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Pierce County Statistics on Labor Market Inequalities

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RESEARCH PROJECT REPORT
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Overview of project

The goal of this project was to seek out, collect, analyze, and present a wide range of statistics on labor market inequalities by gender and race specific to Pierce County (Washington State). Such data is not easily accessible, and the reports that can be found mostly focus on the state level or King County. Pierce County has a unique history and population, which means there are likely to be differences in the underlying causes of existing inequalities, and different policies are needed to address them. Documenting trends in inequalities over time and contrasting them with other counties, and on state and national levels, can provide an important basis for pinpointing key local issues.

Our analysis focuses on various measures of labor market outcomes: labor market participation rates, employment ratios, occupational structure, earnings, and poverty rates. These measures document the existing inequalities in the labor market. However, to study the underlying causes, it is also important to look at differences that already exist when individuals enter the labor market, or pre-labor market inequalities. We therefore also analyze data on educational attainment and family background characteristics. These impact the skills (opportunities) and expectations that individuals bring to the labor market. Previous research has shown that pre-labor market factors explain a large part of existing inequalities by gender and race. Policies intended to decrease inequalities therefore need to focus on these underlying factors in addition to disadvantages that are suffered once individuals enter the labor market.

We explore three main avenues of data sources: (1) readily available statistics on Pierce County published by various state and federal institutions, (2) more detailed datasets that can be used to calculate statistics, mainly based on Census data sources, and (3) connecting with and gathering information from local actors who have insights into the most important local labor market issues and trends.

In this report, we give an overview of these data sources, and summarize the key findings to survey of the labor market situation in Pierce County. The statistics show comparisons of inequalities by gender and race – as well as more detailed groups based on education, occupation, and industry - between Pierce County, King County, and Washington state, for the year 2018 as well as over time. We conclude the report by discussing avenues for further research based on the key questions that have emerged, taking into account their feasibility based on the possibilities and limitations of the available data sources.

Methodology and Data Sources

This section provides an overview of the data needed for the analysis of labor market inequalities in Pierce County, the data sources that can be used to create such a statistical profile, and details on their accessibility and uses. It is meant to be a "Where to start" manual for anyone interested in finding such statistics, and who are seeking out this information. The main findings presented in the next section can be understood without the technical details presented here.

We determined the key measures of inequalities that are relevant for the analysis based on labor economic theories and previous empirical research. We also relied on discussions with local actors who have knowledge of the Pierce County labor market, and who were able to shed light on both the key issues and data availability.

As noted earlier, it is important to consider the entire "life path" of individuals, as both pre-labor market factors and labor market treatment impact the inequalities observed in outcomes. Table 1 gives a simple summary of the main phases of an individual's life path in terms of their labor market situation, the areas in which inequalities can arise, and the measures that are used to document them. Our goal was to assess as many of these measures as possible, comparing average differences by gender, race, and more detailed gender-race groups.

Table 1: Factors and outcomes of labor market inequalities

Phase	Factors	Measures
At birth		
	Health inequalities	Birth weight Health issues
Pre-labor market		
	Family/home background	Family status Parental education level Household income Activities (Reading, museum/cultural events, …) Access to books, technology, internet Home characteristics (people/room, rented or owned, amenities)
	Healthcare	Access to healthcare/insurance
	Education	Education level School quality Extracurriculars Field of study
Labor Market		
	Activity / participation in labor force	Participation rate
	Employment	Employment rate Employment status/type

		Mean time worked Full/part time employment Temporary/Permanent/seasonal employment
	Occupational structure	Occupational distributions Probability of promotion Ratio in leadership positions
	Earnings	Median wages Median incomes Income distributions
	Unionization	Union membership coverage rates
	Poverty	Poverty rates

In order to produce accurate measures, we needed data that satisfies the following conditions:

- Includes measures of individual labor market outcomes, demographic characteristics, and family/household background characteristics
- Is representative of the population (once weighted)
- Allows for aggregation to and comparison of the county, state, and national levels
- Allows for the calculation of total numbers/means/ratios of the outcomes for the demographic subgroups studied, i.e. cross-tabulations based on the following groups:
    - Gender x county
    - Race x county
    - Gender x race x county
    - Gender x education level x county
    - Race x education level x county
- Is available for multiple years to enable comparisons over time.

Based on these data needs, we researched three main avenues of data sources. First, we searched for readily available statistics on inequalities in Pierce County, published by various state and federal institutions. These include: the Washington State Employment Security Department, the U.S. Department of Labor, the U.S. Bureau of Labor Statistics, the U.S. Census Bureau, and Workforce Central (a site dedicated to the Pierce County labor market). We found these sources provided some county-level statistics related to gender inequalities, but very little information on racial inequalities. It was also not possible to calculate cross-tabulated statistics based on these sources, such as by gender and education subgroups. A summary of the statistics gathered from readily available sources is provided in the attached Excel file (Readily available stats_Pierce co.xml).

Second, we searched for statistics by race and the more detailed subgroups, and for raw individual and household level datasets that can be used to calculate such statistics. We found three Census data sources to be the best suited for the analysis:

- The Longitudinal Employer-Household Dynamics (LEHD) dataset is based on tabulated administrative data reported by employers (https://lehd.ces.census.gov/data/). Quarterly workforce indicators (QWI) are produced based on this data for the years 1991-2018. These include the total number of employed individuals and average earnings tabulated by gender, race,

education level, firm characteristics, and industry. This data only covers employed individuals, not the entire population. It is therefore a good source for analyzing earnings and total employment, but cannot be used on its own to calculate employment ratios. The QWI data can be accessed via an online extraction tool (https://qwiexplorer.ces.census.gov/) or the tabulated data can be publicly downloaded. The underlying raw LEHD microdata is available for restricted use in approved research projects.

- The American Community Survey (ACS) dataset is the primary national data source for population and housing information (https://www.census.gov/programs-surveys/acs). It is collected using surveys of about 3.5 million households every month. It includes detailed demographic information, housing characteristics, and labor market measures. Tabulated tables, including the number of individuals in various subgroups as well as median wages by subgroup, are available from the Census Data website (www.data.census.gov). Here, statistics are presented by gender, race, education level, age group, occupation, industry, and other characteristics, as well as various cross-tabulations, for 2010-2018, and at the MSA, county, state, and national level. A representative sample of the raw microdata is available as the Public Use Microdata Sample (PUMS), which can be used to calculate further cross-tabulated statistics (https://www.census.gov/programs-surveys/acs/data/pums.html). ACS microdata is also restricted in access to approved research projects, and only those that provide causal analysis rather than a statistical overview.
- The Current Population Survey (CPS) dataset is a monthly survey of about 60,000 households collected by the BLS (https://www.bls.gov/cps/). It provides a comprehensive body of data on the labor force, employment, unemployment, persons not in the labor force, hours of work, earnings, and other demographic and labor force characteristics. It is a great source of data for national statistics, but information for Census regions and divisions, states, counties, metropolitan areas, and many cities are also available separately from the Local Area Unemployment Statistics (LAUS) program.

Finally, we also sought out and connected with local actors who have insights into the most important local labor market issues and trends, as well as available local data sources (Patty Rose, Secretary Treasurer of the Pierce County Central Labor Council; Josh Stovall, Research and Data Analyst at Workforce Central). They provided invaluable information on the availability of data on union coverage and the accessibility and use of Census datasets.

The findings presented in the next section of this report rely on the LEHD and ACS public access data sources, which can be used either directly or after some calculations to obtain cross-tabulations of the measures listed in Table 1. We collected the data on the relevant outcomes and characteristics, and constructed the comparative statistics reported in the next section. Our goal was to produce a report that is accessible to a wide audience, without any need for deeper statistical knowledge.

Findings

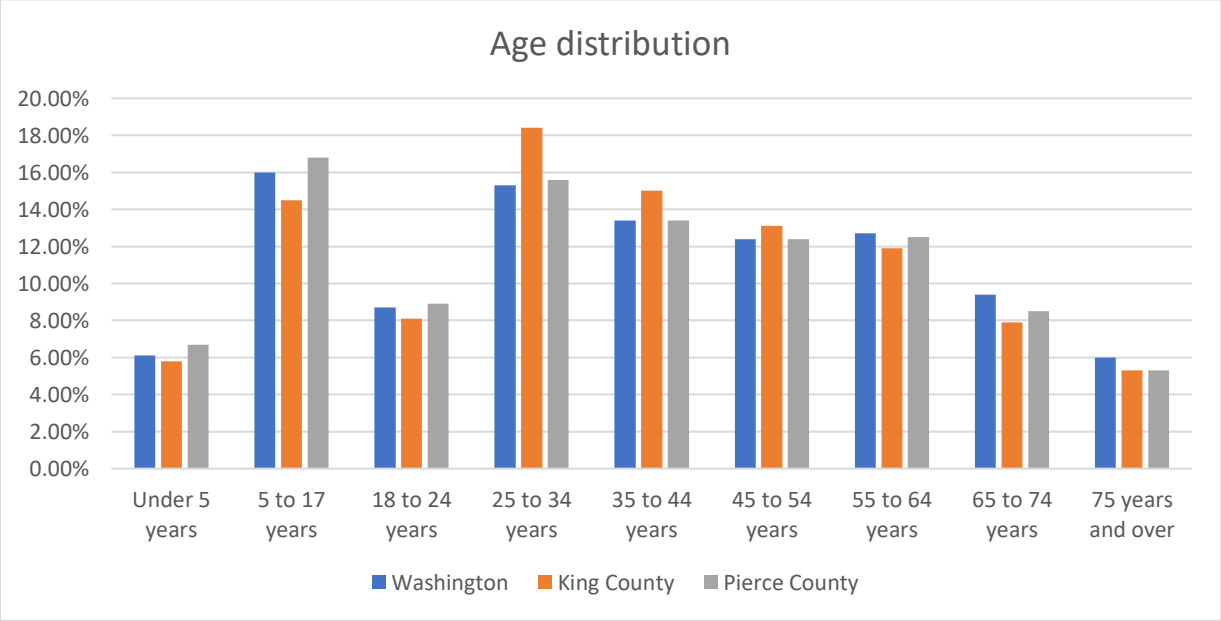
Overview of the population of Pierce County

As a first step, we highlight some general Pierce County statistics compared to King County and Washington state statistics, in order to show key differences in their populations and local labor markets. The source of the data depicted in these figures is the 2018 ACS 1 year estimates table (Table S0201). A secondary purpose of this section is to show what information is available that can be used to create more detailed analysis in the next stage of the project. The measures shown here can be cross-tabulated by gender, race, education level, and age, and compared over the years (2004-2018), and to various geographic units to answer a wide range of research questions. A sample of these will be described in the next section.

Population Statistics

Figure 1 shows the age distributions for these three geographic areas. We can see that King County has a higher percentage of residents aged in the working age groups, especially in the group aged 25-34. This spike in the age distribution is in line with individuals in these age groups who moved to the county for employment purposes during the economic boom of the last decade. At the same time, the ratio of children aged 5-18 is higher in Pierce County, and that of even younger children is also slightly higher. This may also be due to the same phenomena of an inflow of working aged individuals into King County.

Figure 1: Age distributions for Washington state, King county, and Pierce county



Further in line with this, we can see that Pierce County has a more family-based (as opposed to employment-based) population, in other words, a higher ratio of people moved to King County as grownups for their jobs. Figure 2 shows the types of households. Pierce County is composed of more family households and married couples, while King county has more nonfamily households. Figure 3 shows that Pierce County has slightly more individuals who are married or divorced, while King County is characterized by more individuals who have never been married.

Figure 2: Household types in Washington state, King county, and Pierce county

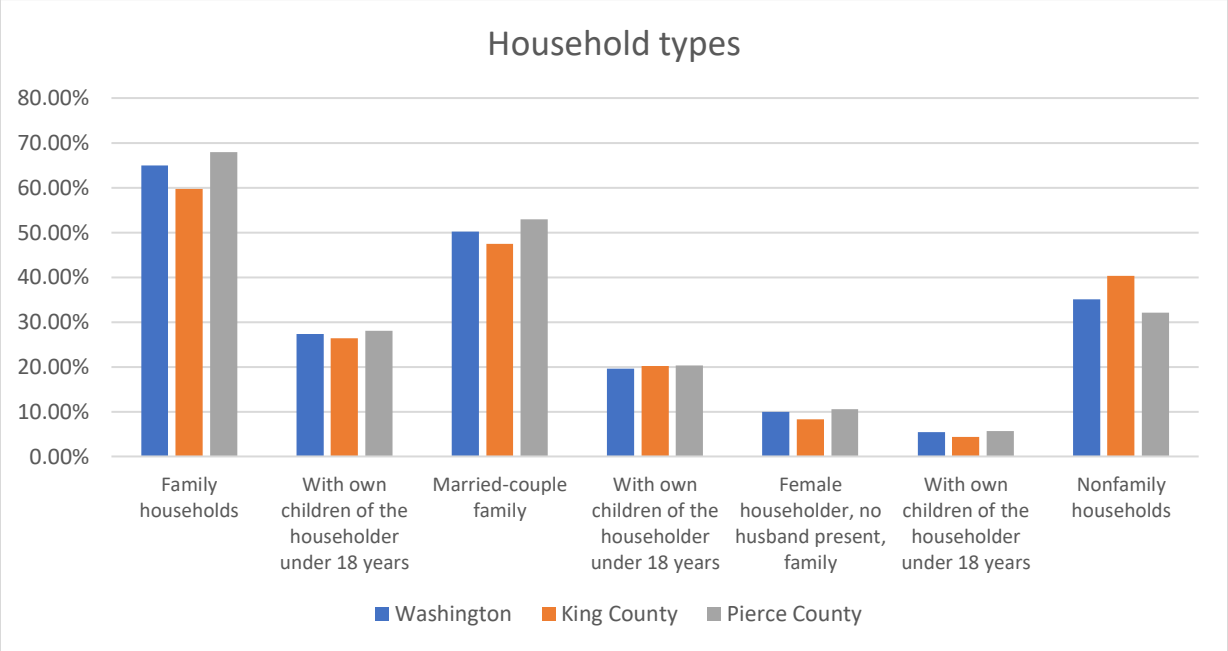


Figure 3: Marital status in Washington state, King county, and Pierce county

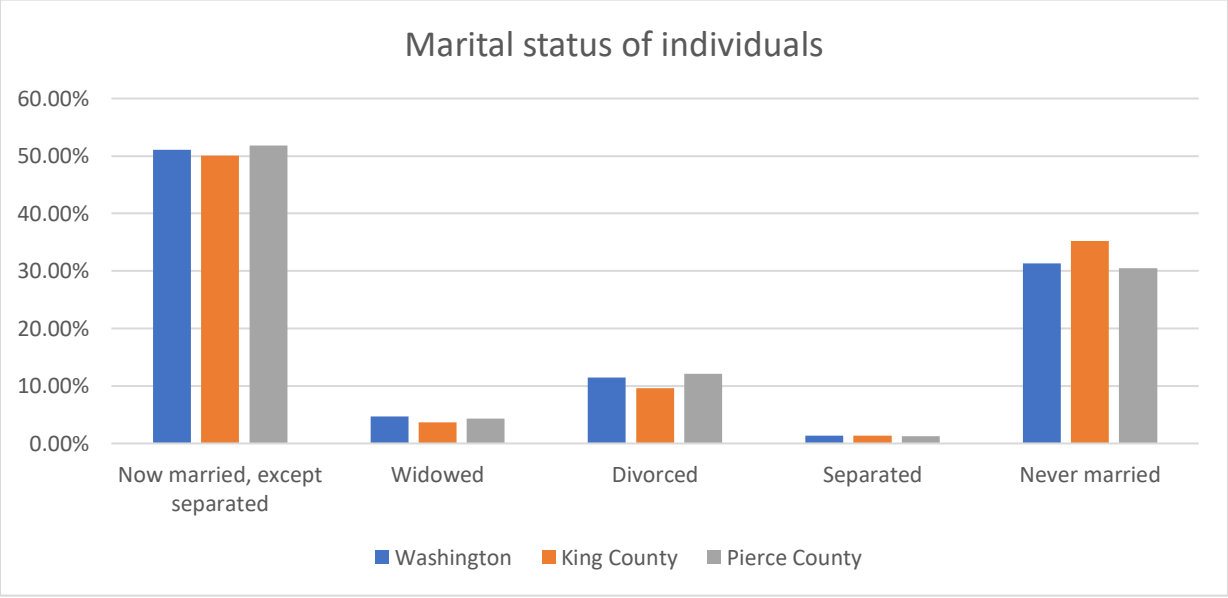
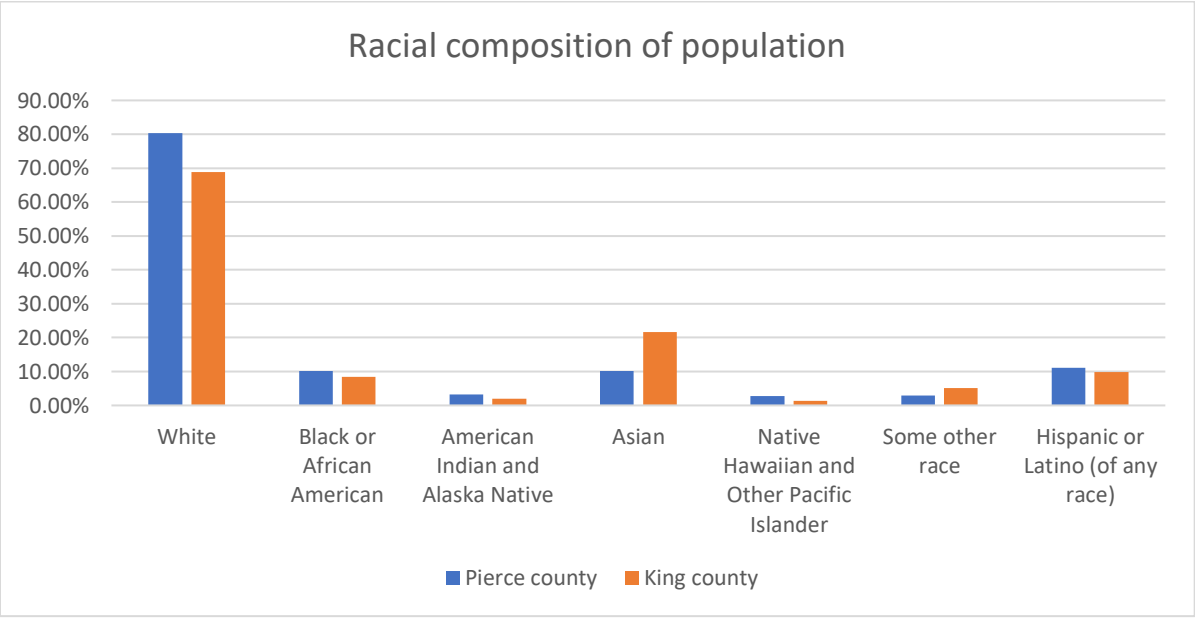
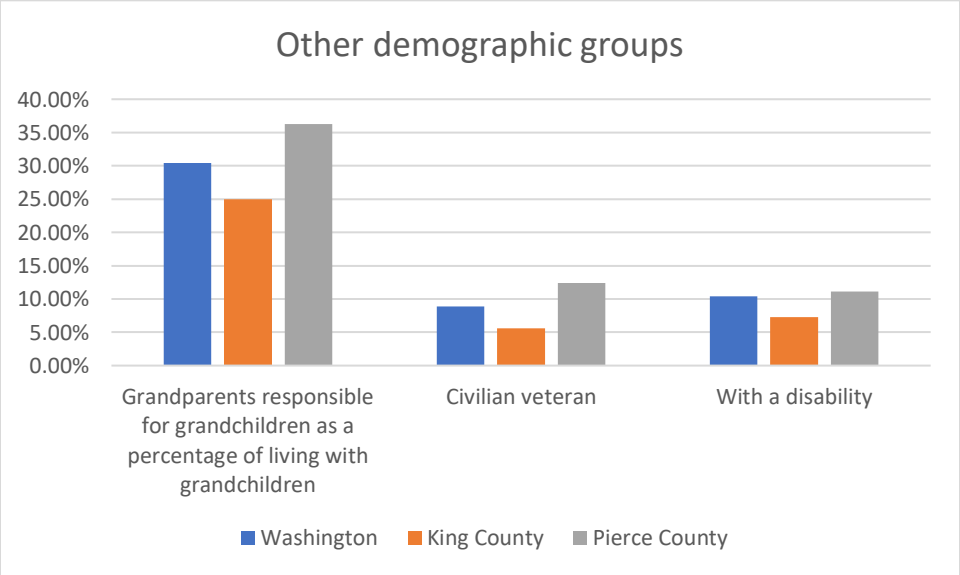


Figure 4 shows some differences in the racial and ethnic composition of the two counties. In particular, Pierce County has a higher ratio of white residents, while King County has a higher ratio of Asian residents. The pattern of more individuals living in a family setting in Pierce County is also confirmed by a higher ratio of grandparents who live with their grandchildren and take care of them (second panel, Figure 4). Pierce County is also characterized by a higher ratio of veterans, and individuals with disabilities.

Figure 4: Further population characteristics in Washington state, King county, and Pierce county





The next figures confirm that indeed, there has been a different pattern of immigration to the two counties. We can see a more recent inflow of new residents into King County (Figure 6) related to the economic boom that took place in Seattle. This included a high ratio of immigrants from Asia (Figure 7). A higher ratio of residents speaks a language other than English at home, and more individuals speak English "less than well" (Figure 8).

In Pierce County, on the other hand, we see a higher ratio of immigrants who arrived prior to 2009, and especially prior to 2000 (Figure 6), and among them, most arrived from Latin America (Figure 7). This is related to the very different labor markets – industries, occupations, and skill requirements - in the two counties, which we will see in the next set of figures.

Figure 6: Foreign-born residents by date of entry in Washington state, King county, and Pierce county

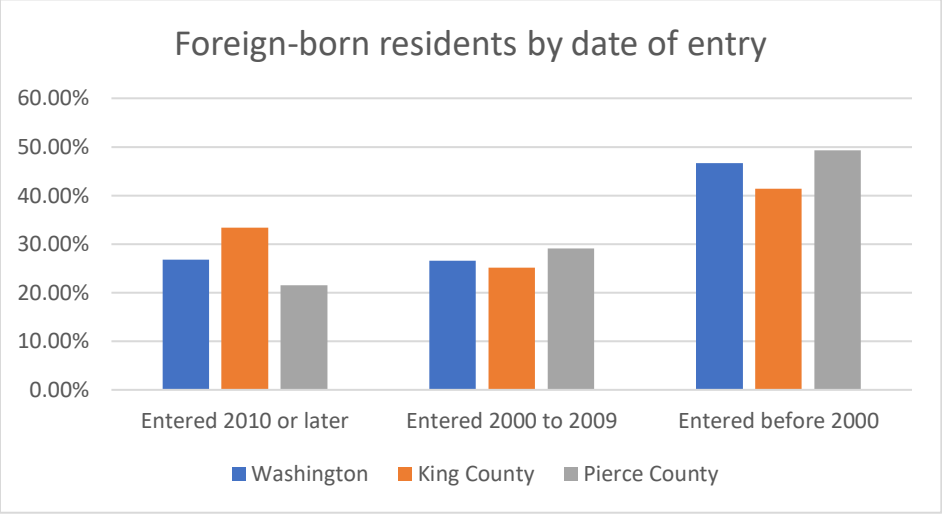


Figure 7: Foreign-born residents by region of birth in Washington state, King county, and Pierce county

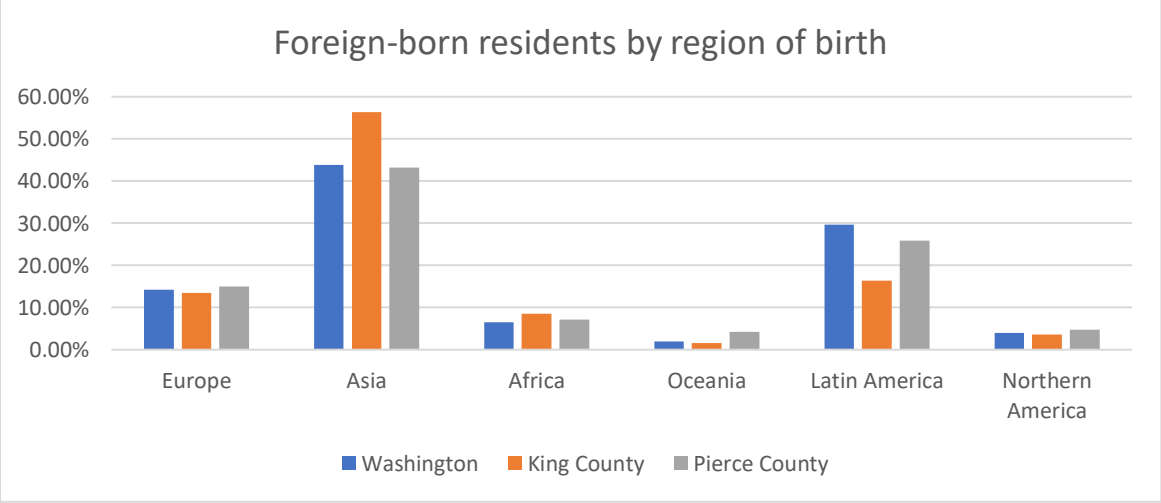


Figure 8: Language-related characteristics in Washington state, King county, and Pierce county

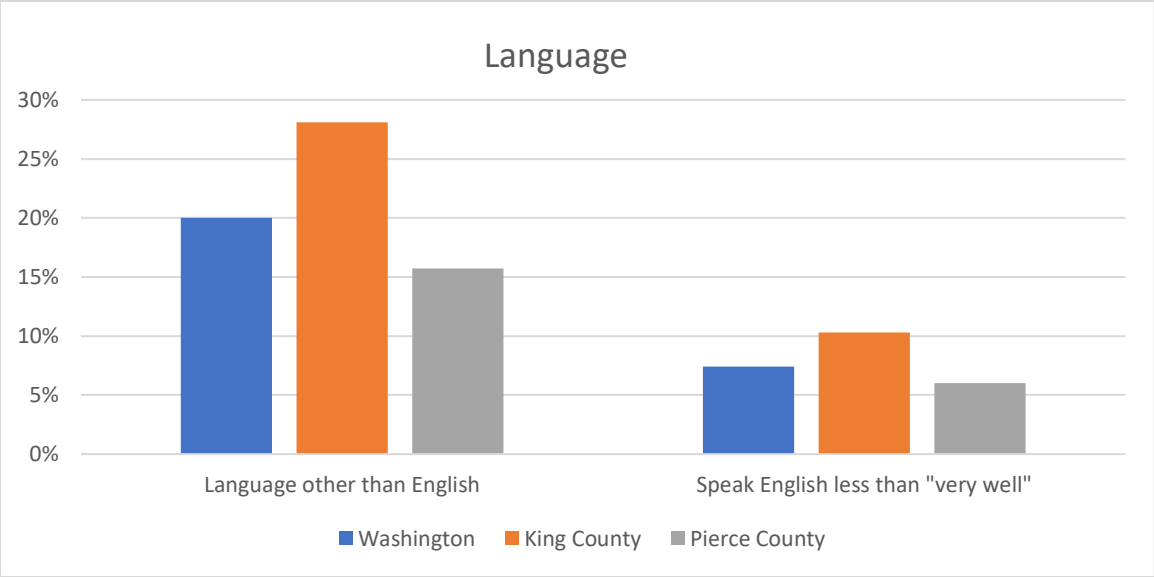


Figure 9 shows key differences in the counties in terms of educational attainment in the populations aged 25 and over. Pierce County has a higher ratio of high school graduates (or equivalent), as well as those with some college, or an associate's degree as their highest education level. King County, on the other hand, has a more highly skilled population: a higher proportion of individuals with bachelor's, graduate, or professional degrees.

Figure 9: Educational attainment in Washington state, King county, and Pierce county

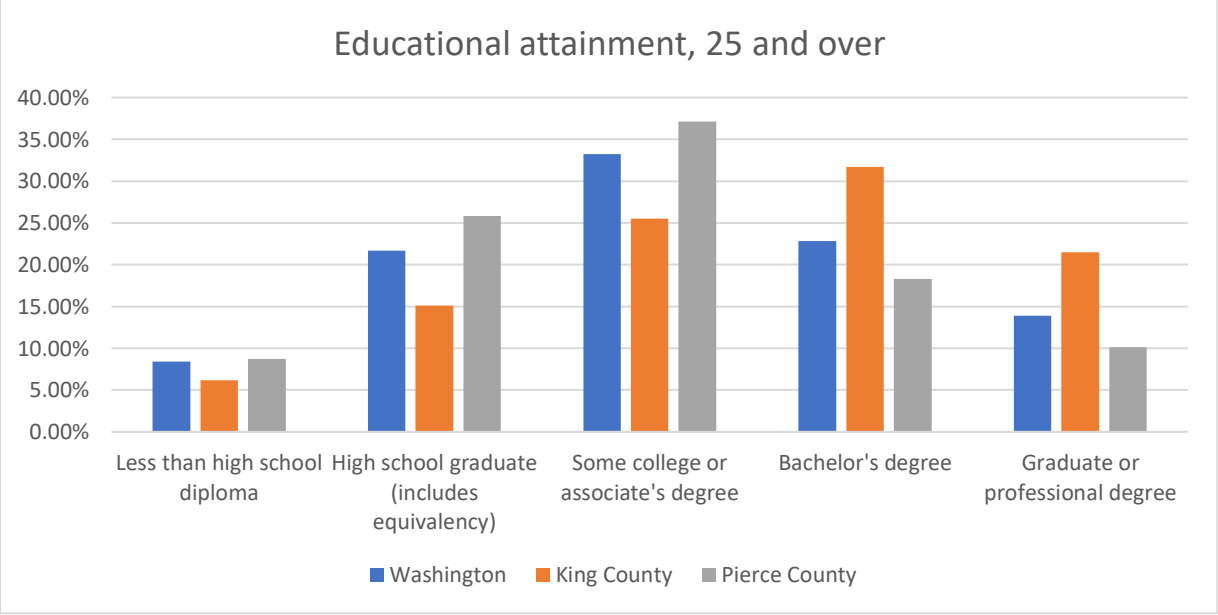
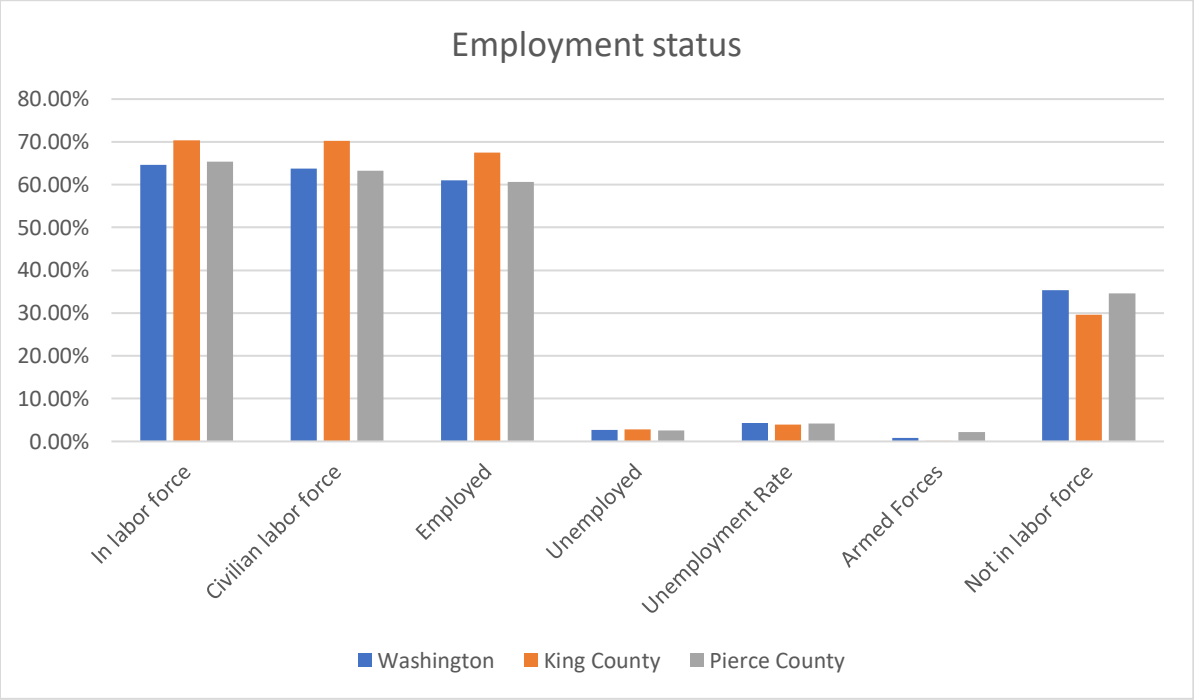


Figure 10 depicts employment status, and reflects the stronger economy and labor market in King County. A higher ratio of the population is active in the labor force, as well as employed, compared to Pierce County. We can also see the role of local military jobs in Pierce County.

Figure 10: Employment status measures in Washington state, King county, and Pierce county



The occupational (Figure 11) and industrial (Figure 12) structures are also in line with the greater demand for high skilled labor in King County, showing a high proportion of white collar occupations ("Management, business, science and arts"), and employment in the "Professional Scientific, and Management" industry. Pierce County is characterized by more blue collar jobs, i.e. service, natural resource, construction, maintenance, production, and transportation occupations, and employment in the industries of construction, transportation, education and healthcare services, and public administration. The higher ratio of government workers in Pierce County can also be seen in Figure 13.

Figure 11: Occupations by broad category in Washington state, King county, and Pierce county

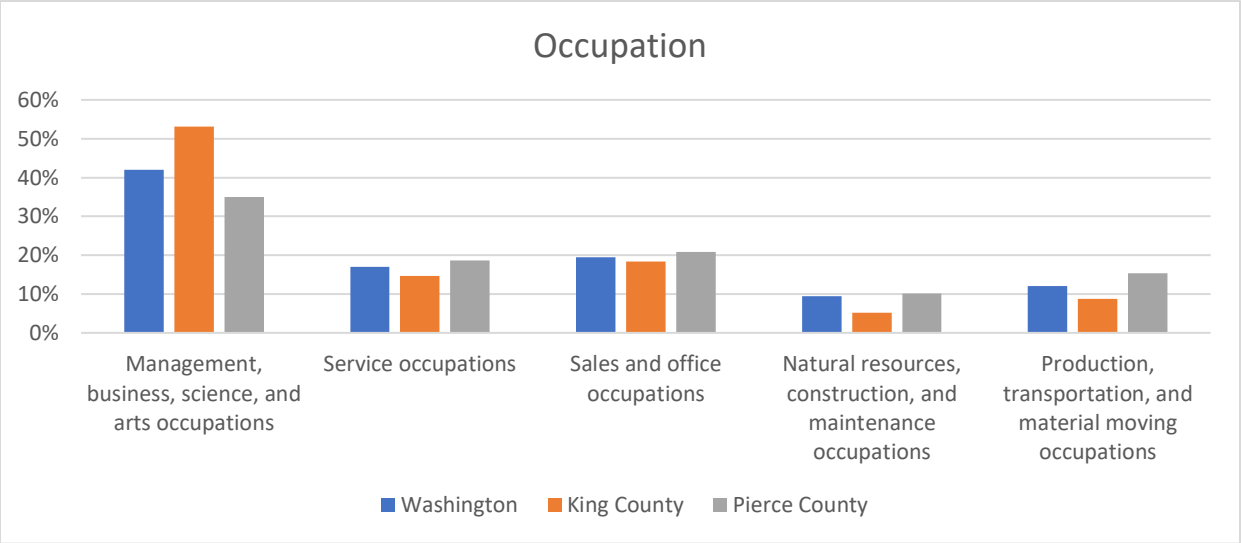


Figure 12: Employment by industry in Washington state, King county, and Pierce county

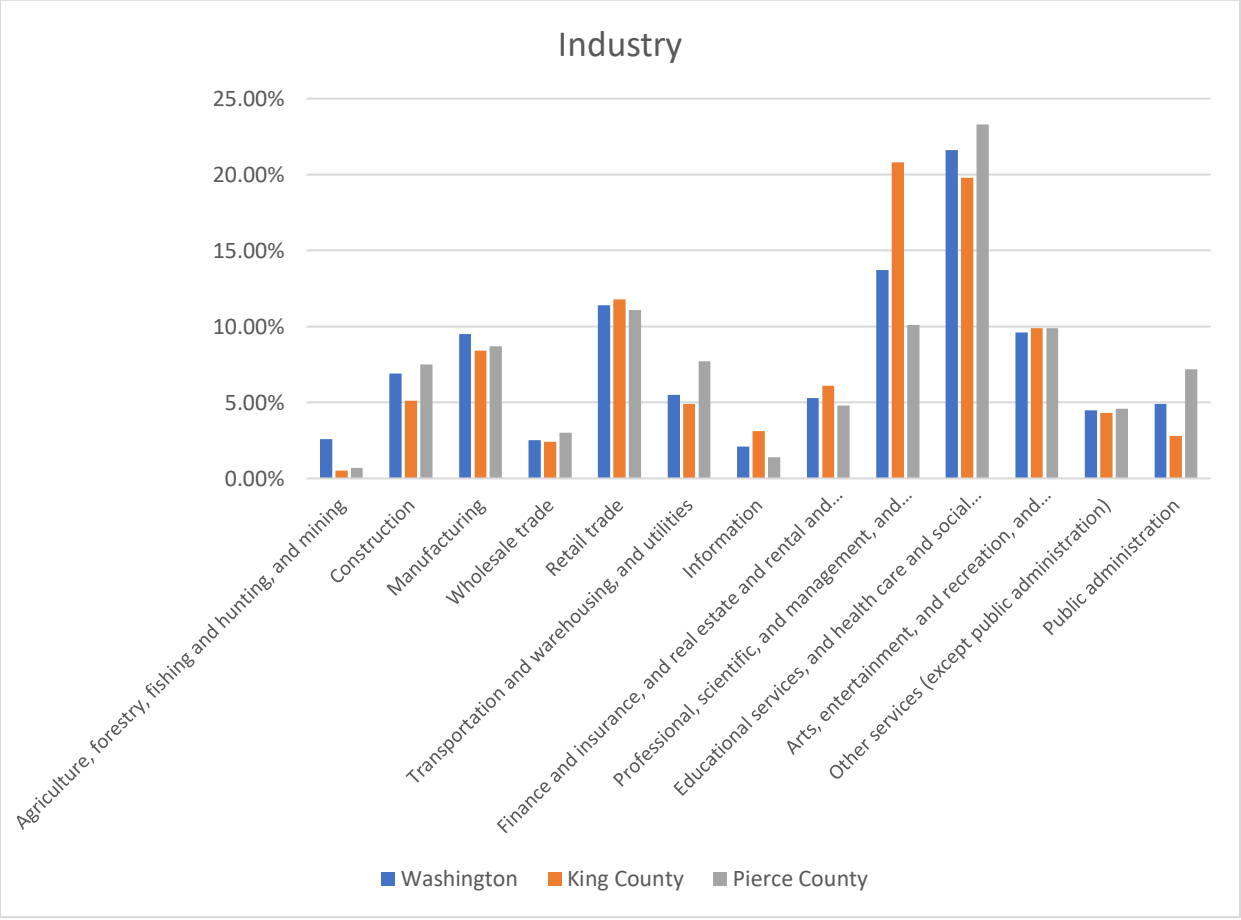
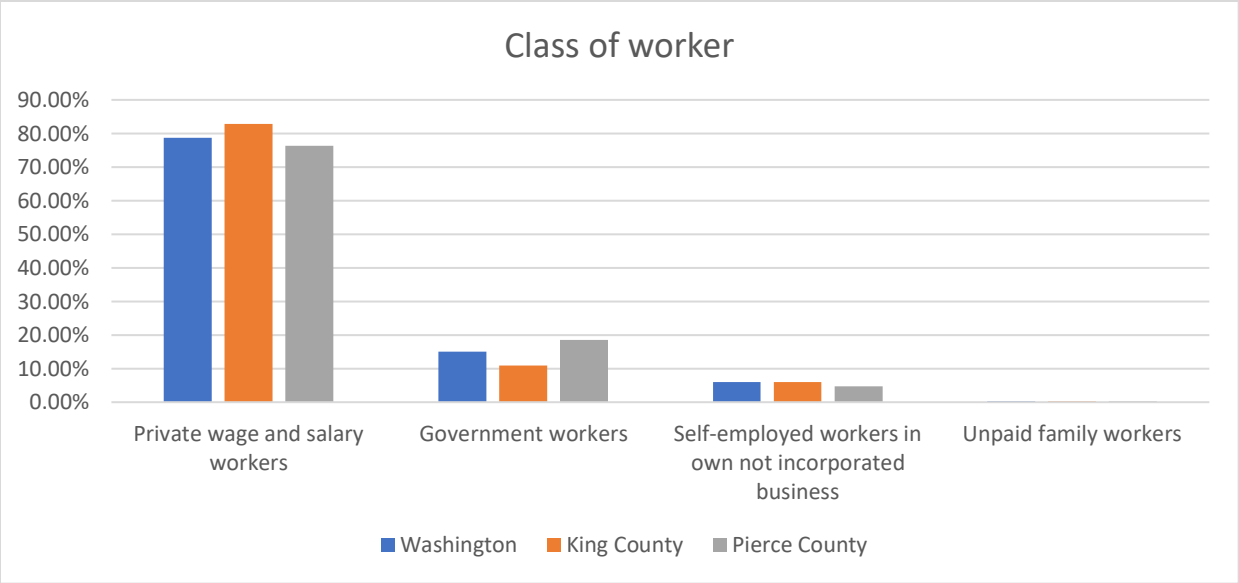


Figure 13: Classes of workers in Washington state, King county, and Pierce county



The next figures depict statistics related to income and living conditions. Figure 14 confirms the higher economic status of the King County population, with significantly higher median income and mean earnings compared to Pierce County. Figure 15 shows that significantly more people in Pierce County receive Food Stamp or SNAP benefits. On the other hand, the poverty rate is slightly higher in King County. In terms of healthcare coverage, Figure 16 shows a higher ratio of individuals in King County have private coverage, while more rely on public coverage in Pierce County.

Figure 14: Household income in Washington state, King county, and Pierce county

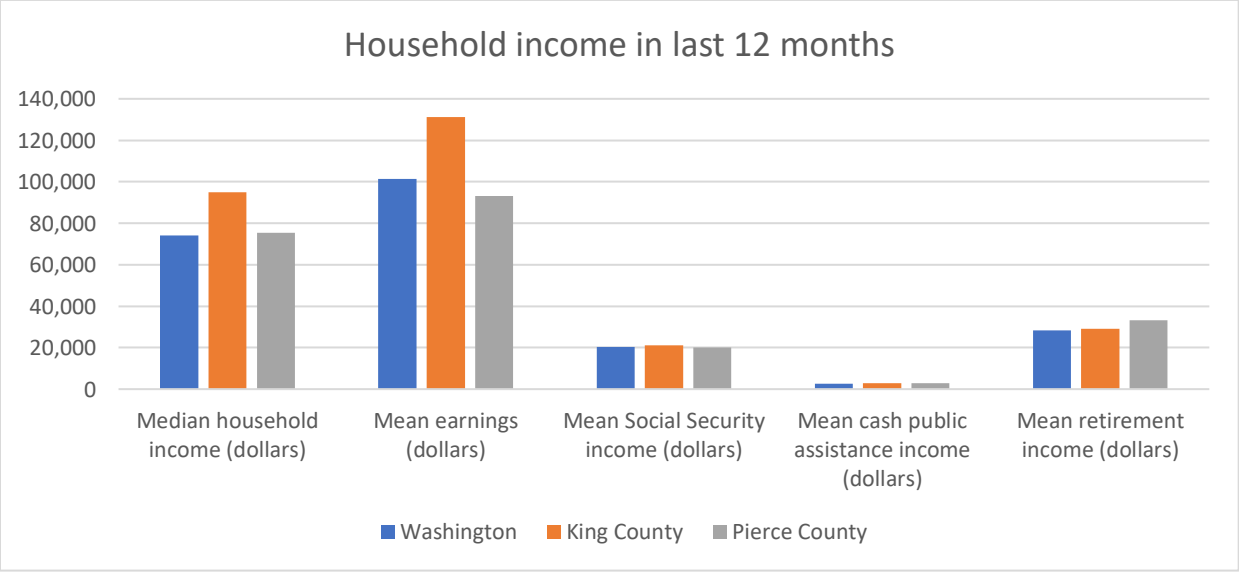


Figure 15: Poverty-related measures in Washington state, King county, and Pierce county

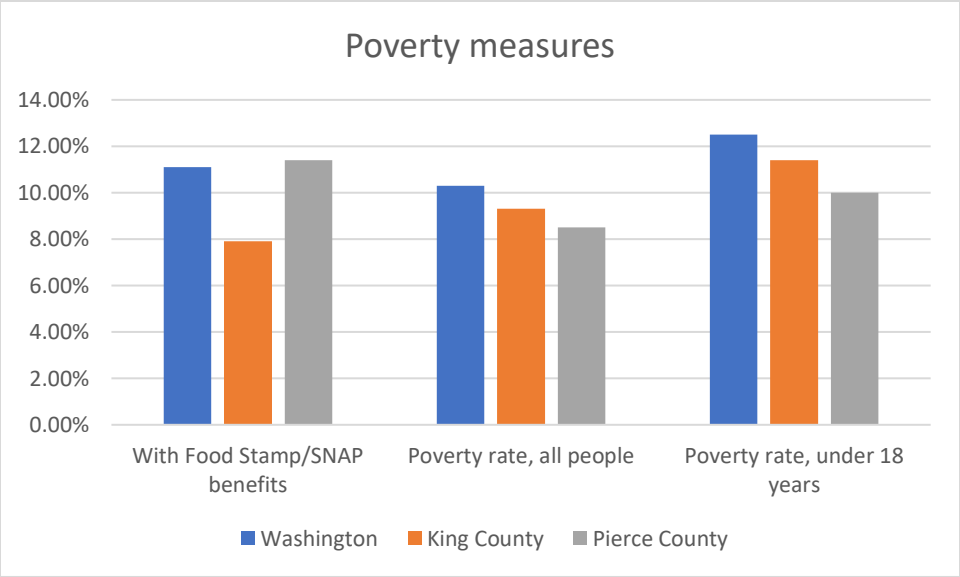
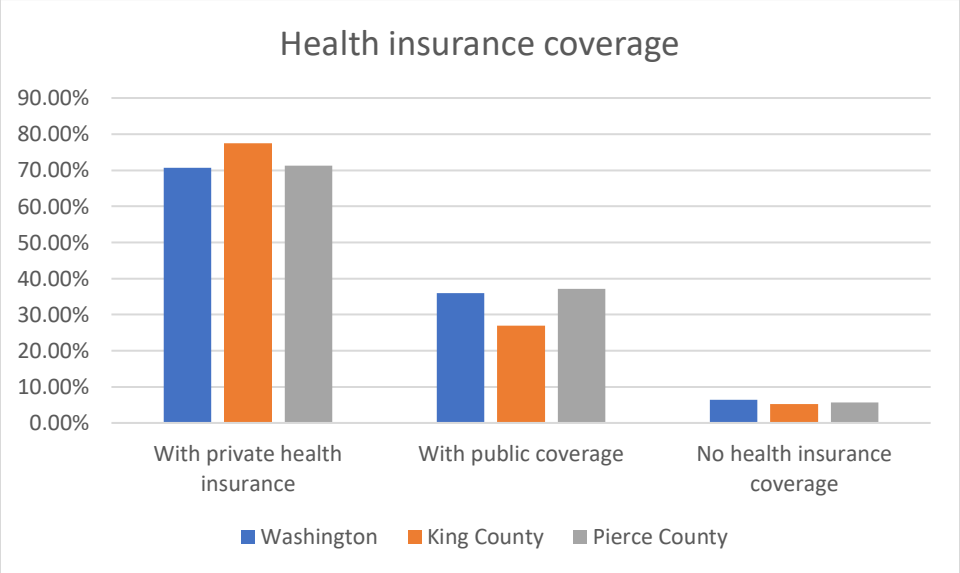


Figure 16: Health insurance coverage in Washington state, King county, and Pierce county



The next figures pertain to housing. Figure 17 shows a higher ratio of owner-occupied housing in Pierce County, and housing is more likely to be a single unit dwelling. For those who do live in rented housing, the rental cost makes up a higher portion of their income compared to King County (Figure 18). Figure 19 shows the age structure of housing, while Figure 20 shows the heating sources, with Pierce County more characterized by electricity compared to King County.

Figure 17: Housing types in Washington state, King county, and Pierce county

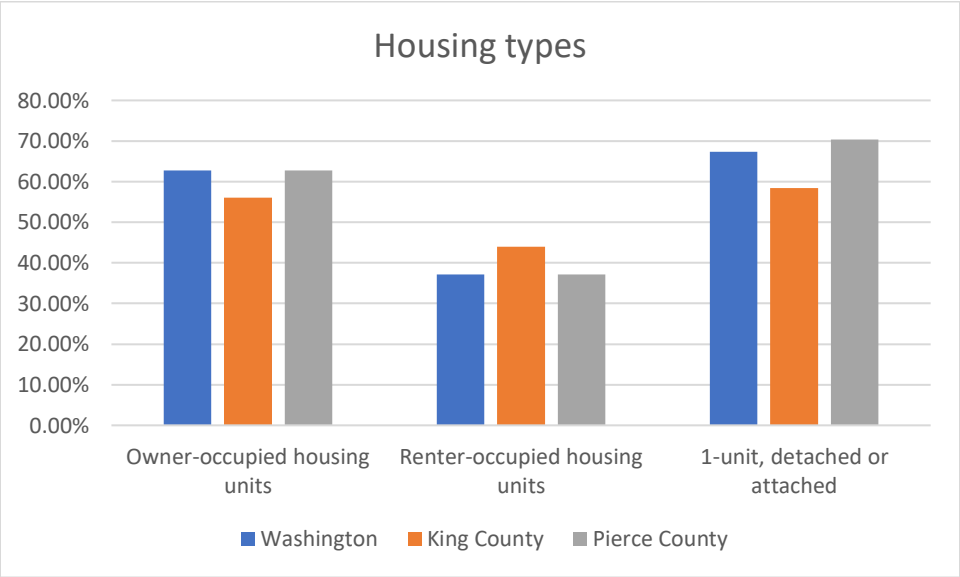


Figure 18: Rent as percentage of income in Washington state, King county, and Pierce county

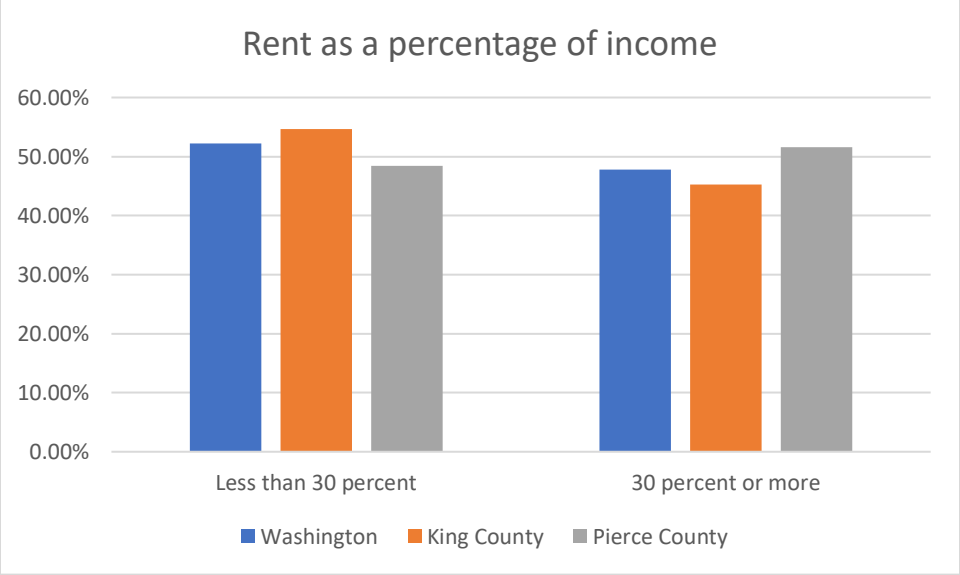


Figure 19: Age of housing as percentage of income in Washington state, King county, and Pierce county

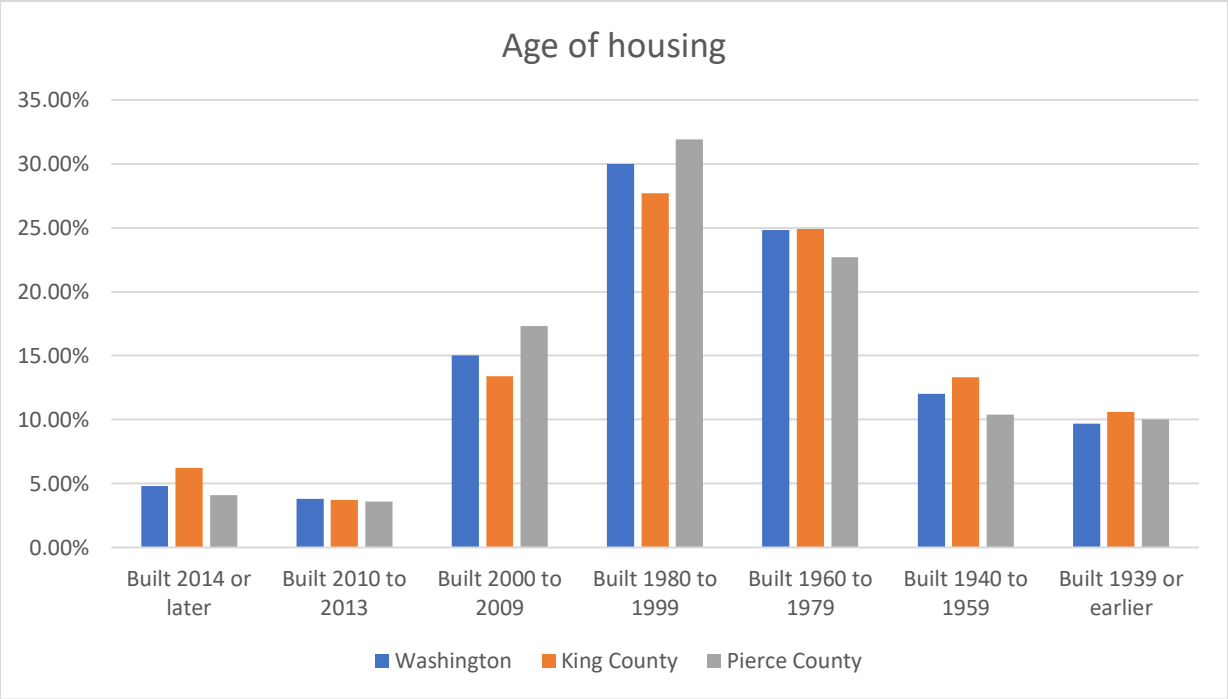
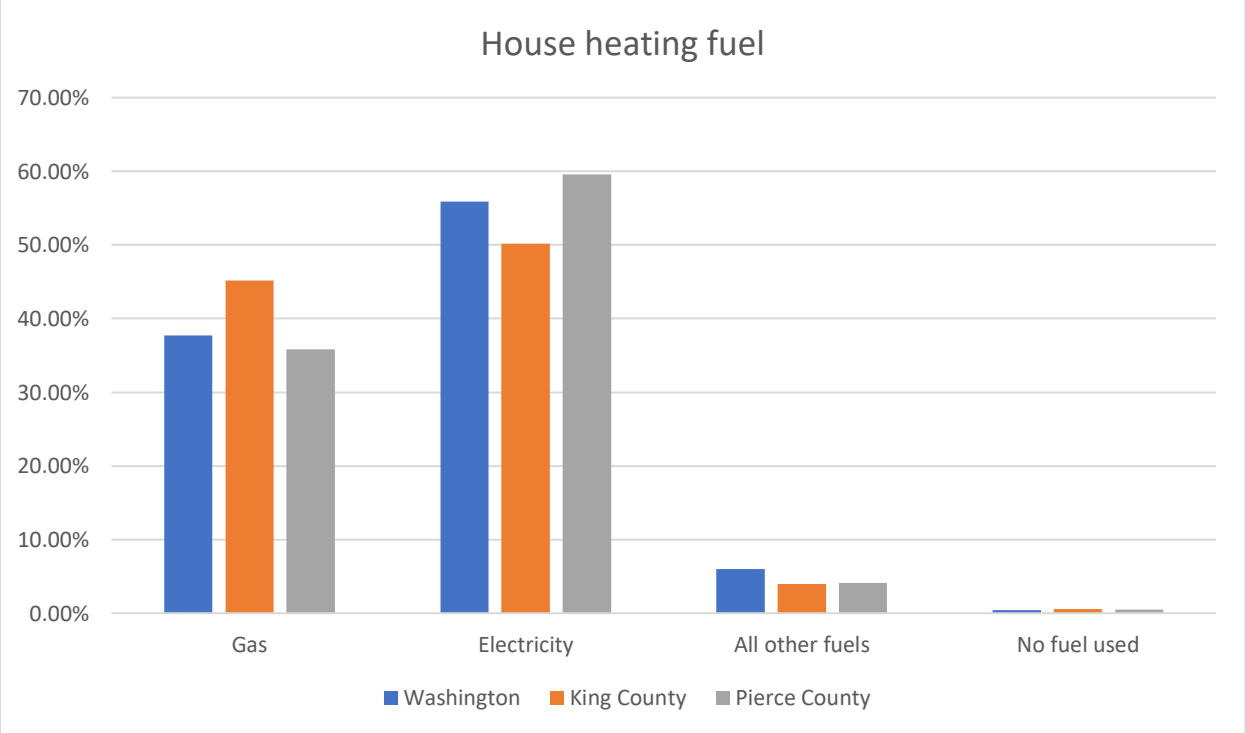


Figure 20: House heating fuel types in Washington state, King county, and Pierce county



The final two figures in this section depict technology access (Figure 21) and what is used for commuting to work (Figure 22). A lower ratio of Pierce County households has a computer, and a significantly lower ratio has access to broadband internet compared to King County. Finally, the method used for commuting confirms key underlying differences in the housing and lifestyle in the two counties: those living in Pierce County rely more heavily on driving their own vehicle, with very low usage of public transport. Pierce County is relatively less urban, with more spread out, single unit dwellings, and a reliance on cars and trucks.

Figure 21: Technology access in Washington state, King county, and Pierce county

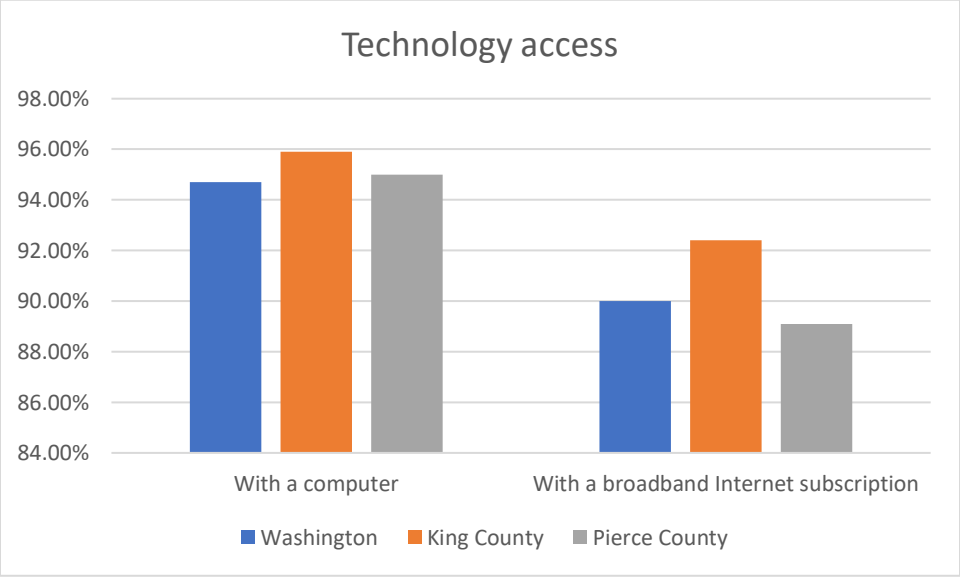
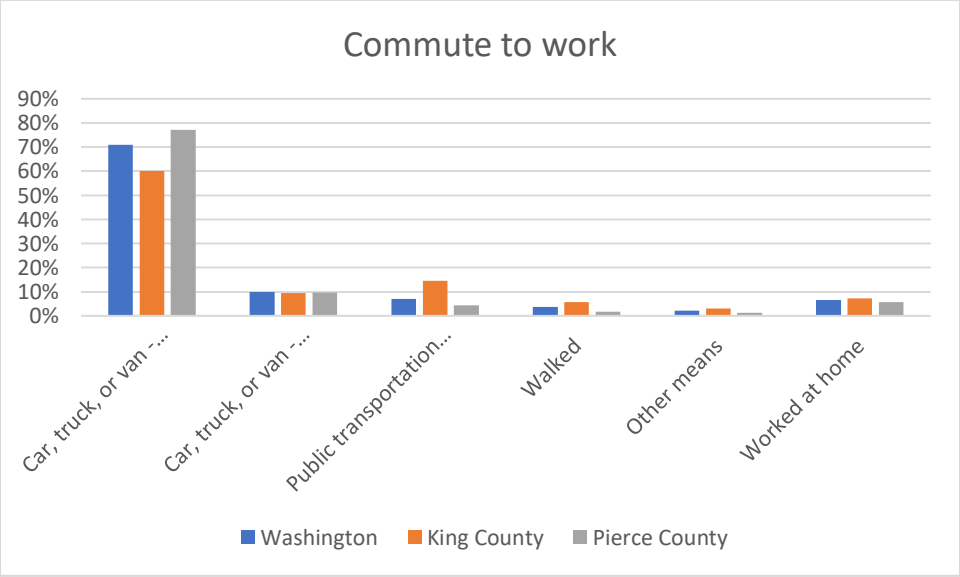


Figure 22: Commute to work in Washington state, King county, and Pierce county



Summary

To sum up, these basic statistics of the overall populations in Pierce and King Counties are in line with some key differences in their histories, economies, and populations. For Pierce County, we can see more blue collar jobs and the lower education level of the population, and corresponding lower incomes. King County statistics reflect a highly educated workforce, more white collar jobs, and higher incomes, as well as a more recent inflow of immigrants from Asia. Immigration into Pierce County occurred earlier on, and was mostly from Latin American countries. We can also see some other aspects in which Pierce County lags behind King County: in private healthcare access and access to technology in the home, as well as a higher reliance on food stamps. These background factors may be important in explaining inequalities among different demographic groups, as they capture some of the pre-labor market inequalities in opportunities that can impact educational outcomes and skills, and contribute to the inequalities in the labor market. We now turn to the assessment of inequalities by gender and by race in labor market outcomes, as well as some of the underlying factors that may explain them. In terms of further research, these data sources will allow us to look at these measures by even more detailed demographic subgroups, trends over time, and to make comparisons based on smaller MSAs, other counties and states.

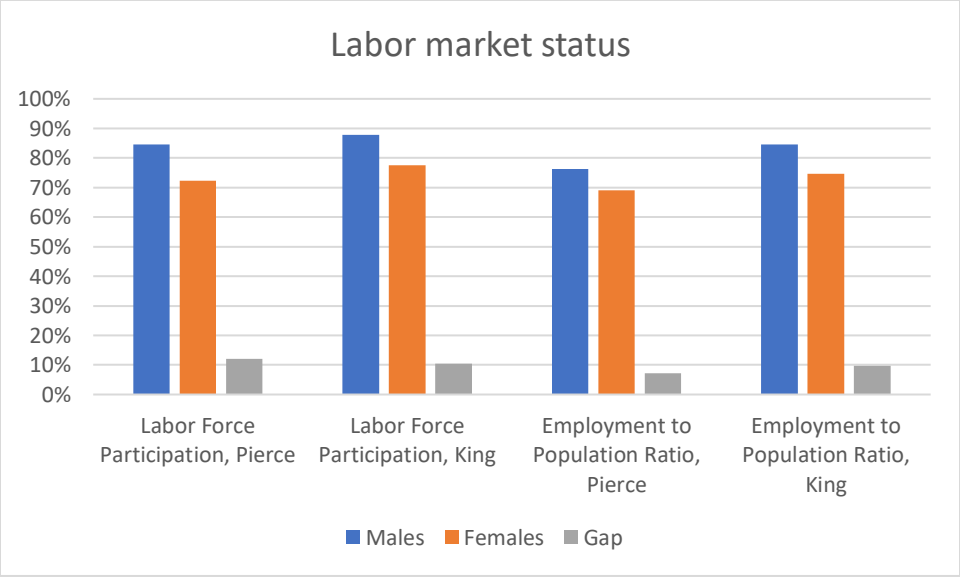
Gender inequality

In this section, we analyze gender gaps in activity, employment, and earnings. We then look at some of the underlying factors such as education, occupation, industry, and work time. We continue to focus on differences between Pierce and King Counties, evaluating them in light of the general differences in labor market context shown in the previous section.

Main labor market outcomes

Figure 23 again confirms that both labor force participation and employment are somewhat higher in King County, and this holds when we look at these separately by gender. The gender gap in participation is higher in Pierce County at 12%, vs. 10.5% in King County. On the other hand, the gender gap in employment (employment to population ratio) is lower in Pierce County at around 7%, vs. 10% in King County. Figure 24 documents the trends over time in the total number of individuals employed by gender. It also shows a larger gap in employment between men and women for King County.

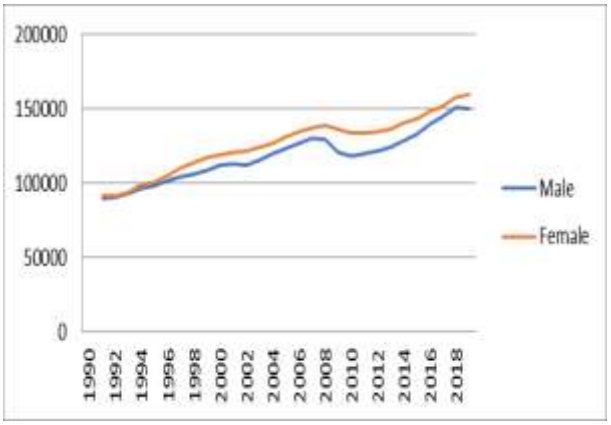
Figure 23: Labor market status by gender in King county and Pierce county



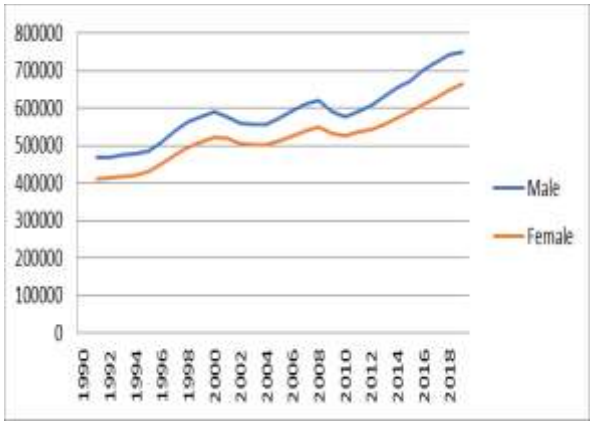
Source: ACS data

Figure 24: Total employment over time in King county and Pierce county

Pierce county



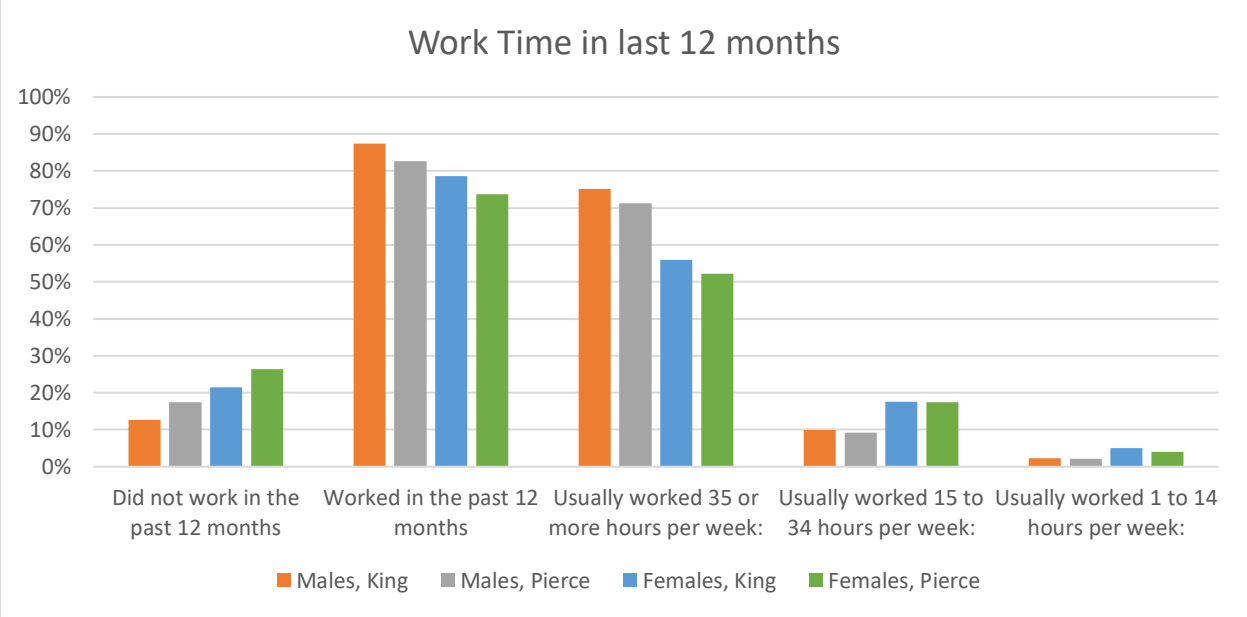
King county



Source: LEHD data

Figure 25 also confirms the higher employment ratio of men compared to women, and of King County residents compared to Pierce County residents for both genders. We can also see that higher ratios of men and women in King County worked 35 hours or more per week compared to their counterparts in Pierce County.

Figure 25: Time worked by gender in King county and Pierce county



Source: ACS data

In terms of median earnings, we can see that men in King County earned significantly more compared to men in Pierce County and women from either county (Figure 26). In terms of gender gaps, Figure 27 shows that women in Pierce County received about 70% of men's median earnings, while women in King County received about 68%. Even though women in Pierce County earn the least, the gender gap in Pierce County is slightly below that in King County, because males in King County earn significantly higher salaries. The trends shown in Figure 28 confirm this. We can see that the mean earnings of all groups increased over time, but the sharpest increases occurred in King County, especially for men.

Figure 26: Median earnings by gender in King county, Pierce county, and Washington state

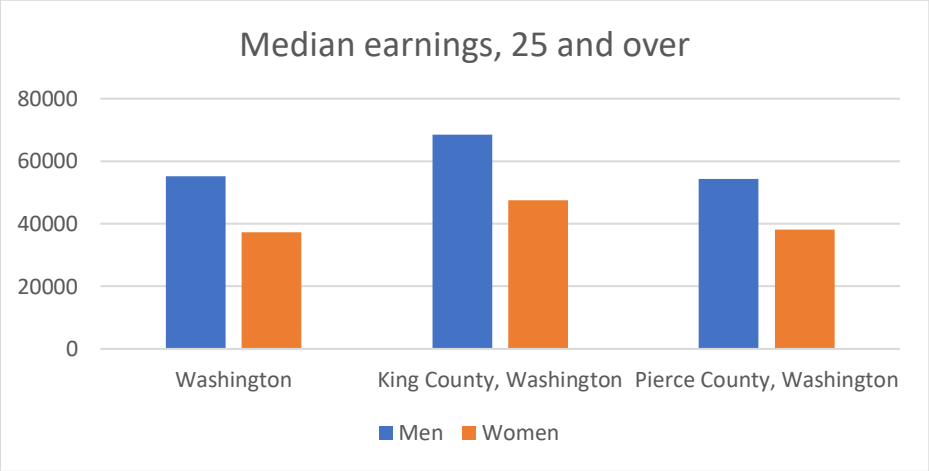
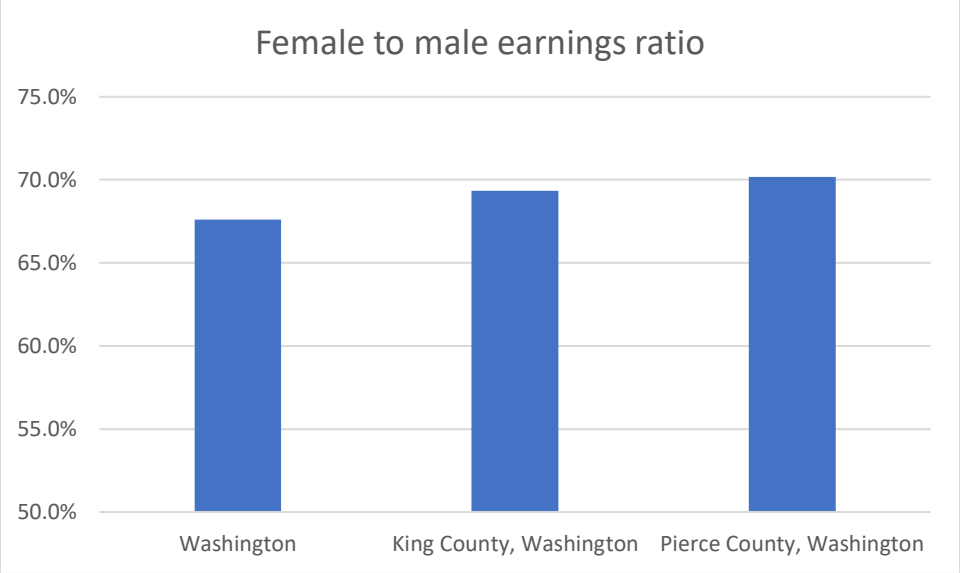


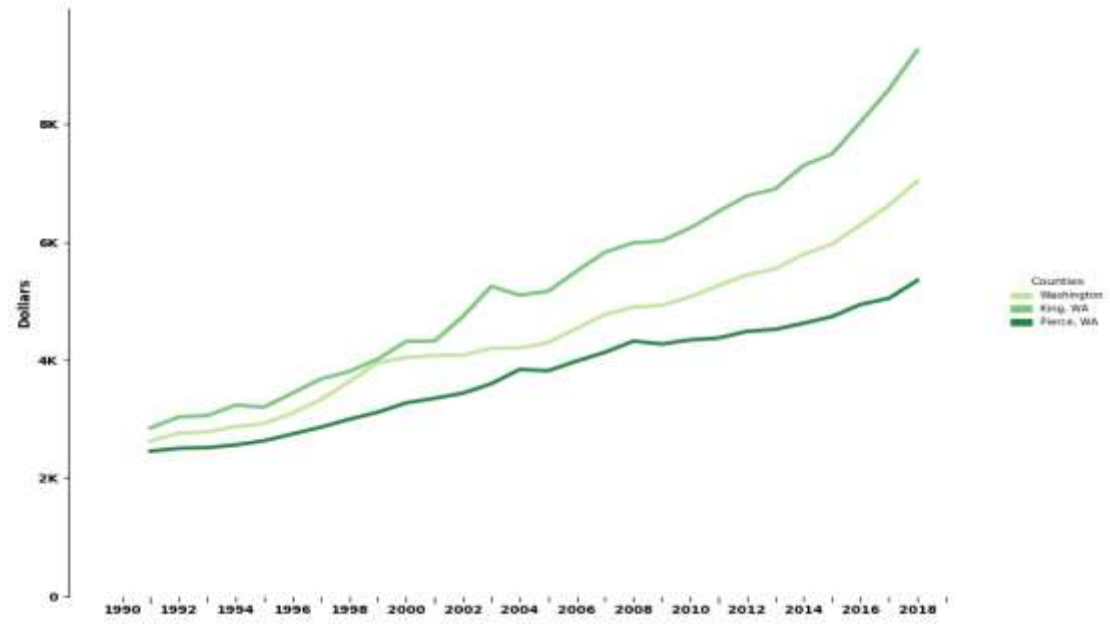
Figure 27: Ratio of female to male earnings in King county, Pierce county, and Washington state



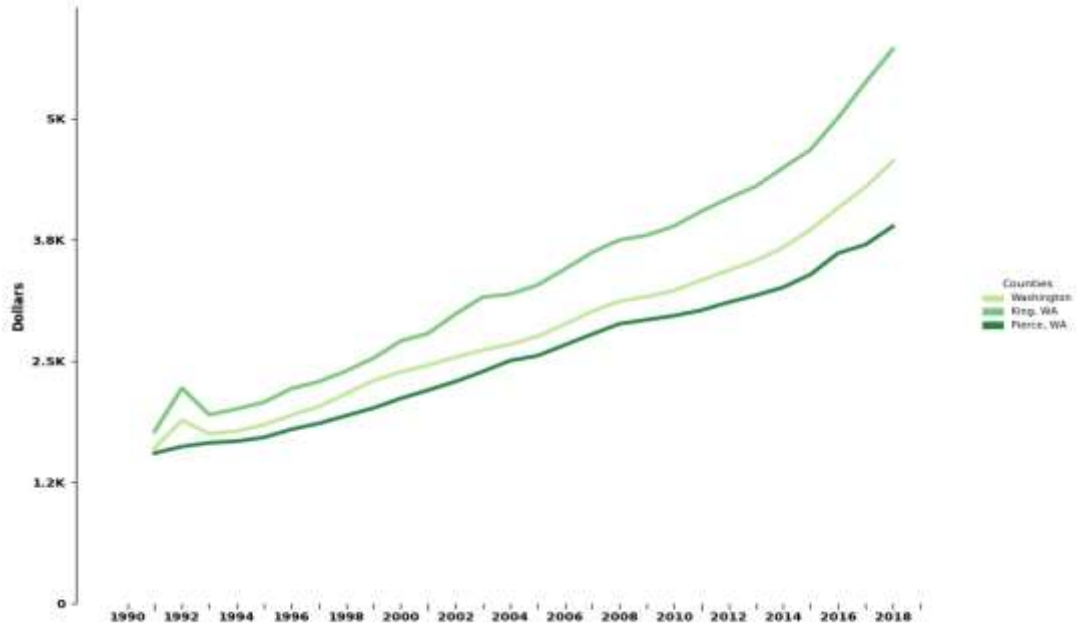
Source: ACS data

Figure 28: Trends over time, male and female earnings in Washington state, King county, Pierce county

Male earnings



Female earnings



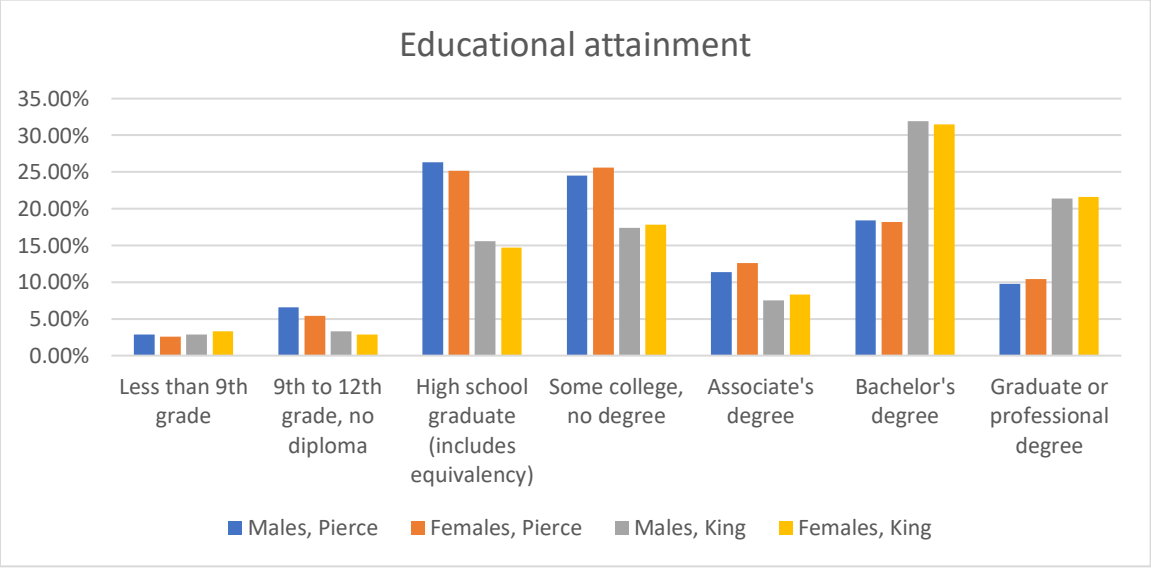
Underlying factors impacting gender gaps in employment and earnings

Overall, the statistics suggest that gender inequality is not higher – and may even be lower - in Pierce County compared to King County. This is partly due to the sharp growth in employment and earnings in King County, which benefited men particularly strongly and thereby increased the gender gaps. We also saw in the previous overview section some clear indications of differences in the counties' populations in terms of immigration, education level, and occupations/industries. We now examine how these impact the gender differences we observe in employment and earnings.

Education

Figure 28 depicts the ratio of individuals from each gender-county subgroup for each education level. We can see that for both genders, King County has higher educational attainment levels compared to Pierce County. In Pierce County, more individuals are in the high school graduate, some college, and associate's degrees groups. In King County, more have bachelor's or higher degrees. In terms of gender differences, in Pierce County, men are more likely to have high school or lower education levels than women, while women are more likely to have some college or associate's degrees.

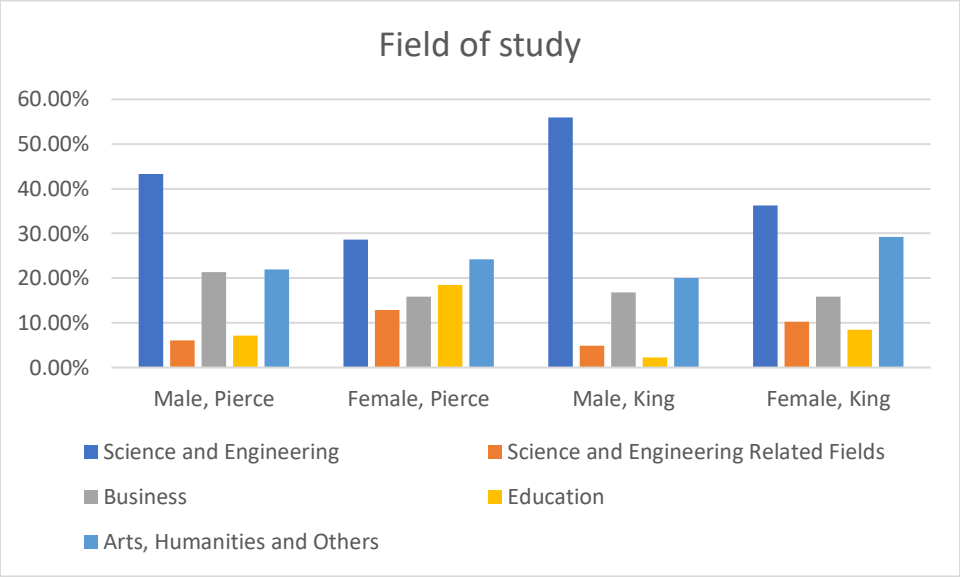
Figure 28: Educational attainment by gender, in King county and Pierce county



Source: ACS

Field of study has been shown to contribute significantly to remaining gender gaps in the labor market. Figure 29 shows that males in King County have a significantly higher ratio of degrees in Science and Engineering, which is a field with high employment and earnings. Men in Pierce County are also more likely to have a degree in this field compared to women. This likely contributes to the gender gaps in earnings observed in both counties, but more strongly in the case of King County. In Pierce County, the distributions in other fields likely impact gender inequalities. Significantly higher ratios of females have degrees in science and engineering related fields and education, while men are more likely to have degrees in business. The latter is also higher-paying, which likely contributes to the gender gap in earnings.

Figure 29: Field of study by gender, in King county and Pierce county



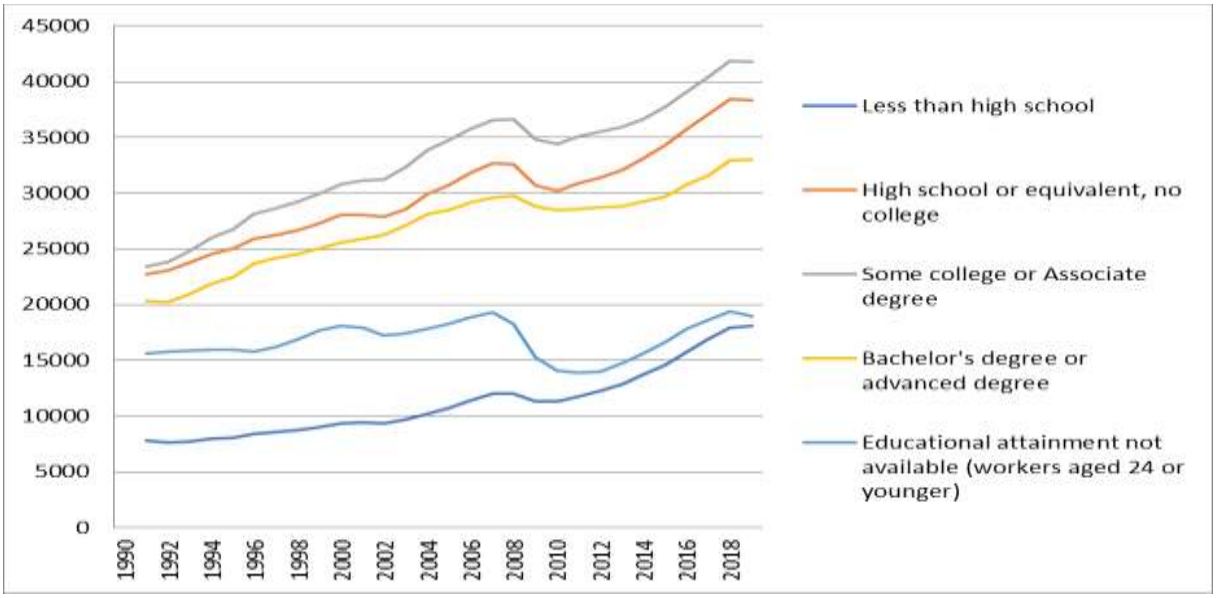
Source: ACS

Figure 30 depicts the trends over time in educational attainment, by gender and county. It confirms the pattern of a more highly qualified male and female workforce in King County, and the importance of some college and associate's degrees in Pierce County.

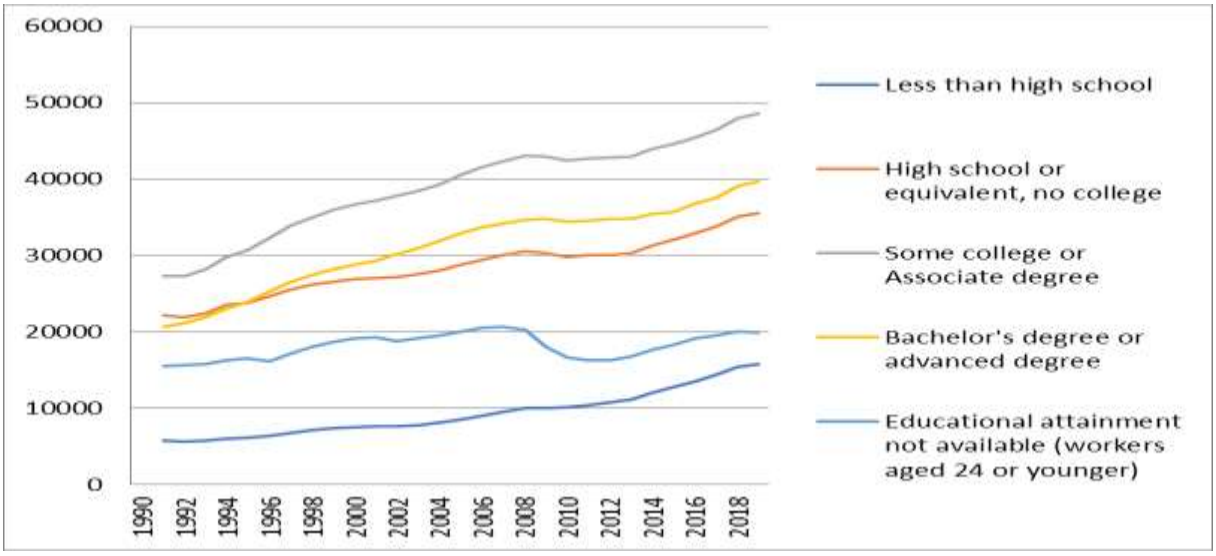
Figure 30: Time trends in the total number of individuals in each educational attainment level over time, in King county and Pierce county

Pierce County

Men

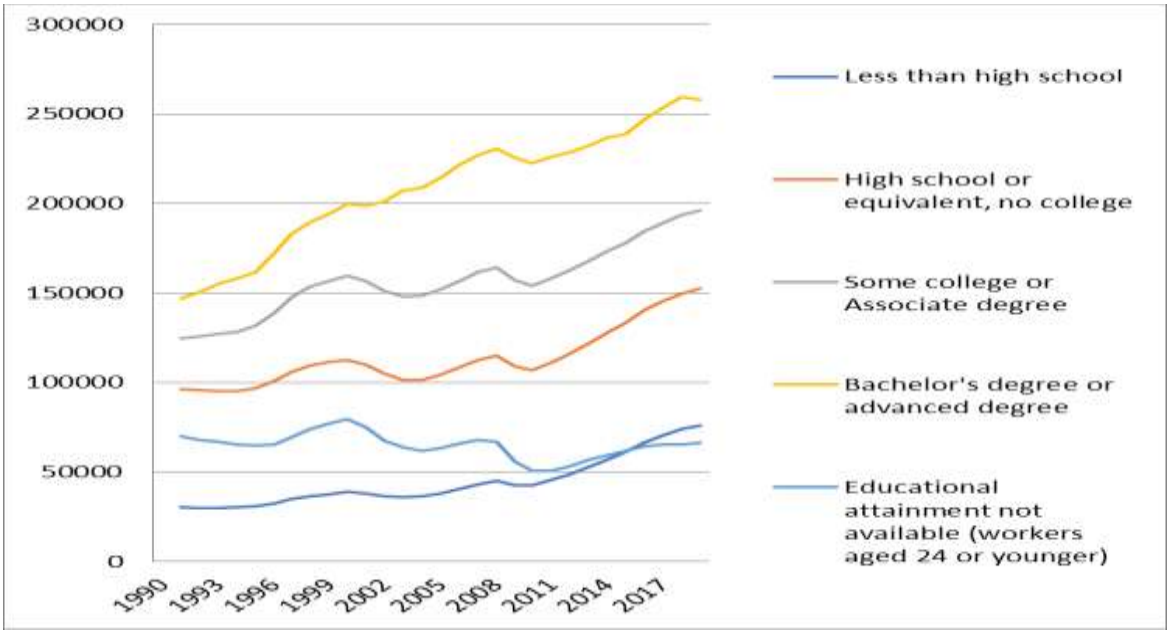


Women

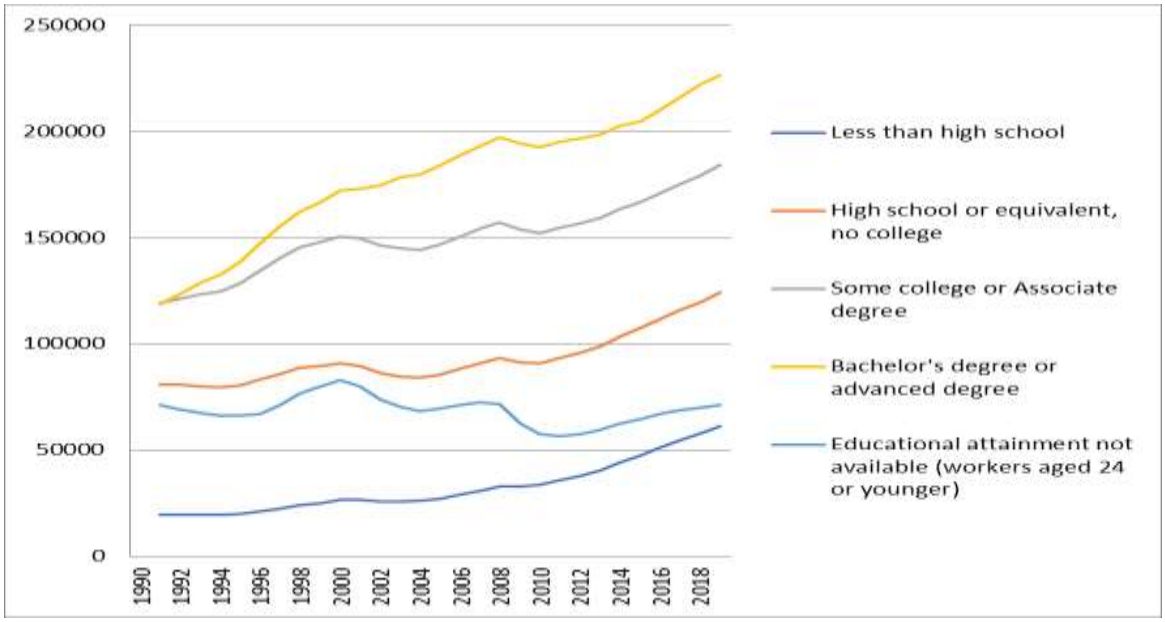


King County

Men



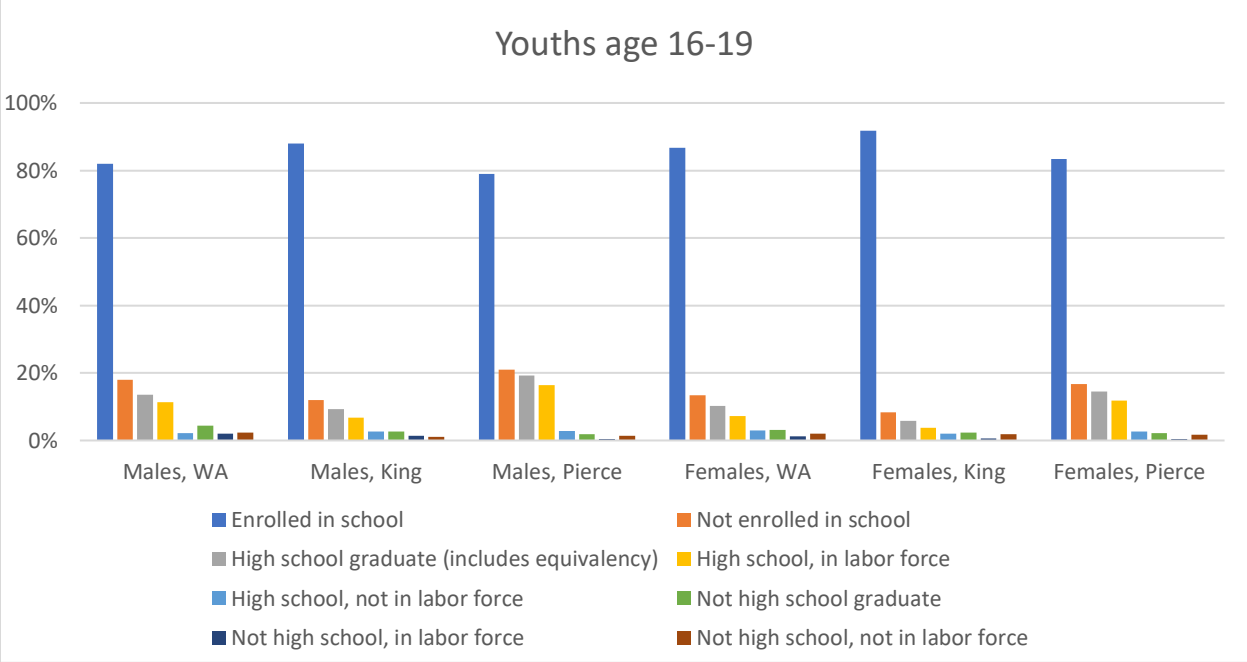
Women



Source: LEHD

Next, to look into future prospects, Figure 31 summarizes the educational status of youths aged 16-19. For both males and females, those in King County are more likely to be still enrolled in school, while those in Pierce County are more likely to be no longer enrolled, or high school graduates already working in the labor force.

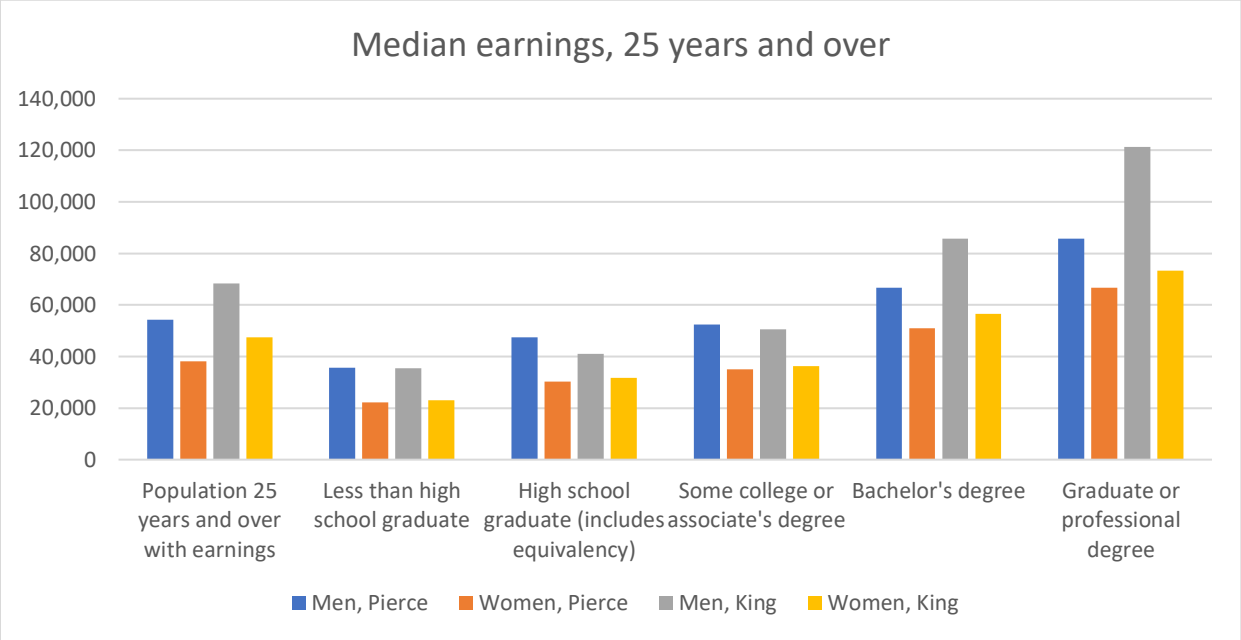
Figure 31: Status of youths aged 16-19, in Washington state, King county, and Pierce county



Source: ACS

We can see some key differences in educational distributions between the counties, as well as by gender. To show how education attainment impacts earnings, and how this impact differs by gender and county, Figure 32 presents median earnings for each level. We can see that men have higher earnings within each education level in both counties. However, the gender gap is particularly high among the most skilled groups in King County, due to the very high earnings of highly skilled males in King County. Figure 33 documents trends over time in earnings by education level, and also shows the very steep increase in the earnings of highly educated males in King County.

Figure 32: Median earnings by education attainment, in King county and Pierce county

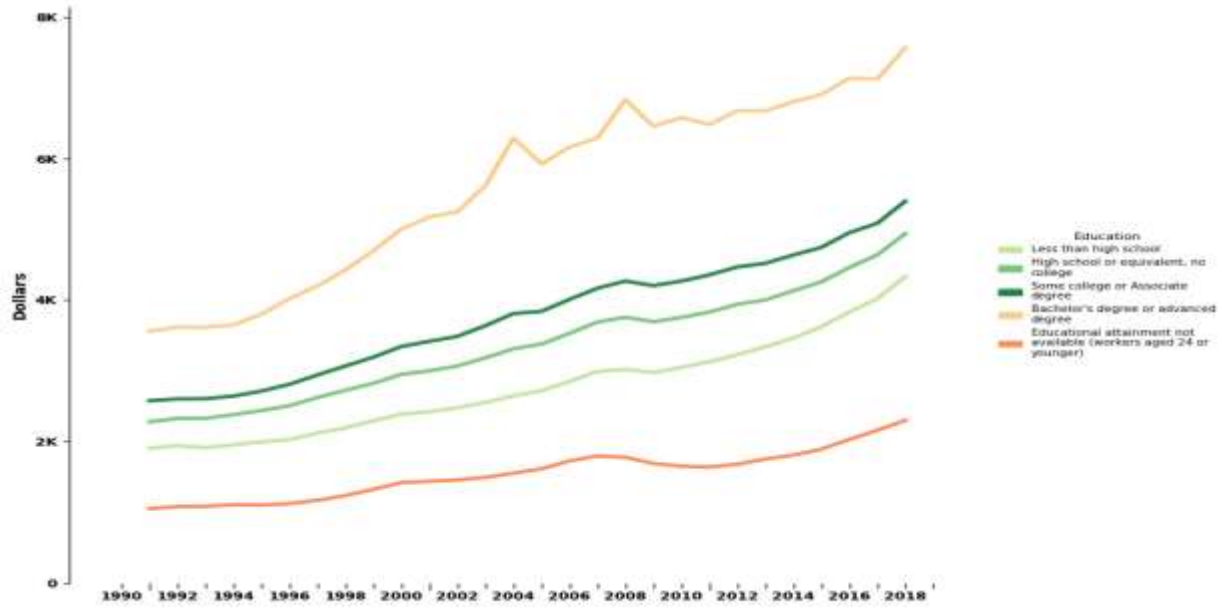


Source: ACS

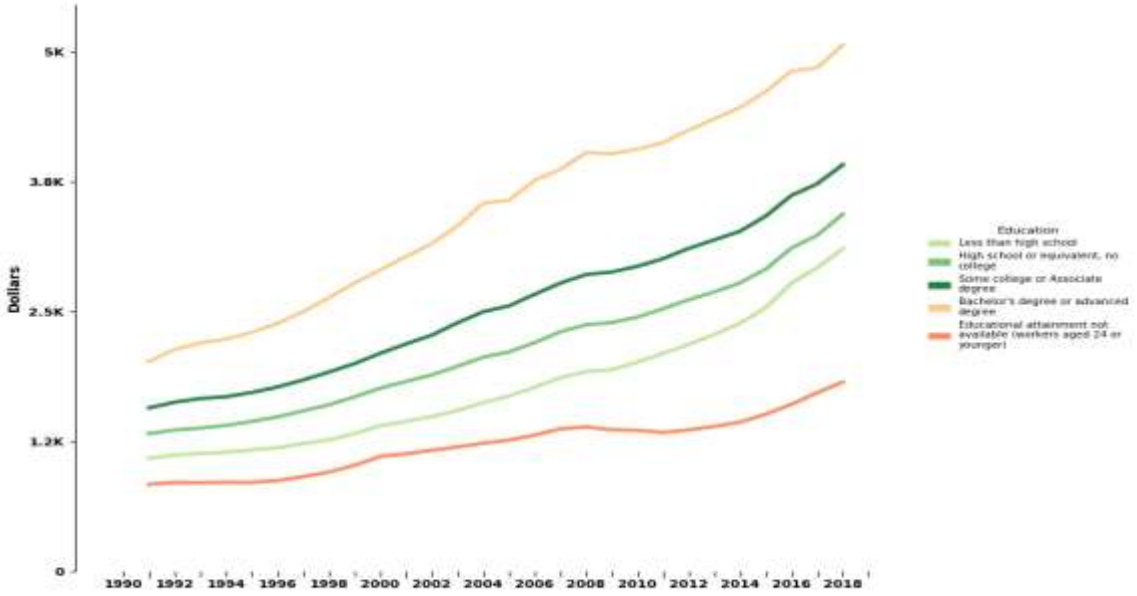
Figure 33: Trends in median earnings by educational attainment, King county, and Pierce county

Pierce County

Men

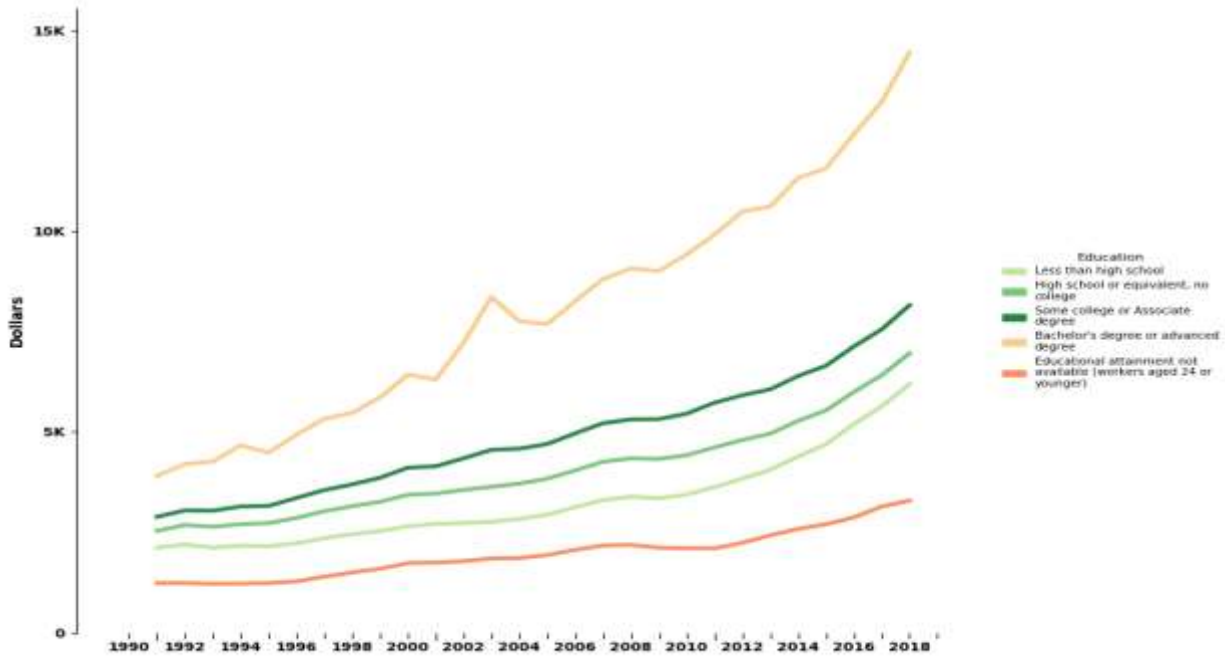


Women

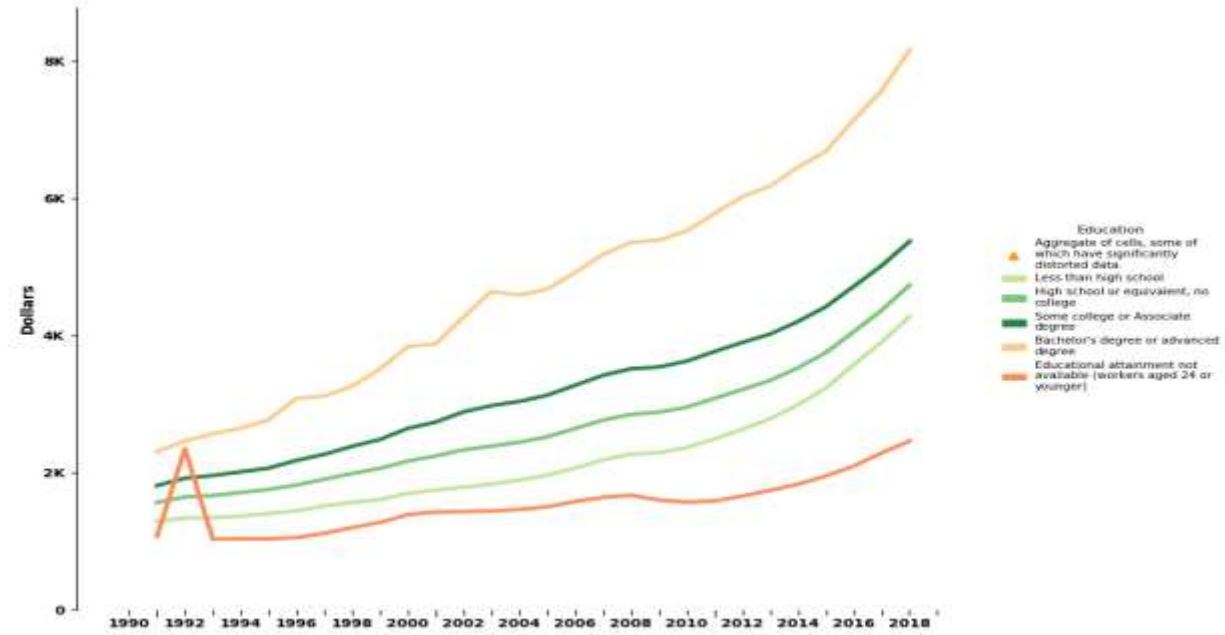


King County

Men



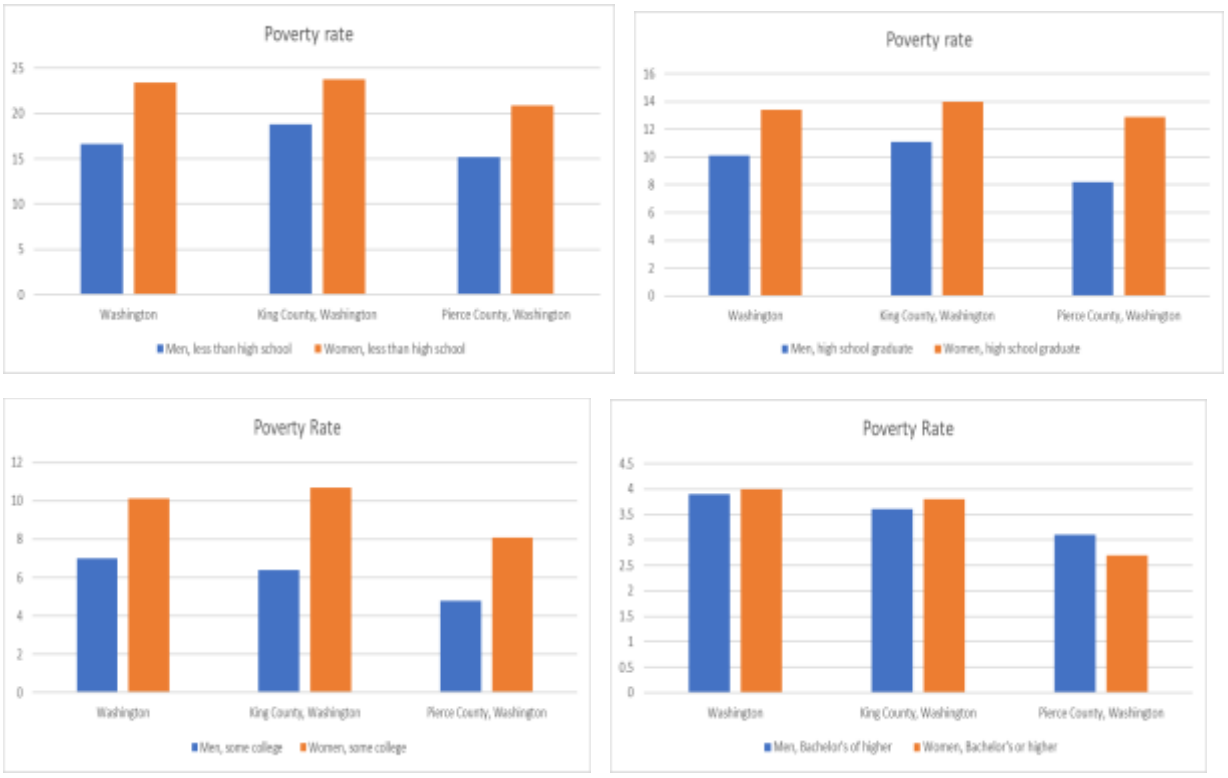
Women



Source: LEHD

As shown in Figure 34, poverty rates tend to decrease with education level, and are somewhat higher in King County. Women are more likely to live in poverty in all groups except for those with a Bachelor's degree. This is particularly pronounced among those with some college education.

Figure 34: Poverty rates by educational attainment, King county, and Pierce county

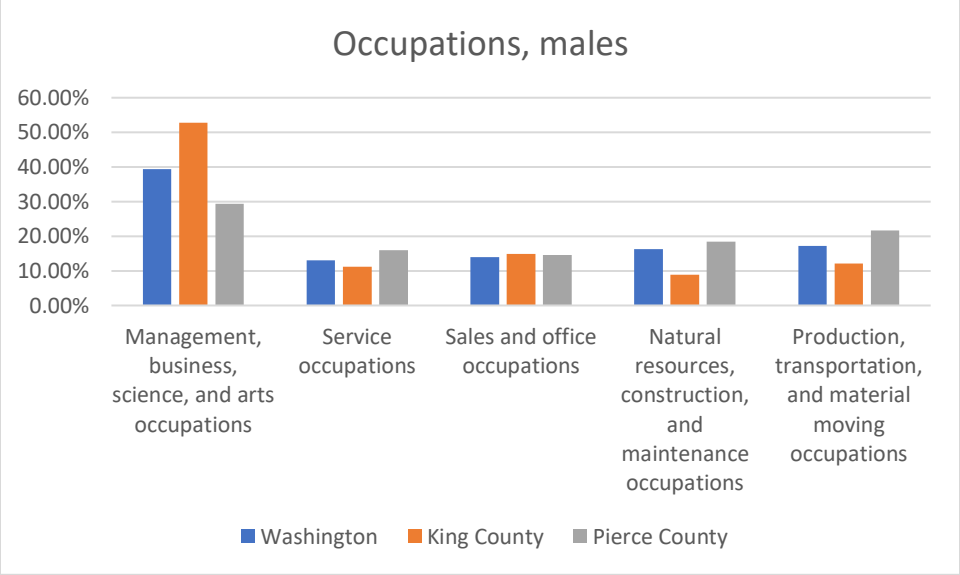


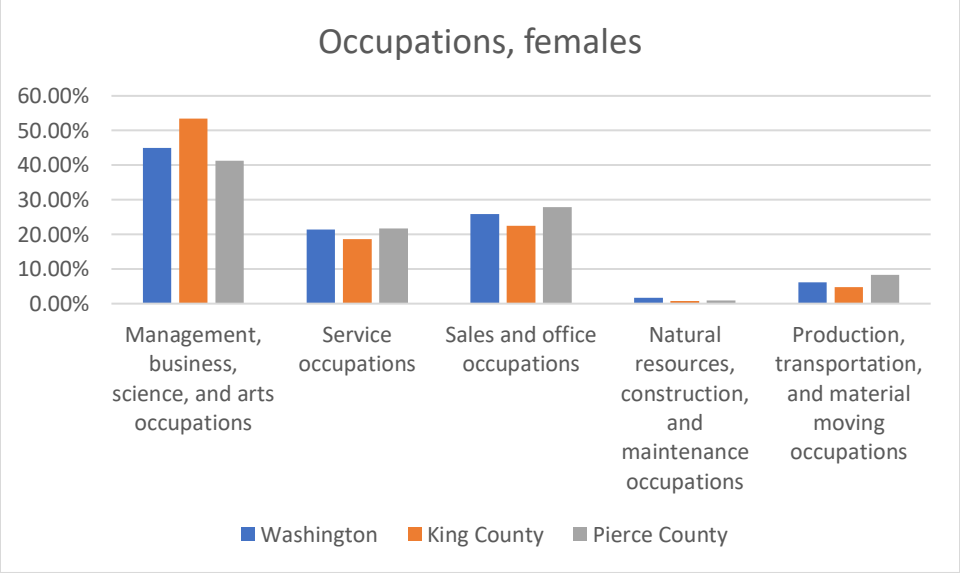
Source: ACS

Occupation

Figure 35 shows the occupational distributions by gender. Men are more likely to work in management, business, science, and arts occupations, especially in King County. This is in line with more high skilled, high paying jobs in King County and in the case of men. More women work in service, sales, and office occupations compared to men, especially in Pierce County.

Figure 35: Occupational distributions by gender in Washington state, King county, and Pierce county

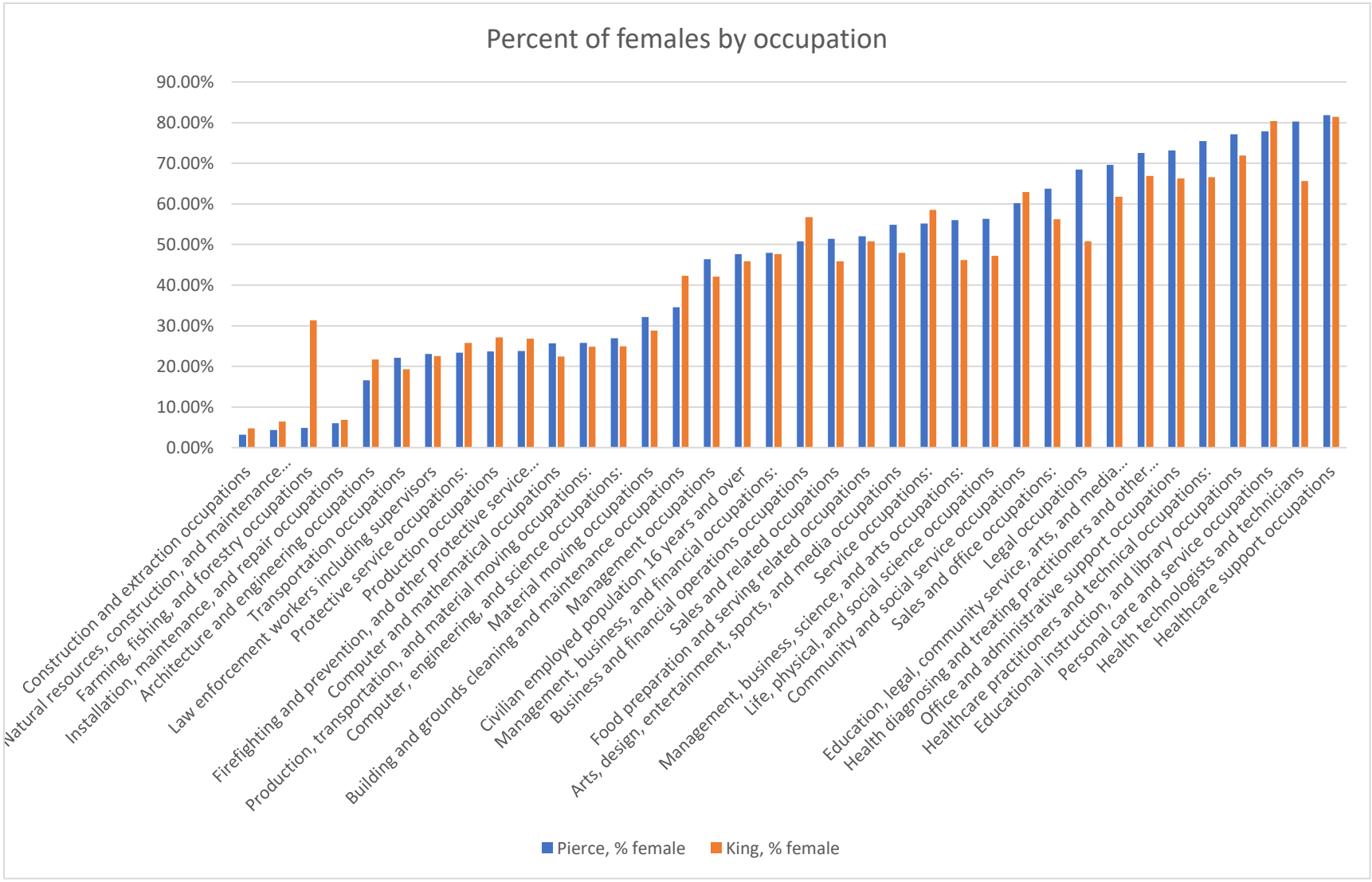




Source: ACS

Figure 36 shows the percent of female workers by more detailed occupational categories. In Pierce County, a higher ratio of women work in sales, office, service, legal, education, and healthcare occupations compared to King County. Figure 37 shows the relative earnings of women within each occupation, in increasing order by relative earnings in Pierce County. Occupations on the right end – such as health technologies, firefighting, and educational instruction – pay women relatively more highly compared to men in Pierce County, i.e. have lower gender earnings gaps. On the other hand, some occupations – such as transport and community services – pay women relatively better in King County.

Figure 36: Percent of females by occupation in King county and Pierce county



Source: ACS

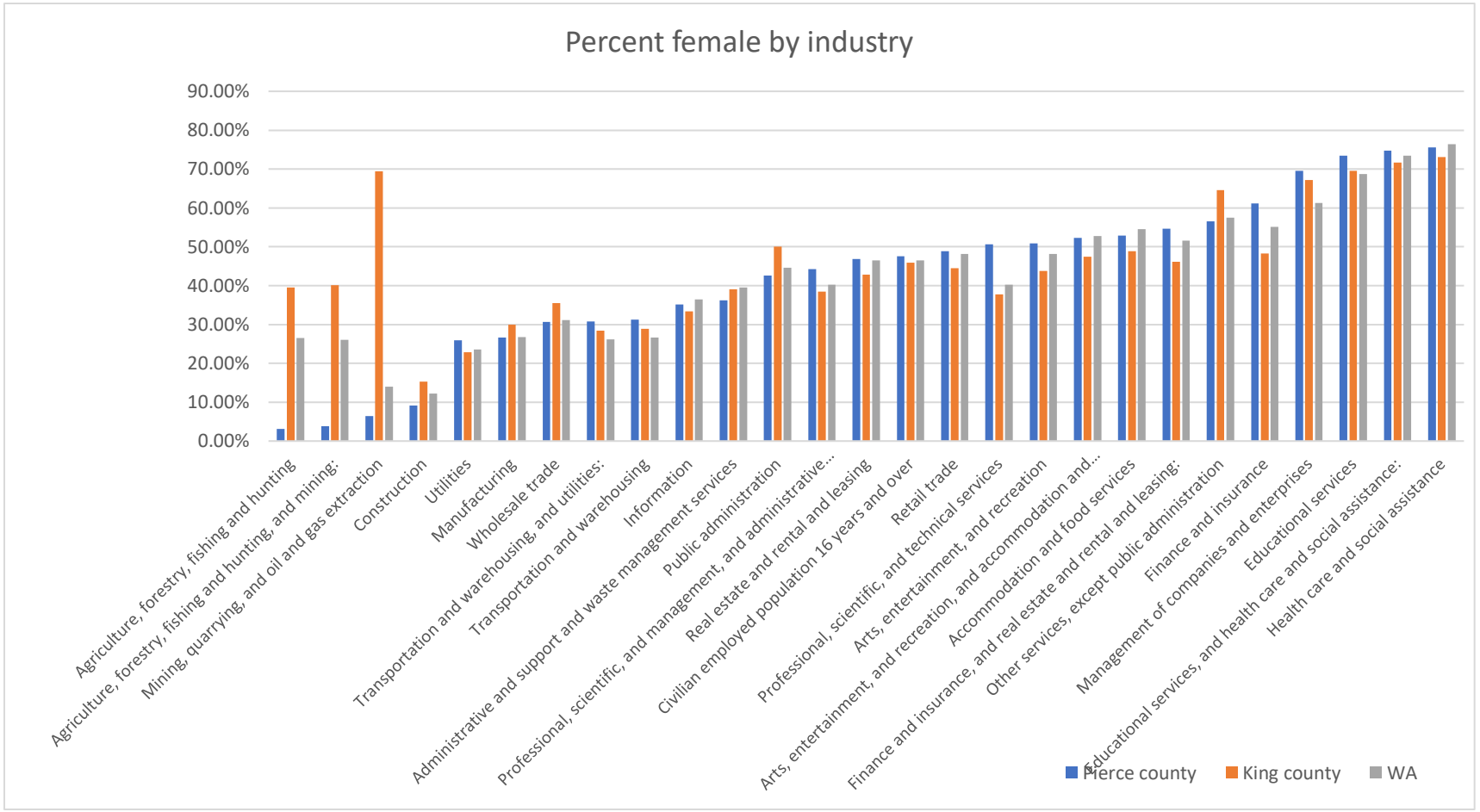
Figure 37: Relative earnings of women by occupation in King county and Pierce county

Source: ACS

Industry

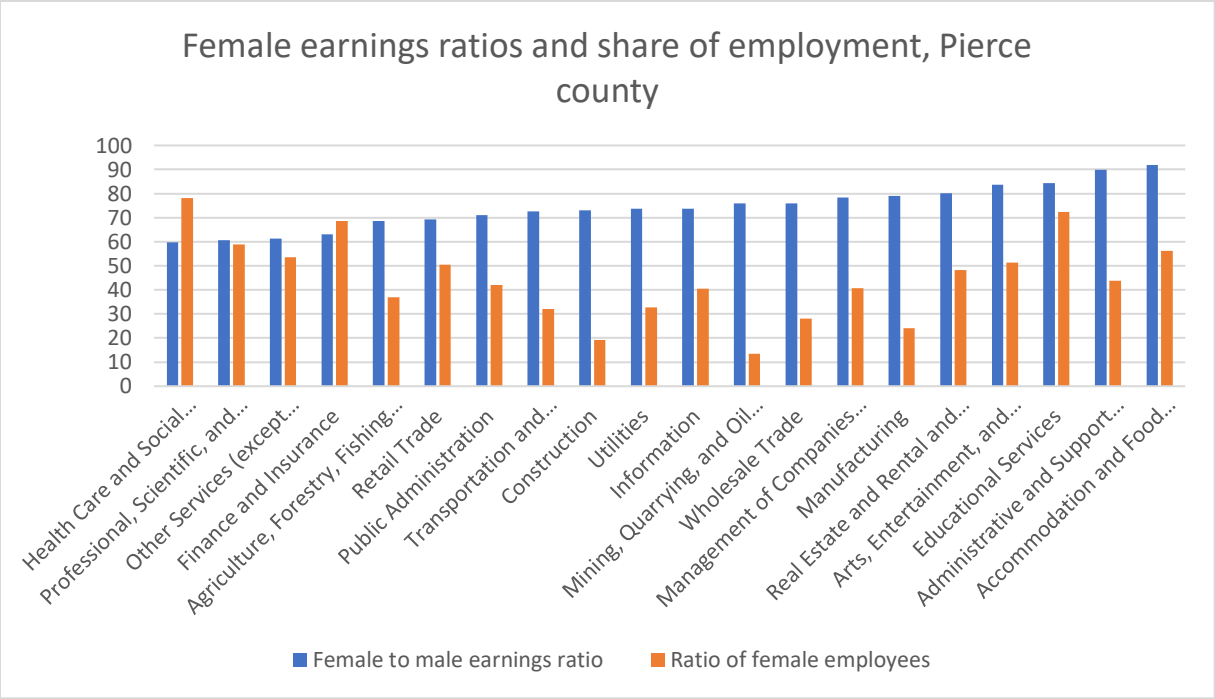
Figure 38 shows the percent of females in each industry, in increasing order by Pierce County percentages. We can see, in line with the occupational distributions, that education and healthcare services are key employers of women in Pierce County. In order to assess whether women tend to work in lower-paying industries, Figure 39 shows the percentage of females as well as their relative earnings for Pierce County. While high ratios of women work in industries where their pay is further behind that of men's (healthcare, finance and insurance), which contributes to the overall gender gap in earnings, there are also high ratios working in jobs that pay women more equally, for example, in education.

Figure 38: Percent of females by industry in King county and Pierce county



Source: ACS

Figure 39: Female earning ratios and share of employment by industry in Pierce county

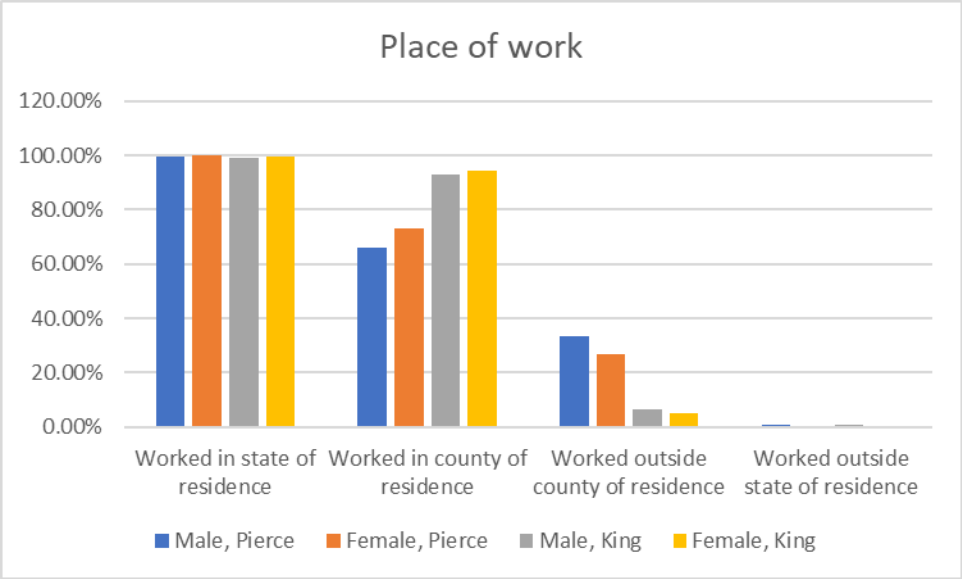


Source: ACS

Other job characteristics

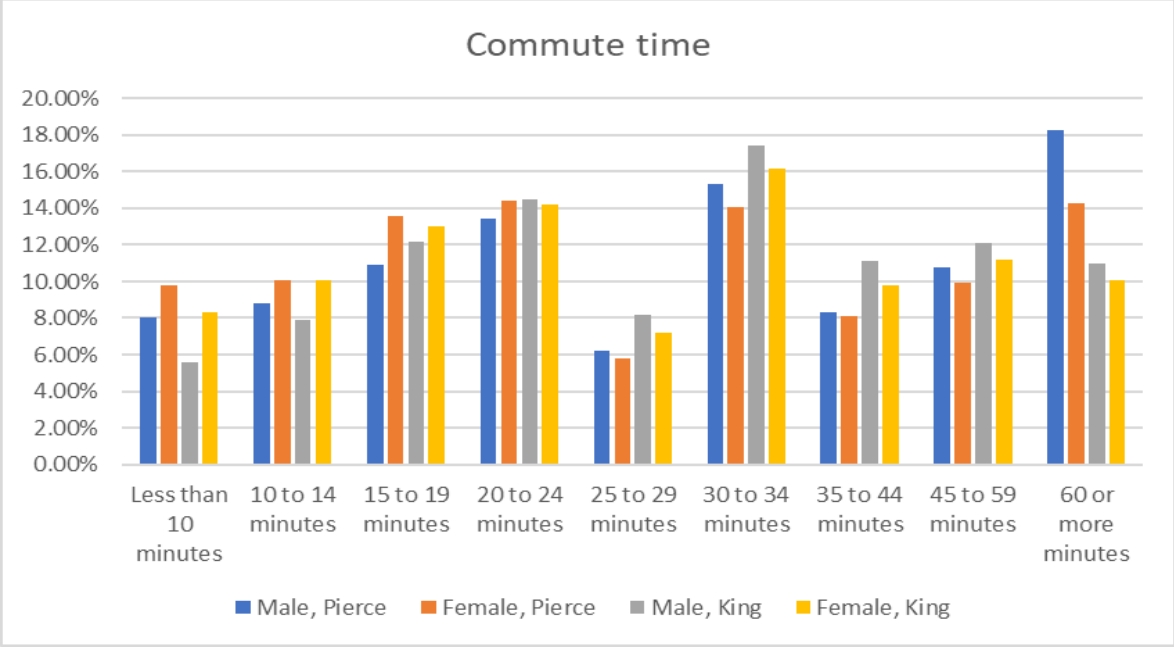
Finally, we assess gender differences in some further job characteristics. In terms of place of work (Figure 40), individuals from Pierce County are more likely to work outside of their county. This is in line with the high level of commuting to jobs in the Seattle area. This is especially true for men in Pierce County, 33% of whom work elsewhere. Statistics on mean commuting times (Figure 41) also confirm this, with men from Pierce County being the most likely to spend over an hour commuting each day, at over 18% doing so. Figure 42 further shows that males from Pierce County tend to leave for work significantly earlier in the morning compared to other groups. These three figures highlight the importance of considering commuting when assessing the labor market situation in Pierce County.

Figure 40: Place of work by gender of residents in King county and Pierce county



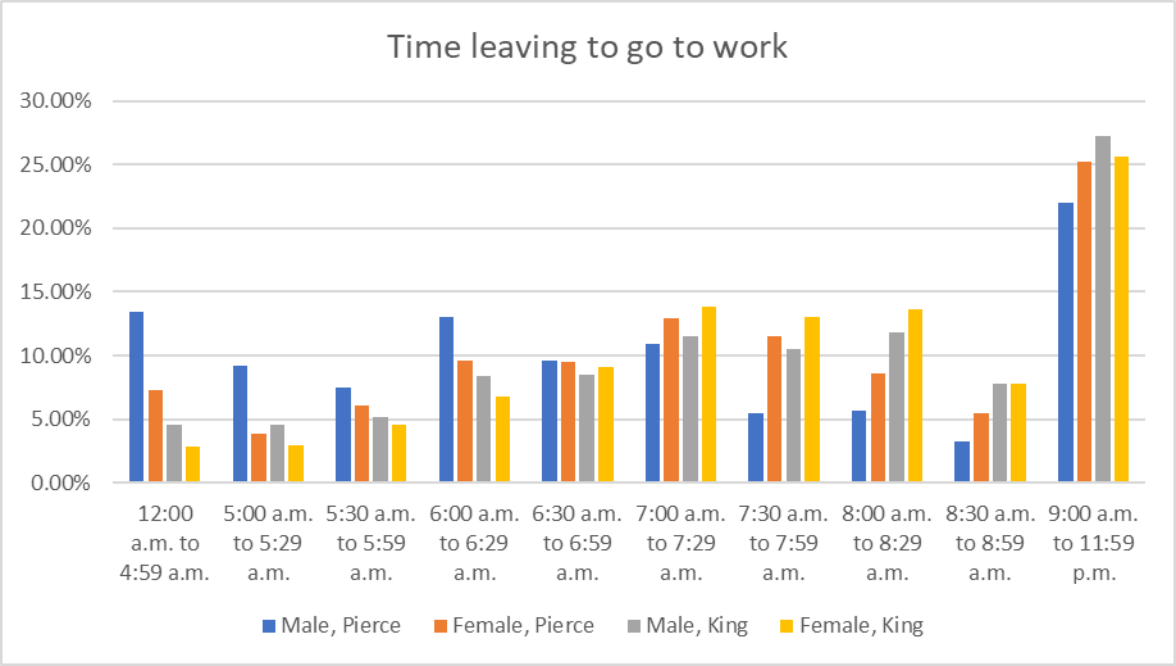
Source: ACS

Figure 41: Commute time by gender of residents in King county and Pierce county



Source: ACS

Figure 42: Time of leaving for work by gender in King county and Pierce county



Source: ACS

Summary

The statistics presented in this section show slightly lower gender gaps in employment and earnings in Pierce County compared to King County. What's more important from a policy perspective, some of the underlying causes also differ. In King County, highly educated men – who often hold degrees in Science and Engineering – earn significantly higher compared to all other groups. While women in King County are also more educated and tend to earn more compared to women in Pierce County, but the difference is much greater in the case of men, which contributes to the overall gender gap.

In Pierce County, more women have some college or an associate's degree compared to men, who are more likely to have education levels of high school or lower. However, this does not lead to a lower gender gap in earnings, as women earn less within every education level compared to men. Women are also more likely to live in poverty, in every education level. Among those with higher education, there are relatively more females with degrees in science and engineering related fields and education, while men are more likely to have degrees in better paid science, engineering, and business fields. The employment of women in the healthcare and education sectors is high in Pierce County, however, they earn less than men in these sectors as well. More women work in occupations and industries that pay women significantly worse compared to men, which contributes to the overall gender gap in earnings.

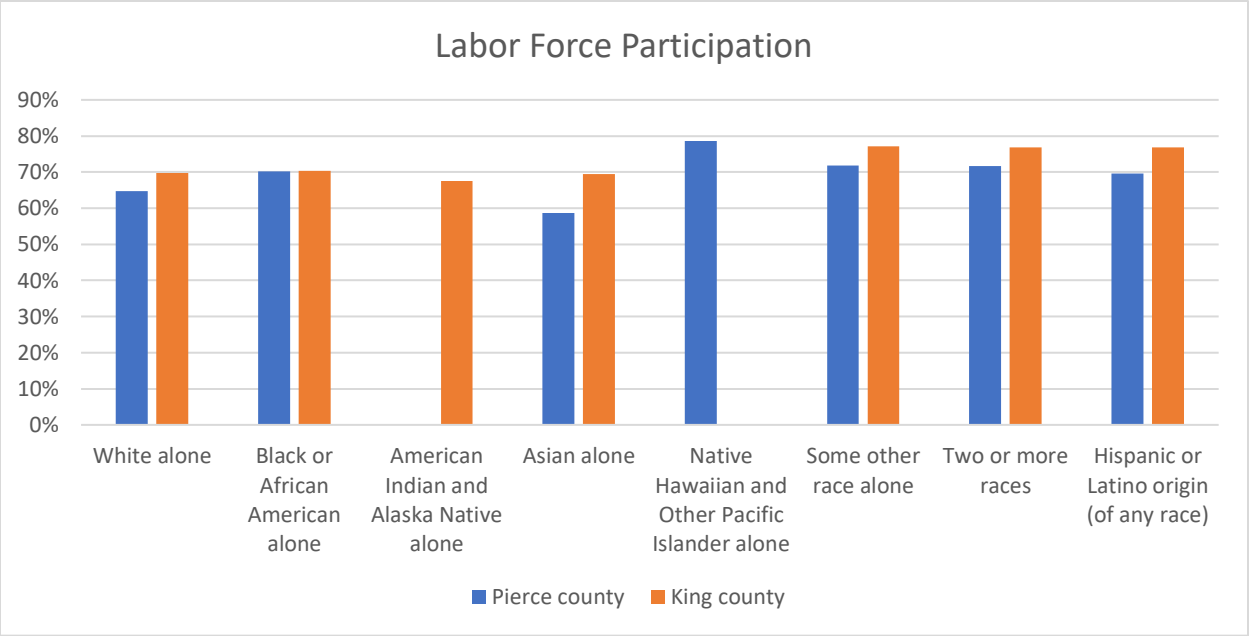
Racial inequality

In Figure 4, we saw that in terms of racial composition, the population in Pierce County is characterized by relatively more white and fewer Asian residents. Next, we present a briefer overview of labor market inequalities by race. These statistics are less readily available compared to those by gender, however, statistics similar to those shown by gender should be replicable using microdata sources, so this is an important part of the plan for the next stage of the project. Further, statistics by gender and race subgroups may also provide key understanding of the mechanisms leading to inequalities, and particularly of the issues faced by females from racial minorities, who often suffer multiple disadvantages compared to other groups. The findings included here do point to a few interesting key trends and differences between Pierce and King Counties.

Labor market outcomes

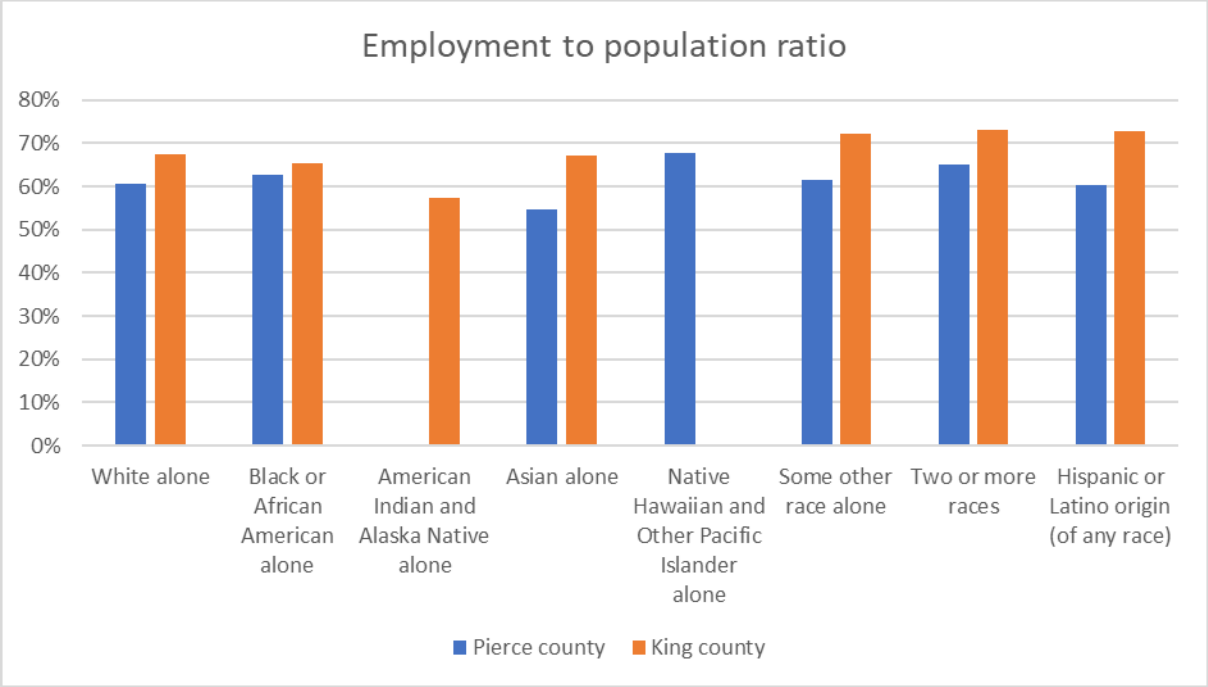
The labor force participation rate (Figure 43) in Pierce County, which reflects what part of the total population is either working or trying to find work, is the highest among Native Hawaiians and Pacific Islanders, and the lowest among Asians. Black or African American residents have a slightly higher participation rate compared to white residents. The participation rates of all other groups are higher in King County compared to Pierce County. Figure 44 shows the employment to population ratios, which show similar trends. One difference that can be seen is among Blacks and African Americans, whose employment ratio is closer to that of whites compared to their participation rate. This suggests that a higher ratio of Blacks and African Americans are unemployed, i.e. are seeking work but have not been hired. The employment rate of Asians is the lowest among the races in Pierce County, contrary to King County, where it is significantly higher. Figure 45 shows significant increases over time in the number of white employees on both counties. The other groups did not experience such growth, with the exception of Asian employees in King County, whose numbers increased steadily and significantly over the last two decades.

Figure 43: Labor force participation rates by race in King county and Pierce county



Source: ACS

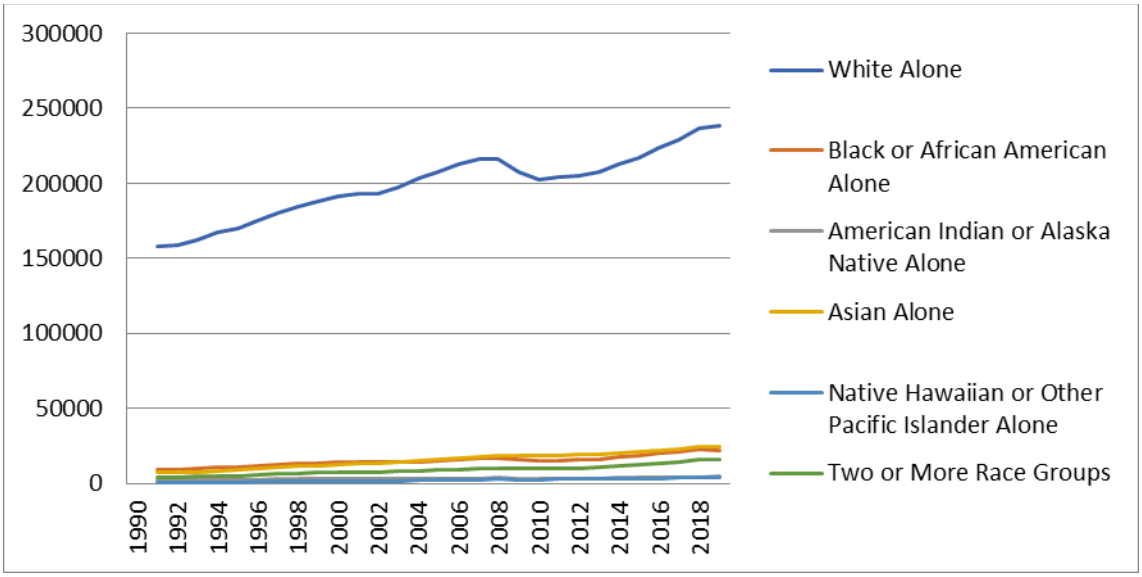
Figure 44: Employment ratios by race in King county and Pierce county



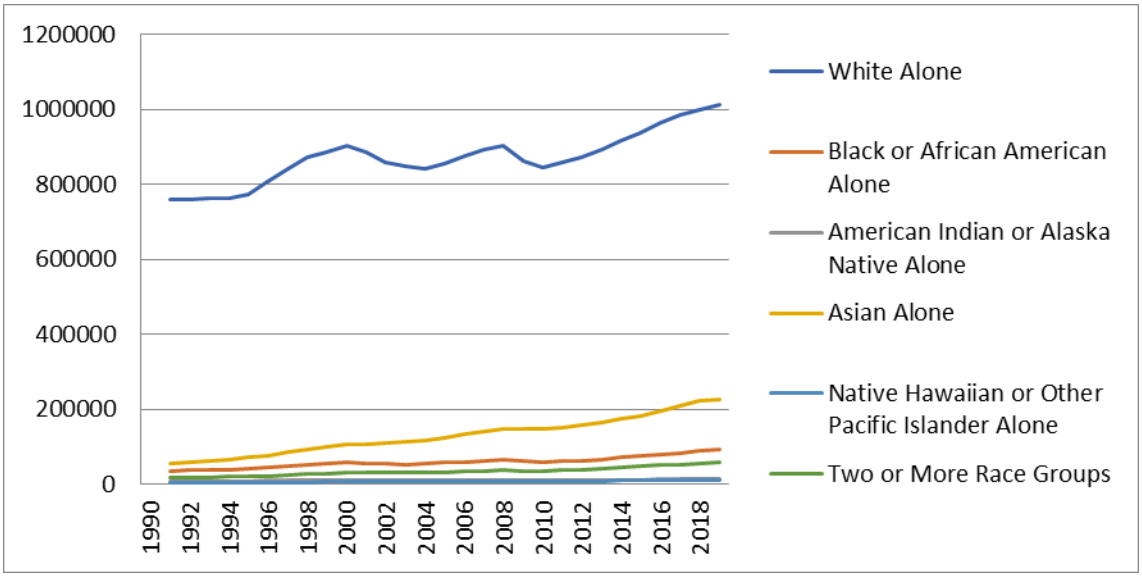
Source: ACS

Figure 45: Trends over time in total employment by race in King county and Pierce county

Pierce county



King county

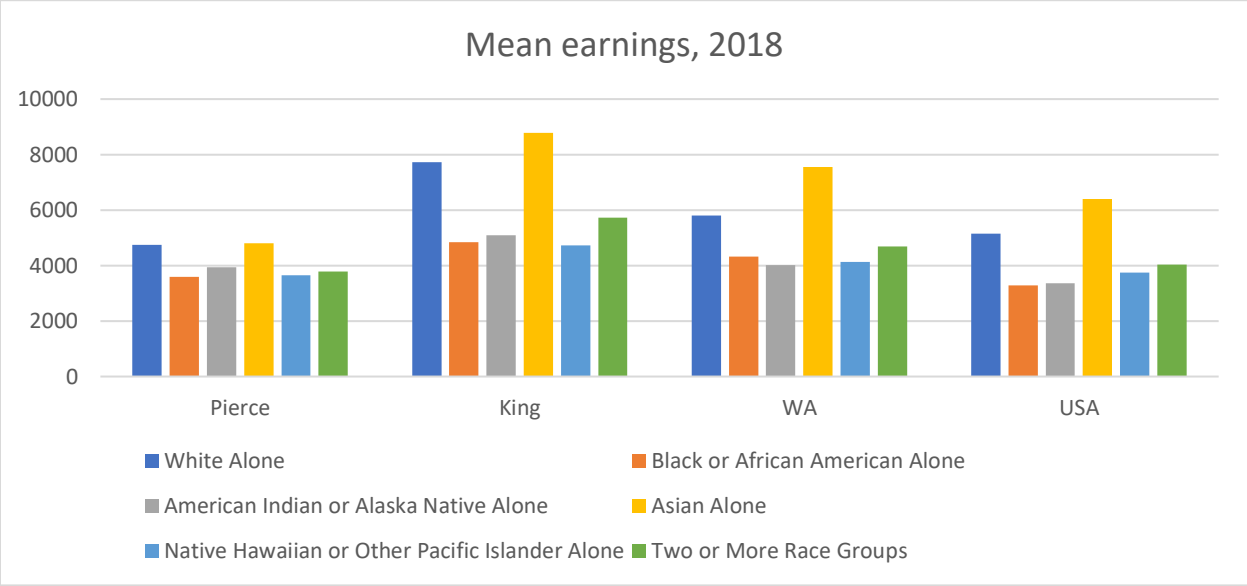


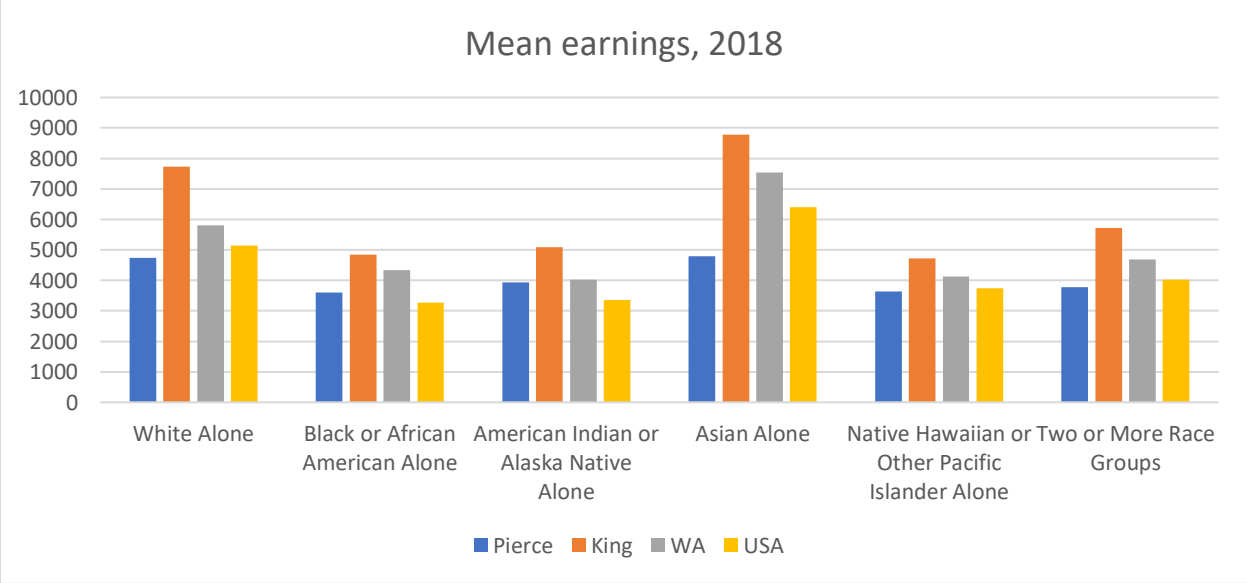
Source: LEHD

In terms of racial inequalities in mean earnings, Figure 46 depicts the same statistics grouped along two different dimensions. The first panel shows earnings grouped by geographic area. We can see that whites and Asians earn more than other groups in both Pierce and King Counties, as well as the entire state and at the national level. However, their earnings advantage is especially pronounced in King County, where Asians earn almost twice as much as Blacks and African Americans do. The second panel allows us to compare the earnings of each group among geographic areas. We can see that the earnings of every group

are higher in King County compared to Pierce County, as well as the state and national level. However, the advantage of white and Asian employees is especially large. The significant earnings advantage of Asians is present even at the national level.

Figure 46: Mean earnings by race in King county and Pierce county





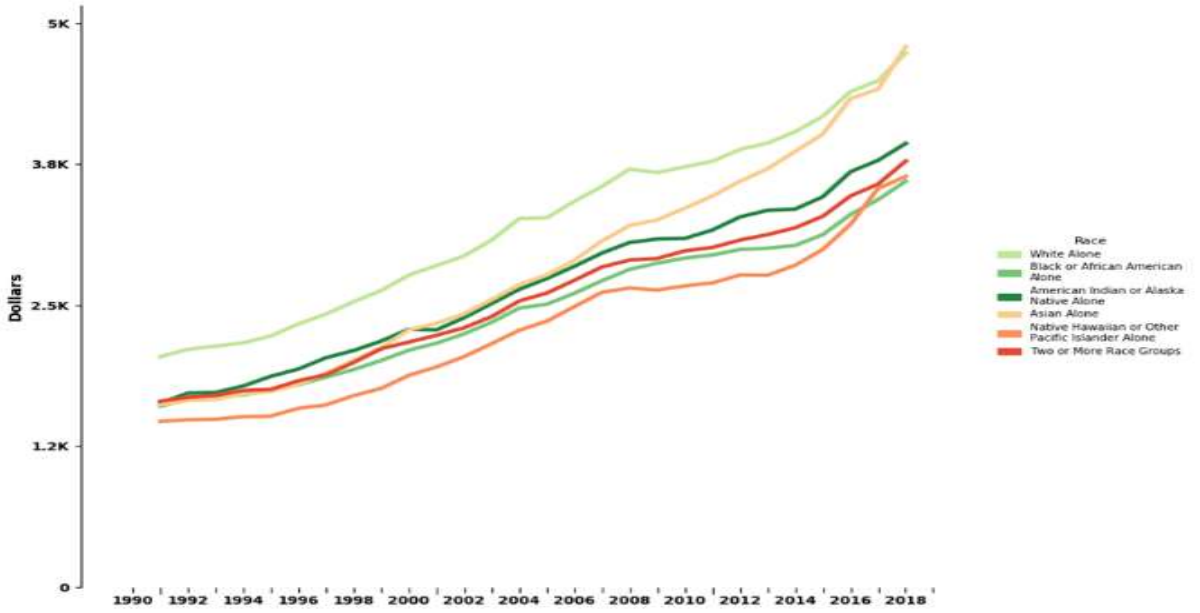
Source: LEHD

The trends over time shown in Figure 47 show that in Pierce County, the earnings gap between white residents and other groups remained steady, with the exception of the earnings of Asians, which caught up. In King County, the earnings of Asians caught up to and surpassed that of whites, while the gap for

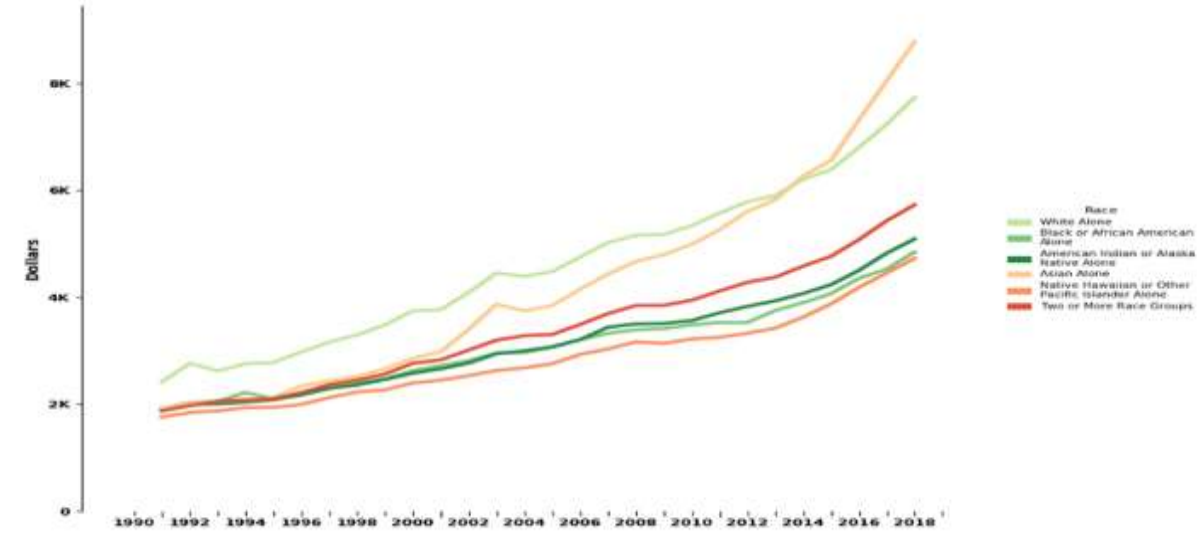
other groups increased. At the national level, we see even stronger changes in the same direction: the earnings of Asians increased well above that of whites, while that of the other groups fell further behind.

Figure 47: Trends over time in mean earnings by race in King county, Pierce county, Washington state, and the US

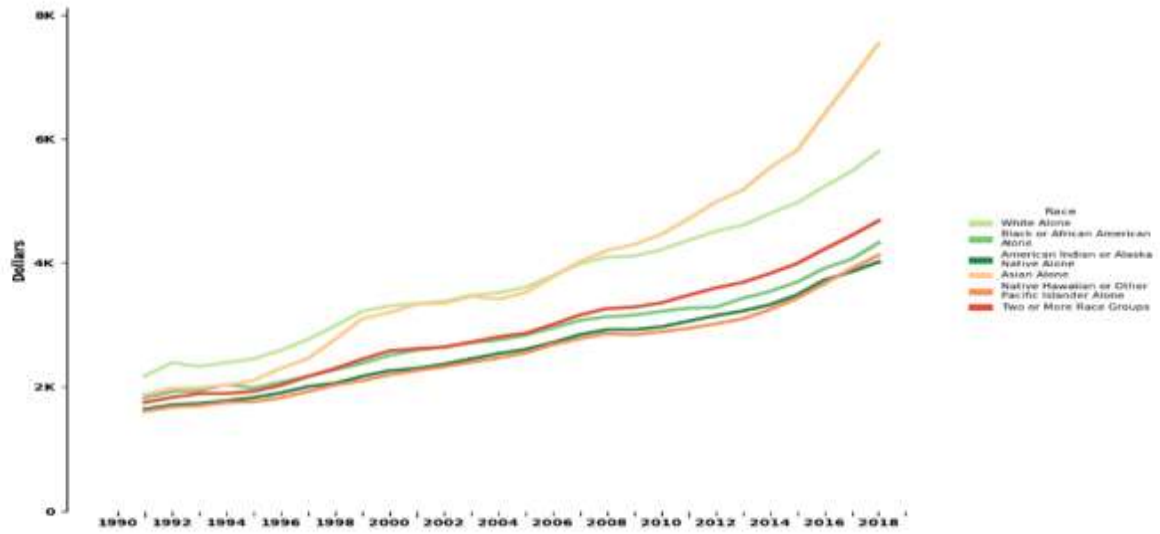
Pierce County



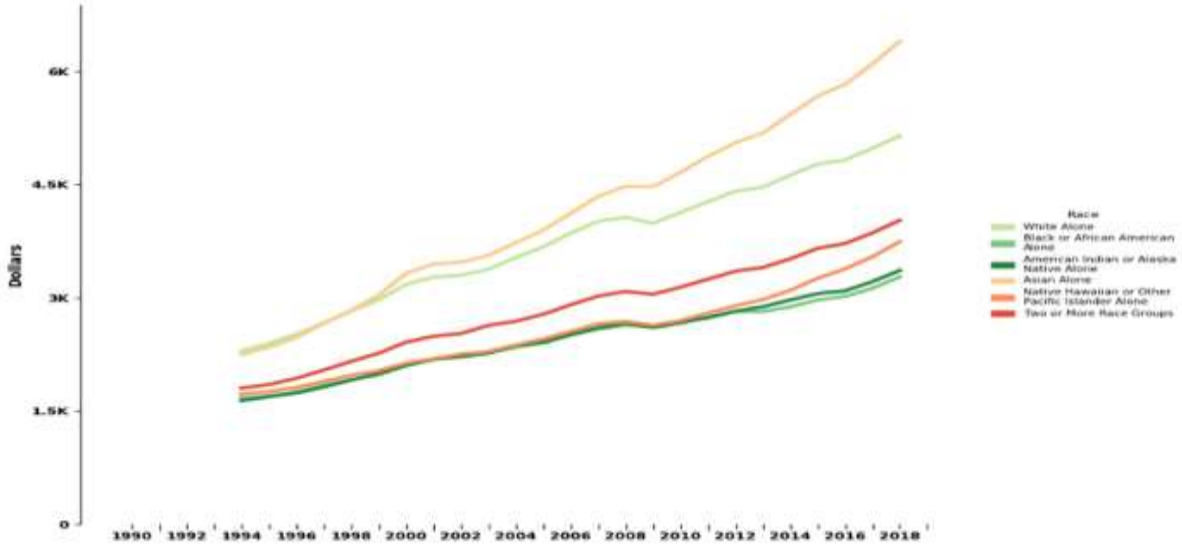
King County



Washington state



United States

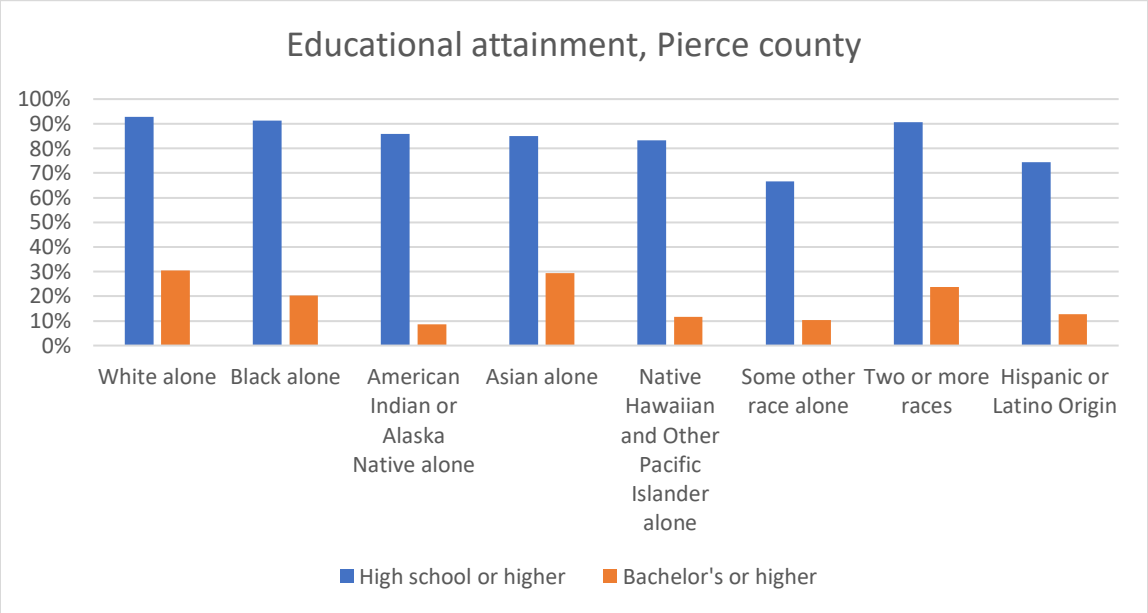


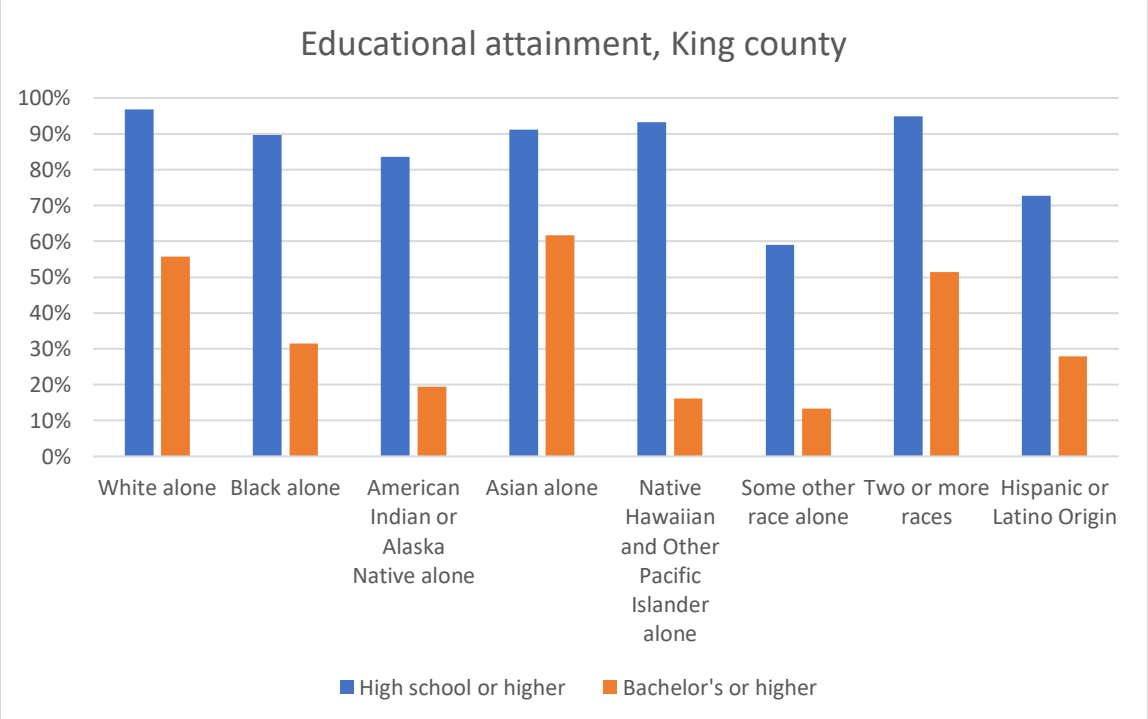
Source: LEHD

Turning to factors that impact the groups' labor market inequalities, Figure 48 summarizes the educational attainment of the two counties by race. In Pierce County, we can see that the highest ratio of those with a high school diploma or higher is among whites. Blacks and African Americans, as well as those of two or more races have similar ratios (90-92%), while the rate among Hispanics is significantly lower (74%). Whites and Asians have higher ratios of those with higher education. In King County, by contrast, whites have higher ratios with high school education or higher. The ratios of those with higher education are

generally higher in King County, however, this is especially true for whites and Asians, whose rates are around 55 and 60% respectively. The high ratio of highly educated white and Asian residents is in line with the findings of higher earnings among these groups in King County.

Figure 48: Educational attainment by race in King county and Pierce county

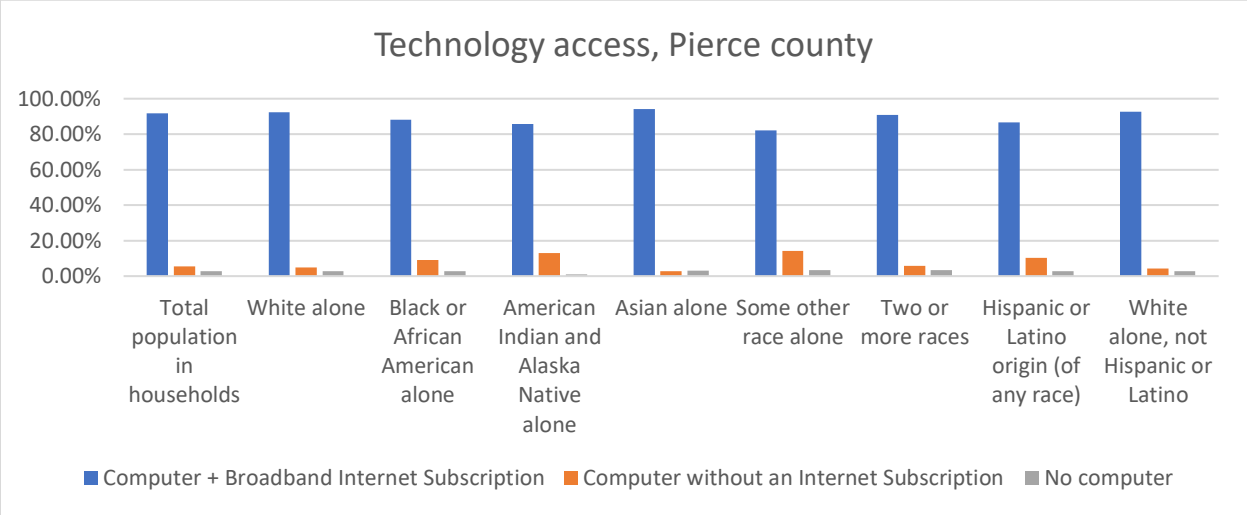


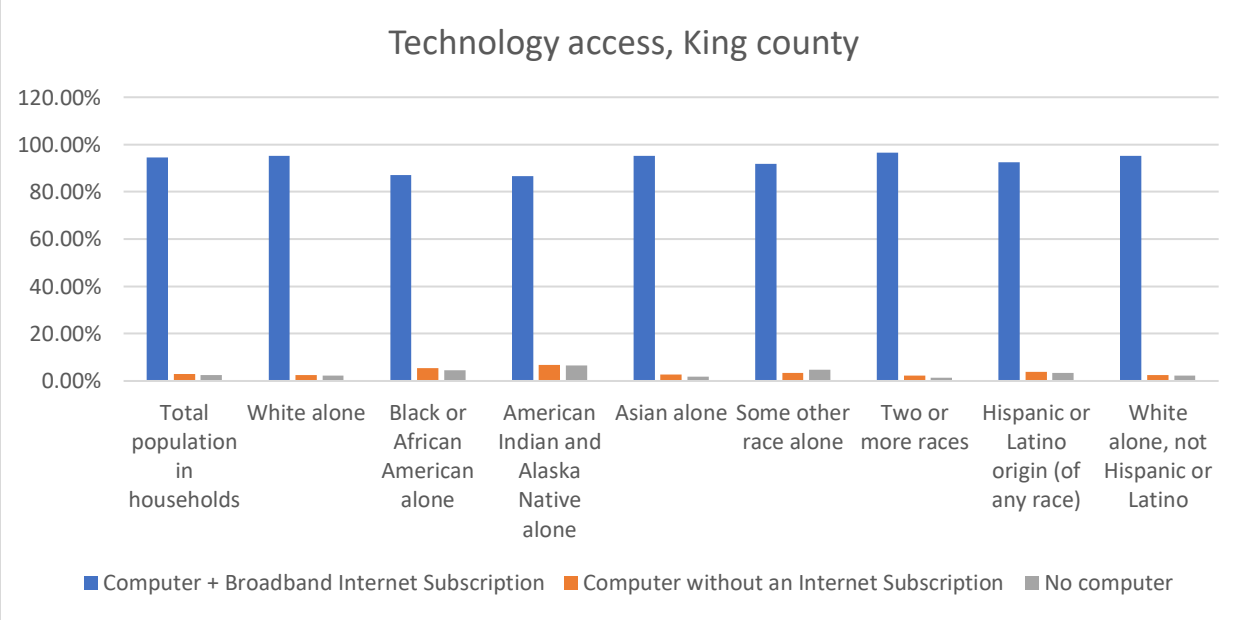


Source: ACS

Finally, Figure 49 depicts one measure that can capture the significant differences in the disadvantages of certain groups, specifically, their access to computers and internet. We can see that in general, more King County residents have access to technology, compared to Pierce County. Blacks and African Americans, American Indians, and Hispanics or Latinos have lower access to computers and broadband internet in both counties. Access to such technology is an important determinant of schooling success and job market skills. This became especially clear during the recent lockdowns due to the Covid 19 pandemic, so it will be important to study the impact on groups with different access.

Figure 49: Access to technology by race in King county and Pierce county





Source: ACS

Summary

In terms of labor market outcomes by race, we could see evidence of the higher unemployment of Blacks and African Americans in both counties. In Pierce County, Asians have lower employment, but in King County, their employment has increased significantly over the last decade. Whites and Asians earn higher compared to the other groups in both counties and nationally, but their advantage in King County is particularly large. In Pierce County, the ratio of individuals with high school education or higher is relatively stable across racial groups, but it is significantly lower among Hispanics and Latinos. The ratio of those with higher education is lower for all groups in Pierce County compared to King County. There is also more disparity in this measure by race: whites and Asians have significantly higher ratios of those with a Bachelor's degree or higher. These differences contribute to the earnings inequalities. Looking at access to technologies (computer and broadband internet), we can also see some of the underlying disparities that impact the groups' labor market opportunities from a young age. Blacks and African Americans, American Indians, and Hispanics or Latinos have less access, which may be an important source of disadvantage in schooling and later on.

Future avenues for research

This report provides a wide set of statistics available for measuring inequalities in labor market outcomes and factors in Pierce County, and for comparing them to other geographic areas and over time. It can provide the basis for important future research that focuses on the key issues, and examines them in depth. An important next step would be to study the underlying causes of inequalities prior to and within the labor market, in a sort of "life path analysis." This would include focusing more on trends over time, as well as more detailed gender and race subgroups.

Some sample questions that could be analyzed include:

- Investigating the role of unions on inequalities. This would be based on further data collection locally, as well as further utilization of the Census data sources, which include information on union membership.
- Investigating the labor market situation of birth date cohorts: how has their situation changed over time?
- For racial inequalities, we plan to create further statistics – similarly to what was presented in the gender section – with a special focus on pre-labor market factors. For example, what determines the education level different groups attain, and how do they fare within education levels?
- In terms of gender inequalities, we plan to focus more on how field of study and occupational choices have changed over time, and how these changes impacted the gender gaps in employment and earnings. A second factor that is crucial to gender gaps and needs further study is the role of parenthood childcare opportunities.
- Once data becomes available, it will be interesting to study the impact of the Covid pandemic on inequalities by gender and race. Studies from other countries have already shown that women were impacted more negatively by the economic recession, but these impacts are likely to vary by county as well, due to the differences in industrial structure.
- We can study the dynamics of the relationship between major urban economic "hotspots" and the surrounding areas. How did the economic boom in Seattle impact the population in Pierce County over time? This question could be studied using comparisons over time of the labor market situation of demographic subgroups. Later, the analysis could be extended to a more general analysis of the dynamic relationship between urban areas driving the economy and their surrounding areas in the whole US, looking at how the effects of booms and recessions in the economic centers overflow to the surrounding areas.

References

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