

Education

This module focuses on education and child well-being.

1. Begin by going to the KIDS COUNT web site (<http://www.kidscount.org>) and click on “Kids Count Data Book Online” and see how “percent of teens who are high school dropouts” varies across states.
 - Click on map and choose “percent of teens who are high school dropouts” as your indicator and click on next step
 - Choose the most recent year for which data is available and go on to next step
 - a. Eyeballing the map, which region or regions of the country have a higher percentage of school dropouts?
 - b. Click on ranking and repeating the steps of choosing an indicator and year, determine which state has the highest rate of school dropouts and record the percentage for that state. Note that you should skip the step of choosing a region since we are interested in all 50 states.
 - Record which state(s) has the best (in this case lowest percentage) ranking and the percentage for that state.
 - Record which state(s) has the worst (in this case highest percentage) ranking and the percentage for that state.
 - Subtract the low from the high percentage to determine the range of variation for “Percent of Teens Who Are High School Dropouts.”

State Ranking	Percent of teens who are high school dropouts
(Best)	
(Worst)	
Variation (High – Low Percent)	

2. Examine “percent of teens who are high school dropouts” as a trend over time.
 - First, click on line graphs

- Choose the United States, Minnesota and one other state. You might consider choosing one of the worst or best-ranked states as a comparison.
 - Choose the Percent teens who are high school dropouts indicator
 - Graph data from 1990-1999
 - a. Describe the overall national trend. Was there an increase, decrease, or did it stay the same. Nationally are we experiencing more or less teen dropouts?
 - b. Describe the trend for Minnesota and the other state chosen. Do these state trends differ from the national trend? Describe any similarities and differences.
3. Conflict theorists argue that education *reproduces* the class system stacking the deck against the lower class. Specifically they argue that funding local schools with local property taxes means areas where people are richer (hence higher property values) results in higher property taxes and better school funding. Poor neighborhoods provide fewer dollars from local property taxes and thus are not as well funded. Poorly funded schools provide a discouraging environment for children with less materials for books, computers, poorly maintained physical space, and most importantly, are not as able to compete for talented and committed teachers. Children may give up on these schools believing they have nothing to provide them.
- a. Write a hypothesis stating the relationship you predict between poverty and teen dropouts.
 - b. To test the relationship between the percent children living in poverty and the dropout rate, open the excel file called "tool_us.xls."
 - Make a scatter plot by using the pull down menu
 - Let x be Poverty ("percent of children living in poverty 1999") and y be Dropouts ("teen of teens who are high school dropouts 1999")
 - Cut and paste the plot into a Word file and record the correlation coefficient.

- c. Write an interpretation of the correlation coefficient. See below for an explanation of the correlation coefficient.
- d. Are there any data points that seem to stand out --not part of the cluster of data points? These are called outliers. Click on an outlier to see which state is represented.
- e. Was the hypothesis confirmed? Explain your answer

Correlation Coefficient Explanation:

The correlation coefficient or Pearson's r is a measure of the degree of linear association existing between two variables. We want to pay close attention to both the direction and strength of the association. A positive correlation is indicated by the absence of a negative sign and means that variables are changing in the same direction. An increase or decrease in one variable corresponds to the same change in another variable. For example, we would expect that the more time a student studies for an exam (x) the higher the exam score (y). A negative relationship is indicated by a minus sign and means that as one variable increases there is a corresponding decrease in another variable. The strength of a relationship is indicated by the numeric value of the coefficient. Coefficients range from 1.0 to -1.0 . These values are examples of perfect correlations. In reality most values are found in between 1.0 and -1.0 . Correlations of .30 or less (either + or -) are considered weak, .31 - .70 (either + or -) are deemed moderate and .71 and above (either + or -) considered strong. These are not absolute rules but should be used as a guide in interpretation. Note that the higher the correlation coefficient (either positive or negative), the more closely clustered the data points are in the shape of a diagonal line.

- 4. Health issues also impact educational outcomes. We know that low birth weight (defined as babies weighing less than 2,500 grams or about 5.5 pounds) is linked to developmental delays in children which impacts school performance. To some extent this is also linked to family economics but other factors are also relevant such as the increase in multiple births (twins and triplets weigh less than babies in single births) due to fertility drugs.

- a. Develop a hypothesis accessing the relationship between low birth rate babies (x) and percent of fourth graders scoring below basic math level (y).
 - b. Test this relationship using the Kids Count Data Analysis Tool.
 - Make a scatter plot by using the pull down menu
 - Let x be LowBirthWeight (“percent low weight babies 1991”)and y be %4thGradersScoringBelowBasicMathLevel (“Percent 4th graders scoring below basic math level 2000.”) Children born before September 1st 1991 would have been 4th graders in 2000. While we know that not all low birth babies recorded in a state in 1991 ended up in those states’ public schools in 2000, some of those children did stay and may have impacted math performance.
 - Cut and paste scatter plot into word file and record the correlation coefficient.
 - Interpret your findings.
5. Economics may not only impact teen drop put rate but may also impact child learning.
- a. Develop a hypothesis accessing the relationship between “percent children living in poverty” (x) and Percent 4th graders scoring below basic reading.
 - b. Test this relationship using the Kids Count Data Analysis Tool.
 - Make a scatter plot by using the pull down menu
 - Let x be Poverty (“percent children living in poverty 1998”) and y be %4thGradersScoringBelowBasicReadingLevel (“Percent 4th graders scoring below basic reading 1998.”)
 - Cut and paste scatter plot into word file and record the correlation coefficient.
 - Interpret your findings.