

Data Analysis Module I

Part 2: Race and Ethnic Inequality

This data analysis module is a modified version (with permission) of Chapter 2 in William Frey and Cheryl First (1997) book entitled *Investigating Change in American Society*.

Learning Objectives

After using this module, students will gain skills in:

- Using software to access and analyze census data
- Identifying independent and dependent variables
- Employing control variables
- Learning how to construct, read, and interpret bivariate tables displaying frequencies and percentages
- Creating visual tools representing quantitative data in the form of charts or graphs
- Identifying population trends over time
- Using real world data to enhance and support key course concepts

The population of the United States is becoming more racially and ethnically diverse. This increasing diversity is an important issue because it is changing the cultural, political, and economic landscape of American life. Our schools, workplaces, legislatures, and national character are constantly being shaped by this growing diversity. Consequently, race/ethnicity issues concern the entire nation, not just the members of minority groups.

Before examining the similarities and discrepancies between different race/ ethnic groups, it is necessary to gain a historical perspective. Various events in America's past have contributed to the current state of race/ethnic inequality in the United States. The legal oppression of African-American slaves and the implementation of Jim Crow laws set the stage for this inequality. However, in the mid-twentieth century, this unjust and discriminatory treatment began to be challenged and vigorously opposed by many. In this context, the Civil Rights Movement began.

The Supreme Court decision in *Brown v. Board of Education* served as one of the starting points of this movement. The ruling determined that separate facilities for blacks were inherently unequal and that segregation was no longer constitutional. Although this was a significant victory for the supporters of the Civil Rights Movement, the battle had not yet been won. Another triumph came with the passage of the Civil Rights Act of 1964. This act determined that the nation would no longer recognize legal distinctions based upon race, color, creed, or national origin in the workplace. Any employer who did not honor this newly established equality would be in violation of United States law.

Today, the movement's struggle is embodied in the creation and implementation of Affirmative Action programs, which apply to several ethnic groups. These programs have increased minorities' access to colleges and workplaces by enforcing specific and compulsory admittance and hiring guidelines.

Although some people may feel Affirmative Action programs are unjust, few can deny that these programs have done a great deal for the diversification of America's workplaces and educational institutions. While keeping these historical events in mind, you will look at the similarities and discrepancies between different race/ethnic groups in terms of educational attainment, occupations and earnings. Over time, all race/ethnic groups have experienced increased education levels, more occupational choices, and higher earnings. However, the rate of these gains varies between race/ethnic groups. After seeing the gaps between race/ethnic groups, you will consider why these discrepancies exist. As you work through the following exercises, consider whether we have made much progress towards race/ethnic equality since the Civil Rights Act of 1964. What evidence of racial discrimination still remains in society today?

Key Concepts

Race/Ethnicity – Identifies the major ethnic groups, combining the race and Hispanic-origin classifications used by the Census Bureau based on a person's self-identification.

Non-Latino White (NLWhite) – all persons who indicated their race as white and not of Latino origin.

Black – all persons who indicated their race as black.

Latino (Hispanic Origin) – persons of white or "other" races who identified themselves as Mexican, Puerto Rican, Cuban, or Other Spanish/ Hispanic. This category can refer to ancestry, nationality group, lineage, or country of birth of the person's parents or ancestors before their arrival in the U.S.

Asian (Asian or Pacific Islander) – includes all persons who indicated their race or ethnicity as Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, Cambodian, Hmong, Laotian, Thai, or Other Asian. Also includes persons who indicated their race as Hawaiian, Samoan, Guamanian, or other Pacific Islander.

American Indian (American Indian, Eskimo, or Aleut) – all persons who classified themselves as American Indian, Eskimo, or Aleut.

Other (NLOther) – includes persons who indicated other in the race classification and are not of Latino origin. This category also includes people who identified themselves as interracial, multiracial, multiethnic, mixed, or Wesort.

NOTE: The RACE and RACELAT variables in the datasets often combine some of these categories. (For example, RACELAT5 combines the category of American Indians with Other.)

Latino Groups – Hispanic-Origin persons of any race can be specified based on their self-identification for the census according to the following categories: Mexican, Puerto Rican, Cuban Central American, South American, and Other (variable LATINO6 in datasets).

Asian Groups – Persons indicating specific race or ethnicity as: Chinese, Japanese, Filipino, Korean, Indian, Vietnamese, or Other Asian (variable ASIAN7 in datasets).

Education – The highest level of school completed or the highest degree received.

<9 Years – persons who have completed less than 9 years of schooling.

9-12 Years – persons who have completed 9-12 years of schooling but have not graduated from high school.

High School Graduate – persons who have graduated from high school

Some College – persons who have completed some years of college or attained an Associate Degree.

College Graduate – persons who have graduated from college

Master's Degree – persons who have completed an MA, MS, MEd, MSW, MBA, or other similar degree.

Ph.D. or Professional Degree – persons who have completed a doctorate level degree (Ph.D, Ed.D) or professional school degree (MD, DDS, DDM, LLB, JD)

NOTE: The EDUC variables in the datasets sometimes combine these categories. For example, the category "CollGrad" in variable EDUC4 refers to persons who have a college degree or more education.

Occupation – The classification system for this category has changed over the years. It includes all employed workers, and, in its simplest form, divides them into the following:

Top White Collar - professional writers, executives, administrators, and managers

Other White Collar – administrative support, clerical and sales workers, technicians, and related support.

Service – private household, protective service, and other service workers

Top Blue Collar – "skilled blue collar" jobs such as precision production, craft, and repair workers.

Other Blue Collar – workers in less skilled blue collar jobs Farm workers in farm, forestry, and fishery occupations.

NOTE: The OCCUP variables in the datasets sometimes combine these categories. For example, the variable OCCUP5 combines the farm category with Other Blue Collar. The variable OCCUP4 combines Top Blue Collar, Other Blue Collar, and Farm with Blue Collar.

Earnings – money a person makes from working, as wages, salary, or a form of self-employment, expressed as an annual amount.

A. Education and Race/Ethnicity

Over the last few decades, the educational attainment of all race/ethnic groups in the United States has increased steadily. Several factors have led to this increase. First, the mandate for compulsory education for children under the age of sixteen contributed to an increase in the percentage of high school graduates. The court ruling in *Brown v. The Board of Education* also served as an influential force by increasing access to public education for black children. Since the 1950s, federal education initiatives have increased school opportunities for new cohorts of young adults. Affirmative action policies helped to provide higher education opportunities that were previously unavailable to many minority students. In addition to legal mandates, changes in the United States economy and industrial structure have influenced changes in educational needs and levels. As our society moves from a manufacturing-based industrial economy into an age of technology and information, higher education has become the key to entry into stable, well-paying jobs.

Still, educational attainment has not increased for all race /ethnic groups at an equal rate. In this section, you will examine trends in educational attainment since 1950 and current race/ethnicity gaps. As you

work through the exercises, consider why the educational attainment of race/ethnic groups has not increased at an equal rate.

Instructions for opening up a data set:

1. Go to <http://www.ssdan.net/datacounts>
2. Click on the “Data” in the menu bar
3. From there, click “Browse” on the left sidebar. Find the specified folder in the drop-down box and select it.
4. Scroll down through the list of data sets until you find the dataset you want. Highlight and click “submit.”
5. Then, use the Marginals function to display marginal frequencies for all the variables contained in the file. (NOTE – always look over the marginals to familiarize yourself with the variables and how they are coded).
6. Return to the “Browse” page and then click “reset.” Type in the next data set.

NOTE: If you are unable to see all of the output, use your arrow keys to scroll up or down in the WebCHIP interface.

Exercise 1 – Using data from 1950 to 1990, examine changes in the percentage of the U.S. population with less than a high school degree. Create a line graph and describe the overall trend. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: centrend/educ5090.dat

Instructions for Crosstabs:

1. Select Educ as the row variable, Year as the column variable
2. Create a percentages down table (percentages in each column should add to 100)

Exercise 2 – Using data from 1950 to 1990, examine changes in the percentage of the population who have graduated from college. On the same graph used in Exercise 1, draw the trend line for college graduates. Describe the overall trend. How does this trend compare to the findings for those with less than a high school degree? Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: centrend/educ5090.dat

Exercise 3 – Compare the educational attainment trend for blacks and non-blacks from 1950 to 1990. In what ways are the trends similar and different? In this exercise you are controlling for race. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: centrend/educ5090.dat

Instructions for Controlling for a Third Variable:

1. Select Educ as the row variable, Year as the column variable

2. Select race as a control variable
3. Click to create a percent down crosstab

Exercise 4 – Using 1990 data, look at the educational attainment of people in each race /ethnic group. Create a table with “less than high school degree” and “college graduate or more” as rows and each race/ethnic group as columns. Describe the differences between groups and give possible explanations. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: cen1990/educimm9.dat

Discussion Questions

1. How might you explain the educational attainment changes you saw over time?
2. What do you think are some reasons for the race/ethnicity gaps in educational attainment? Can you think of any factors which have affected certain race/ethnic groups' educational opportunities?

B. Occupation and Race/Ethnicity

The past decade has witnessed great changes in the race/ethnicity composition of occupations in the U.S. labor force. Many occupations traditionally held by white males are gradually becoming more representative of the entire U.S. population. Minorities are filling more managerial and professional positions. In addition, the increased levels of education have improved the overall occupational status of minorities.

However, minorities are still faced with barriers to advancement. They are often clustered in the lower-status occupations and many continue to be discriminated against in hiring and promotions. Consequently, as doors seem to be opening for minorities, they often encounter closed doors farther along the career path. Many corporations have "glass ceilings" which prevent minorities from attaining executive positions.

In the following exercises, you will look at the race/ethnicity composition of several occupational categories and determine how this distribution has changed since 1950. You will also look at the 1990 race/ethnicity distribution of doctors and lawyers in an effort to gauge how many minorities have prestigious occupations.

Exercise 5 – Using data from 1950 to 1990, examine the percentage of the population in each occupational category. Create a line graph and describe the trends for blue collar and service occupations. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: centrend/edoc5090.dat

Exercise 6 – Using data from 1950 to 1990, examine the level of educational attainment in each occupation category. Create a table using this output. What are the most notable patterns? Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: centrend/edoc5090.dat

Exercise 7 – Using data from 1990, examine the relationship between earnings and race for lawyers. What percentage of non-latino whites make \$100,000 or more? What are the percentages for blacks and latinos? Provide an explanation for these differences? Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: cen1990/lawyers9.dat

Discussion Questions

1. What is the connection between a person's educational attainment and occupation? Do you think that gender and race/ethnicity affect the relationship between education and occupation?
1. How do you think the historical events of this century have affected the overall occupational distribution? Think about changes in the percentage of people in blue collar jobs between 1950 and 1990. What trend do you see in this category? Why do you think that there have been changes in the types of jobs people have?

C. Earnings Inequalities

Earnings rose moderately for most minority groups in the 1980s. Despite this increase, a gap between the earnings of whites and minorities still exists. Many argue that this gap is due to the lower education levels and different occupational distribution of minorities. However, even when education levels and occupations are the same, differences among groups still remain. In this section, you will examine earnings differences among race/ethnic groups with similar levels of education and occupations.

Exercise 8 – Using 1990 data, create a bar chart showing the percent of each race/ethnic group earning less than \$15,000 a year. Describe any significant differences. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: cen1990/earn9.dat

Exercise 9 – Using 1990 data, create a bar chart showing the percent of males and females earning less than \$15,000 per year. Describe any significant differences. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: cen1990/earn9.dat

Exercise 10 – Using 1990 data, examine the relationship between earnings and race/ethnicity while controlling for gender (see Exercise 3 for instructions). Create a bar chart showing the percent earning less than \$15,000 per year for each of the following groups – white males, white females, black males, black females, Latino males, and Latino females. Use the instructions above, or click [here](#) to open the dataset in WebCHIP.

Data: cen1990/earn9.dat

Discussion Questions

1. What earnings differences exist between race/ethnic groups?
2. How does Exercise 10 illustrate the importance of examining the intersection of race/ethnicity and gender?

Concluding Questions

1. In order to better understand social stratification and social inequality in the U.S., we must examine the relationship between education, occupation, and earnings. Describe how this module has expanded, supported, or changed your understanding of this relationship.
2. Do the trends you observed support the optimistic view that race is a factor of declining significance, or do your results indicate that further gains have to be made before such optimism is justified? Explain.