

Research Designs and Methods

Researchers use many different designs and methods to study human development. The three most popular **designs** are:

- **Cross sectional:** a number of different-age individuals with the same trait or characteristic of interest are studied at a single time.
- **Longitudinal:** the same individuals are studied repeatedly over a specified period of time.
- **Cross-sequential:** individuals in a cross-sectional sample are tested more than once over a specified period of time.

Seven popular life-span research **methods** include the:

- case study
- survey
- observational
- correlational
- experimental
- cross-cultural
- participant observation methods,

Case-study research

In **case-study research**, an investigator studies an individual who has a rare or unusual condition or who has responded favorably to a new treatment. Case studies are typically clinical in scope. The investigator—often a physician, psychologist, social worker, counselor, or educator—interviews the subject, obtains background records, and administers questionnaires to acquire quantifiable data on the subject. A comprehensive case study can last months or years. Throughout the duration of the case study, the researcher documents the condition, treatment, and effects in relation to each patient and summarizes all of this information in individual **case reports**.

Survey research

Survey research involves interviewing or administering questionnaires or written surveys to large numbers of people. The investigator analyzes the data obtained from surveys to learn about similarities, differences, and trends, and then makes predictions about the population being studied. **Advantages** of surveys research include the great amount of information the researcher can obtain from the large number of respondents, the convenience for respondents of taking a written survey, and the low cost of acquiring and processing data. Mail-in surveys have the added advantage of ensuring anonymity and thus prompting respondents to answer questions truthfully.

Disadvantages of survey research include volunteer bias, interviewer bias, and distortion. **Volunteer bias** occurs when a sample of volunteers is not representative of the general population. Subjects who are willing to talk about certain topics may answer surveys differently than those who are not. **Interviewer bias** occurs when an interviewer's expectations or insignificant gestures (such as frowning or smiling) inadvertently influence a subject's responses one way or the other. **Distortion** occurs when a subject does not respond honestly to questions.

Observational research

Because distortion can be a serious limitation of surveys research, scientists may choose to observe subjects' behavior directly through **observational research**. Observational research takes place in either a laboratory (**laboratory observation**) or a natural setting (**naturalistic observation**). In either research method, observers record participants' behavior within an environment. Observational research reduces the possibility of subjects giving misleading accounts of their experiences, not taking the study seriously, being unable to remember details, or feeling too embarrassed to disclose everything that happened.

Observational research has limitations, however. Volunteer bias is common, because volunteers may not be representative of the general public. Individuals who agree to be observed and monitored may function differently than respondents who do not want to be observed and monitored. Individuals may also function differently in a laboratory setting than respondents who are observed in more-natural settings.

Correlational research

A **correlation** is a relationship between two **variables** (factors that change). Variables may include characteristics, attitudes, behaviors, or events. The goal of correlational research is to determine whether or not a relationship exists between two variables, and if a relationship does exist, the number of commonalities in that relationship. A researcher may use case-study methods, surveys, interviews, and observational research to discover correlations. Correlations are either positive (to +1.0), negative (to -1.0), or nonexistent (0.0). In a **positive correlation**, the values of the variables increase or decrease (co-vary) together. In a **negative correlation**, one variable increases as the other variable decreases. In a **nonexistent correlation**, there is no relationship between variables.

Although correlation is commonly confused with causation, correlational data DOESNT indicate a cause-and-effect relationship. When a correlation is present, changes in the value of one variable reflect changes in the value of the other. The correlation does not imply that one variable causes the other variable, only that both variables are somehow related. To study the effects that variables have on each other, an investigator must conduct an experiment.

Experimental research

Experimental research is concerned with *how* and *why* something happens. The goal of experimental research is to test the effect that an **independent variable**, which the scientist manipulates, has on a **dependent variable**, which the scientist observes. In other words, experimental research leads to conclusions regarding causation.

A number of factors can affect the outcome of any type of experimental research. For instance, investigators face the challenge of finding samples that are random and representative of the population being studied. Additionally, researchers must guard against **experimenter bias**, in which their expectations about what should or should not happen in the study sway the results. Researchers should also control **extraneous variables**, such as room temperature or noise level, which may interfere with the results of the experiment. Only when experimenters carefully control extraneous variables can they draw valid conclusions about the effects of specific variables on other variables.

Cross-cultural research

Western cultural standards do not necessarily apply to other societies, and what may be normal or acceptable for one group may be abnormal or unacceptable for another group. Sensitivity to others' norms, folkways, values, mores, attitudes, customs, and practices necessitates knowledge of other societies and cultures. Developmentalists may conduct **cross-cultural research**, research designed to reveal variations existing across different groups of people. Most cross-cultural research involves surveys, direct observation, and participant observation methods of research. The challenge of this type of research is to avoid experimenter bias and the tendency to compare dissimilar characteristics as if they were somehow related.

Participant observation

Participant observation requires an observer to become a member of his or her subjects' community. An **advantage** of this method of research is the opportunity to study what actually occurs within a community and then consider that information within the political, economic, social, and religious systems of that community. A **disadvantage** of participant observation is the problem of subjects altering their behaviour because, as subjects of the observation, the participants know that they are being watched.

Theories of Development

Development is the series of age related changes that happen over the course of a life span. Several famous psychologists, including **Sigmund Freud, Erik Erikson, Jean Piaget, and Lawrence Kohlberg**, describe development as a series of stages. A **stage** is a period in development in which people exhibit typical behaviour patterns and establish particular capacities. The various stage theories share three assumptions:

1. People pass through stages in a specific order with each stage building on capacities developed in the previous stage.
2. Stages are related to age.
3. Development is discontinuous, with qualitatively different capacities emerging in each stage.

Sigmund Freud's Theory of Personality

The Austrian psychiatrist Sigmund Freud first described personality development as a series of stages. Of these stages, Freud believed that early childhood was the most important. He believed that personality developed by about the age of 5.

Erik Erikson's Theory of Psychosocial Development

Like Freud, Erik Erikson believed in the importance of early childhood. However, Erikson believed that personality development happens over the entire course of a person's life. In the early 1960s, Erikson proposed a theory that describes eight distinct stages of development. According to Erikson, in each stage people face new challenges, and the stage's outcome depends on how people handle these challenges. Erikson named the stages according to these possible outcomes:

Stage 1: Trust vs. Mistrust

In the first year after birth, babies depend completely on adults for basic needs such as food, comfort, and warmth. If the caretakers meet these needs reliably, the babies become attached and develop a sense of security. Otherwise, they may develop a mistrustful, insecure attitude.

Stage 2: Autonomy vs. Shame and Doubt

Between the ages of one and three, toddlers start to gain independence and learn skills such as toilet training, feeding themselves, and dressing themselves. Depending on how they face these challenges, toddlers can develop a sense of autonomy or a sense of doubt and shame about themselves.

Stage 3: Initiative vs. Guilt

Between the ages of three and six, children must learn to control their impulses and act in a socially responsible way. If they can do this effectively, children become more self-confident. If not, they may develop a strong sense of guilt.

Stage 4: Industry vs. Inferiority

Between the ages of six and twelve, children compete with peers in school and prepare to take on adult roles. They end this stage with either a sense of inferiority.

Stage 5: Identity vs. Role Confusion

During adolescence, which is the period between puberty and adulthood, children try to determine their identity and their direction in life. Depending on their success, they either acquire a sense of identity or remain uncertain about their roles in life.

Stage 6: Intimacy vs. Isolation

In young adulthood, people face the challenge of developing intimate relationships with others. If they do not succeed, they may become isolated and lonely.

Stage 7: Generativity vs. Self-Absorption

As people reach middle adulthood, they work to become productive members of society, either through parenting or through their jobs. If they fail, they become overly self-absorbed.

Stage 8: Integrity vs. Despair

In old age, people examine their lives. They may either have a sense of contentment or be disappointed about their lives and fearful of the future.

Erikson's Theory of Psychosocial Development

Stage Conflict Faced	Typical Age Range	Major challenges(s)
1 First Year of life	First year of life	Having basic needs met, attaching to people
2 Autonomy vs. shame and doubt	1-3 years	Gaining independence
3 Initiative vs. guilt	3-6 years	Acting in a socially responsible way
4 Industry vs. inferiority	6-12 years	Competing with peers, preparing for adult roles
5 Identity vs. role confusion	Adolescence	Determining one's identity
6 Intimacy vs. isolation	Early adulthood	Developing intimate relationships
7 Generativity vs. self absorption	Middle adulthood`	Being productive
8 Integrity vs. despair	Old age	Evaluating one's life