in Yakima county as Single Parent Households increases at 17.67%, the % Population Living in Poverty also increases at 46.65%. Per figure 5, Snohomish and Wahkiakum county have the lowest populations with % of Population Living in Poverty but those two counties those have the lowest values for % Single Parent Households respectively.
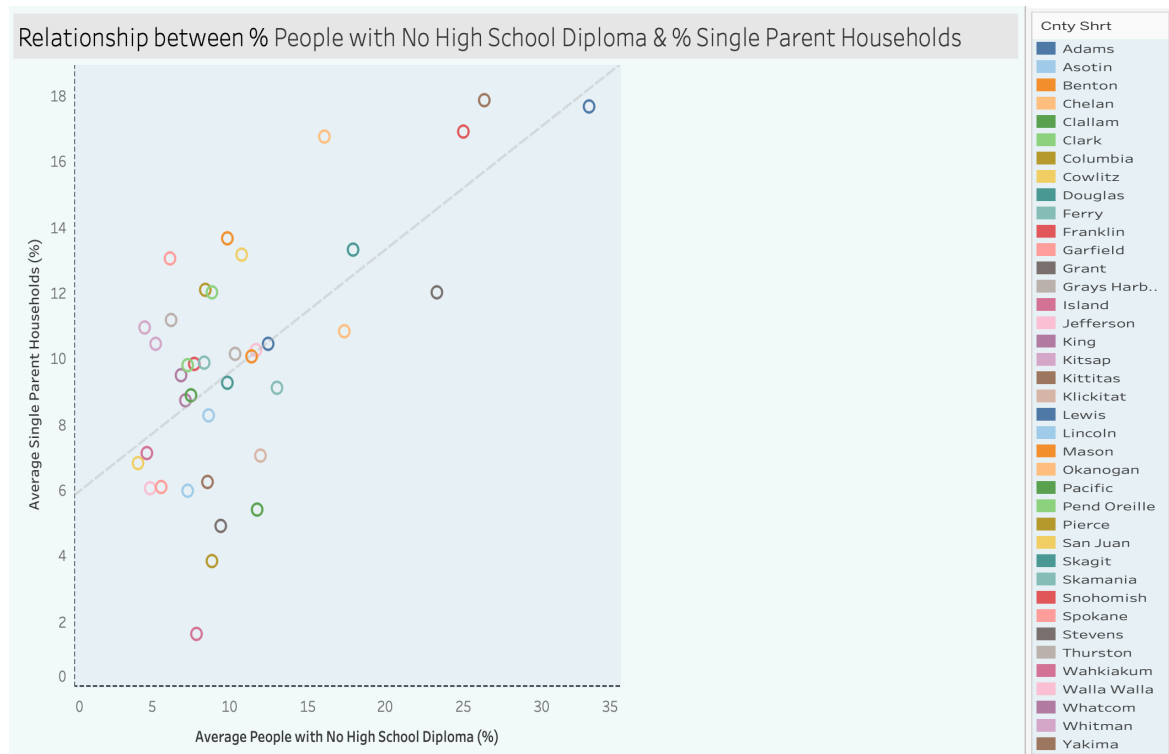
Relationship 4:

Figure 8: shows relationship between People with No High School Diploma and Single Parent Households. The Scatter Plot represents Average of % People with No High School Diploma Average of % Single Parent Households. Color shows details about County Short and the view is filtered on County Short, which has multiple members selected. (Tableau: Relation 4 tab).

The Dimensions used are County Short has 39 members on this sheet and the Measures used are Average of % People with No High School Diploma ranges from 4.14 to 33.05 on this sheet and Average of % Single Parent Households ranges from 1.61 to 17.83 on this sheet. Each color represents a county which is labelled in the legend.

Figure 8 above suggests a positive relationship between both variables % People with No High School Diploma vs % Single Parent Households as on hovering over the Scatter Plot, it is clear that counties with a higher % of No High School Diploma also have a higher % of Single Parents Households and vice versa. As the graphic shows: Adams county leads the state with 33.05% of Single Parent Households and 17.67% of Population with No High School Diploma, respectively. Per figure 5, Wahkiakum county has the lowest populations of 7.89% of Single Parent Households and 1.61% of Population with No High School Diploma respectively.
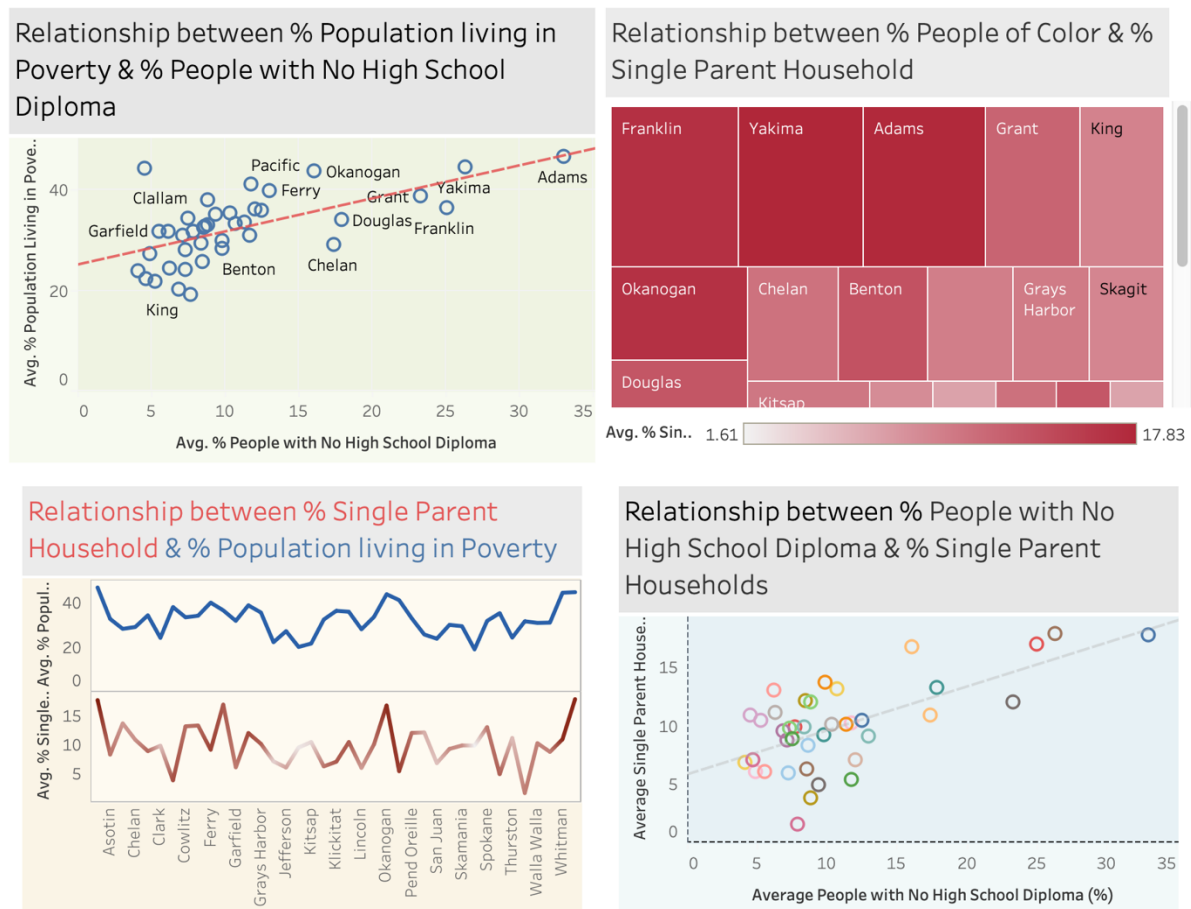
Dashboard

Figure 9 : shows a dashboard representing four relationships between - % Population living in poverty and % People with no high school diploma, % people of color and % single parent household, %single parent household and % population living in poverty and %people with no high school diploma and % single parent households. (Tableau: Dashboard 1 tab).

Conclusion

The purpose of this paper was to analyse if people of colour (race/ ethnicity), no high school diploma, and single parent households contribute to poverty and if they are related. The literature suggests an association between all the four variables used in this study, looking at the data in Washington State. They were interrelated and caused or exacerbated each other suggesting that there is a positive association between people of colour (race/ ethnicity), No high school diploma, single parent household and population living in poverty <=185% of Federal poverty level.

The highest ends of data: Adams county (% single parent households: 17.67%, % living below poverty: 46.65%, % people of color: 56.20%, no high school diploma: 33.05%) and Yakima county (% single parent households: 44.57%, % population living under poverty: % people of color: 56.93%, % no high school diploma: 26.33%) align with the lowest end of data: Snohomish, Garfield and Wahkiakum county for the hypothesis that higher % of people of colour, no high school diploma and single parent household, higher are their chances of living in poverty. The majority of data supports this hypothesis. There is a strong positive association between variables in Relationships 1,2 and 4 while there is a mild positive association between variables in Relationship 3. The results of this analysis were found to be true in other studies that suggest lower education level, people of colour, single-parent families and low income are highly impacted by each other (UIOWA.EDU, 2021).

In their lifespan, Black residents face systemic racism and disadvantages that disproportionately impact physical, mental and social health as well as the educational and economic opportunities of Black communities. Most single-parent households live in poverty—the highest rate among all demographics. The kids most likely to live in single-parent homes are Black children. According to a report card on racial and ethnic disparities, the most recent data available, shows that 71.2% of Black children in the county live in single-parent homes. That's more than double the percentage of white children: 27.3%. Lastly, the more advanced one's education, the greater the chance of achieving a secure economic future. High school graduation rates for African-American and Hispanic students are almost 20 percentage points lower than for other ethnic groups, while their poverty rates greatly exceed the average (n.d., 2020).

There is no question that policies for the vulnerable communities need to be improved and other avenues for improvement need to be explored to improve equity, and this is especially true for Washington State.

Reference List

"Children in Sole Parent Families and in Families without Work Are More Likely to Be Poor." 2009, https://doi.org/10.1787/soc_glance-2009-grapheq3_1_-en.

"Single-Parent Families Are More Likely to Face Poverty, and They're More Likely to Be Black." *Willamette Week*, https://www.wweek.com/news/2020/09/30/single-parent-families-are-more-likely-to-face-poverty-and-theyre-more-likely-to-be-black/.

"The Search for School Factors." *Disaffection*
(n.d.). Retrieved from https://iro.uiowa.edu/esploro/outputs/doctoral/Home-school-and-community-factors-that/9983777295402771
From School (RLE Edu M), 2012,
Health Disparities Map Project.
Https://Deohs.Washington.Edu/Washington-Environmental-Health-Disparities-Map-Project.
https://deohs.washington.edu/washington-environmental-health-disparities-map-project
pp. 104–119., https://doi.org/10.4324/9780203126622-11.

Single-Parent Families Are More Likely to Face Poverty, and They're More Likely to Be Black. (n.d.). Retrieved from https://www.wweek.com/news/2020/09/30/single-parent-families-are-more-likely-to-face-poverty-and-theyre-more-likely-to-be-black/
University of Washington Department of Environmental & Occupational Health Sciences. (n.d.). *Washington Environmental*

Williams, Joseph Michael. "Home, School, and Community Factors That Contribute to the Educational Resilience of Urban, African American High School Graduates from Low-Income, Single-Parent Families." https://doi.org/10.17077/etd.kwvxp62o.