

Part 1

Explore **How Do Scientists Study Human Aging** (<http://www.secretsofaging.org/body/how.html>), from the Secrets of Aging website, to better understand how scientists learn about aging. As you explore the resource, answer the questions below. Be prepared to discuss your answers with the class.

1. What is a cross-sectional study of aging? What are its advantages and disadvantages?

Comparing the physical and mental skills of a large group of people and evaluating the group for differences across the different age groups. This method is not always effective since some of the observed differences may be a result of the time period they lived in, (such as changes in nutrition over the years, or environmental changes such as air or water pollution) rather than aging per se.

2. What is a longitudinal study of aging? What are its advantages and disadvantages?

Studying changes in one group of people over a long period of time. This method is often considered superior to cross-sectional studies since it measures changes over time amongst individuals. Disadvantages include that it takes a long time to gather data and the study subjects need to be a true representation of the population.

3. When do you think a cross-sectional study of aging might be more effective than a longitudinal study?

When there are not as many variables between the different age groups. This would minimize the differences that such factors as environment, nutrition, and lifestyle might have on how people age. Also, when studying different generations within a family. This would minimize the differences that genetic factors might have to concentrate on possible environmental or lifestyle differences.

4. When do think a longitudinal study of aging might be more effective than a cross-sectional study?

When the study includes a large population representing people of many different socioeconomic groups.