

Educational Characteristics



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CDC 103 – Lecture 8 – April 1, 2012



Educational Characteristics

- One may justifiably ask why educational characteristics should be addressed in a demography course?
- There are several answers to this question:
- First, researchers routinely use educational measures in the examination of demographic events and processes - particularly fertility, mortality, and migration.
- Second, educational characteristics are often the focus of demographic studies.
- For example, causes and consequences of different educational attainment are standard topics for demographers.





Educational Characteristics

- Researchers trying to understand social structure and processes of stratification routinely use major demographic variables such as race, gender, and age to examine educational differences.
- Third, the demography of educational characteristics is fundamentally linked to public policy.
- For example, policy makers rely on such demographic information in the formation and evaluation of civil rights policies, and gender equity efforts.
- In addition, the educational characteristics of states and communities are routinely used in funding formulas to distribute public funds.



Educational Characteristics

- School Enrollment
- Educational Progression
- Literacy
- Educational Attainment



School Enrollment

School Enrollment (School Attendance)



- According to the United Nations (UN), school enrollment refers to *enrollment in any regular accredited educational institution, public or private, for systematic instruction at any level of education during a well-defined and recent time period.*
- For the purposes of the International Standard Classification of Education, education includes all systematic activities designed to fulfill learning needs.
- Instruction in particular skills, which is not part of the recognized educational structure of the country (e.g., in-service training courses in factories), is not considered “school enrollment” for this purpose.



School Enrollment (School Attendance)

- **Sources of Data:**
- Most national censuses of population include some form of inquiry for measuring educational characteristics.
- Internationally, the United Nations Educational, Scientific and Cultural Organization (UNESCO) collects school enrollment data from administrative agencies of United Nations member countries.
- It has published the data in an annual statistical yearbook since 1963.
- The UNESCO *Statistical Yearbook* is arguably the most widely used source for international education data, partly because it allows for comparisons of countries with widely different educational systems..



School Enrollment (School Attendance)

- **Measuring School Enrollment:**
- Crude Enrollment Ratio.
- General Enrollment Ratio.
- Age-Specific Enrollment Ratio.
- Level-Specific Enrollment Ratios



School Enrollment (School Attendance)

- **Crude Enrollment Ratio:**
- The first measure, the crude enrollment ratio, is calculated as follows:

$$\frac{E}{P} \times 100$$

where E = Total enrollment at all levels and ages
 P = Total population



School Enrollment (School Attendance)

- **General Enrollment Ratio:**
- The previous measure includes all population. However, not all of them are school age.
- In calculating the General enrollment ratio, population who are not in school age are excluded from the denominator.
- The dominator includes only population in the school age, usually from 5 to 34 years old.
- The General enrollment ratio, is calculated as follows:

$$\frac{E}{\sum_{a=5}^{34} P_a} \times 100$$

where E = Total enrollment at all levels and ages

$\sum_{a=5}^{34} P_a$ = Population 5 to 34 years of age



School Enrollment (School Attendance)

- **Age-Specific Enrollment Ratio:**
- Comparisons based on crude or even general enrollment ratios may be misleading because age distributions differ from one population to another.
- Age-specific enrollment ratios are better measures of effective enrollment than crude or general enrollment ratios because they focus on particular ages or age groups.
- The age-specific enrollment ratio is calculated as follows:

$$\frac{E_a}{P_a} \times 100$$

where E_a = Enrollment at age a
 P_a = Population at age a



School Enrollment (School Attendance)

- **Level-Specific Enrollment Ratio:**
- Level-specific enrollment ratio attribute enrolled population to their associated level of education.
- The level-specific enrollment ratio is calculated as follows:

$$\frac{E_l}{P_a} \times 100$$

where E_l = Enrollment at school level l
 P_a = Population in age group a corresponding to school level in the numerator



Educational Progression



Educational Progression

- Measures of educational progression reflect how students move through the educational system.
- For example, the following transition points can be observed in the Egyptian education system:
 - 1. From preschool to primary (elementary) school
 - 2. From primary to preparatory (middle school)
 - 3. From preparatory to secondary school (high school)
 - 4. From secondary school to undergraduate university (or equivalent)
 - 5. From undergraduate to graduate

Educational Progression



- We can also examine progression through school, grade by grade.
- The proportions of students that make the transitions just outlined provide useful information about the educational system in a country or about a population subgroup.

Educational Progression



- **Measuring Educational Progression :**
- Crude (central) dropout rate
- Age-specific drop out ratio



Educational Progression

- **Crude dropout rate:**
- The *crude (central) dropout rate* describes the “proportion” of students who leave school each year without having completed a high school program.
- This measure treats dropping out as a specific event that occurs during a specific period, usually one school year, and expresses the number of such events in relation to total enrollment.
- The crude dropout rate is calculated as follows:

$$\frac{D_y}{E} \times 100$$

where D_y = Number of dropouts (events) in year y
 E = Total enrollment at the beginning or middle of year y

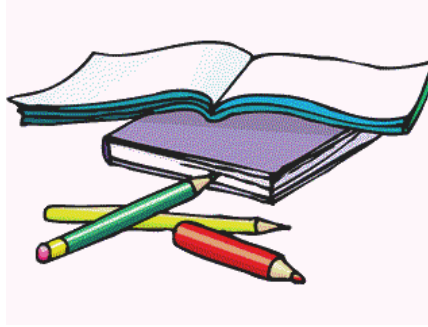


Educational Progression

- **Age-specific drop out ratio:**
- The *age-specific dropout ratio* measures the total number of dropouts among all young adults within a specified age range.
- The age-specific dropout ratio is calculated as follows:

$$\frac{D_{al}}{P_a} \times 100$$

where D_{al} = Number of nonstudents in age group a who have not completed educational level l
 P_a = Population in age group a



Literacy



Literacy

- Measuring the literacy of a population has become increasingly important as developed countries move from labor economies to information- and technology-based economies.
- The literacy levels of countries can be closely related to the country's economic performance.



Literacy

- **Measuring Literacy:**
- Crude illiteracy ratio.
- Age-specific illiteracy ratio.



Literacy

- **Crude (general) illiteracy ratio:**

$$\frac{I}{P} \times 100$$

where I = Number of illiterates in population covered
 P = Total population covered

- An age range - usually 10 years and over or 15 years and over
- needs to be specified.



Literacy

- **Age-specific illiteracy ratio:**

$$\frac{I_a}{P_a} \times 100$$

where I_a = Number of illiterates in age group a
 P_a = Population in age group a



Educational Attainment



Educational Attainment

- Educational attainment is a critical measure of education, particularly in more developed countries.
- As the economies of these countries became more technically sophisticated, their workforce needs moved beyond basic literacy.
- As a result, more detailed measures of educational performance - measures that reflect what people get out of the educational system - have become more widely used.
- According to the United Nations, educational attainment is the highest level of education completed in the country where the education was received.



Educational Attainment

- **Cumulative grade attainment ratio:**

$$\frac{C_a^{g+}}{P_a} \times 100$$

where D_a^{g+} = Persons at age a who completed grade g or beyond

P_a = Population at age a

- This measure indicates the proportion of a population at age a that has completed a given grade (or level) of school or beyond, or the proportion that has ever completed that grade (or level). For example, the ratio may be computed for the population 25 to 29 years of age that had ever completed high school or college.



Educational Attainment

- **Mean years of school completed:**
- The mean years of school completed can be defined as the average years of school completed by all persons in a population reporting years of school completed.



End of Course of Population Size