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ABSTRACT

Through a series of four successfully field-tested activities, secondary students examine the changing age structure of the U.S. population and consider some of the implications for the future as the proportion of elders increases and the proportion of youth declines. In the first activity "Age/Sex Pyramids," students use population census data to construct age/sex pyramid graphs for the years 1960, 1975, and 2000. "Age Dependency Ratio" is examined in the second activity. Students compute age-dependency ratios for each of the age/sex pyramids and discuss possible effects on society. The age-dependency ratio is a number value that indicates the proportion of nonproducing numbers in a population compared to all members of that population. In an evaluation exercise for the first two activities, students are required to construct an age/sex pyramid for Mexico, demonstrating their comprehension of the objectives of the first two activities, in a cross-cultural setting. The third activity deals with the "Economics of Aging." Students examine data on the economics status of the elderly with a focus on social security and discuss alternative plans for meeting the future needs of the elderly. "How Would You Vote?" is the topic of the fourth activity. In a simulation game, students play the roles of elders making economic and political decisions and examine how shifts in population from one age cohort to another affect the political climate. The third and fourth activities are evaluated through a test and an oral review. Teachers' materials, transparencies, and student handouts are provided for each activity. (Author/RM)

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DEMOGRAPHICS OF AGING:

IMPLICATIONS FOR THE FUTURE

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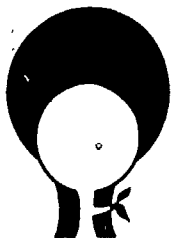
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INTRODUCTION

The world is experiencing a longevity revolution. Throughout the globe, mortality rates, especially for infants and the young, are declining sharply as medicine, sanitation and nutrition improve. As life expectancy increases and more people live out their full life spans, the number of elderly people in virtually all societies is on the rise. However, the specific patterns of change in the age structure of the population vary considerably from one country to another due to such factors as birth rate and migration.

While it is impossible to make accurate predictions about age structure in the distant future (as centuries from now), it is possible to make reasonable predictions about the near future (as the next few decades), because this will be determined mainly by the numbers of living people in each generation today. Statistics and projections for the near future for the United States reveal some very significant shifts in the age/sex structure which will present a challenge to many of our society's basic institutions, policies, and procedures.

In this unit, through a series of four activities, students examine the changing age structure of the United States population and consider some of the implications for the future as the proportion of elders increases and the proportion of youth declines. The four activities are:

Activity 1: Age/Sex Pyramids. Students use population data to construct age/sex pyramid graphs for the years 1960, 1975 and 2000.

Activity 2: Age Dependency Ratio. Students compute the "age dependency ratios" for each of the age/sex pyramids and discuss possible effects on society.

Evaluation: Activities 1 and 2. By constructing an age/sex pyramid for Mexico, students demonstrate their comprehension of the objectives of the first two activities, in a cross-cultural setting.

Activity 3: Economics of Aging. Students examine data on the economic status of the elderly with a focus on Social Security and discuss alternative plans for meeting the future needs of the elderly.

Activity 4: How Would You Vote? In a simulation game, students play the roles of elders making economic and political decisions and examine how shifts in population from one age cohort to another affect the political climate.

Evaluation: Activities 3 and 4. In a test and oral review, students demonstrate mastery of the objectives of Activities 3 and 4.

For ease of use, the materials for each activity are organized in the following order:

- teachers' materials (overview, objectives, materials needed, advance preparation, estimated teaching time, guidelines by day)

- transparencies (where required)
- student handouts (numbered consecutively throughout the unit).

This unit has been successfully field tested in the classroom in an elective course on population studies for students in grades 11 and 12. The format is presented exactly as it was used in the classroom, but this is not to suggest that teachers should necessarily replicate the unit precisely as it is set forth here. The procedures for each activity have been listed as "guidelines" in recognition of the fact that teachers may wish to condense or expand the unit based on the needs of the students and the time available for dealing with the topics. Activities 1 and 2 may be used independently of Activities 3 and 4, but it is recommended that all four activities be used as a single unit, since the first two activities alone fail to expose the student to the economic and political realities of growing older in an aging society. We hope that you will find the format useful, but not regard it as a straitjacket for teaching and learning about the demographics of aging.

ACTIVITY 1: AGE/SEX PYRAMIDS

Overview:

Students construct three age/sex pyramids of the United States population for the years 1960, 1975 and 2000 based on census data with projections for the future. Students recognize in the graphs the shift of the American elderly (age 65 and over) from a small minority to a larger minority and a concomitant reverse trend of the American young (age 18 and under) from a larger minority to a smaller one. This information provides the basis for further consideration of social, economic, and political implications of the "graying" of America.

Objectives:

At the conclusion of this activity, students will be able to:

1. Construct an age/sex pyramid given the population cohort data in percentage form.
2. Identify major shifts in cohort population by comparing age/sex pyramids for different time periods.
3. Hypothesize about future implications for society that may result from shifts in age/sex structure.

Materials needed:

For each student:

- a. Handout #1: "Directions for Setting up an Age/Sex Pyramid"
- b. Handout #2: "Data for Use in Constructing Age/Sex Pyramids"
- c. Three sheets of graph paper
- d. One pencil and one ruler

For the teacher:

- a. Overhead projector and screen
- b. Transparency, "Age Structure of the U.S. Population in the 20th Century" (page 1-4) (Source: Population Reference Bureau)

Advance preparation:

Make copies of Handouts #1 and #2 and obtain three pieces of graph paper per student.

Prepare transparency of page 1-4.

Estimated teaching time:

2 class periods

Guidelines, Day 1:

1. Distribute to students Handouts #1 and #2 and three sheets of graph paper.
2. Explain the following terms:

age/sex pyramid

A graphic representation of a population based on age and sex

age cohort

An age period of usually five years (e.g. age 25 to age 29)

percentage

A numerical percentage of the total

vertical

Running from top to bottom

horizontal

Running from left to right

3. Review the directions for the construction of an age/sex pyramid found in Handout #1.
4. Explain the use of data on Handout #2 to complete the graphs.
5. Have students complete an age/sex pyramid for the year 1960 using one sheet of graph paper. Circulate through the room providing help where needed, but avoid doing the task for them.
6. Assign the completion of age/sex pyramids for the years 1975 and 2000 as homework to be completed before the next class period.

Guidelines, Day 2:

7. Project the transparency, "Age Structure of the U.S. Population in the 20th Century," so that students may determine whether they have constructed their pyramids accurately.
8. Ask students to examine the six pyramids shown on the transparency (for the years 1900, 1940, 1960, 1970, 1975, 2000) and discuss the following questions:
 - a. What general trends can be seen in the age structure of American society between 1900 and 2000?
Students should recognize that the proportion of older people in society is greatly increasing while the proportion of youth is declining.
 - b. What changes are taking place in the ratio of males to females in the population?
Students should recognize that statistically females are outliving males and represent a higher proportion of the population, especially at the upper age levels.
 - c. How is the "baby boom" of the 1950's affecting the age structure of the population?
Students should recognize that the bulge of children shown on the pyramid for 1960 is climbing upward through adolescence and young adulthood in 1970 and 1975 to a middle-age bulge in the year 2000.
 - d. Why does a second bulge appear (on the age/sex pyramid for the year 2000) for the age cohort following about twenty years after the "baby boom" bulge?
As females born during the baby boom of the 1950's reach their child-bearing years, this produces a "baby boom echo," a period in which again a significantly larger number of babies is born.

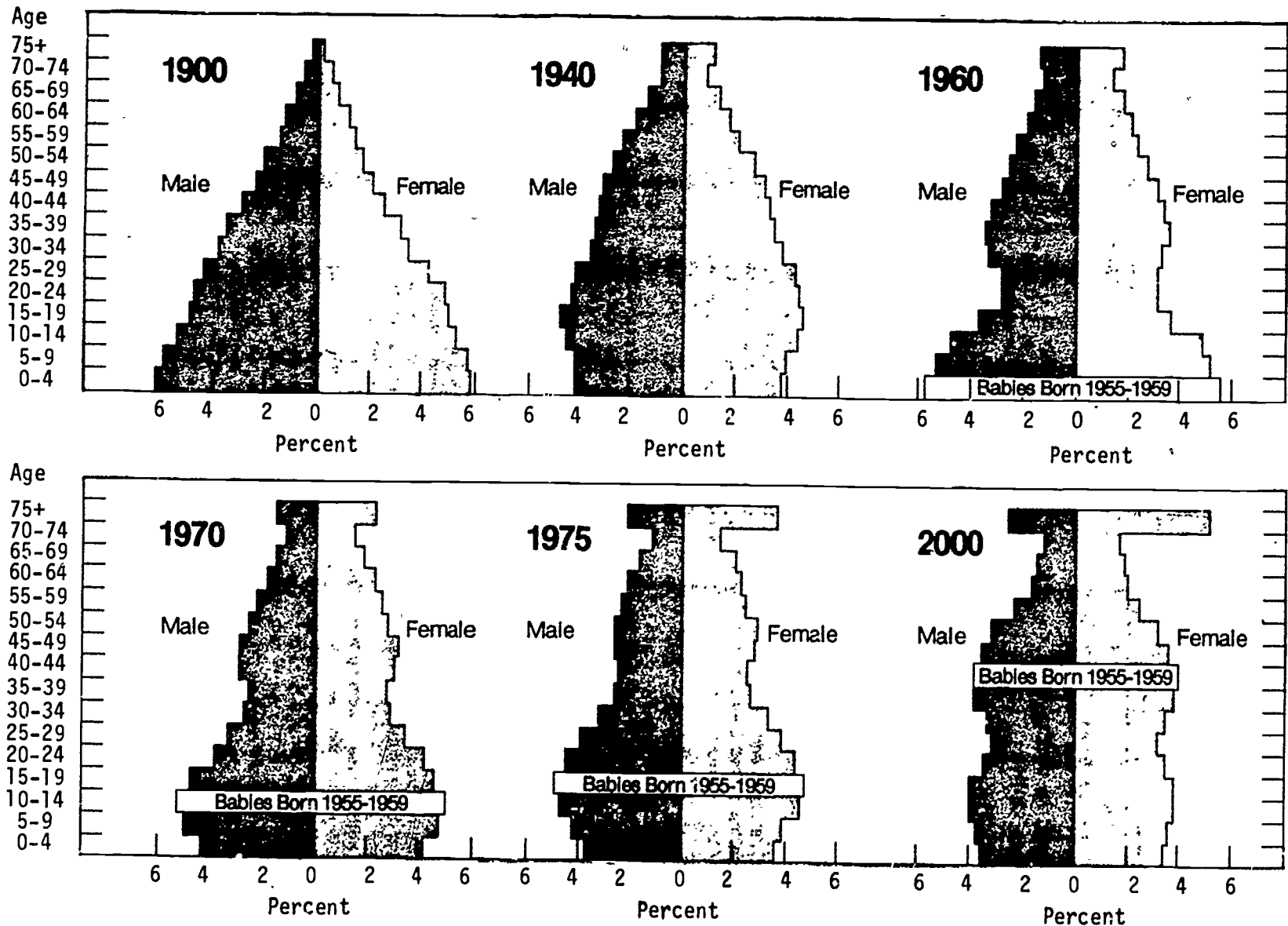
e. What factors might explain the changes in age/sex structure in the American population?

Students might mention such factors as changes in birth rate, medical care, sanitation, nutrition, immigration, etc.

f. What implications might these trends have for the future in terms of the economy, government, family, and relations between old and young?

Responses will vary considerably, but the point is to raise student consciousness about important issues of the future related to changing age/sex structure. What changes will take place in the types of goods produced and the way in which they are advertised? Will people work longer and retire later? What will happen to the basic nuclear family as grandparents and great-grandparents become more common? Will institutions of society and government become dominated by the interests of the "old" more than the "young"? Hypothetical questions such as these should be encouraged as a way of opening up discussion about the future.

Age Structure of the U.S. Population in the 20th Century



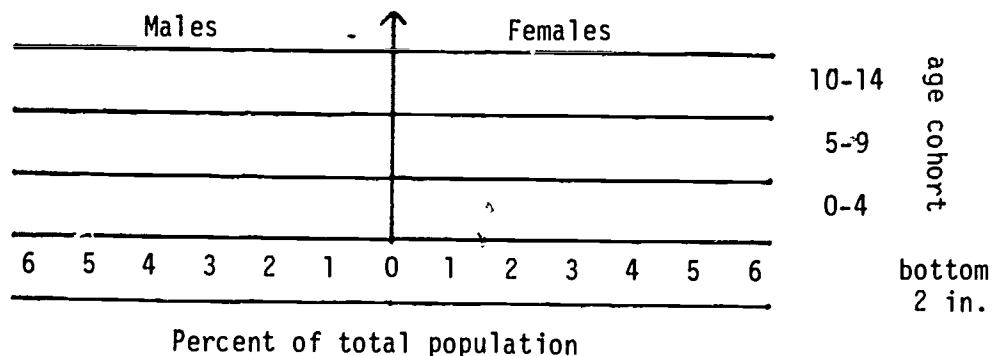
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1-4

Handout #1: Directions for Setting Up an Age/Sex Pyramid

Each age/sex pyramid should be constructed on one side of a sheet of graph paper. Examine the diagrams and read the directions carefully. Ask for help if you need it, but only after trying to work it out yourself.

Figure A: General scheme of an age/sex pyramid. (See steps 1-5 below.)



Directions:

1. Place the graph paper on the desk so that the length of the paper extends from left to right and the shorter width from top to bottom.
2. With your pencil, darken the line that starts at the midpoint of the top of the graph paper and extend it vertically downward toward the bottom of the graph paper. Stop at approximately two inches from the bottom.
3. With your pencil darken the horizontal line of the graph paper that extends from left to right and is two inches from the bottom.
4. Let each two vertical spaces represent one age cohort (five years). Start with the two bottom spaces and let them represent age cohort 0-4. Continue this procedure moving up the paper and ending with age cohort 75+. (This final band, representing all people age 75 and over, is much wider since it includes a number of five year age cohorts.) Label each cohort on the far right of the graph paper.
5. On the bottom axis, which runs left to right, place your percentages. (Note that the darkened midline to the right represents females, and from the midline to the left represents males.) Starting from the darkened vertical midline, move two spaces to the right and let this

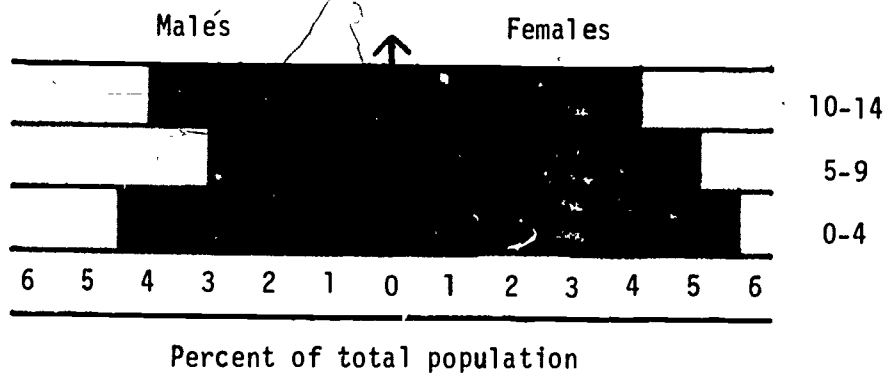



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represent 1% of the population. Move two more spaces and let this represent 2% of the population. Label every other line one additional percent until you reach the line that indicates 6%. To the left of the vertical midline repeat this procedure for the male population.

Figure B: Segment of a Sample Age/Sex Pyramid. (See steps 6-7 below.)



6. First plot the male data on the left of 0, then the female data on the right side. (Use only the data for one year as you construct each pyramid, starting with the year 1960.) For age cohort 0-4 shade in the bottom horizontal band from the darkened midline to the 5.75% point on the right side of the bottom axis. Using the data from Handout #2, continue this process for all of the female cohorts, then for all of the male cohorts, until the pyramid is complete.
7. Follow all of the steps above to complete age/sex pyramids for 1975 and 2000, using a new sheet of graph paper for each. On each of these pyramids mark your own age cohort band with diagonal lines ().



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Handout #2: Data for Use in Constructing Age/Sex Pyramids

Percentages for each age cohort represent percentage of total United States population. (Note: Because they have been "rounded off," the columns will not add up to exactly 100%.)

Age Cohort	1960		1975		2000	
	% of total male	% of total female	% of total male	% of total female	% of total male	% of total female
0-4	5.75	5.75	3.75	3.50	3.50	3.50
5-9	5.25	5.25	4.25	3.75	3.75	3.75
10-14	4.75	5.00	4.75	4.25	4.00	4.00
15-19	3.75	3.75	5.00	4.75	4.00	4.00
20-24	2.75	3.00	4.50	4.50	3.50	3.50
25-29	2.75	3.00	4.25	3.75	3.25	3.25
30-34	3.25	3.25	3.25	3.25	3.50	3.75
35-39	3.50	3.75	2.75	2.75	4.00	4.00
40-44	3.00	3.50	2.50	2.50	4.00	4.25
45-49	2.75	3.00	2.75	2.75	3.50	3.50
50-54	2.50	2.75	2.75	3.00	3.25	3.25
55-59	2.50	2.50	2.25	2.75	2.25	2.50
60-64	2.00	2.25	2.00	2.50	1.75	2.00
65-69	1.75	2.00	1.75	2.25	1.50	1.75
70-74	1.50	1.75	1.25	1.25	1.25	1.50
75+	1.75	2.00	2.25	3.75	2.75	5.00



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ACTIVITY 2: AGE DEPENDENCY RATIO

Overview:

Students apply an "age dependency ratio" formula to interpret their age/sex pyramids developed in Activity 1. Use of the age dependency ratio helps students to visualize the ratio of people who are essentially consumers to those who are essentially producers, and how this ratio is changing as the age structure of society shifts to an older population. A follow-up worksheet is used to analyze the results and provide a basis for further discussion of the implications of the changing age/sex structure.

Objectives:

At the conclusion of this activity, students will be able to:

1. Calculate the age dependency ratio, given the percentages of the total population for each age cohort.
2. Explain that changes in the age structure of a population affect the ratio of consumers to producers within the society.
3. Describe anticipated shifts in the age dependency ratio for the United States and possible implications for society.

Materials needed:

For each student:

- a. Handout #3: "Calculating Age Dependency Ratio"
- b. Handout #4: "Interpretation of Age Dependency Ratio"
- c. Handout #2 from Activity 1: "Data for Use in Constructing Age/Sex Pyramids"

For the teacher:

- a. Transparency of Handout #3, page 2-4
- b. Overhead projector and screen

Advance preparation:

Make copies of Handouts #3 and #4. Prepare transparency of page 2-6.

Estimated teaching time:

2 class periods

Guidelines, Day 3:

1. Distribute to students Handouts #3 and 4. Remind students that Handout #2 from Activity 1 is needed to calculate the age dependency ratio.
2. Review with the class the directions for calculating age dependency ratios on Handout #3.
3. Explain to the class that the correct age dependency ratio factor that includes the young is actually age 18 and under. Our cohort tables (Handout #2) necessitate that we include age 19. Therefore, the computed values for the age dependency ratio are very slightly greater than they should be. However, the relative value of one age dependency ratio compared to another is correct.

4. Have the students calculate the age dependency ratio for the year 1960 in class. Direct the students to complete the age dependency ratio for the years 1975 and 2000 and also complete Handout #4 as an overnight assignment.

Guidelines, Day 4:

5. Show the class the transparency of Handout #3 which includes the correct calculated values. The students can now determine if their computed values are correct.
6. Direct the students to review their responses to the questions of Handout #4. Proceed through each of the questions, allowing students to briefly discuss their responses. Be sure that the following ideas are mentioned for each question:
 1. What has happened to the age dependency ratio from the year 1960 to the year 2000?
It has declined, but only slightly. There is no substantial change.
 2. What has happened to the Set I factor in the age dependency ratio from 1960 to 2000?
It has decreased. There are 39 young persons per 100 Americans in 1960 to 31 young persons per 100 Americans in 2000.
 3. What has happened to the Set II factor in the age dependency ratio from 1960 to 2000?
It has increased. There are 11 elderly persons per 100 Americans in 1960 to 14 elderly persons per 100 Americans in 2000.
 4. Is America shifting from an older to a younger society? Explain.
No, the reverse is happening. There will be more elderly persons than young persons per 100 Americans as we approach the beginning of the 21st Century.
 5. In what year will you and your fellow classmates become members of the elderly group?
By the year 2030 most present day high school juniors and seniors will be over 65 years old.
 6. What do you predict will happen to the Set II factor of the age dependency ratio by the year 2030?
It will increase and may be as high as 25 elderly persons per 100 Americans by the year 2030.
 7. What is happening to the average life expectancy as each generation is born?
It is increasing. Those born in the year 1900 have an average life expectancy of 50 years. Those born in 1980 have an average life expectancy of 71. (Higher for females, lower for males.)
 8. From your calculated data, are there more elderly females than males?
Yes, by 1990 there will be about 65 elderly males for every 100 elderly females in the American population.

9. How many years is a person a member of the Set I factor in the age dependency ratio?

18 or 19 years.

10. How many years is a person a member of the Set II factor in the age dependency ratio?

It varies from 0 to over 35 years. Presently in America, there are 17,000 centenarians (people 100 years or older).

11. What are some factors that may increase or decrease the percent of the Set II factor in the age dependency ratio of the future?

Medical advances have extended longevity and more people survive to an old age. Immigration to America by older individuals has increased. Note also that the trend of earlier retirement from work may cause a redefining of those individuals who are no longer "contributors" to the economy. Perhaps age 55 will be the customary retirement age in 2030. Conversely, economic factors may force people to retire at a later age, thus decreasing the Set II factor.

12. In a brief paragraph, summarize what is happening to the age dependency ratio in the United States and explain why this might be important for the future.

Ask students to share their general conclusions with the class or, if preferred, collect the papers and anonymously read samples of the responses. In this wrap-up discussion, it is important that students do not leave the lesson with the idea that the age dependency ratio literally describes the roles of age groups in the society. The following are some points that should be brought into the discussion by the teacher, if not by the students:

a. *People, regardless of age, are both producers and consumers. The question is only one of degree, a question of how much a person produces compared with how much the person consumes. Since the young and elderly are less likely to be involved in full-time employment, they are regarded in the ratio as "dependent." However, there are obviously many young people who are regularly employed and making a significant economic contribution to society, just as there are many people in the middle age groups who are unemployed and are primarily consumers.*

b. *Without consumption, there would be no production. To say that someone is a consumer means that the person, by using goods and services, is creating a work role for others who are producing goods and services. In other words, consumers create jobs. Also an economic contribution is not the only kind of contribution one may make to society. Therefore, the statistical use of age groups in age dependency ratios should not be taken to imply that the old or the young are simply a "burden" to society.*

Calculating Age Dependency Ratio

AGE COHORT	1960		1975		2000	
	% OF TOTAL MALE	% OF TOTAL FEMALE	% OF TOTAL MALE	% OF TOTAL FEMALE	% OF TOTAL MALE	% OF TOTAL FEMALE
0-4	<u>5.75</u>	<u>5.75</u>	<u>3.75</u>	<u>3.50</u>	<u>3.50</u>	<u>3.50</u>
5-9	<u>5.25</u>	<u>5.25</u>	<u>4.25</u>	<u>3.75</u>	<u>3.75</u>	<u>3.75</u>
10-14	<u>4.75</u>	<u>5.00</u>	<u>4.75</u>	<u>4.25</u>	<u>4.00</u>	<u>4.00</u>
15-19	<u>3.75</u>	<u>3.75</u>	<u>5.00</u>	<u>4.75</u>	<u>4.00</u>	<u>4.00</u>
SET I	<u>19.50 +</u>	<u>19.75</u>	<u>17.75 +</u>	<u>16.25</u>	<u>15.25 +</u>	<u>15.25</u>
65-69	<u>1.75</u>	<u>2.00</u>	<u>1.75</u>	<u>2.25</u>	<u>1.50</u>	<u>1.75</u>
70-74	<u>1.50</u>	<u>1.75</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.50</u>
75+	<u>1.75</u>	<u>2.00</u>	<u>2.25</u>	<u>3.75</u>	<u>2.75</u>	<u>5.00</u>
SET II	<u>5.00 +</u>	<u>5.75</u>	<u>5.25 +</u>	<u>7.25</u>	<u>5.50 +</u>	<u>8.25</u>

1960 A.D.R. = $\frac{\text{SET I} + \text{SET II}}{100\%} = \frac{39.25 + 10.75}{100\%} = 0.50$

1975 A.D.R. = $\frac{\text{SET I} + \text{SET II}}{100\%} = \frac{34.00 + 12.50}{100\%} = 0.465$

2000 A.D.R. = $\frac{\text{SET I} + \text{SET II}}{100\%} = \frac{30.50 + 13.75}{100\%} = 0.4425$

OVERVIEW: OUT OF 100 AMERICANS			
	1960	1975	2000
PRE-EMPLOYMENT AGE	39	34	31
EMPLOYMENT AGE	50	53	55
RETIREMENT AGE	11	13	14



Handout #3: Calculating Age Dependency Ratio

The age dependency ratio is a number value that indicates the proportion of non-producing members in a population compared to all members of that population. All members of a society utilize the goods and services of that society. However, only a fraction of that population supplies the goods and services to the entire society. The larger the proportion of non-producers in the society compared to the total population, the greater the strain placed upon the producers.

The numerical value of the age dependency ratio has a range of 0 to 1. The higher the number value (the closer to 1), the greater the demands upon the productive capacity of that society. The smaller the number value (the closer to 0), the less stress placed on the productive capacity of that society.

Directions for Calculating Age Dependency Ratio:

Use data from Handout #2 (Activity 1) to calculate the age dependency ratios on the following page.

1. Add together the percentages for cohorts 0-4, 5-9, 10-14, and 15-19 for both the male and female groups. This combined sum is called Set I.
2. Add together the percentages for cohorts 65-69, 70-74, and 75+ for both male and female groups. This combined sum is called Set II.
3. Add Set I to Set II.
4. Divide this sum by 100 percent - the 100% value represents the total population. The number you have calculated will be less than 1 but greater than 0, and is the number value for the age dependency ratio.

continued



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Age Dependency Ratio Formula

$$\text{A.D.R.} = \frac{\text{Set I} + \text{Set II}}{100\%}$$

Set I: The percentage of the total population age 19 and under.

Set II: The percentage of the total population age 65 and over.

A.D.R.: Age Dependency Ratio

Age Cohort	1960		1975		2000	
	Male	Female	Male	Female	Male	Female
0-4	_____	_____	_____	_____	_____	_____
5-9	_____	_____	_____	_____	_____	_____
10-14	_____	_____	_____	_____	_____	_____
15-19	_____	_____	_____	_____	_____	_____
Set I	_____ + _____		_____ + _____		_____ + _____	
Set I Total	_____		_____		_____	
<hr/>						
65-69	_____	_____	_____	_____	_____	_____
70-74	_____	_____	_____	_____	_____	_____
75+	_____	_____	_____	_____	_____	_____
Set II	_____ + _____		_____ + _____		_____ + _____	
Set II Total	_____		_____		_____	

$$1960 \text{ A.D.R.} = \frac{\text{Set I} + \text{Set II}}{100\%} = \frac{\quad + \quad}{100\%} = \underline{\quad}$$

$$1975 \text{ A.D.R.} = \frac{\text{Set I} + \text{Set II}}{100\%} = \frac{\quad + \quad}{100\%} = \underline{\quad}$$

$$2000 \text{ A.D.R.} = \frac{\text{Set I} + \text{Set II}}{100\%} = \frac{\quad + \quad}{100\%} = \underline{\quad}$$



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Handout #4: Interpretation of Age Dependency Ratio

Question 1: What has happened to the age dependency ratio from the year 1960 to the year 2000?

Question 2: What has happened to the Set I factor in the age dependency ratio from 1960 to 2000?

Question 3: What has happened to the Set II factor in the age dependency ratio from 1960 to 2000?

Question 4: Is America shifting from an older to a younger society? Explain.

Question 5: In what year will you and your fellow classmates become members of the elderly group? _____



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Question 6: What do you predict will happen to the Set II factor of the age dependency ratio by the year 2030?

Question 7: What is happening to the average life expectancy as each generation is born?

Question 8: From your calculated data, are there more elderly females than males? Yes _____ No _____

Question 9: How many years is a person a member of the Set I factor in the age dependency ratio? _____

Question 10: How many years is a person a member of the Set II factor in the age dependency ratio? _____

Question 11: What are some factors that may increase the percent of the Set II factor in the age dependency ratio in the future?

Question 12: General Conclusion: In a brief paragraph, summarize what is happening to the age dependency ratio in the United States and explain why this might be important for the future. (Use back of sheet, if needed.)



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LEARNING
ABOUT AGING

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EVALUATION - ACTIVITIES 1 AND 2

Overview:

Students demonstrate through a test and oral review the degree to which they have achieved the objectives for activities 1 and 2. The test involves constructing an age/sex pyramid for Mexico in 1970, calculating the age dependency ratio for that population, and interpreting the results.

Objectives:

To ascertain how well students have achieved the objectives set for Activities 1 and 2 and provide an opportunity for correcting any misinformation or misunderstanding.

Materials needed:

For each student:

- a. Test 1 (pages 2-14, 15)
- b. One sheet of graph paper

For the teacher:

- a. Transparency of "Age/sex Pyramid for Mexico, 1970"
- b. Transparency of "Age Dependency Ratio, Mexico, 1970"
- c. Transparency, "Age Structure of U.S. Population in the 20th Century" (page 1+4)
- d. Overhead projector and screen

Advance preparation:

Make copies of test.

Prepare transparencies: "Age/sex Pyramid for Mexico, 1970" (page 2-12) and "Age Dependency Ratio for Mexico, 1970" (page 2-13).

Estimated teaching time:

2 class periods

Guidelines, Day 5:

1. Depending on length of class period, you may wish to divide the test over two periods in order to assure that all students will have time for completion. Parts 1 and 2 could be completed in one period, with Parts 3 and 4 completed in the next period.
2. Explain that each student will be required to complete the test individually.
3. Distribute copies of the test and explain directions. Caution students to use pencil for Parts 1 and 2 so that any errors may be easily corrected.
4. Collect tests and correct them.
5. Return corrected tests.
6. Project transparency, "Age/sex Pyramid for Mexico, 1970." Ask students to compare it with their own pyramids noting any major errors.

7. Project transparency, "Age Dependency Ratio for Mexico, 1970". Ask students to check their own computations to identify errors.
8. Discuss answers to Part 3. Use transparencies (pages 2-12, 2-13) to illustrate. Emphasize the following for each question:
- a. What age cohort has the greatest number of males and females?
Age cohort 0-4 has the greatest combined number of males and females totalling approximately 17% of the total population. Ask the students what implications there would be for a society in which one out of six people is less than four years old. Does this represent a "burden," a "challenge," or a "resource"?
- b. What two age cohorts have the smallest combined number of males and females?
The smallest combined number of males and females is for age cohorts 70-75 and 75+. Note that the combined total for all people over age 65 is only 4.50%. Ask students how this compares to the U.S. (Mexico's elderly represent less than one out of twenty Mexicans, while U.S. elderly represent approximately one out of ten in 1970.) Ask students how this might affect government programs and economic policies of the two countries.
- c. Among the youth (ages 0-19) are there more males or females?
Males outnumber females in age cohort 0-19. The combined total of males is 29.25% while the combined total of females is 27.75%.
- d. Among the elderly (age 65 and over), are there more males or females?
Males outnumber females in age cohorts 65 and over. The combined total of males is 2.50%, while the combined total of females is 2.00%. Ask the students what might account for an imbalance of males and females and how this might affect society. (Note the difference from the U.S., where females substantially outnumber males, especially among the elderly.)
9. Discuss answers to Part 4. Use transparencies (pages 2-12, 2-13) to illustrate. Emphasize the following for each question:
- a. Did Mexico in 1970 have a comparatively "young" or "old" population?
Mexico had a young population. Note that the combined total of males and females for Set I (age cohorts 0-19) is well over half the population (57%). Ask students how this compares to the U.S. in past, present, and future. (Use transparency of U.S. population in the 20th century for comparison.)
- b. Which group, the young or the elderly, placed the greatest demands on Mexico's ability to produce goods and services?
The young, representing 57% of the population as compared to 4.5% for the elderly, would have a far greater need for goods and services.
- c. Based only on the information provided in Parts 1 and 2 of this test, would you say the government of Mexico should devote more of its time and resources to meeting the needs of the young or the elderly?
For reasons indicated above, it seems clear that Mexico would have to devote more time and resources to the needs of the young, such as providing education and work opportunities (It might also be

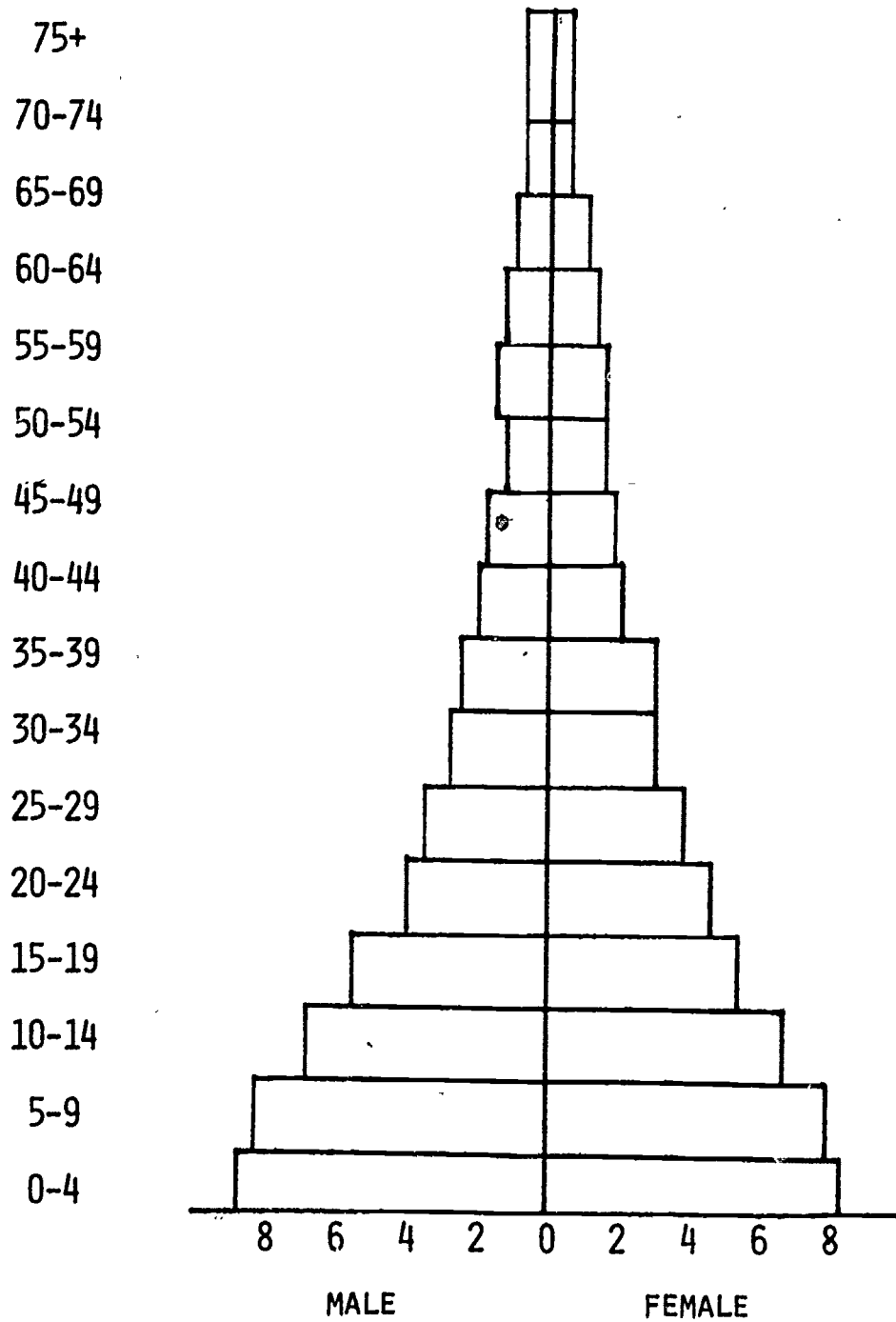
noted, however, that because they are such a small minority, the needs of the elderly might easily be overlooked in such a young population. Hence their needs might be very great.)

d. List three significant differences you notice between the age/sex structure of Mexico and the United States. Explain why these differences might be significant for the future.

Several significant differences should be recognized:

- The comparative youthfulness of Mexico's population compared to that of the United States.
- The lower life expectancy for Mexicans which the pyramid seems to illustrate.
- The potential for very rapid growth of the population because of the high number of females of child-bearing age or younger.
- The reverse ratio of males and females compared to the United States, especially among the elderly cohorts.
- Mexico's absence of anything comparable to the "Baby Boom" bulge in the age/sex pyramids for the United States.

AGE/SEX PYRAMID FOR MEXICO 1970



AGE DEPENDENCY RATIO
MEXICO 1970

SET I CALCULATIONS:

<u>COHORT</u>	<u>MALE</u>		<u>FEMALE</u>	
0-4	8.75		8.25	
5-9	8.25		7.75	
10-14	6.75		6.50	
15-19	5.50		5.25	
	<hr/>		<hr/>	
TOTALS	29.25	+	27.75	= 57.00

SET II CALCULATIONS:

<u>COHORT</u>	<u>MALE</u>		<u>FEMALE</u>	
65-69	1.00		1.00	
70-74	.75		.50	
75+	.75		.50	
	<hr/>		<hr/>	
TOTALS	2.00	+	2.50	= 4.50

$$\text{A.D.R.} = \frac{57.00 + 4.50}{100} = 0.615$$

EVALUATION- ACTIVITIES 1 AND 2

Part 1. Use the following data to construct an age/sex pyramid on the sheet of graph paper provided.

(Note: Percentages for each age cohort represent percentage of total population. Because they have been "rounded off," the columns will not add up to exactly 100%.)

<u>age cohort</u>	<u>% of total</u>		<u>age cohort</u>	<u>% of total</u>	
	<u>male</u>	<u>female</u>		<u>male</u>	<u>female</u>
0-4	8.75	8.25	40-44	2.00	2.00
5-9	8.25	7.75	45-49	1.75	1.75
10-14	6.75	6.50	50-54	1.25	1.50
15-19	5.50	5.25	55-59	1.50	1.50
20-24	4.00	4.50	60-64	1.25	1.25
25-29	3.50	3.75	65-69	1.00	1.00
30-34	2.75	3.00	70-74	0.75	0.50
35-39	2.50	3.00	75+	0.75	0.50

Part 2. Use the following space to determine the age dependency ratio for Mexico in 1970. Show your calculations for Set I and Set II factors.



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LEARNING
ABOUT AGING

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Part 3. Write answers in the spaces provided at the left.

- _____ a. What age cohort has the greatest number of males and females?
- _____ b. What two age cohorts have the smallest combined number of males and females?
- _____ c. Among the youth (ages 0-19), are there more males or females?
- _____ d. Among the elderly (ages 65 and over), are there more males or females?

Part 4. Write answers in the spaces provided.

- a. Did Mexico in 1970 have a comparatively "young" or "old" population? Explain your answer.
- b. Which group, the young or the elderly, placed the greatest demands on Mexico's ability to produce goods and services? Explain your answer.
- c. Based only on the information provided in Parts 1 and 2 of this test, would you say that the government of Mexico should devote more of its time and resources to meeting the needs of the young or the elderly? Explain.
- d. List three significant differences you notice between the age/sex structure of Mexico and the United States. Explain why these differences might be significant for the future. (Use back of sheet also.)



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ACTIVITY 3: ECONOMICS OF AGING

Overview:

Through analysis and discussion of statistical data, students learn that advanced age and retirement bring both economic benefits and hardships to the elderly. Students study the reasons why proportionately more older people are economically disadvantaged and consider ways in which the economic situation of the elderly might be improved in the future.

Objectives:

At the conclusion of this activity, students will be able to:

1. Analyze and interpret statistical data presented in graphs.
2. Identify and explain economic hardships faced by many elderly people.
3. Identify ways in which elders derive economic benefits from advanced age and retirement.
4. Specify changes in public policy and programs which might improve the economic situation of the elderly in the future.

Materials needed:

For each student:

- a. Handout #5: Comparing Income
- b. Handout #6: Comparing Economic Needs
- c. Handout #7: Discussion Guide for "Social Security System"

For the teacher:

- a. Transparency, "Major Sources of Income, Age 65+" (page 3-9)
- b. Transparency copies of Table I and Graphs 1 and 2
- c. Transparency, "Comparing Economic Needs" (page 3-10)
- d. Transparency marking pen (washable)
- e. Filmstrip and Cassette Kit: "Social Security System." (Prentice Hall Media, 150 White Plains Road, Tarrytown, NY 10591. Two filmstrips and cassettes, \$55.00)
- f. Overhead projector and screen
- g. Filmstrip projector
- h. Cassette tape recorder

Advance preparation:

Make copies of Handouts #5, 6, and 7

Prepare transparencies of page 3-9, Handout #5, pps. 4-6, and page 3-10.

Obtain Filmstrip and Cassette Kit, "Social Security System."

Have audiovisual equipment ready.

Estimated teaching time:

3 class periods

Guidelines, Day 1:

1. Distribute copies of Handout #5: "Comparing Income."
2. Divide class into small groups of 2-3 students.
3. Ask each group to carefully read the handout and work together in completing the True-False questions. Circulate through the room providing help where needed, but not telling students whether a particular statement is true or false.
4. When all groups have finished, take one statement at a time and compare True-False responses. In each case in which the groups disagree, use transparency copies of the table and/or graphs to show how the correct answer can be determined. Take time to discuss each statement in terms of the significance of the True or False response, not simply whether it is True or False. The following key with notes may help in discussion.

Statement 1: Between 1960 and 1975 the median income of all groups (A,B,C,D) was increasing.

True. (See Table I.) The table shows that the median income of all groups approximately tripled between 1960 and 1975. However, it should be noted that while income was rising, the cost of living was also rapidly rising, and this is not indicated in the graph. In terms of what the income would buy, people were probably not much better off in 1975 than they were in 1960.

Statement 2: Between 1960 and 1975 the median income of Group B was consistently lower than the income of Group A.

True. (See Table I.) The table shows that income of the elderly heads of families was much lower than for young or middle-aged heads of families for each year listed. However, there was some improvement for the elderly between 1960 and 1975. In 1960 the income for Group B was only 49.1% of the income for Group A. By 1975, this had risen to 54.8%. Comparatively speaking, the situation of elderly heads of families had improved, but their median income was still only a little over half the income of young and middle-aged heads of families.

Statement 3: Between 1960 and 1975 the median income of Group D was consistently higher than it was for Group C.

False. (See Table I.) The table shows that the median income for elderly unrelated individuals was consistently much lower than it was for younger unrelated individuals. Again there was a slight comparative improvement. Median income for Group D in 1960 was only 41% of the income for Group C, but rose to 51.3% in 1975.

Statement 4: In 1974, race was an important factor in the income of Groups A and C (younger people), but had little effect on the income of people in Groups B and D (older people).

False. (See Graph 1.) The graph shows that Blacks have a much lower median income than whites regardless of age and married or single status.

Statement 5: Families headed by females in Group B had a higher income in 1974 than families headed by females in Group A.

True. (See Graph 1.) The graph shows that families headed by elderly females had a median income of approximately \$7500, while

it was only about \$6500 for families headed by younger women. This may be due partly to the fact that many of the younger female heads of families have young children to support and are unable to work.

Statement 6: From 1960 to 1975, the income of Groups B and D (older people) was always less than half the income of Groups A and C (younger people).

False. (See Table I.) As indicated in the notes for Statements 2 and 3 (above), the median income of Groups B and D in 1975 rose to 54.8% and 51.3% respectively of the incomes for Groups A and C.

Statement 7: Between 1959 and 1975, the percentage of the population below the poverty level declined for all groups.

True. (See Graph 2.) Although there are minor deviations from year to year, the graph clearly shows a consistent decline in the percentage of people living below the poverty level between 1959 and 1975 (note broken lines on graph).

Statement 8: Between 1959 and 1975, the percentage of people below the poverty level decreased more for younger people (Groups A and C) than it did for older people (Groups B and D).

False. (See Graph 2.) The decline for the total population of heads of families (upper broken line) was from 46% to 25%, but the decline for elderly heads of families (upper solid line) was even greater, from 67% to 31%. Similarly, the decline for unrelated individuals in the total population (lower broken line) was from 18% to 11%, but for elderly unrelated individuals (lower solid line), it dropped sharply from 30% to 8%.

Statement 9: Based on the information provided in the table and graphs, younger people (Groups A and C) are just as likely to be economically disadvantaged as older people (Groups B and D).

False. (See table and Graphs 1 and 2.) The figures clearly show that the elderly are statistically much more likely to have a lower income and to fall below the poverty line than are younger people in the population.

Statement 10: Based on the information provided by the table and graphs, older people (Groups B and D) have improved their economic situation more, on the average, than younger people (Groups A and C).

True. (See Table I and Graph 2.) While there has been a general increase in the median income of all groups in the society and a decline in the percentage of people below the poverty line, the economic gains have been greatest for the elderly. (See notes for Statements 2, 3, 6, and 8 above.)

5. To conclude this part of the activity, put special emphasis on the answers to Statements 9 and 10.

While elderly people are still much more likely to suffer economic hardships in our society, being old does not necessarily mean being poor. Furthermore, the statistical situation has been improving for society as a whole, and especially for the elderly.

Guidelines, Day 2:

6. Distribute Handout #6, "Comparing Economic Needs," and have each student individually complete the checklist.
7. Project the transparency copy of the checklist of economic needs (page 3-17).
8. When all students have completed the checklist, tally the results for the class by asking for a show of hands on each item. Write the tallies on the transparency with a washable transparency pen.
9. Discuss the reasons why the students responded as they did for each item, but don't try to force a class consensus on "right" or "wrong" answers for each item. The following are some of the points that might be considered in the discussion:

Housing:

Younger or middle-aged couples with children living at home may need more space than an older couple. They are more likely to be paying mortgages or high rents for the space they need. Older couples may be in the position of owning a home that is mortgage-free or renting a smaller apartment. However, many older homeowners do not want to give up the homes they worked so hard to own, even when they don't need the space. They may also have strong sentimental attachments to the homes and neighborhoods in which they raised their families. Thus they may be willing to pay more for housing than they realistically need in terms of space.

Food:

Younger or middle-aged couples with children are likely to have much higher food bills simply because there are more mouths to feed. Also, older people need to eat less in order to maintain good health. However, food is generally more expensive when purchased in small quantities.

Clothing:

Because there are more bodies to clothe, younger and middle-aged couples with children are likely to have higher costs for clothing than couples in retirement.

Transportation:

If both members of a couple are working, they frequently have to own two cars. Retired couples can usually manage with one car or public transportation. They do not have the expense of commuting to a job and do not have to transport children to their various activities. In many urban areas, discounts are given to senior citizens on public transportation, and many communities now provide special buses for the elderly at low rates to take them wherever they need to go.

Utilities:

If retired couples remain in the same homes they occupied when younger, there will probably be no basic change in heating costs. However, without children living at home they have the option of moving into smaller quarters which are less expensive to heat. Other utility bills, such as electricity, water, and telephone, may be reduced when there are fewer family members using these utilities.

Medical care:

Older people are more likely to have chronic illnesses that require frequent medical attention and expensive prescription drugs. They are more likely to be hospitalized. However, government programs, such as Medicaid and Medicare, significantly reduce medical costs for most elderly people. Also, retired couples usually are free of medical expenses for their children. For example, fewer elderly couples are paying an orthodontist for expensive braces on their child's teeth.

Education:

Retired couples are no longer faced with the cost of educating their children and have no need to continue their own education for career purposes. Some retired people do continue their education, but usually in free or low cost programs geared more toward personal growth and fulfillment than meeting career requirements.

Taxes:

Because retired people generally have lower incomes, they usually pay substantially less in income taxes. On federal income taxes, people over 65 receive a double exemption, thus further reducing their taxable income. In some states, they may also receive a reduction in property taxes at the local level.

Recreation:

Retired people have more leisure time for recreational activity. With substantially reduced incomes, however, older people (unless they are well off in terms of savings and other assets) may have to choose activities that are inexpensive. The more affluent, faced with more leisure time and a reduced cost of living, may actually spend more on expensive recreation, such as travel. However, most elderly people are not so fortunate.

10. Time should be taken at the end of this part of the activity to summarize what was learned in days one and two.
Clearly, the average elderly person has to learn how to get by on a sharply reduced income, but, as the comparison of economic needs demonstrates, there are some important economic advantages to growing old that help offset the decline in income. It is important to emphasize once more that we are dealing only with "averages," not with particular situations.
11. Ask the class: If the main sources of income for people below age 65 are wages and salaries, what are the main sources of income for people 65 and over?
12. After brief discussion in which students might mention several possible sources, project the transparency, "Major Sources of Income, Age 65+" (page 3-9).
13. Discuss each source of income as follows:

Social Security and Pensions:

Emphasize that these sources of income are from funds into which the retirees have been paying throughout their working years. In a sense, they represent what people have saved toward retirement through many years of labor.

Wages or Salary:

Point out that many people past retirement age are still working full- or part-time. In 1975, one out of five males over age 65 was still employed. However, this marks a sharp decline since 1900 when two out of three were still employed at age 65 or over.

Interest from Savings and Investment:

While many people derive significant retirement income from interest on savings and investments, the value of this income has been sharply reduced by inflation. Investment in real estate or tangible property may have appreciated in value and kept up with inflation. But money put aside in savings accounts is worth only a fraction of its value at the time it was set aside in terms of what money will now buy.

Public Assistance and Family Support:

In earlier times, it was common for families to provide economic support for their elder family members. Many states still have laws requiring this, but the laws are generally ignored. Basically the expectation is that adults, regardless of age, will support themselves. When they cannot, it is a responsibility of the government. However, many elderly people would rather live in extreme poverty than rely on their offspring or the government to support them. Many who qualify for public assistance (welfare) will not accept it as a matter of pride.

Guidelines, Day 3:

14. Explain that since Social Security is one of the most important sources of income for the elderly, the class is going to study what Social Security is and how it works.
15. Distribute copies of Handout #7, "Discussion Guide for 'Social Security System'." Ask the students to read the questions and think about them as they view the filmstrips.
16. Show the filmstrips on the "Social Security System." Discuss the following questions from the discussion guide with the class. Add information as necessary. (You may wish to extend this discussion by using the more detailed questions contained in the Program Guide provided in the filmstrip kit.)

Question 1: Until the 1930's, who was considered responsible for the economic welfare of the individual? What happened to change this attitude?

Following the tradition of "rugged individualism," it was generally believed that people through their own initiative, hard work, and thrift should be able to save enough money to meet all threats to their economic security. People did not expect the government to assume responsibility for individual welfare. In the 1930's, the depression had deprived millions of workers of their jobs. When about one out of four workers was unemployed, there was only one place to turn--the government. Welfare or relief programs were set up to provide immediate aid to the poor, but Social Security was established as a long-range program for the future.

Question 2: When was Social Security established and how does it work?

Social Security was established as a government insurance program in 1935. Originally it was intended to provide a supplementary income to retired workers, and retirement benefits are still a major part of the program. Benefits are paid for by a special payroll tax (Federal Insurance Contributions Act, or FICA). A percentage of each covered worker's pay is withheld and paid into a trust fund or reserve. Employers are required to match the "contributions" paid by their workers. At age 65, retired workers begin to receive monthly benefits for the rest of their lives. In the event of a worker's or retiree's death, benefits are paid to the worker's spouse and dependent children. Workers may choose to retire at age 62 and receive lower monthly benefits. Monthly benefits may also be paid earlier if a worker becomes disabled. Since the first Social Security benefit check was received in 1940, Social Security has paid out about one trillion dollars in benefits to hundreds of millions of retired, widowed, orphaned, sick, and disabled people.

Question 3: How secure is the Social Security System financially? What has happened in recent decades to affect Social Security finances?

When Congress set up the program in 1935, it was intended that current revenues from FICA and interest on the trust fund would be enough to cover the cost of benefits. The reserves would be used only to meet special needs created by a recession or depression. It was planned that by 1960 the reserves would be equivalent to two years' total benefits payments. However, by the 1970's it became necessary to start using some of the reserves to meet obligations, and it was estimated that the program would be in debt by the 1990's.

Several factors account for the strain on Social Security. At first, only commercial and industrial workers were covered, but today over 90% of all workers are included. Life expectancy has increased so that more workers live to retirement and receive benefits over a longer period of time. Rapid inflation has caused monthly benefit payments to increase, and benefits are now increased by law with each rise in the cost of living index. New programs added to Social Security have sharply increased expenditures. Total annual benefit payments have also climbed, due to the rising number of workers choosing to retire at age 62 instead of 65. In an effort to avert bankruptcy, Congress has set up a schedule for increasing FICA taxes over the next several years. This is expected to keep Social Security paying for itself for the next several years, but it also means that younger generations will be paying heavily to support a growing older population of beneficiaries.

Question 4: How can individuals know what Social Security costs them and what they can expect in benefits?

An account of Social Security payments is maintained for each individual so that when the worker retires it will be possible to determine how much money the worker will receive. The monthly benefits are based on average earnings over the years paid in. The worker's pay check indicates how much is withheld, and a worker may keep personal records of these withholdings, keeping in mind that the

employer's contribution is supposed to be equal to what is withheld from pay. At any time, the worker may request information from Social Security about the status of his or her account. There are over 1300 regional Social Security offices throughout the country which can provide up-to-date information on benefits.

17. After discussing the filmstrip, ask students whether they think that our society does enough to provide for the economic needs of the elderly. Re-emphasize the lessons learned in Activities 1 and 2 regarding the changing age structure of the population. Ask students to brainstorm alternative approaches to meeting the economic needs of the elderly in the future as the number and proportion of elders in society continues to climb. Among the possibilities that might be considered are:
 - a. *Eliminating mandatory retirement and providing more employment opportunities for older people who want or need to work.*
 - b. *Making pensions transferrable so that a worker who changes employers does not lose out on retirement benefits.*
 - c. *Replacing Social Security with a more comprehensive plan of government pensions and benefits that apply to all the elderly.*
 - d. *Eliminating income taxes and/or property taxes for the elderly.*
 - e. *Passing and enforcing a strict federal law that requires people to provide economic support to aging parents.*

In discussing these possibilities, be sure to provide sufficient opportunity for debate of pros and cons, and do not try to press for a class consensus on any specific alternative. The point of the lesson should be to show that there are alternatives for the future and the situation does not have to continue as it is now.

MAJOR SOURCES OF INCOME, AGE 65+

I MOST IMPORTANT SOURCES:

SOCIAL SECURITY BENEFITS

PUBLIC PENSIONS

PRIVATE PENSIONS

II SECOND MOST IMPORTANT SOURCES:

WAGES OR SALARY

III THIRD MOST IMPORTANT SOURCES:

INTEREST FROM SAVINGS

INTEREST FROM INVESTMENTS

IV LEAST IMPORTANT SOURCES:

PUBLIC ASSISTANCE

FINANCIAL SUPPORT OF FAMILIES

COMPARING ECONOMIC NEEDS

ECONOMIC NEED	YOUNG OR MIDDLE-AGED COUPLES	RETIRED COUPLES
HOUSING		
FOOD		
CLOTHING		
TRANSPORTATION		
UTILITIES		
MEDICAL CARE		
EDUCATION		
TAXES		
RECREATION		

Handout #5: Comparing Income

In 1990, average life expectancy was 47 and only one out of twenty-five people reached the age of 65. Today more than 10% of the U.S. population is over age 65, a total of more than 23,000,000 people. Average life expectancy is now over 70, and the proportion of elderly in the population continues to grow. Fifty years from now, approximately one-fifth of the population will be age 65 or older.

How are all those "Old Folks" doing compared to the rest of the population? Are things getting better or worse for them as we approach the twenty-first century? Of course money doesn't tell the whole story, but we will begin to examine their situation by comparing statistics on income for the elderly (age 65 and over) to the income of younger people (ages 14-64). At least, this will tell us something about their economic situation. The statistics tell even more when broken down into subgroups within the population, such as male and female, Black and white, and so forth.

The government uses statistics such as these to determine what proportion of the population is economically disadvantaged and in need of public assistance. One method used by the government is to establish a "poverty level." Theoretically anyone with an annual income below this poverty level needs financial assistance in order to survive. Each year the poverty level is adjusted to keep pace with the overall cost of living. For example, the poverty level set for 1971, 1975, and 1979 were as follows:

<u>Year</u>	<u>Married Couples</u>	<u>Individuals</u>
1971	\$2200	\$1800
1975	3232	2791
1979	4500	3400

You can get some sense of how low these poverty levels are if you consider that a family of four in Massachusetts in 1979 was estimated to need \$20,000 to maintain a "modest standard of living." It was not clear what was meant by the term "modest," but surely it is a standard below which none of us would wish to live.



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Statements

Here is a list of ten True and False statements about the economic situation of people 65 and over compared to people ages 14-64. To decide whether a statement is True or False examine the table and/or graphs carefully and choose the one that provides the information you need. Then print a "T" or an "F" in the space provided to show whether the statement is True or False.

Key: Group A = Families headed by persons age 14-64.
 Group B = Families headed by persons age 65 or over.
 Group C = Unrelated individuals age 14-64.
 Group D = Unrelated individuals age 65 and over.

- _____ 1. Between 1960 and 1975, the median income of all groups (A,B,C,D) was increasing.
- _____ 2. Between 1960 and 1975, the median income of Group B was consistently lower than the income of Group A.
- _____ 3. Between 1960 and 1975, the median income of Group D was consistently higher than it was for Group C.
- _____ 4. In 1974, race was an important factor in the income of Groups A and C (younger people), but had little effect on the income of people in Groups B and D (older people).
- _____ 5. Families headed by females in Group B had a higher income in 1974 than families headed by females in Group A.
- _____ 6. From 1960 to 1975, the income of people in Groups B and D (older people) was always less than half of the income for Groups A and C (younger people).
- _____ 7. Between 1959 and 1975, the percentage of the population below the poverty level declined for all groups (A,B,C, and D).
- _____ 8. Between 1959 and 1975, the percentage of people below the poverty level decreased more for younger people (Groups A and C) than it did for older people (Groups B and D).



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LEARNING
ABOUT AGING

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9. Based on the information provided in the table and graphs, younger people (Groups A and C) are just as likely to be economically disadvantaged as older people (Groups B and D).
10. Based on the information provided in the table and graphs, older people (Groups B and D) have improved their economic situation more, on the average, than younger people (Groups A and C).



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TABLE 1: MEDIAN INCOME FOR FAMILIES
AND UNRELATED INDIVIDUALS BY AGE

YEAR	FAMILIES		INDIVIDUALS	
	HEADS 14-64	HEADS 65+	AGES 14-64	AGES 65+
1960	\$5,905	\$2,897	\$2,571	\$1,053
1965	\$7,413	\$3,514	\$3,344	\$1,378
1970	\$10,541	\$5,053	\$4,616	\$1,951
1975	\$14,698	\$8,057	\$6,460	\$3,311

SOURCE = U.S. CENSUS DATA, 1970.



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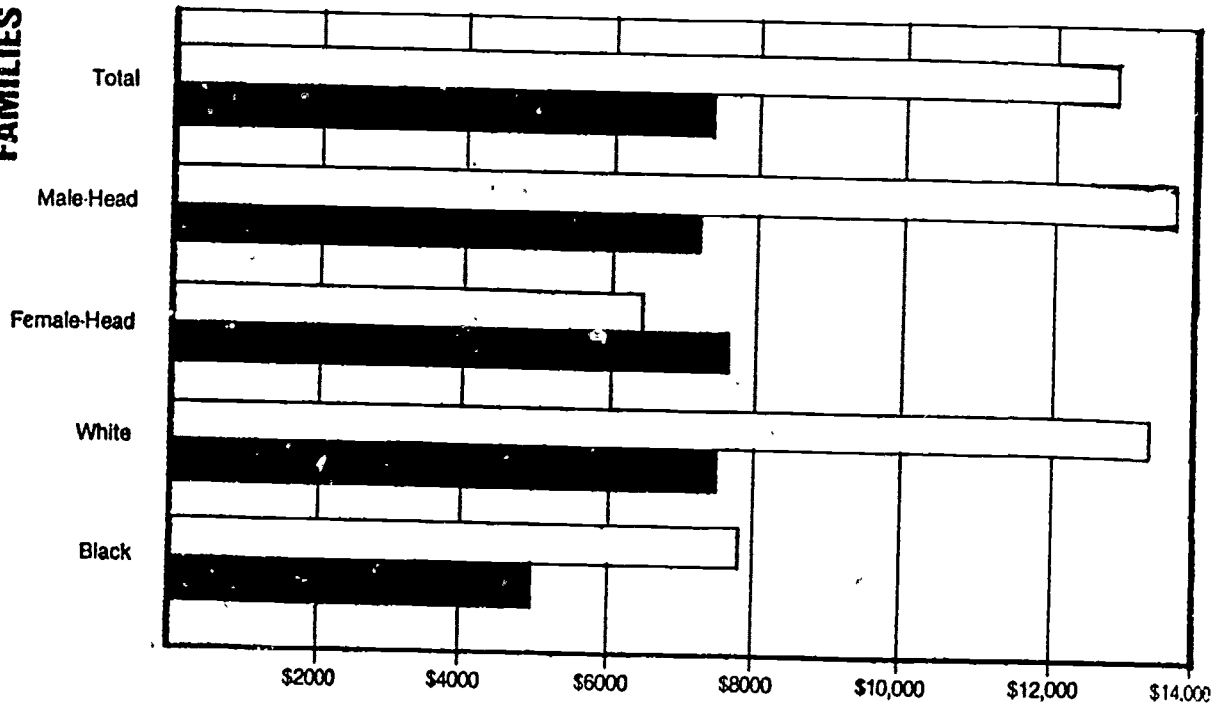
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Graph 1:

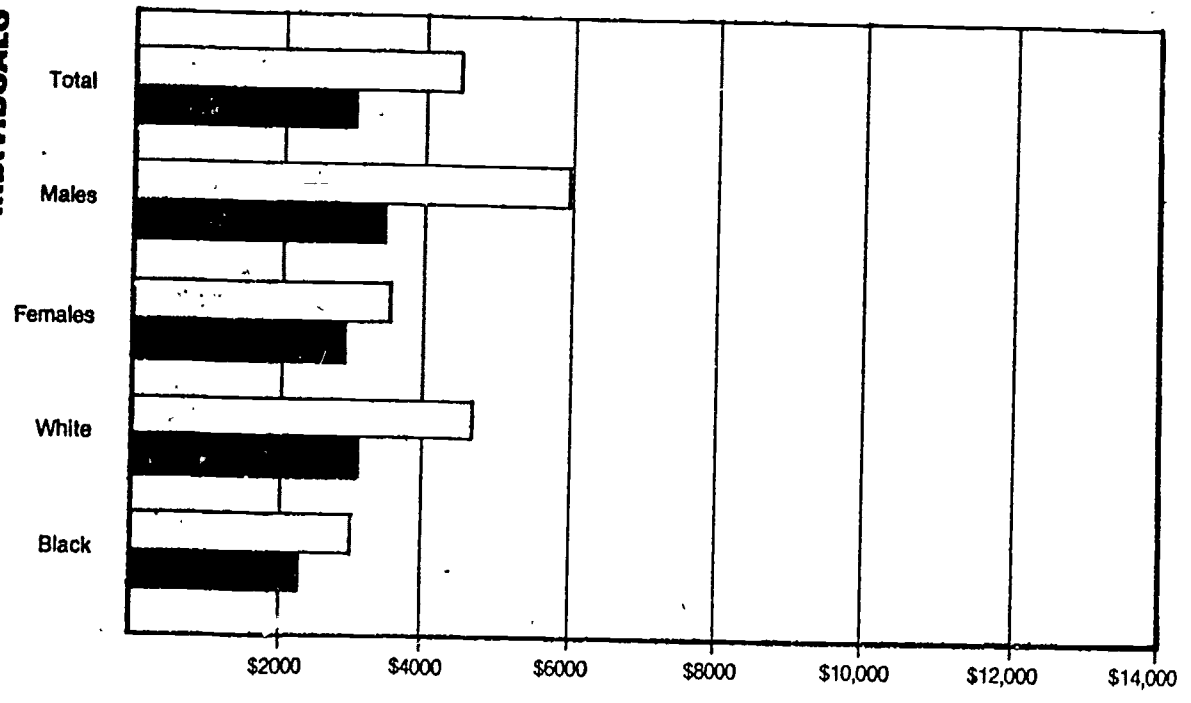
Median Incomes by Age of Head and Race 1974

□ Population, Ages 14-64 ■ Population, Ages 65+

FAMILIES



UNRELATED INDIVIDUALS



Source: U.S. Bureau of the Census, Current Population Reports

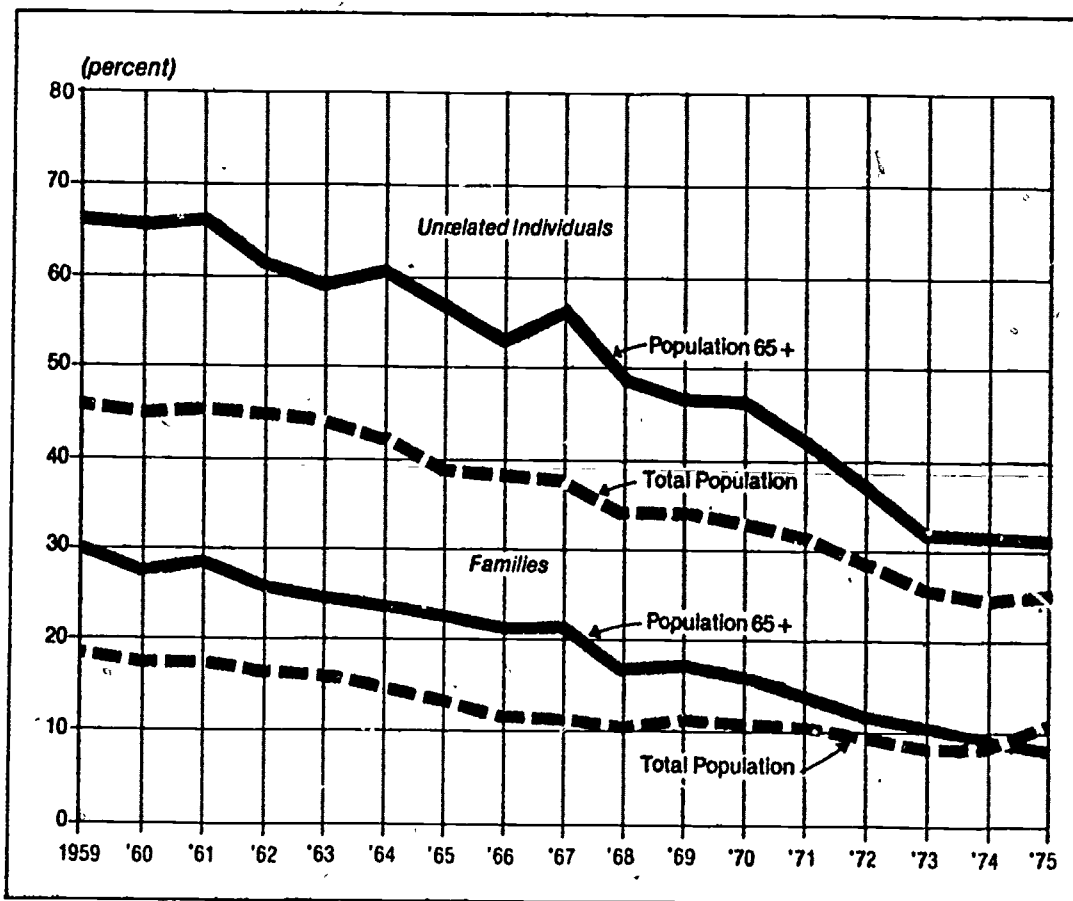


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Graph 2:
Families and Unrelated Individuals below Poverty Level by Age 1959-1975

Source:
 U.S. Bureau of the Census
 Current Population Reports



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Handout #6: Comparing Economic Needs

One of the most commonly expressed ideas about the elderly is that they don't need as much money in retirement as younger people who are working and raising families. Go through the following checklist of major economic needs. Thinking only in terms of married couples with families, put a check in the first column for each area of economic need in which you think expenses would be higher for the young or middle-aged couple. Put a check in the second column for each item you think would be higher for the retired couple.

ECONOMIC NEED	YOUNG OR MIDDLE-AGED COUPLES	RETIRED COUPLES
HOUSING		
FOOD		
CLOTHING		
TRANSPORTATION		
UTILITIES		
MEDICAL CARE		
EDUCATION		
TAXES		
RECREATION		

Consider the following questions:

1. According to this activity, is it true that older people need less money? Why?
2. Would the same answer hold true for unmarried individuals with no children? Why?



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Handout # 7: Discussion Guide for "Social Security System"

Familiarize yourself with the following questions and try to keep them in mind as you view the filmstrip and listen to the recording. The questions will be discussed following the filmstrip.

1. Until the 1930's, who was considered responsible for the economic welfare of the individual? What happened to change this attitude?
2. When was the Social Security System established and how does it work?
3. How secure is the Social Security System financially? What has happened in recent decades to affect Social Security finances?
4. How can individuals know what Social Security costs them and what they can expect in benefits?



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ACTIVITY 4: HOW WOULD YOU VOTE?

Overview:

Through a role-playing activity, students learn that age and economic circumstances affect political views. They learn that while the stand taken by a person on a political/economic issue may be affected by age, age alone does not determine how a person will vote. The activity also demonstrates that the potential political power of the elderly may increase as the proportion of elderly in society increases in the future.

Objectives:

At the conclusion of this activity, students will be able to:

1. Identify ways in which age may influence positions on political/economic issues.
2. Explain why people of a given age do not all take the same position on an issue affecting their age group.
3. Explain why the potential political power of the elderly may increase in the decades ahead.

Materials needed:

For each student:

- a. Handout #8: Player Directions -- "How Would You Vote?"
- b. Role cards (15 roles: V-1,2,3; O-1,2,3; T-1,2,3; E-1,2,3; and R-1,2,3)
- c. Ballot - "How Do You Vote?"

For the teacher:

- a. Role Card Distribution Table (page 4-5)
- b. Transparency, "Election Results: "How Do You Vote?"
- c. Overhead projector and screen
- d. Transparency pen (washable)

Advance Preparation:

Study the Guidelines and become thoroughly familiar with game procedures.

Make copies of Handout #8: Player Directions.

Make copies of ballot sheet, cutting each into four slips.

Make a transparency of "Election Results: "How Do You Vote?" (page 4-6)

Using the Role Card Distribution Table (page 4-5), circle the number of student players. Sum up the number of "V" cards in that row, "O" cards, and so forth. The numbers for each year represent the age distribution.

For example, in a class of twenty students for the year 1960, you would use seven "V" cards (age 19 and under) since that age group represented 38% of the population in 1960 (38% of 20 = 7). Similarly you would use four "O" cards (18% of 20), four "T" cards (20% of 20), three "E" cards (15% of 20), and two "R" cards (11% of 20).

Reproduce sufficient role cards for each of the five age cohorts. In the above example, you would need 25 "v" cards (7+7+6+5) and would thus have to make nine copies of the "v" sheet, since each sheet contains three roles.

Cut the roles apart, combine the appropriate number for each year. Shuffle the roles for each year and clip them together (with a label indicating the year).

Estimated teaching time:

2 class periods

Game introduction:

This game is designed to show two possible outcomes:

1. Because of wide differences in economic circumstances and personal values, individuals within an age cohort will vote in a divergent manner.
2. Because of common economic needs within an age cohort, individuals of approximately the same age tend to vote in a like manner.

Although these outcomes sound contradictory, to some extent both are possible. For example, the fifty-eight year old worker is likely to be more concerned about a retirement issue than a twenty-three year old worker, and the seventy year old retiree would be less interested in a program of government-secured education loans than would a forty year old parent with a son or daughter entering college. Obviously age would have something to do with positions taken on particular issues. On the other hand, age is not the only factor involved. A person who is fifty-eight years old and independently wealthy is not necessarily interested in a retirement issue, and a person aged forty with no children to educate might have no interest in a bill to provide government-secured tuition loans. Clearly other factors besides age are involved. If successfully played, the game will demonstrate to students that age may be a factor, but only one factor, in determining people's views on political and economic matters.

The game is played in four rounds, each taking from five to ten minutes. Ample time should be left for analysis and discussion of the results, using two class periods, if necessary. Each round represents a different year (1960, 1975, 2000 and 2020). To illustrate the effect of a changing age structure, the proportion of roles assigned for each age group (19 and under, 20-34, 35-49, 50-64, 65 and over) is adjusted to fit the proportion of that age group in the population for each year. In each round a different role is assigned to each player, but players vote on the same four bills in each round. The results of voting are tabulated and discussed at the end of the game.

Guidelines, Day 1:

1. Ask the students whether they think that people of roughly the same age are more likely to take a similar position on a political/economic issue that affects them or take different and opposing positions.
2. After a brief discussion, explain that the class will play a game which will test whether age has anything to do with the stands people take on political/economic issues.

3. Distribute copies of Handout #8, "Player Directions: 'How Would You Vote?'," to all students. Have them read the directions and answer any procedural questions. (It is not important that they know the details of the game, only the general rules.)
4. Emphasize that in playing the game it is important that people vote according to the roles assigned, not according to their own personal feelings about the issues. Also emphasize that they must mark each ballot with either "yes" or "no", not with "maybe" or other indefinite responses.
5. Distribute four ballots to each student and explain that they should use one slip as a ballot for each year.
6. Distribute the pre-shuffled role cards for 1960.
7. Give students time to read their roles. Explain that none of the issues will be discussed until all four rounds have been completed. Emphasize the fact that all of the bills to be voted on will be funded with an increase in income taxes.
8. Read the first proposed bill:
"Bill #1: Increased income taxes will be used to reimburse students or their parents for up to 50% of their college tuition costs."
9. Ask students to take one of their ballot slips and write 1960 and their role, as "V-1," at the top. Under this they should write #1 and check off "Yes" or "No" to indicate whether they favor or oppose the bill.
10. Read bill #2:
"Bill #2: Increased income taxes will pay up to 90% of the medical costs of all individuals over age 60 who have retired." Ask students to write #2 on the next line and vote "yes" or "no."
11. Read bill #3:
"Bill #3: Increased income taxes will pay up to 75% of the cost of re-training a worker who has been employed in one career for at least 20 years and now wishes to change to a new career." Ask students to write #3 on the third line and vote "yes" or "no."
12. Read bill #4:
"Bill #4: Increased income taxes will increase the reserve fund for Social Security, since the Social Security fund is now nearly depleted." Ask the students to write #4 on the next line and vote "yes" or "no."
13. When all have voted, collect the ballots and set them aside.
14. Collect the role cards.
15. Distribute the shuffled set of new role cards for 1975.
16. Repeat the process (steps 9-14) for each round, reminding students to stay in their role and write their role on the ballot.

Note: If class time is not sufficient, teacher tallies ballots (steps 17-18). Start Day 2 by putting totals on the transparency.

17. After all rounds have been completed, appoint a team of students to tally the ballots for each round.
18. While ballots are being counted, set up the overhead transparency (page 4-6).
19. Enter the tallies on the transparency, with Bill #1 for 1960, 1975, 2000, and 2020 in the first block, and so on. Write "passed" or "failed" in the "outcome" column according to a simple majority vote for each bill for each of the four years.

Guidelines, Day 2:

20. Discuss the bills by using the following questions:
 - Who would be most interested in seeing this bill passed?
 - Who would be most interested in seeing this bill defeated?
 - To what extent was your vote determined by your assigned age on the role card? To what extent was it determined by other factors in your role description?
21. Explain that the number of roles for each age group was adjusted for each round of play to simulate the changes in age distribution of the population for that year, with more older people represented in each subsequent round.
22. Ask the students to examine the tallies on the chalkboard and discuss the following questions:
 - Is there any pattern in the voting from 1960 to 2020 that reflects the changing age structure toward an older population?
 - Do people of a certain age group (especially the elderly) tend to vote alike or differently on political/economic issues that affect them?
 - Do the results of the game tend to support or reject the idea that the political power of the elderly will increase in future decades?

If the students did vote according to their assigned roles, the results should make it apparent that, while age might influence the way a person would vote, age was not the only factor. The voter's economic situation and other interests would also affect voting. If a pattern from 1960 to 2020 shows more voting in favor of the interests of the elderly, this would reflect the growing percentage of older voters as the age structure of society changes toward an older population.

ROLE CARD DISTRIBUTION TABLE

NUMBER OF PLAYERS	1960					1975					2000					2020				
	V	O	T	E	R	V	O	T	E	R	V	O	T	E	R	V	O	T	E	R
15	5	3	3	2	2	5	4	2	2	2	5	3	3	2	2	4	3	3	2	3
16	6	3	3	2	2	5	4	3	2	2	5	3	4	2	2	5	3	3	2	3
17	6	3	3	3	2	6	4	3	2	2	5	3	4	3	2	5	3	4	2	3
18	7	3	3	3	2	6	4	3	3	2	5	4	4	3	2	5	4	4	2	3
19	7	3	4	3	2	6	5	3	3	2	6	4	4	3	2	5	4	4	3	3
20	7	4	4	3	2	7	5	3	3	2	6	4	4	3	3	5	4	4	3	4
21	8	4	4	3	2	7	5	3	3	3	6	4	5	3	3	6	4	4	3	4
22	8	4	4	3	3	7	5	4	3	3	7	4	5	3	3	6	4	5	3	4
23	9	4	4	3	3	8	5	4	3	3	7	5	5	3	3	6	5	5	3	4
24	9	4	5	3	3	8	6	4	3	3	7	5	5	4	3	6	5	5	3	5
25	9	4	5	4	3	9	6	4	3	3	8	5	5	4	3	7	5	5	3	5
26	9	5	5	4	3	9	6	4	4	3	8	5	6	4	3	7	5	5	4	5
27	10	5	5	4	3	9	6	4	4	4	8	5	6	4	4	7	5	6	4	5
28	10	5	6	4	3	9	7	4	4	4	9	5	6	4	4	7	6	6	4	5
29	11	5	6	4	3	10	7	4	4	4	9	6	6	4	4	8	6	6	4	5
30	11	5	6	5	3	10	7	5	4	4	9	6	7	4	4	8	6	6	4	6
31	11	6	6	5	3	10	7	5	5	4	9	6	7	5	4	8	6	6	5	6
32	12	6	6	5	3	11	7	5	5	4	10	6	7	5	4	9	6	6	5	6
33	12	6	6	5	4	11	8	5	5	4	10	6	7	5	5	9	6	7	5	6
34	12	6	7	5	4	12	8	5	4	4	10	7	7	5	5	9	7	7	5	6

Key: V = <20, O = 20-34, T = 35-49, E = 50-64, R = > 64

ELECTION RESULTS: "HOW DO YOU VOTE?"

BILL #1

	YES	NO	OUTCOME
1960			
1975			
2000			
2020			

BILL #2

	YES	NO	OUTCOME
1960			
1975			
2000			
2020			

BILL #3

	YES	NO	OUTCOME
1960			
1975			
2000			
2020			

BILL #4

	YES	NO	OUTCOME
1960			
1975			
2000			
2020			

Handout #8: Player Directions: "How Would You Vote?"

During this class period, you will be playing a game in which you will have to make decisions about whether you favor or oppose certain proposed legislation. The game will be played in four rounds, with each round corresponding to a different year -- 1960, 1975, 2000, and 2020.

In each round you will vote on the same four proposed bills. You will decide how to vote on each bill according to a new role you will be given in each round. Decide how to vote on the basis of your assigned role, not on the basis of how you personally feel about the issue.

When you have decided, vote by checking "yes" or "no" on the ballot you will be given. Be sure to fill in your role. The ballots will be collected and counted to determine whether the bill has passed or failed by a simple majority vote.



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ROLE V-1

You are 12 years old and are interested in photography and soccer. Your photography interest began two years ago when you traveled the European continent with your parents. You took many pictures of major European cities. This summer you will be able to take pictures of the Far East as you vacation with your parents in that part of the world.

ROLE V-2

You are 19 years old and a freshman at a local state college. You are doing well with your studies but are often tired because of the two part-time jobs you must hold to pay for your college costs. Your father died four years ago and your mother finds it difficult to "make ends meet" because she is responsible for your three younger brothers and one younger sister. You live at home and commute to school to reduce cost, but you would rather live on campus.

ROLE V-3

You are 16 years old and finishing up your sophomore year at high school. You are a member of the cheer leading squad and the field hockey team. You have many friends and are very sociable and can't seem to find time to study. Unless you pull up your grades, your parents threaten not to take you with them to the beach this summer for two weeks.

You are 31 years old and divorced. Your ex-husband is constantly defaulting on the money for child support. There is a rumor that the apartment building you live in may be converted into condominiums and you will be forced to leave as you could not possibly afford a condominium. Your second child has a chronic lung disease that requires costly therapy and medication. Your welfare money barely meets these expenses.

ROLE 0-2

You are 33 years old and a vice-president of a small but very profitable computer firm in New England. You have a summer house on Cape Cod and a condominium in Vail, Colorado, where you vacation with your family during each February. Your wife is a member of the school committee on which she spends a great deal of time. Both of your sons are accomplished skiers.

ROLE 0-3

You are 28 years old and have a son age 6 and a daughter age 3. You wish to buy a home but are having difficulty obtaining a mortgage because your family income is considered only moderate for the home you wish to buy. Your wife is thinking about getting a job to bring in a second income, but is reluctant because she feels she should be home with your daughter. You agree with her.

You are 42 years old. You have a daughter who is a junior at a mid-western university and a son who will enter a small state college this fall. You wish to purchase a new 22-foot sailboat but are reluctant to do so because of the expenses of college for your children. You are thinking of getting a part-time job for a year or so to save for the boat.

ROLE T-2

You are 49 years old and have never married. You are a top salesperson for a large insurance company. Your hobbies are handball, tennis, and skiing and you are a tournament chess player. Last year you were the campaign manager for the state representative from your district who was up for re-election. Because of this affiliation with politics you have been offered a state government position regulating the laws pertaining to insurance companies.

ROLE T-3

You are 38 years old and are a mechanic at a nearby gas station. Your wife works part-time as a waitress at the local Howard Johnson restaurant. You are seeking a second mortgage on your home as the oldest of your three sons is entering college next fall and you have virtually no savings. You would like to change jobs but have little education and no other work experience except as an auto mechanic.

You are 58 years old and have three grandchildren. You would like to retire in three years and spend some time traveling. Your doctor has recommended moving to a warmer climate when you retire, since the move would benefit your wife, who has arthritis in her hands. The company you work for has an excellent pension plan, if you retire at age 64. You are trying to decide if you should move now for your wife's health or work six more years and receive the pension plan.

ROLE E-2

You are 53 years old and work as a migrant field worker. Your husband died eight years ago in an accident. You have two daughters who are both married with their own families. The constant travel and long hours of hard physical work are beginning to cause medical problems. You are thinking about asking one of your daughters if you could move in with her family. You are hesitant to do this, as you don't want to impose on her.

ROLE E-3

You are 63 years old and a practicing cardiac surgeon. You are a well-respected member of your community and have headed many community projects. Because of the stress involved in surgery you plan to retire next year. Your daughter is also a practicing surgeon. You have purchased a villa on the southern coast of Spain and with your wife plan to retire there and write medical articles.

You are 71 years old. You have been living in an apartment for two years since the death of your husband. Your income is adequate and is derived from Social Security benefits and savings. The rapid rise in the cost of living is beginning to be of concern to you as you find you must take more and more of your savings to maintain your moderate life style. You are in good health, drive your car daily, and serve as a volunteer reader for a blind administrator. You visit your son twice a year in Colorado and frequently travel short distances to see friends.

ROLE R-2

You are 82 years old and your husband is 84. His health is failing, particularly his memory and eyesight. Because of this situation, you seldom leave the farm. The taxes on the farm are skyrocketing, and your savings are dwindling. You have thought of selling the farm property and moving to an apartment in the city. However, your husband refuses to leave the farm that he has worked on for over 50 years. Your married children send you money occasionally, but they have their own financial problems and are finding this more difficult to continue.

ROLE R-3

You are 68 years old and have been retired for three years from your profitable restaurant business. You sold your business for a very large sum of money, which you invested well. The interest on your investments affords you and your wife all the comforts you want. You plan to take a world cruise together. This will be the fulfillment of a life-long dream.

BALLOT
1960 - ROLE _____

	YES	NO
BILL #1		
BILL #2		
BILL #3		
BILL #4		

BALLOT
1975 - ROLE _____

	YES	NO
BILL #1		
BILL #2		
BILL #3		
BILL #4		

BALLOT
2000 - ROLE _____

	YES	NO
BILL #1		
BILL #2		
BILL #3		
BILL #4		

BALLOT
2025 - ROLE _____

	YES	NO
BILL #1		
BILL #2		
BILL #3		
BILL #4		

EVALUATION-ACTIVITIES 3 AND 4

Overview:

Students demonstrate through a test and oral review the degree to which they have attained the objectives for Activities 3 and 4. The test involves twelve multiple choice questions and two essay questions followed by an oral review.

Objectives:

To ascertain how well students have achieved the objectives set for Activities 3 and 4.

Materials needed:

For the student:

"Evaluation -- Activities 3 and 4" (test)

Advance preparation:

Make copies of the test (page 4-17,-18,-19.)

Estimated teaching time:

1 class period

Guidelines:

1. Distribute copies of test and tell students to complete the test individually and without discussion. (Test should take about 20-25 minutes to complete.)
2. Collect tests and review items on Part I as follows:

Question 1:

d. Compared to the income of adults under 65, the average income of elderly Americans was considerably lower, approximately half that of people under age 65. (See Table I in activity 3.)

Question 2:

b. The percentage of people living below the poverty level declined sharply for all age groups between 1959 and 1975, but the decline was sharpest for the elderly. (see graph 2 in activity 3.)

Question 3:

a. In American society, regardless of age, Blacks on the average have substantially lower incomes than whites. (See graph 1 in activity 3.)

Question 4:

c. While the median income for all groups has increased, the income of people age 65 and over has shown the greatest rate of increase. (See table 1 in activity 3.)

Question 5:

c. The elderly have both economic benefits and less income. The elderly usually experience some decline in economic need for housing, clothing, food, and transportation, especially if they had a family to support in earlier years. They may also take advantage of tax breaks and other programs and services provided only to the elderly such as discounts, subsidized housing, and Medicaid or Medicare. These economic benefits, however, are usually offset by a decline in income.

Question 6:

b. The "How Would You Vote?" activity should have demonstrated that age has something to do with the way people vote, but other factors are also involved. If this were not true, all people of a certain age group would vote exactly alike on issues that affected their generation.

Question 7:

d. Proportionately the greatest increase in voters by 2020 will be for elderly voters, as shown in the role card distribution for the "How Would You Vote?" game.

Question 8:

a. Proportionately the greatest decrease in voters by 2020 will be young voters, as shown in the role card distribution for the game.

Question 9:

d. While all of the choices are sources of income for the elderly, the most important source of income for elderly Americans is Social Security and pensions. (See guidelines for Activity 3, steps 11-13.)

Question 10:

b. Both employers and employees pay the special payroll tax which supports Social Security under the Federal Income Contributions Act (FICA). (See notes for filmstrip, day three of activity 3, pages 3-6 to 3-8.)

Question 11:

b. Social Security benefits are meant mainly to supplement other income and savings; they are not intended to be sufficient as a retirement income. Social Security benefits are paid to all retirees covered by the Act, regardless of whether they are poor or well off. (See Activity 3, notes for filmstrip, question 2, page 3-7.)

Question 12:

a. Social Security benefits are automatically increased with each rise in the cost of living. Because there will be more retirees in the future and proportionately fewer workers paying into the system, Social Security taxes must be increased in coming decades unless a whole new system for financing Social Security is developed. (See Activity 3, notes for filmstrip, question 3, page 3-7.)

3. Discuss and review the items on Part II.

Question 1: List and describe three specific ways in which the economic needs of people usually change in their retirement years. Answers will vary, but students should recognize that elderly

people, especially if retired and no longer responsible for supporting children, usually experience a reduction in needs for such things as clothing, housing, and transportation. (See notes for Activity 3, day 2.)

Question 2: List and describe three specific policies or programs that might be introduced to improve the economic situation for elderly Americans in the future.

Answers will vary, but students might include such actions as an end to mandatory retirement, revamping or replacing the Social Security program, eliminating or further reducing taxes for the elderly, mandating that families provide economic support for aging parents, or making pensions transferrable from one job to another.

EVALUATION-ACTIVITIES 3 AND 4

Part I: Choose the best answer. Place the letter in the blank at the left.

- ____ 1. Compared to the income of adults under age 65, the average income of elderly Americans in the 1960's and 1970's was:
- a. slightly higher
 - b. considerably higher
 - c. slightly lower
 - d. considerably lower
- ____ 2. In the 1960's and 1970's, the percentage of elderly Americans living below the poverty level:
- a. declined slightly
 - b. declined sharply
 - c. increased slightly
 - d. increased sharply
- ____ 3. What relationship is there between race and income in American society?
- a. Blacks of all ages have much lower average incomes than whites of comparable age.
 - b. Blacks under age 65 have lower incomes, but after age 65 the income of Blacks and whites is about the same.
 - c. Blacks over age 65 have lower incomes than elderly whites, but up to age 65 there is little difference.
 - d. Whites under age 65 have higher incomes than Blacks of comparable age, but Blacks over age 65 have higher incomes than elderly whites.
- ____ 4. How do the elderly compare to the rest of the American population in terms of median income during the 1960's and 1970's?
- a. Income of the elderly has increased at the same rate as the rest of the population.
 - b. The elderly have been losing ground while the rest of the population has been gaining.
 - c. Compared to their economic situation in 1960, the elderly have made greater gains than the rest of the population.
 - d. Being on fixed incomes, the elderly have made no improvement while the situation for the rest of the population has improved greatly.



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ABOUT AGING

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5. On the average, how does age affect the economic situation of the elderly?
- a. The elderly are usually faced with economic hardship.
 - b. The overall economic situation of people generally improves as people grow old.
 - c. For most people, old age brings both economic benefits and a reduction of income.
 - d. Age generally has no effect on people's economic situation.
6. Which of the following best describes the effect of age on voting?
- a. People vote in favor of issues that benefit people of their age group.
 - b. Age is only one of several factors that influence the way people vote.
 - c. Age has no influence on the way a person votes.
 - d. People vote against issues that benefit people in their age group.
7. Which of these age groups will have the greatest increase in eligible voters between now and the year 2020?
- a. age 20 to 34
 - b. age 35 to 49
 - c. age 50 to 64
 - d. age 65 and over
8. Which age group will have the greatest decrease in eligible voters between now and the year 2020?
- a. age 20 to 34
 - b. age 35 to 49
 - c. age 50 to 64
 - d. age 65 and over
9. The most important source of income for elderly Americans is:
- a. wages and salaries
 - b. public assistance (welfare)
 - c. interest on investments
 - d. Social Security and pension benefits
10. Social Security is financed by:
- a. Personal and corporate income taxes
 - b. A special tax on wages paid by employers and employees

(c. and d. on next page)



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- c. Annual membership fees paid by workers in the program
- d. Contributions donated by concerned citizens

11. Social Security benefits are meant mainly to provide:

- a. A system of welfare or public assistance for poor elderly citizens
- b. A modest income to supplement whatever income or assets retired workers may have
- c. A sufficient income so that retired people can maintain their previous standard of living even if they have no other sources of income or savings
- d. An income for widows who have lost the economic support of their husbands

12. What is expected to happen to Social Security finances in the future?

- a. Social Security taxes and benefits will increase.
- b. Social Security taxes will increase while benefits will decrease.
- c. Social Security taxes will decrease while benefits will increase.
- d. Social Security taxes and benefits will decrease.

Part II: Write complete answers to the following questions. (Use back of sheet.)

1. List and describe three specific ways in which the economic needs of people usually change in their retirement years.
2. List and describe three specific policies or programs that might be introduced to improve the economic situation for elderly Americans in the future.



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