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Kids Count Data Project

Module 4 Education and Children in the United States

Key concepts

High school drop out rate

Poverty rate

Juvenile Arrest Rate for violent crime

Juvenile Arrest Rate for Property Crime

Single Parent Household Rate

Percent of Teens Not Attending School and Not Working

Teen Birth Rate

Rate of Teen Deaths

Correlation

Scatterplot

Ranking

Hypothesis

Variables

Learning Objectives

Skill

After the completion of this module, the learner should be able to:

- State a hypothesis
- Explore and Examine the relationships between various indicators in KIDS COUNT data
- Use KIDS COUNT data to make a scatterplot and rank data.
- Interpret data presented in both table and graphic form.
- Define the various indicators(variables) used in the module

Substance

- Discuss the relationship between the dropout and other indicators in the United States and Ohio.
- Discuss the relationship between education and other social problems in the United States.
- Demonstrate critical thinking skills and use of the sociological imagination.

Learner's name _____

Pre-Assessment

1. What factors do you think are related to teenagers dropping out of high school? Why?
2. What major social problems do you think are related to teenagers dropping out of high school? Why?
3. What areas of the country do you believe have the most educational problems? Why?
4. How do you think Ohio does compared to other States? Why?

Exploration #1

Go to the Kids Count web site (<http://www.kidscount.org/datacenter/>) click on 2002 Kids Count Data Book online and look at how “percent of teens who are high school dropouts” varies across states. To do this, follow these steps:

1. Click on “Maps”;
2. Select “Percent of teens who are high school drop outs” as the indicator;
3. Follow the rest of the steps (use the most recent data available).

Looking at the map, how does Ohio compare to other states in terms of the percent of high school dropouts? You can click on the states on the maps to find out rankings.

Now examine the actual rankings of the states on this indicator. To do this, follow these steps:

1. Click on “Rankings”;
2. Select “Percent of teens who are high school drop outs” as the indicator;
3. Follow the rest of the steps;
4. Use the most recent data available (1999); (5) Do not choose region.

List below the 5 States with the highest drop out rates:

- 1.
- 2.
- 3.
- 4.
- 5

List the below the 5 States with the lowest drop out rates:

- 1.
- 2.
- 3.
- 4.
- 5.

Were you surprised by the above findings? Why or Why not?

Exploration #2 CORELLATIONS AND CAUSATIONS

Social Scientists as well as all educators are very interested in trying to understand the factors related to teenagers dropping out of high school. Why do some teenagers stay in high school and why do some drop out? Hopefully, by understanding this information, various educational and programs can be developed to help decrease the numbers of teenagers dropping out of high school.

In this exploration, you as a researcher will be exploring the relationship between the dependent variable ***Percent of teenagers dropping out of high school*** and two independent variables(indicators) **Percent of children in poverty** and **Percent of families with children headed by a single parent** .

In order to examine these relationships, you will need to use the KIDS COUNT DATA set in a different format. Now go to <http://www.ssdan.net/kidscount/data.shtml>. Click on download United States data. This will open the Microsoft Excel Program using KIDS COUNT data (When the screen appears, there will be a messaging asking if you want to enable macros, you can click on enable macros).

This analysis tool enables you to examine the strengths of relationships between variables. One measure of the strength of relationships between variables is called the correlation coefficient. The correlation coefficient can vary from -1.0 to $+1.0$. If the correlation coefficient equals $+1.00$ this means the two variables are perfectly related to one another in a positive direction; in other words, if one variable increases, the other one increases by a corresponding amount. If the correlation coefficient equals -1.00 this also means the two variables are perfectly related to one another, but in a negative direction; if one variable increases, the other variables decreases by a corresponding amount. A coefficient of 0 means there is no relationship. Use the following Correlation Coefficient Key to help you decide about the relationships between variables:

$+ .70$ or higher= Very strong positive	$- .70$ or higher= Very strong negative
$+ .40$ - $+ .69$ =Strong positive	$- .40$ to $- .69$ = Strong negative
$+ .39$ =Moderate positive	$- .30$ to $- .39$ = Moderate negative
$+ .20$ to $+ .29$ = Weak positive	$- . 20$ to $- .29$ =Weak negative
Less than $+ .19$ = Little to no relationship	Less than $- .19$ =Little to no relationship

Keep in mind if there is a negative sign in front of the coefficient, this means it is a negative relationship. An increase in one variable causes a decrease in the other variable. Otherwise, the relationship is positive, an increase in one variable causes an increase in the other. You will be using this information to examine the relationships between variables.

You are now ready to examine the relationship between dropping out of high school to several other variables. For this exploration, Percent of Teenagers Who Drop out of High School will be our dependent variable (the x variable). This is the variable we want to examine in more depth. The other two variables will be the independent variables. Let's begin examining the relationships:

Relationship 1—DROPOUT and POVERTY

Click on Chart

On the Chart, in the area where it asks for the X variable scroll down to **DROPOUT**. Then for the Y variable scroll down until you find **Poverty** (Choose 1999 for both). You will immediately see the scatterplot on the screen. You can click Charts and Rankings below to examine the actual data that created this scatterplot. In order to go back to scatter plots, just click on charts.

What seems to be the relationship between the two variables? Explain (Keep in mind the above chart of correlation coefficients)?

Relationship 2—DROPOUT AND SINGLE PARENTS:

Keep your X variable the same now choose **Percent of Families Headed by Single Parent** (Choose 1999 for both). Explore the charts and rankings use your mouse.

What seems to be the relationship between the two variables? Explain (Keep in my the above chart of correlation coefficients)?

Exploration #3 Correlations and Consequences

Now, let's examine the consequences of teenagers dropping out of high school. In other words, you will be examining Dropping out of high school as an Independent Variable rather than a dependent variable.

Relationship1—Dropping Out and Teen Birth Rate:

You need to click on Chart to get back to the screen to choose your indicators. This time, **DROPOUT** should be your y variable (Your independent variable) and choose **TEEN BIRTHRATE** as your x variable (Your dependent variable).

What hypothesis will you be examining using the above information?

What seems to be the relationship between the two variables? Explain (Keep in mind the above chart of correlation coefficient)?

Relationship 2—Dropping Out and Teen Deaths

Now examine whether or not the Percentage of Teenagers Drop Outing of School is related to an increase in Teen Deaths. Again, choose **DROPOUTS** as your y variable and **TEEN DEATHS** as your x variable.

What seems to be the relationship between the two variables? Explain (Keep in mind the above chart of correlation coefficient)?

Relationship 3—Dropping Out and Arrest Rate for Juvenile Violent Crime

Now examine whether or not the Percentage of Teenagers Drop Out of School is related to an increase in Teen Deaths. Again, choose **DROPOUTS** as your y variable and **Violent Crime** as your x variable.

What seems to be the relationship between the two variables? Explain (Keep in mind the above chart of correlation coefficients)?

Go back and look at all the relationships you examined in this exercise, what appears to be the strongest relationship? Why do you think this relationship appears to be strong?

What suggestions would make for social policy makers based on the findings of this module?

Final Question:

Go back and choose 5 other indicators to correlate with DROPOUT. List the indicator below and the correlation coefficient you found.

Indicator 1 _____ Coefficient _____

Indicator 2 _____ Coefficient _____

Indicator 3 _____ Coefficient _____

Indicator 4 _____ Coefficient _____

Indicator 5 _____ Coefficient _____

What surprised you most about the findings from the final question? Explain.

Learner's name _____

Post-Assessment

1. What factors do you think are related to teenagers dropping out of high school?
2. What social problems are related to teenagers dropping out of high school?
3. How does data help researchers understand social problems?