

Research on Child Development

Types of Research

The two major types of psychological research are correlational and experimental research.

With **correlational research**, we can simply state that two constructs are related to each other. For example, age and memory may be positively correlated such that older children have better memories (i.e., as age increases, memory increases). Correlational studies usually involve conducting naturalistic observations, surveys, or brain scans. We choose to conduct correlational research when we expect that two naturally occurring constructs are associated with (or related to) each other but not when we want to determine whether one construct *causes* the other. A correlation between two variables can imply that there *may* be a causal relationship between two factors. However, because of the potential of other intervening variables, the correlation cannot guarantee that the effect is causal. In the memory and age example, the relationship between these variables can be explained by other factors, such as intelligence.

To investigate cause-and-effect relationships, we have to conduct **experimental research**. The researchers control experimental studies. Experimental studies typically occur in laboratory settings. For example, if a researcher wants to conduct an experiment to determine whether age causally influences memory abilities, he or she would select children with equal intelligence levels. By controlling this variable (intelligence), he or she can be more confident that any difference between two age groups in memory abilities is due to age and not due to intelligence. Correlational and experimental studies are common across all types of psychological investigations, but there are also specific research strategies that must be considered when conducting developmental research. The objective of developmental research is to examine changes over time. Both correlational research and experimental research typically provide us with a snapshot of one time period, but neither of these options allows us to examine changes over time.

Techniques

To examine changes over time, we must use one of the three major developmental research techniques: cross-sectional research, longitudinal research, and sequential research.

Cross-Sectional Research

Cross-sectional research examines developmental changes by identifying groups of people at different ages and comparing them. For example, if a researcher is interested in the mathematical abilities of a child throughout the preschool period, he or she would take one sample from a group of three-year-olds, one from a group of four-year-olds, and one from a group of five-year-olds and compare their mathematical abilities. This technique has the advantage that it can be

conducted relatively quickly because each child will be tested only once. However, this technique has a weakness because you are comparing different children with presumably different skills and abilities.

Longitudinal Research

A strategy that solves the problem arising from having separate groups is longitudinal research. Longitudinal research involves following a group of children of one age over time rather than working with three separate groups of children. For example, a longitudinal study would take one group of children and test their mathematical abilities at ages three, four, and five. Longitudinal research techniques provide a great deal of information about changes over time without the weaknesses of cross-sectional studies. However, longitudinal research has its own weaknesses. Repeatedly working with the same group of children requires a greater time commitment from researchers (years as opposed to days). In addition, retention of the children under study over time can be quite difficult as children's families often move and researchers may lose contact with participants.

Sequential Research

Sequential research is a combination of cross-sectional and longitudinal research. This research strategy examines different groups of children over time. For example, a sequential study would take three samples of children aged three, four, and five and test each group once per year (i.e., testing the three-year-olds until they are five, testing the four-year-olds until they are six, and testing the five-year-olds until they are seven). This type of research is ideal because it allows researchers to focus not only on changes within children but also on differences among the children.