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The Internal Assessment:
**COMMAND TERMS**

*Hint: pay attention to whether the question is asking for “or” as opposed to “and.”*

**Account For:** Present a reasoned case for the existence of something.

**Analyze:** Break down in order to bring out the essential elements or structure, with a closely argued and detailed examination of a perspective. A clearly written analysis will indicate the interrelationships between key variables, any relevant assumptions, and a critical view of the significance of the account as presented.

**Apply:** Use an idea, equation, principle, theory, or law in relation to a given problem or issue.

**Assess:** Measure and judge the merits and quality of an argument or concept. Clearly identify and explain the evidence for the assessment made.

**Compare:** Give an account of the similarities between 2 (or more) items or situations, referring to both (all) of them throughout.

**Compare & Contrast:** Give an account of similarities and differences between 2 (or more) items or situations, referring to both (all) of them throughout.

**Contrast:** Give an account of the differences between 2 (or more) items or situations, referring to all of them throughout.

**Define:** Give the precise meaning of a word, phrase, concept, or physical quality.

**Describe:** Give a detailed account (a portrayal) of a given situation. Present a detailed picture of the situation, event, pattern, process or outcome. This may be followed by further opportunity for discussion and analysis.

**Discuss (Consider):** Offer a considered and balanced review that includes a range of arguments, factors, or hypotheses, presented clearly and supported by appropriate evidence.

**Distinguish:** Make clear the differences between 2 or more concepts or items.

**Evaluate:** Make an appraisal by weighing up the strengths and limitations of the argument or concept under investigation or discussion. Weigh the nature of the evidence available, and identify and discuss the convincing aspects of the argument, as well as its limitations and implications.

**Examine:** Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.

**Explain:** Give a detailed account including reasons or causes. Describe clearly, and give reasons for a concept, process, relationship or development.

**Identify:** Recognize 1 or more component parts or processes.

**Outline:** Give a brief account or summary of the major aspects of the issue, principle, approach, or argument.

**State:** Give a specific name, value, or other brief answer without explanation or calculation.

**To What Extent:** Consider the merits or otherwise of an argument or concept. Opinions and conclusions should be presented clearly and supported with appropriate evidence and sound argument(s).
**TERMS TO KNOW**

**Behavior:** The activity of an organism including body movements, physiological, and cognitive processes.

**Bidirectional Ambiguity:** when the cause and the effect could be switched and still said to make sense.

**Confederate:** an actor or fellow member in a study, pretending to be a participant and helping in the deception.

**Deductive Analysis:** begins with the general; ends with specific; these are arguments based on laws, rules, or widely accepted principles. Deductive reasoning arrives at a specific conclusion based on known generalizations. If the steps are valid, then it is certain that this result will follow next (necessarily, it must happen). If—then statements.

**Emic:** a description of behavior, or a belief (conscious or unconscious) important to the person within the culture.

**Empirical:** A term used in relation to studies in which data has been gathered, recorded, and analyzed.

**Epistemology:** a branch of philosophy concerned with the nature and scope (limitations) of knowledge. What is knowledge? How is it acquired? How do we know what we know?

**Ethnocentric:** the tendency to believe that one’s ethnic or cultural group is centrally important, and that all other groups are measured in relation to one’s own (usually a western bias).

**Etic:** a description of a behavior or belief by an observer (outside of the culture).

**Etiology:** The cause of a disease or abnormal condition.

**Inductive Analysis:** theory and hypothesis move from the specific to the general; arguments are based on experience, observation, discovery, or inquiry, where you observe patterns and make generalizations. Based on probability (most likely this will happen).

**Introspection:** self-observation, reporting and examining your conscious inner thoughts, sensations, and feelings.

**Methodology:** the study or description of methods used in a study.

**Multidisciplinary:** mixture of disciplines (example: sociology, anthropology, biology, and psychology).

**Objective:** independent point of view (without emotional attachment).

**Operationalized:** the process of defining fuzzy concepts to make them measureable for empirical observations.

**Ontology:** philosophical study of being, existence, or reality (metaphysics).

**Phenomenological:** used in psychology to refer to subjective experiences or their study.

**Self-Efficacy:** a person’s belief in their own competence.

**Subjective:** a personal perspective, feelings, beliefs, desires or discovery (as opposed to those made from an independent, objective, point of view).
Preparing for the IB Exam Essays

The exam is about showing that you have psychological knowledge and that you can use it sensibly. A good paper will present relevant information and argue in a focused and structured way to answer a question. A good paper will also demonstrate critical thinking skills.

- The IB reader of your paper will not accept anything you say as fact until you argue with supporting evidence. This test is about persuasion. When you write a paper in psychology you are writing for an audience (your IB examiner). Think of your audience as someone that you are supposed to convince, who is reasonably knowledgeable. Your audience may not agree with you but you gain points by presenting good, solid arguments and providing evidence (empirical research and psychological theories).
- This is not about expressing your opinion. It is about supporting your position.
- Your reader cannot read your mind or guess what you meant to say. You can only inform the reader through explanation and interpretation (called meta-text). You must spell out and say very clearly what you want the reader to understand.

The SAQs (Short Answer Questions) or essay questions may ask you to explain and evaluate a theoretical explanation of behavior, question the interpretation of a study, or discuss various approaches to therapy. This will require for you to apply critical thinking skills.

- No matter what the question is, you need to focus on what the question is asking. Ask yourself, “what is my position on this question?” Then consider what relevant knowledge you have to address the question, as well as your line of argument. Give your paper a clear structure so that it is easy to follow your argument and the supporting evidence.
- Make an outline in order to see if your answer makes sense. The outline will help you to structure your argument. If your answer does not have a main point, then it cannot be arguing for anything.
- Do not just write the first thing that comes into your head in a disorganized “information dump.” This will not get you high marks.

**Assessment Objectives for SAQs and Essays:** (you will receive marks for the following)

- Knowledge and comprehension of specified content, key terms, concepts, research methods, theories and research studies
- Knowledge and comprehension of the biological, cognitive, and sociocultural levels of analysis.
- Analysis and application to use examples of psychological research and concepts to formulate an argument in response to a specific question.
- Synthesis and evaluation to evaluate psychological theories and empirical studies. Discuss how biological, cognitive, and sociocultural analysis can be used to explain behavior.
- Write an organized response using all of the above.
The Traditional Structure of Your Essay

An intro, a main body (3-4 paragraphs), and a conclusion

INTRO: must introduce the essay question and your line of argument. This paragraph should include your thesis statement. It gives the reader the idea of what to expect in your essay. The intro should be a short, focused paragraph. It must deal with the demands of the essay question—why is this issue important and what line of argument have you chosen?

MAIN BODY: (3-4 paragraphs) must present information in a clear and logical manner. It should build an argument to answer the essay question. If the question is divided into parts, be sure to address each part. Each paragraph should include 1 argument and relevant knowledge to support it (theory or study, researcher, year).

Example:

Step 1: Make a claim: “Social learning theory can explain how children learn gender roles.”

Step 2: Support the claim with evidence (researcher X discovered…social learning theory states that…)

Step 3: Support the claim with more evidence (researcher Z found that parents reinforce…)

Step 4: Keep bringing your claims and evidence back to the original theory or claim. Make sure you are supporting the original claim (and not providing counter-evidence).

CONCLUSION: should relate directly to the question. It is not just a summary of the whole essay—but relates to the argument and follows logically from what you have written in the main body. The conclusion is the ultimate answer, based on your argument.

Eight Steps to a Successful Essay

1. Identify command terms (discuss, compare, evaluate, analyze, outline)
2. Identify content. Example: if the question asks for one research method, you may decide to discuss the experimental method.
4. What is the argument? Break the argument down into 3-4 components to support your answer.
5. Consider the argument. Have you chosen the best argument possible? Is there any more evidence to strengthen the argument (research studies, key concepts)?
6. Make an outline. Include your main points in the intro and conclusion.
7. Write the essay according to your outline.
8. Read through the essay and use the following checklist:
   a. Does the intro provide a clear thesis to your line of argument?
   b. Did you address the essay question, and only that?
   c. Did you include relevant knowledge—and only relevant knowledge (theories and empirical studies) to support the argument?
   d. Does your answer demonstrate critical thinking skills (evaluation and analysis)?
   e. Is your answer clearly organized and focused on the essay question?
   f. Is your argument well developed?
Strategies for Paper 1 (SAQs & Essay)

- 2 hours, 35% of your total score
- Paper 1 deals with the Biological, Cognitive, and Sociocultural levels of analysis.
- It consists of 2 sections: A and B
  - Section A: 3 short-answer questions (SAQs). You answer all 3.
    You have 20 minutes to plan and write each SAQ. A typical answer is 250 words.
  - Section B: you choose 1 essay from 3 options.
    You have 1 hour to plan and write this essay. The essay should be approx. 800 words.

- **Section A**: Short-answer means short. There is no introduction and no conclusion. Answer the question as it is.
- Read the question carefully. What are the command terms? What content are you supposed to address? Be sure that you address the question as it is written.
- Make a brief outline, with a possible structure and key words. If you have to address 2 factors in the question, then structure the answer so that you first address one and then the other.
- Start the opening line by repeating the essentials of the question.
- Write a reasoned argument in relation to each part of the question. This means that you should include relevant evidence (research) to support your answer.

**Example: Outline two principles that define the cognitive level of analysis.**

*The command term is outline. This means you should give a brief account or summary. You are asked to deal with 2 principles that each define the cognitive level of analysis. You should produce 2 small paragraphs, each with a relevant principle. Here is a possible answer for this SAQ:*

Two principles that define the cognitive level of analysis are that mental processes guide behavior and that cognitive processes are influenced by social and cultural factors. Cognitive psychologists see the mind as a complex machine—or rather, like an intelligent, information-processing machine. According to this line of thinking, the input to the mind comes via bottom-up processing (from the sensory system), and the information is then processed in the mind by an active top-down processing via pre-stored information in the memory (schemas). Humans use these cognitive schemas to make sense of the world. Stereotypes are an example of cognitive schemas. Research has demonstrated that stereotyping can cause discrimination.

The second principle that defines the cognitive level of analysis is that cognitive processes are influenced by social and cultural factors. One of the first to say this was the British psychologist Frederic Bartlett (1932). Bartlett claimed that cognitive schemas are culturally determined. He asked people from a western culture to recall a Native American story. When he asked them to recall the story, they remembered the meaning of the story, but many of the details were changed to fit with their own cultural schemas. This experiment can explain why it is difficult to remember something unfamiliar. Bartlett demonstrated that memory is not like a tape recorder, but rather that people change information so that it makes sense to them.

(227 words)
Example of a SAQ: Using one psychological study, explain how physiology and cognition interact:

A study by Newcomer et al (1999) investigated how the hormone cortisol influences memory functioning in a lab experiment. Cortisol is a stress hormone, and it is believed that prolonged secretion of cortisol is the cause of memory impairment, which is one of the symptoms of chronic stress. The researchers used three experimental groups. Group one was given 40 mg of cortisol in a tablet per day of the four-day experiment. Group two was given 160 mg of cortisol in a tablet and group three was given a placebo tablet. After four days, the participants were asked to listen to and recall a prose paragraph that tested the verbal declarative memory.

The results of the experiment clearly indicated that the participants who were given the high level of cortisol showed a significant impairment of memory. This supports the claim that there is a link between physiology and cognition, because it is well known from scanner studies that chronic stress can results in shrinking of the hippocampus, a brain structure which is very important in memory processes. Newcomer’s study showed that even short-term increases in cortisol secretion can have a damaging effect on memory. Since it was an experiment, it can be concluded that there is a cause-and-effect relationship between levels of cortisol and memory processes.

(word count 215)

Strategies for Answering Paper 2

2 hours, 25% of your total grade. Choose 2 essays from 2 different options. Each essay is worth 22 marks.

- Abnormal Psychology
- Health Psychology
- Human Relations
- Developmental Psychology
- Sports Psychology

- What was already said about focus, structure, and argument is equally true for essays. The purpose of the essays is to show that you have relevant knowledge, and that you can apply critical thinking skills, such as evaluation and analysis. It is also a test to see if you can structure the essay and build an argument.
- Read the essay very carefully.
- Identify command terms and content. What exactly are you supposed to do? Everything in your essay must relate to the essay question and nothing else.
- The essay should have an introduction, 3-4 full body paragraphs, and a conclusion. Each paragraph should contain a single argument, backed by relevant research as a response to the essay question.
- Make a plan. Organization of the essay is one of the skills assessed. If you spend 10 minutes planning, you will still have 50 minutes to write and check your work. Outline what needs to be addressed including key terms or concepts, and relevant theories and empirical studies that support your argument.
Strategies for Answering Paper 3 (Research)

1 hour, 20% of your total grade. You will receive a piece of stimulus material based on documentation of research. This may be a summary of a study, interview, or observation, and the piece will be approximately 500 words. It may also include a chart. You will be given 3 questions about this material.

- You will analyze this piece using qualitative psychological research terms: methodology, reflexivity, and ethical issues. You might also be asked for the aim, characteristics of participants, research methods used, or results.
- Read the stimulus material carefully. This will give you an idea of what to expect in the questions. Remember you may underline, circle, highlight, or write in the margins to help you organize your thoughts while reading.
- Once you understand what the research is about, read the questions (3) carefully so that you have an overall idea of what to do.
- Look for command terms—what exactly are you supposed to do?
- Make an outline before you start writing—jot down a few hints to help you remember the facts you need to structure your answer. You can use diagrams, quick charts, or mind-mapping for this.
- Answer the questions in a focused way. There is no reason to write more than is necessary.
- Make sure you refer to the stimulus material when you argue, but do not use long quotations from the material. Demonstrate your knowledge of qualitative methodology and use this knowledge in relation to stimulus material.

Examples of Research Questions (you will only have 3 questions to answer, 10 marks each)

1. Explain how the case study was used to investigate and find a solution to a social problem.
2. Evaluate the use of focus-group interviews as a data collection method in this case study.
3. Discuss whether the findings from this case study can be generalized.
4. Explain possible effects of participant expectations on the findings of this study.
5. Discuss the aim of semi-structured interviews in this study.
6. Explain how researchers could use inductive content analysis on the transcripts of the semi-structured interviews in this study.
7. Explain the advantages and disadvantages of using inductive content analysis in the context of a specific study.
8. Discuss ways in which you, as a researcher in this study, would prepare for the interviews and the post interview information that you would give to ten participants.
Markbands

Markbands refer to the way your essays are scored.

**Markband for Paper 1 & 2:**

- **0-3**: There is little or no organizational structure. There is very little or no understanding of the question, nor evidence of knowledge of perspectives. The answer consists of only a few relevant facts.
- **4-7**: There is little sense of structure in the answer. Although there is an attempt to answer the question, knowledge and understanding of the perspectives is limited, often inaccurate, and of marginal relevance to the question.
- **8-11**: There is a basic structure to the answer. The answer contains accurate knowledge and understanding of the perspectives but the comparison is implied not explicit.
- **12-17**: The demands of the question are addressed mainly within a structured framework. The comparison is supported by appropriate knowledge and understanding from the perspectives. The answer contains appropriate analysis but there may be minor omissions. Evaluation is clear and applied appropriately. Cultural, ethical, gender, or methodological considerations are present and appropriate to the question.
- **18-20**: The demands of the question are addressed effectively in a focused and logical structure. The comparison is supported by appropriate knowledge and understanding and in-depth analysis. Evaluation is balanced and well-developed. Cultural, ethical, gender, or methodological considerations are an integral part of the response.

**Markband for Paper 3:**

- **0**: The answer does not reach a standard described by the descriptors below.
- **1-3**: There is an attempt to answer the questions, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question. The response makes no direct reference to the stimulus material or relies too heavily on quotations from the text.
- **4-7**: The question is partially answered. Knowledge and understanding is accurate but limited. Either the command terms are not effectively addressed, or the response is not sufficiently explicit in answering the question. The response makes limited use of the stimulus material.
- **8-10**: The question is answered in a focused and effective manner and meets the demands of the command term. The answer is supported by appropriate and accurate knowledge and understanding of qualitative research methodology. The response demonstrates a critical understanding of qualitative research methodology applied to the stimulus material.
## Markband for Class Essays:

All essays are graded on the established IB marking rubric. The typical rubric scale is from 1-20 points.

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Unit 1: Mastery Log Questions for your Research Workbook

1. Define psychology. Describe psychology as a scientific discipline.
2. Outline how psychological knowledge is generated. What ways of knowing is scientific psychology based on (the difference between a theoretical explanation and an empirical investigation).
3. Explain what is understood by critical thinking and provide examples.
4. Know how to define the aim and target population of a study.
5. Discuss sampling techniques appropriate to research.
6. Discuss ethical considerations when carrying out research.
7. Explain the concept of generalize, validity, reliability, and application of findings.
8. Explain the purpose of a null and experimental hypothesis.
9. State the independent and dependent variables in an experiment as well as the operational definitions of variables.
10. Explain confounding variables and how they may be controlled.
11. Discuss the strengths and limitations of the experimental method.
12. Describe non-experimental methods and know the important differences between experimental and non-experimental methods.
13. Evaluate the use of case studies in research. Explain how a case study can be used to investigate a problem in a group or organization, and how can findings from a case study be generalized?
14. Evaluate semi-structured, focus, group, or narrative interviews. Discuss considerations involved before, during, and after an interview (sampling method, data recording, transcribing, debriefing)
15. Explain how researchers use inductive content analysis (thematic analysis) on interview transcripts.
16. Distinguish between qualitative and quantitative data. Explain the strengths and limitations of both approaches to research.
17. To what extent can findings be generalized from qualitative studies?
18. Discuss ethical considerations in qualitative research.
19. Explain the effects of participant expectations, researcher bias, reflexivity, triangulation, and the importance of credibility and trustworthiness in qualitative research.
20. Evaluate participant, non-participant, naturalistic, overt, and covert observations.
UNIT 1: What Is Psychology?

People use psychology every day to explain human actions, such as beliefs, motives, love, or childhood experiences. Some cultures go to astrology, psychics, or the village elders about important issues. Humans all share the belief that if we discover the causes of behavior, then we can explain and maybe control those behaviors.

Humans tend to infer from what they observe other people doing. We call this “folk” psychology or “common-sense” psychology and this may be fine for everyday interactions, but this is not the same as scientific psychology. People today have learned to use psychology terms without even really knowing where they come from—such as “repressing” bad memories, or somebody has a “napoleon complex”, or somebody has a big “ego.” Some self-help books that are very popular, over-simplified, and are usually not based on scientific evidence. This is called pop-psychology (popular) and these theories are often full of “psycho-babble” (Rosen, 1977) buzzwords that sound catchy.

Section 1: Critical Thinking

Psychologists use a variety of methods to collect data such as experiments, brain scanning, and interviews. To analyze these studies will require advanced critical thinking skills so that you will not be fooled by false claims or poorly conducted research. Critical thinking means that you are skeptical and critical when reviewing data. It is the ability and willingness to assess claims and make objective judgments based on well-supported reasons and evidence (rather than emotions, beliefs, myths, and anecdotes).

The Reflective Judgment Interview, was created by King & Kitchener, 1994 to help show examples of critical thinking. When you evaluate a theory in psychology, you can ask “what sort of evidence is it based on?” Is it possible to re-test the theory? Is there evidence to support or contradict the theory? Is it useful in explaining real life events (ecological validity)? Does it represent a group of people? Was it conducted in an ethical manner? Are the findings supported by other theories?

- Question assumptions and biases, challenge assertions.
  - Why are some studies so influential in spite of flaws? What was the historical context of the research?

- Evaluate available evidence. Relate it to a theory or opinion.
  - Evaluate the evidence that gives support, fails to give support, or contradicts a theory.

- Employ ethical evaluation.
  - Would the study be acceptable to modern ethical committees? Is there any justification for the infringement of ethical standards?

- Tolerate some uncertainty.
  - It is acceptable to say that research is inconclusive or contradictory.

- Define the problem. Keep your argument focused.
- Avoid emotional reasoning. Be aware of your own biases.
- Do not jump to oversimplified conclusions. Recognize reductionist arguments.
- Consider alternate interpretations. Be aware of other studies or alternative theories. Evaluate by comparison.
- Re-assess conclusion if new information appears.
- Employ cultural & gender evaluation.
- Evaluate the methodology.
Section 2: Psychology as a Science

Psychology is: the scientific study of mental processes and behaviors, and how these are affected by internal processes and the environment.

Over the years, scientists have argued over what should be studied in psychology and how it should be studied. Psychologists needed to develop systematic and controlled methods to study human behavior, in order to establish a cause-and-effect relationship for describing behavior. As a student of psychology, we will study the human animal and our fascinating behavior in a scientific way. Many studies will be complex as explaining human behavior is not always easy.

Let’s break the definition of psychology down into several parts.

Mental Processes: are covert (hidden) behaviors, such as attention, memory, emotion, and attitude.

Behavior: Overt (observed) behaviors, such as aggression, helping, and sleeping.

Internal Processes: Hormones, genes (nature, biology, the way you were born)

Environment: your work, school, or home surroundings (nurture, the way you were raised)

Psychology began as a part of philosophy (Greek psyche means soul or mind; logos means reason) but became an independent science by the mid 19th century. Often psychology studies are used to answer debates about human nature (good or evil). Why are we social? Why do we do the things we do?

The first experimental study in psychology was conducted by German physiologist Wilhelm Wundt (1832-1920). As a ball was bounced on a table, participants pressed a telegraph key when they heard the noise of the bouncing ball. Wundt noted their reaction time and the delay in human cognition (thinking). He studied processes like neural transmissions, reflexes, and perception. He was interested in the introspective mind of an adult. In 1879, he established a PhD program in experimental psychology for the University of Leipzig and is known as the “father of experimental psychology.”

Not long after, Austrian Sigmund Freud (1856-1939) became one of the most famous psychologists with his psychodynamic theories involving the influence of unconscious conflicts on human behavior.

Reactions against Freud’s theories inspired whole new directions for psychology in the USA with the behaviorist theories of John Watson (1878-1958) and B.F. Skinner (1904-1990). Their approach focused on the role of previous learning, suggesting that we have an innate predisposition to learn. They claimed that the experiences we have during our lives plus the consequences of our behavior are ultimately responsible for determining our behavior. Other approaches soon developed, including the humanistic approach and cognitive psychology.

Today, psychology has become a multidisciplinary science that combines biology, sociology, and anthropology. What are the advantages to being multidisciplinary?

There is even a new branch of study known as neuroeconomics which combines neuroscience, economics, and psychology to investigate how humans make economic decisions (George Mason University). The results of all of these studies are used by major international organizations such as WHO (World Health Organization) and UNICEF.
Section 3, The 3 Levels of Analysis

This year we will focus on 3 main levels of analysis:

1. **Biological**: physiology of the human body (genetics, brain function, hormones, neurotransmitters)
2. **Cognitive**: mental processes (thinking, memory, perception, attention)
3. **Sociocultural**: How the environment affects behavior and thinking (gender, culture, race, socio-economic)

For example: Gender (male or female)

- The **Biological** level of analysis looks at genetic differences, XX versus XY chromosomes; hormones like testosterone and estrogen.
- The **Cognitive** level of analysis looks at gender schema theory (how we think boys or girls look, behave, talk, stereotypes, etc) and how social cognition will guide our behavior.
- The **Sociocultural** level of analysis looks at social learning theory (how we learn by watching others) as well as how culture affects definitions of gender roles.

The interaction of these influences substantially determines behavior. The level of analysis approach reflects a modern trend in psychology towards integration and demonstrates how explanations offered by each of the three levels of analysis (biological, cognitive and sociocultural) complement one another and together provide more complete and satisfactory explanation of behavior.

The three levels of analysis can be usefully compared to three microscope lenses of different magnification. Each lens reveals a different picture of the intricate structure that exists at a variety of levels, but no single picture explains the whole object; a synthesis is necessary. Synthesis of the rich and diverse content of modern psychology is the chief aim of IB psychology.
Section 4, The Building Blocks of Scientific Research

When a researcher collects and analyses data, it is called an **empirical investigation**. It is research that can be observed, and measured with evidence that is gathered using our own senses.

Data is actually a synonym for plural facts, figures, and statistics. **Datum** is a single piece of information. Data is often misused as a singular word, which is incorrect.

Incorrect: Where is the data?  
Correct: Where are the data?

Researchers use many different methods (referred to as **methodology**) including experiments, observations, surveys, and interviews. The goal of an experiment is to establish a **cause-and-effect** relationship between 2 variables. In order to do this, experiments are performed under highly controlled conditions.

**Theory**: an possible explanation for a psychological phenomenon built on concepts that must be carefully defined and tested. This is a statement used to summarize, organize, and explain observations or to make predictions and observe events. Theories are *not* laws (like in other sciences), but there is a probable outcome. Sometimes psychologists have the theory *before* the experiment begins, and sometimes the theory emerges *after* the research has been conducted.

When psychologists publish their work, they refer to theories, and reference to other empirical studies which may support their findings. Researchers may use **inductive** or **deductive** reasoning to establish a hypothesis.

**Inductive Reasoning**: moving from the specific to the general; arguments are based on experience, observation, discovery, or inquiry, where you observe patterns and make generalizations. Based on probability (most likely this will happen).

**Deductive Reasoning**: begins with the general; ends with specific; these are arguments based on laws, rules, or widely accepted principles. Deductive reasoning arrives at a specific conclusion based on known generalizations. If the steps are valid, then it is certain that this result will follow next (necessarily, it must happen). If—then statements.

- **Joe**: Every time I kick a ball up, it comes down again. I guess this time when I kick the ball up, it will also come back down again (Inductive).
- **Ray**: That’s called Newton’s Law—what comes up must come down. If you kick the ball up, Newton’s Law says it will come back down (Deductive).

Notice that Ray’s response is from the general (the law of gravity) to the specific (this kick).

Joe’s response goes from the specific (each kick I have made) to a prediction of the future (the next kick).

The main difference between these two types of arguments (or hypotheses) is in the way each is expressed. Any inductive argument can also be expressed deductively, and any deductive argument can also be expressed inductively. Each type of argument requires support. Joe’s support is in own experience based on previous observations. Ray’s support is Newton’s Law, even if he has never kicked a ball himself.
Section 5, The Plan:

In order to carry out a study, researchers need to have a plan. They need people willing to participate in the study (participants), and they need a method for collecting and analyzing the data.

**Aim:** the purpose of the study. Which behavior or thinking process will be studied? In order to formalize the aim, the researcher formulates a **hypothesis**.

**Hypothesis:** (H1) a prediction of how the IV affects the DV. This experimental hypothesis predicts the relationship (cause-and-effect) between the IV and the DV—what we expect will come out of the manipulation of the IV (95% of the time). This is a claim, derived from a theory, that will be tested against empirical evidence so it can be either accepted or rejected. This is called the **deductive approach**.

- **Example:** Loud noise will decrease the number of words that an individual is able to recall from a list of words.

**Null Hypothesis:** (H0) The null hypothesis states that the IV will have no effect on the DV, or that the change is due to chance (more than 5%).

- **Example:** Noise has no effect on an individual’s ability to recall a list of words; or any change in the individual’s ability to recall a list of words is due to chance.

**Independent Variable (IV):** The variable that the researcher deliberately manipulates, while trying to keep all other variables constant.

**Dependent Variable (DV):** the variable that is measured after the manipulation of the independent variable. A DV needs to be stated with exactly what is being measured.

- **Example:** Does noise (IV) have an effect on the ability to recall information (DV)?

Variables need to be **operationalized**—they need to be written in a way that is clear, specific, and quantifiable (strictly defined into measureable factors). In this way, fuzzy, vague concepts can be measured empirically and quantitatively. For instance, how do you measure how much people laugh?

- **Example:** It is not enough to say you are measuring aggression in children. You must explain the specific aggressive behaviors that will be recorded (such as Bandura's BoBo Doll study, 1961-1963).

**Control Group:** This is the group that does not receive the IV.

- **Example:** The experimental group hears the loud noise. The control group does not get any noise.

**Confederate:** an accomplice who is helping the experimenter conduct the research. They may help in minor deception.
Example of Experimental Research in Psychology

Touch for Premature Infants

Tiffany Fields, USA (1986) carried out research to investigate the effect of touch on infants who were born prematurely.

80 preemie infants were allocated to either the standard care group or a group given daily massage.

The infants who received daily massage gained 47% more weight, became more socially responsive, were more active and alert, and had better motor responsiveness.

The babies were discharged 6 days earlier than the babies in standard care which saved the hospital $3000. per infant ($10,000 by 2011 standards), or $4.7 billion if all 470,000 infants born each year were massaged.

Touch therapy is becoming more widely practiced across the USA.

Investigate more massage touch studies with infants at: www6.miami.edu/touch-research/InfantMassage.html

YOUR TURN:

What was the IV in this study?

What was the DV?

Was there a control group?

Are there any ethical issues in this study?
Section 6, Selecting Your Sample

**Participants:** (n) It is not possible to study the whole population, so who should be in a study? The group chosen is called the sample. The sample should represent the target population. This is called the representative sample. For example, if the researcher is studying teenage drinking habits, then the population studied should be teens.

**Target population:** The group whose behavior the researcher wants to study (for example: bilingual students in high school, teens who live with 1 parent, women who have given birth to twins, people who have moved to Europe).

The size of your sample is also important. In a small study, each individual has a large influence on the overall results. In a larger study it is easier to represent all aspects of the population.

**Sampling bias:** It is important to consider participant variability. If all of your participants share the same common traits, this can bias the outcome of the study (such as attitudes about homosexuality, or math anxiety). 2/3 of research performed at universities exclusively used students as participants (Sears, 1986) or even 75% (McCray et al, 2005) 1/3 are psychology students. It is difficult to claim that the findings apply to the general population with sampling bias.

- Students have a strong need for peer approval
- They were pre-selected for college because of competence in cognitive skills
- They are more ego-centric than adults

**Types of Sampling Methods:**

- Opportunity/Convenience Sample
- Self-Selected Sample
- Cluster Sample
- Purposive Sample
- Snowball Sample
- Random Sample
- Stratified/Quota Sample

**Opportunity or Convenience Sample:** whoever happens to be there and agrees to participate, such as answering a survey on a clipboard at the mall or supermarket. Commonly used in university-based research because it is usually free and participants are easy to obtain. But what part of the population participated? Who shops at that store or mall at that time? Who is on the basketball court? Is there a gender, age, or racial imbalance? This can lead to biased results and is problematic to generalize.

**Self-Selected Sample:** volunteers. One advantage is that participants are easy to obtain, usually free, and will be highly motivated if they volunteer. The disadvantage is that volunteers rarely reflect the general population, so it is difficult to generalize the findings.

**Purposive Sampling:** targets a particular group of people (all teens, all homeless). This is based on the aim of the study and existing knowledge in the field. This could refer to socio-economic (living below the poverty line, lotto winners), specific experiences (childhood abuse), occupation (nurses), or social roles (mother). All relevant features must be present in the sample though there may still be diversity within the group (such as age, race, or gender). Most often used in qualitative research, this method helps to quickly obtain a sample to investigate an urgent problem (such as rehabilitation for stroke victims). If the desired population is rare or difficult to locate, this may be the only option (such as elderly women who are homeless or illegal immigrants). The type of sampling could lead to bias, but if the aim and objective are clearly documented and explained, the bias should be limited.
**Cluster Sampling**: Sometimes it is easier to randomly select just one part of the target population. Members of this cluster are then invited to participate. This could be effective in gauging political opinions. Instead of calling the entire state of voters, just one county could be questioned. But what if this was the richest county and does not represent the views of the whole state? For instance, in Florida, the majority of the state votes republican—but if you only ask Dade and Broward counties, you would get a majority democrat answer.

**Snowball Sampling**: participants recruit friends, neighbors, and family. The sample grows like a snowball rolling downhill. This is often used in social psychology where it may be difficult to access the target population (such as drug users, or volunteers in shelters). This method saves time and money, can be used to locate hidden populations with rare characteristics. For instance, it is impossible to obtain an official list of all names and addresses for homeless people—but word of mouth could spread to the homeless community from one or two participants. Limitations include biased or skewed results, and participants may now know the identity of other participants.

**Random Sampling**: Every member of the target population has an equal chance of being selected (like jury duty). For most research, this is the desired sampling method because if the sample is large enough, and diverse enough, it is assumed that this group will contain the characteristics of the general population and your results can be generalized (examples: names in a hat, use random cards or sticks).

**Stratified/Quota Sample**: In order to have a sample that considers diversity of the target population, the researcher may draw random samples from each sub-population within the target population (for example: Indian students, Asian students, Af-Am students, Caucasian students, etc). This method may reflect the actual distribution of the population better (such as in a school).
Section 7, Putting the Plan into Action

Procedure: step-by-step process used by the researcher to carry out the study. This should be written in a way that makes it possible for others to understand how the data was collected. Be sure to define the actual behavior being studied.

Results (Findings): How the researcher interpreted the data that was collected. Research findings are open to discussion and debate. Being able to interpret the findings is an essential skill for a psychologist. Be sure the researcher did not interpret the results in a way that is biased (such as Western bias), or that there are no flaws in the procedure. Findings may only give information about the target group, and may not be generalized to other groups or cultures. It is important to always be aware of cultural bias and the culture in which the study was conducted.

Triangulation: This is a cross-checking of information and conclusions to determine if the data or findings can be supported. If other studies confirm the same results, then the study is more credible.

There are 4 main types of triangulation:

- **Method Triangulation**: involves comparing data that comes from using different methods. This could be the combination of qualitative and quantitative methods (surveys, interviews, IQ tests, and blood tests)
- **Data Triangulation**: involves comparing data that comes from other studies, maybe even collected by different methods. If data from 2 or more studies come to the same conclusion, that adds strong credibility.
- **Researcher Triangulation**: involves the use of several observers, interviewers, or researchers to compare and check data collection and interpretation.
- **Theory Triangulation**: involves looking at the data using different theoretical perspectives (more than 1 theory).

Quantitative: (quantity) an experiment that generates numerical data. These experiments should be statistically tested for significance in order to rule out the role of chance, or bias, in the results. The data are usually easy to summarize and submit as statistical analysis, with standard tests used (such as the t-test, chi-square, etc.)

Application: studies are usually conducted for practical applications. For example, tests conducted on the neurotransmitters in the brain usually lead to the development of drugs that will successfully treat disorders such as depression and schizophrenia. Applications may be for education, crime, workplace, sports, therapy, etc.

Validity: does the research do what it claims to do? A test is valid when it measures what it’s supposed to—researchers should be studying what they claim to be studying and measuring what they claim to be measuring. How valid a test is depends on its purpose—for example, a ruler may be a valid measuring device for length, but isn’t very valid for measuring volume. Is counting a viewer’s laughter a valid way of measuring how funny a comedy show is? Here is where the IV and DV must be clearly defined and operationalized.

Internal validity is concerned with the quality of research itself (especially in experiments where the researcher wants to make cause-effect claims). External validity is concerned with how appropriate the results are to the intended population.

**Cross-Cultural Validity**: is the research relevant to other cultures or is it ethnocentric (based on the values and beliefs of one culture)? For example, when establishing norms for American children these behaviors are not consistent for Native American children.

**Ecological validity**: if the study was conducted in a lab, it may be artificial and lacking a real-world setting. Would the participants do the same thing in a more natural environment? Sometimes the experiment is so well controlled (like
inside an fMRI scanner) that normal behavior was eliminated. In order to apply the findings to the real-world, the data must predict what would happen outside the lab environment.

**Reliable**: the results can be replicated (repeated). If the procedure is standardized, then any researcher should be able to use the exact same procedure to get the exact same results. If a test is reliable, it yields consistent results. A test can be both reliable and valid. Reliability is a prerequisite for measurement validity. One form of reliability is when more than one person records and interprets the data (called triangulation).

**Reflexivity (Objectivity)**: the researcher needs to reflect on his/her background and beliefs in order to be as objective as possible and to remove any possible bias. Some claim that the relationship between the researcher and the participants cannot ever be 100% value-free because the researcher brings assumptions into the research process which may influence the way data are collected and analyzed. Reflexivity must occur throughout the research process (Grigoriou, 2004).

- **Personal Reflexivity**: involves reflecting on the ways in which factors such as the researcher's values, beliefs, experiences, interests, and political commitments have influenced the research. It also involves thinking about how the research has affected the researcher personally and professionally.
- **Epistemological Reflexivity**: thinking about the ways in which knowledge has been generated in the study. Ask if the research question has limited what could be found, if the design of the study and the way the data was analyzed could have biased the results, or if a different approach could have brought a different understanding to the topic. The researcher should think critically about the knowledge that has been generated, as well as the assumptions.

**Confounding Variables**: In an experiment, researchers attempt to control as many variables as possible. Confounding variables are unwanted variables that may accidently influence the relationship between the IV and the DV. These can be time of day, nutrition, weather, noise level, bias, etc.

- **Demand Characteristics** (The Hawthorne Effect): also called participant expectations or reactivity. Participants act differently simply because they know that they are in an experiment. They may try to guess the aims of the study and act accordingly.
- **Researcher Bias**: (observer bias) when the experimenter sees what he or she is looking for. The expectations of the researcher affect the findings. Using a double-blind design will help with this.
- **Participant Variability**: The characteristics of the sample affect the DV (for example: Alzheimer’s patients in a cognitive study, poor math students in a math study). This can be controlled by selecting a random sample—or randomly allocating participants to the control or experimental groups.
- **Artificiality**: the situation created for the experiment is so unlikely to occur that one has to question the validity of the findings (ecological validity).

To counteract confounding variables, a researcher can use a single blind design: participants do not know what the study is about (Orne, 1962) or a double blind design: even the experimenter does not know the aim of the study, nor which group is the treatment group and which group is the control group.
Demand Characteristics

Orne, 1962

Orne first identified demand characteristics, trying to see if he could discover any differences in behavior between people who had been hypnotized (people who believed they had been), and those who were simply pretending to be hypnotized.

Orne asked them to perform a variety of tasks, and found it was not possible to distinguish between the 2 groups in any way. People who believed they were taking part in a psychological experiment acted in ways that were entirely different from how they would act in everyday life.

In one part of the study, participants were asked to add up columns of numbers presented to them on a sheet of paper. When they had finished the sum, they then had to tear up the paper, throw it away, and add the numbers on a second sheet. When they had finished that, they were told to tear it up and do a third one.

Orne found that normal people would do one or two of these sheets and then refuse to do any more—but if people believed they were a part of a psychological experiment, they would go on indefinitely. One participant went for 6 hours like this, and eventually had to be stopped by the experimenter who wanted to go home.

This study raised a number of questions about experiments in psychology. People who are taking part do so in the spirit of cooperation, and they want their results to be helpful. As a result they may be overly cooperative. This can lead the experimenter to data that is skewed and is nothing like the results from the outside world.

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www.psych.upenn.edu/history/orne/orne1962amerpsychol776783.html

www.psych.upenn.edu/history/orne/ornewhitehouse2000inkazdinbc.html
Section 8, Types of Experiments

- Lab Experiments
- Field Experiments
- Natural Experiments

**Lab Experiments**: researchers have strict control of the variables and environment. This type of experiment has the highest level of reliability because it is easier to replicate. This type allows for valid cause-and-effect conclusions by gaining control over extraneous variables. Limitations are that it may provide artificial results and is prone to demand characteristics—the Hawthorne Effect (Example: Milgram, Obedience to Authority, 1963).

**Field Experiment**: the experiment takes place in a natural environment where the behaviors of interest would normally occur. Usually the researcher still manipulates the IV. (Example: Piliavin & Rodin, Good Samaritan Study, 1969) The strength of a field experiment is ecological validity. The limitation is that you cannot control all the variables (a crowded mall, subway, school playground, bus station).

**Natural Experiment**: an experiment where the researchers have no control over the variables (also called a quasi experiment). These are naturally occurring, for example: abused children, autism, or stroke victims (Phineas Gage, Dr John Harlow, 1848). Researchers study changes in an individual or society after the event occurs, but they are not responsible for the IV themselves. It will be nearly impossible to replicate this type of study but it is also likely to be less artificial, and may provide a situation that is financially or ethically impossible to study otherwise.
Field Experiment: The Rosenthal Effect, or Teacher Expectations

- Also known as the Pygmalion Effect (a Greek sculptor who fell in love with a statue he had carved).

Robert Rosenthal, of Harvard University; and Leonore Jacobson, Elementary School Principal, San Francisco (1968)

Rosenthal & Jacobson carried out a field experiment to determine whether teachers’ expectations of student performance actually had any effect on how well the students learned throughout the year.

The purpose of the experiment was to support the hypothesis that reality can be influenced by the expectations of others. When teachers expected students to excel or fail, is that what would actually happen?

They chose 18 classes of students (K-6th grade) from the Oak School. The researchers gave an intelligence test (DV) to see if there was any actual cognitive development during the year.

They chose 20% of the students at random and told the teachers that these students showed “unusual potential for intellectual growth” and that they could be expected to really bloom. There was no relationship between actual scores and the claim of “growth potential.” Rosenthal predicted that, when given the information that certain students had higher IQs than others, teachers may unconsciously behave in ways that facilitate and encourage the students’ success (IV).

The teachers were also asked to rate students on variables related to intellectual curiosity, personal and social adjustment, and need for social approval. Those average children who were expected to bloom intellectually were rated by teachers as more intellectually curious, happier, and in less need for social approval.

At the end of the school year, students were re-tested. Those labeled as intelligent showed a significantly greater increase in test scores than the other students. Teachers did seem to give more attention to the “more intelligent” students. Rosenthal and Jacobson’s study and subsequent research confirmed that teachers’ expectations do matter, that student labeling is often done on arbitrary and
biased grounds, and suggested that through the hidden curriculum teachers can, consciously or unconsciously, reinforce existing class, ethnic and gender inequalities. This is done by creating a classroom atmosphere in which some students are systematically encouraged to succeed whereas others are systematically dis-encouraged, reproducing in the classroom the social cycle of advantages and disadvantages. It also implies, conversely (and this has important policy implications), that a change in teachers’ expectations can lead to an improvement in intellectual performance from those who are usually expected to achieve the least.

Researchers explain this as a self-fulfilling prophecy—what you expect you will receive. The teacher’s expectations influenced the performance of the students. Today the Pygmalion effect, or Rosenthal effect, refers to the phenomenon in which the greater the expectation placed upon people (children, students, employees), the better they perform. People with poor expectations and negative labeling will also meet those negative expectations. This study is often used in sociology for the study of socio-economic differences, racial prejudice (Jane Elliott's A Class Divided), as well as in education. Rosenthal & Jacobson conducted a similar study in 1992.


**Student’s Expectations of Teachers-- Can the Effect Work in Reverse?**

Feldman & Prohaska (1979) performed an experiment to study the effect of student expectations of teachers. One group was told their teacher was "quite effective," and another group was told their teacher was "incompetent." The effect of these positive and negative expectations were measured in terms of student attitudes toward the teacher, scores on tests, and "nonverbal behavior" of the students toward the teachers.

The teacher did not know what the students thought about him/her. There were clear differences in all three measures based on a positive or negative expectation. Students with a negative expectation “rated the lesson as being more difficult, less interesting, and less effective.” Students with a positive expectation scored 65.8% on the test, and those with a negative expectation scored lower, at 52.2%. In terms of nonverbal behavior, subjects leaned “forward more to good teachers than poor teachers.” There was some evidence that students with a positive expectation had better eye contact with the teacher.
Section 9, Correlation Studies

The data collected from a study may show a relationship between 2 variables. When 1 variable changes, the other one changes as well.

A **positive correlation** is when both variables are affected in the same way—when x increases, y also increases. When x decreases, y also decreases.

- *The older a child is, the larger their foot size.*

A **negative correlation** is when one variable increases, the other decreases.

- *The more you watch television, the lower your test scores.*

Because no IV is manipulated, no cause-and-effect relationship can be determined. If we research the number of hours a child watches television and their level of aggression, it is difficult to conduct as an experiment for ethical reasons. All we can do is gather data and note that there is a positive correlation between the numbers of hours of television watched and the increased level of aggression in the child. But we cannot say for certain which came first—the aggression or the television watching. This is called **bidirectional ambiguity**.

For example, *Zimbardo*, 1999, in Hong Kong found a positive correlation between appliance owners (dishwasher, washing machine, dryers, microwaves) and the practice of safe sex. Though the mathematical data showed this correlation, it is doubtful that there is a real connection.

Correlation studies do not take into account that any other variable could be involved in the results (the third variable). Do teenage girls read fashion magazines because of poor body image, or does reading the magazine create poor body image? Or a third option is that the mother has a poor body image and buys the magazines to give to the girl.

Another problem with correlational studies is that the lines drawn from the data are not always perfectly straight. Some are even U-shaped. Sleep studies for instance, show that we need more sleep when we are very young, and again when we are older. Graphed out, that study would have a U-shape, which indicated there is no correlation.
Section 10, Ethics in Research

Ethics: When designing a study, it is necessary to determine if the procedure is ethical and that participants (even animals) should be treated in an ethical manner.

- Psychologists must obtain informed consent which means they inform participants about the nature of the study and participants agree to participate.
- Participants are told that they may withdrawal from the study at any time, and they can remove their data at the end of the study if they wish.
- Deception: generally should not be used, but occasionally slight deception is acceptable if it does not cause harm or undue stress. At the end of the study, all deception must be revealed to participants (Milgram’s study).
- Debriefing: at the end of the study, the true aim and purpose of the study must be revealed to the participants. Any deception must be justified and participants should leave the study without any stress.
- Confidentiality: All the information obtained in the study will be kept confidential (all records will be locked up).
- Protection from Physical or Mental Harm: It is not permitted to humiliate or force a participant to reveal private information or to do anything against their will.
- Approval is gained from the institution the researcher represents.
- Animal Welfare: all animals should be carefully monitored throughout the research and treated humanely at all times. When serious or long-term harm is caused to the animals, they should be euthanized (killed) as soon as possible (and humanely).
**Personal Space Invasion or “Don’t Stand So Close to Me, Dude”**


The researchers designed an experiment to test how the speed and flow of men's urination in a public lavatory was affected by invasions of personal space.

This research took place in a men’s toilet with 3 urinals to choose from. Normally men had free choice as to which one to pick. In order to test the effects of having another person close to a man while he urinates, the researchers randomly assigned one of three possible conditions to each restroom visitor.

1st condition: participants were forced to use the urinal closet to the toilet stalls because the furthest urinal had a sign that read "do not use, washing urinal." A confederate occupied the middle urinator, pretending to be urinating.

2nd condition: the confederate and the sign were switched so that the out-of-order urinal was between the two men, allowing for more personal space.

3rd condition: no confederate.

A student measured onset and persistence of urination using a stopwatch and a periscope prism which allowed him to covertly observe from inside the closest toilet stall. He was not able to see the participant’s face. Participants were not informed that they had been involved in an experiment.

**Results:** The researchers found that having a man standing at the nearest urinal increased the time taken for urination to begin and decreased its persistence. With no one present, unselfconscious urinators’ average onset was 4.8 seconds. With a confederate one urinal away, mildly self-conscious urinators’ average onset was 6.2 seconds. With the confederate in the next urinal, it was 8.4 seconds before relief began.

This research study has been criticized on ethical grounds. How would you evaluate it in terms of validity, reliability, and ethics?

Sources:  
- [www.psychlotron.org.uk/resources/environmental/A2_OCR_env_personalspace.pdf](http://www.psychlotron.org.uk/resources/environmental/A2_OCR_env_personalspace.pdf)  
Section 11, Non-Experimental Methods: Qualitative Research

The experimental method emphasizes reliability, validity, replicability, and generalizability. But how do we study the unique and personal human experiences? How do people explain their everyday experiences? How do people work in teams in the workplace? How do humans handle major life events, such as the transition to motherhood?

In qualitative sampling, the number of participants (n) tends to be smaller—but the way a sample is obtained may be the same (purposive sampling, snowball sampling, convenience sampling). Qualitative and quantitative data are not competing against each other, but may be used as compliments to each other. There is an ongoing debate among researchers as to whether reliability and validity can be used in qualitative research.

**Qualitative:** used to gain insight into psychological processes and to study the unique human experience; normally guided by one or more research questions (which is different from a hypothesis). A research question is open-ended, and invites detailed descriptions and explanations. The goal is not to identify cause-and-effect relationships—but to describe the meanings attributed to the events (ex: the feelings of helplessness after Sept. 11, 2001).

According to Ritchie and Lewis (2003) researchers can only understand the world through their participants' interpretations (known as the interpretive approach). Data are gathered through direct interaction with the participants, such as one-to-one, group interviews, or field observations and may be open-ended, flexible, and open for interpretation.

**Rich Data:** this is the term for data that is rich in descriptions of people, places, conversations, events, memories, etc. Because the data are rich, voluminous, and open to interpretation, it is not easy to analyze. Researchers use a “rich-thick” description of the data when they write a research report to document their interpretation.

**Inductive Approach:** Qualitative research is interested in how people experience situations. The researcher does not define variables in advance—because these may be the researcher’s ideas rather than the participants. Instead they first gather the data, then analyze (or interpret) for meaning.

**Subjective:** what can be held as the “truth”? There may not be an absolute but rather a consensual agreement that appears to be supported by data or observations. It has been argued that qualitative research is not scientific because it is not built on the scientific method.

**Credibility:** trustworthiness or validity of the research. The findings of the research should accurately reflect what the participants meant. There is no objective criteria for this, but the more open the researchers are to allow their research process to be transparent to others (peer review), the more the study is said to be trustworthy.

**Triangulation:** combining different research methods in order to collect richer data may be a way to show that qualitative data are scientifically valid (see earlier explanation).
Section 12: Generalization of Qualitative Data

Lewis & Ritchie (2003) claim that qualitative data can be generalized the following ways:

- **Representational Generalization**: means that findings can be applied to populations outside the sample population of the study. For example, are findings about homeless people relevant to all homeless people around the world or just homeless people in NYC? This research could have long-lasting implications on homeless programs in many US cities or even global programs. Qualitative data may involve a small sample size which may not statistically represent the population, and non-standard methods may be used. If findings from other studies confirm the findings from this study, then generalization may be possible.

- **Inferential Generalization**: the findings of the study can be applied to settings outside the setting of the study. This is called “transferability” or “external validity.” If a study on homeless people is testing a pilot program to help resettle the homeless, then the question is whether the findings of that study can be applied to other services and programs. Whether or not the findings can be transferred depends on the depth of description of the research, and whether other studies have supported or disproved the evidence.

- **Theoretical Generalization**: Can the theoretical concepts derived from this study be used to develop further theories? The findings from a study might lead to inferences about effective policies to help the homeless. These studies might contribute to a wider social theory.

**Strengths of Qualitative Data:**

- People are studied in their own environment (schools, homes, hospitals) which increases validity (ecological).
- Provides rich data—in-depth descriptions of individual experiences based on concepts, meanings, patterns, and explanations.
- Useful for investigating complex and sensitive issues such as coping with illness, human sexuality, homelessness, or living in a violent relationship.
- Explain phenomena—go beyond mere observation to understanding what lies behind it (example: why do people become homeless?)
- Identify and evaluate factors that contribute to solving a problem. (example: what factors are needed to resettle people who are homeless?)
- Generate new ideas and theories to explain and overcome problems.

**Limitations of Qualitative Data:**

- Can be very time consuming.
- Generates huge amounts of data to sift through.
- Data analysis can be difficult because of the amount of data and no clear strategy for analysis.
- Interpretation of data may be subjective, but reflexivity can help minimize this.
- May be difficult to generalize the results to other populations.
Section 13: Ethical Issues in Qualitative Data

- The same as in quantitative data. Informed consent, protection from harm, respect of integrity and privacy, the right to withdraw from the research.
- Informed consent: the participants should know that participation is voluntary, participants should not feel obligated (as with family members), the researcher must provide sufficient information about the study (such as who funded it, who will conduct the study, how the data will be used, and what the research will require of the participant in terms of time and topics). Participants under 16 must have parental consent.
- Consent to participate can always be re-negotiated. Participants may choose to withdraw at any time.
- Researchers must ensure that no psychological or physical harm occurs. This is especially true with sensitive topics such as child abuse, sexual abuse, alcoholism, or domestic violence. The participant may feel very vulnerable or uncomfortable after disclosing personal details and may regret their sharing. This distress should be avoided. If the participant shows signs of discomfort with the topic, the researcher should be empathetic and consider stopping the interview, or ending the interview on less sensitive topics. The researcher should have questions prepared to help guide sensitive topics and should avoid giving advise. He/she may give useful information as to where to get more help on a topic.
- Long-term or close, personal contact with the participant may have implications for what is disclosed to the researcher. The researcher must not become too personally involved in the problem under investigation or they may lose their objectivity.
- Anonymity and confidentiality must be maintained in written reports. Identities or personal details may be changed to protect the participants' privacy and should not be known outside of the study. Data should be stored in a safe way. Video tapes, transcripts, and audio recording may need to be destroyed after the data are reviewed.
- Covert observation may not allow for signed informed consent or the right to withdraw from the research. Ethics committees may offer dispensation from this ethical rule if the research obtained will be of service and will not harm (such as street violence or gangs).

Critical Thinking When Reviewing a Research Study

- Is the study based on a representative group of people (sample)? Were only students used? Is there bias in the sample? Is one group over-represented (gender, ethnicity, culture)?
- Was the study conducted in a lab or a natural setting? Is it possible to determine how participants would behave in real life? Were the participants asked to do things that represent real life (like remember nonsense words)?
- Are the findings of the study supported or questioned by the findings of other studies? Consider if these findings are different from other studies and in what ways. Can you suggest ways that this study can be better designed, or the results more valid?
- Do the findings have real-world practical applications? Consider how the findings could be applied to real-life issues (relevance).
- Ethical considerations: Were participants harmed? Was the code of ethics followed in the study?
Section 14: Types of Qualitative Data (Surveys & Interviews)

Surveys

A way of collecting information from a large and dispersed group of people (rather than a small number). It may combine qualitative with quantitative data (triangulation). Surveys often use questionnaires with closed questions (yes/no) because it is easier to gather and compare data and to conduct statistical analysis of the data. Sometimes more open ended questions are added as supplements. The face-to-face approach allows for clarification of any questions and may yield more reliable answers, but this method takes time.

- **Advantages**: it is simple and straightforward for gathering attitudes, values, beliefs and motives. It can be extremely efficient at providing large amounts of data at a low cost, in a short period of time.
- **Limitations**: Surveys use self-report data but that may be biased since people may not tell the truth. Questionnaires may be subject to bias as people adjust their responses to the right answer for their researcher. Questionnaires need to be carefully planned and designed.

Interviews

Can vary from a few brief questions to hours of clinical interviews (like Freud). It is important to have a plan for conducting the interview. You may have a tight interview schedule with structured questions or you have an informal conversational interview with open-ended questions. Interviewing is a social skill, and requires interpersonal abilities and training (Hayes, 2000). You need a positive relationship with the interviewee, people skills, verbal skills, good at reading non-verbal behavior, and react to unconscious signs.

- You should act professionally so that interviewer effects (sex, age, ethnicity) do not interfere with the process. The presence of the interviewer should not interfere with the participants sharing. The interviewer must be able to read non-verbal signs and understand his/her own non-verbal signs (such as frowning could make them change their answer or upset them). People will also respond differently to a male or female interviewer (in some cultures, women are not allowed to speak with unknown men).
- **Rapport**: to develop a trusting and open relationship with the participants, the researcher must use listening, empathy, and no judgment. Use active listening—restate the participant’s comments, and integrate them into later questions in order to show that the interviewer is listening. Even though there may be a more relaxed, open environment during an interview, the researcher should never abuse the informal ambience (setting), or make the participant reveal more than they want to.
- **Participant bias** refers to the fact that people often adjust their responses to what they think is appropriate for the interviewer.
- **Social Desirability Bias**: most people want to present a positive picture of themselves, so they may not tell the truth when asked personal questions. They may also want to be helpful in a face-to-face situation which can affect their answers to what they think the researcher wants, or to please and conform with other group members.
**Types of Interview Questions**

- **Descriptive Questions**: invite the participant to give a general account of something; “grand tour” What changes occurred when you first became a mother? Can you describe your hospital ward? What normally happens at lunchtime in your school?
- **Structural Questions**: invite the participant to identify structures and meanings to use to make sense of the world (What does it mean to your life to suffer from AIDS?)
- **Contrast Questions**: allow the participant to compare events and experiences (did you prefer being in that school?)
- **Evaluative Questions**: which ask about the respondent's feelings about something or someone (did you feel afraid when you had the HIV test)?

http://jan.ucc.nau.edu/~pms/cj355/readings/spradley.pdf (article about how the FBI use interview questions)

**Types of Interviews**

- **Structured**:
  - Exactly what type of questions should be asked, and the order of the questions (ex: job interview for food chain).
  - Highly controlled procedure (similar to questionnaires) but the interviewer asks the questions and may provide guidance to the respondent.
  - The data gathered is easy to analyze and compare with other responses.
  - So controlled that it may appear artificial.

- **Unstructured**:
  - Topic and time may be specified but there is more flexibility.
  - May be open to the interests and motivation of the interviewee, so they can reveal more about themselves.
  - **Strengths**: data collected is considered valid as it is an exact account from the interviewee. The researcher may also find out important information that had not been considered relevant prior to the interview. This may open up new topics to be explored. Suitable for sensitive subjects (domestic violence) where people would lie in a more formal interview.
  - **Limitations**: Data may be more difficult to analyze, categorize, and may digress or be worthless. Time consuming as the conversation could go on and on. “Interviewer effect”—the interviewee may respond to the researcher’s race, ethnicity, gender, etc. and this could alter certain answers. Cannot be repeated with the same results. Hard to generalize these findings to the general population.

http://www.iis.unc.edu/~yanz/Unstructured_interviews.pdf (article about using unstructured interviews)

- **Semi-Structured Interviews**:
  - Preferred in modern psychology; most widely used (Willig, 2001). Could look like an informal conversation but there is a basic plan being followed.
  - An interview guide is prepared ahead of time that lists the themes to be explored. This guide serves as a checklist during the interview and helps to ensure that the same information is obtained from everyone, yet the guide may allow the interviewer to pursue some questions on the list in more depth.
  - The order of the questions and the exact wording may not be determined in advance. This may permit the respondent to answer more freely, while maintaining the focus of the interview. The interviewer may create a mix
of closed questions (yes/no) as well as open-ended questions to answer with more freedom and flexibility. The closed questions will trigger the participants to talk in a focused way, and the open-ended questions give an opportunity to respond more freely.

- The purpose is to get insight into people’s personal experience of the topic under investigation. The interview may take place face-to-face but could also be via telephone.
- Data could be supported by documents such as diaries, art, writing, etc. and can be analyzed from several theoretical approaches.

**Strengths of Semi-Structured Interviews:** on socially sensitive issues, it is better for acquiring data because the researcher can ask for elaboration, make interventions, ask for clarity, or to expand on answers.
- Less biased by researcher’s preconceptions.
- Has both structure and flexibility
- Allows for analysis in a variety of ways because it is compatible with many methods of data analysis.
- The interview guide sets out the themes to explore, but does not allow for getting off topic

**Limitations of Semi-Structured Interviews:** The one-to-one situation could be artificial and lacks ecological validity
- Data analysis is very time consuming

**Narrative Interviews**

- Based on the assumption that humans are storytellers, and that the researcher’s task is to explore the different stories being told. It is a universal human activity to tell stories about the past, to believe “knowing” is in the “telling,” as a way of understanding the world and oneself. These stories can be true or fictional, but it is through these narratives that people make sense of their world. The purpose of narrative interviewing is to see how people impose order on their experiences (beginning, middle, end of the story), and how they create identity and construct meanings.
- One example: how feminists have changed the narrative about what women can and cannot do (in the Western world).
- Another example is how women diagnosed with breast cancer have integrated the disease into their everyday lives. The beginning of the narrative is how their lives were before the cancer diagnosis. Then their diagnosis, treatment, and reaction of friends and family. Then the end of the narrative looks back at how the disease disrupted and changed their life, and how they now feel as a survivor (Murray, 2002).

**Strengths of a Narrative Interview:**
- Valuable means of exploring the complexity of individual experiences, as well as how these relate to wider social and cultural contexts, because narratives provide an in-depth understanding of how people construct meaning in their lives.
- Narrative interviews can be used with all people because they can use everyday language and talk freely.

**Limitations of a Narrative Interview:**
- Narrative interview results in an enormous amount of data and it can be time-consuming to transcribe and analyze.
Ethics in Interviews:

- Carefully observe general ethical rules for research (informed consent, confidentiality, extensive briefing of the goal of the study, methods used, and any inconveniences that may occur).
- This format allows a researcher to investigate personal experiences—but these may be highly personal, sensitive, and distressing. The researcher should never abuse such information.
- If participants feel vulnerable after disclosing personal information, they have the right to withdraw their information.
- After the interview, the participant must be debriefed. This includes information about the way the results are going to be used, and reassuring the participants that ethical considerations will be observed (such as anonymity).

Interview Data Collection Methods:

Data Recording: must be planned before the interview begins and should be placed where it will record clearly. Taking notes during an interview disrupts eye contact and non-verbal communication. Today, researchers use tape or video recording, but taping may also make the participant feel uncomfortable about being recorded. It is important to ask in advance and to explain why the recording will be made and how it will be used (that it will not be posted on FaceTube). The participant may also be offered a copy of the transcript of the interview.

Transcription of the Data: How do you change the verbal interview into a written test that can be used for analysis? Professional transcribers may be hired because it is a time-consuming and tedious job. Researchers must decide which type of transcription to use.

Verbatim: most qualitative data requires word for word transcription for thematic analysis.

Postmodern Transcripts: Some researchers find it important to include pauses, interruptions, intonation, volume, incomplete sentences, false starts, and laughter.

Thematic Content Analysis (Inductive Analysis): a common practice in analyzing qualitative data are the identification of key themes, concepts, and categories. This is especially useful if no former studies (or only fragments) exist.

- [http://onlineacademics.org/CA301/Private/ContentAnalysisChildrenFoodAds.pdf](http://onlineacademics.org/CA301/Private/ContentAnalysisChildrenFoodAds.pdf) (Study on Children’s Foods and Advertising, Australia)
- [www.ils.unc.edu/~yanz/Content_analysis.pdf](http://www.ils.unc.edu/~yanz/Content_analysis.pdf) (if you’d like to read more about it).

Grounded Theory (GT) is a systematic methodology invented for use with the social processes within sociology and the social sciences. It involves the generation of theory from data and is mainly used in qualitative research, but is also applicable to quantitative data. Grounded theory is a research method that operates almost in a reverse fashion from traditional research and at first may appear to be in contradiction to the scientific method. Rather than beginning with a hypothesis, the first step is data collection, through a variety of methods and qualitative sources such as written transcripts of interviews, focus groups, diaries, or narrative interviews.

From the data collected, the key points are marked with a series of codes, which are extracted from the text. The codes are grouped into similar concepts in order to make them more workable. From these concepts, categories are formed, which are the basis for the creation of a theory, or a reverse engineered hypothesis. This is different than defining the categories before the analysis begins…this method is done after the data are gathered, and then the categories emerge.
This method of data analysis in psychology is called **Interpretive Phenomenological Analysis (IPA)** or idiographic approach (which means the study of individual cases or events.) It is a fairly recent approach developed specifically within psychology, and is now being widely used in health, clinical, and social psychology (especially in the UK).

IPA allows researchers to gain an insider’s view of how individual participants make sense of the world and is concerned with trying to understand “lived” experience and how participants themselves make sense of their experiences. Therefore it is concerned with the meanings which those experiences hold for the participants. IPA is **phenomenological** because it wishes to explore an individual’s personal perception or account of an event or state (as opposed producing an objective record of the event itself).

**Phenomenological** is a philosophy (TOK) term that involves the study of conscious awareness of the world-- as experienced from the first person point of view (subjective). It involves a detailed description of the way things appear to us through our conscious experience (perceptions, emotions, cognitions, and behavior).

At the same time, while trying to get close to the participant’s personal world, IPA considers that one cannot do this directly or completely. While it is impossible to gain direct access to someone’s understanding of the world, reading texts, diaries, and transcripts give us a small window. *Smith*, 1996 declared “there is a relationship between what people think (cognition), say (account), and do (behavior)”.

Access is also dependant on the researcher’s own conceptions which are required to make sense of that other personal world through a process of interpretative activity. *Translation: other people can see your patterns easier that you can, especially when they are transcribed onto paper and analyzed.*

Semi-structured interviews provide a fuller, richer account. The interviews are taped and transcribed verbatim and then subjected to detailed qualitative analysis - attempting to elicit key themes in the participant’s talk. However, there is no reason why other qualitative data collection methods cannot be used, e.g. diaries or personal accounts. The end result may be a chart, flow chart, diagram, table, matrices, etc. to pictorially represent the causes and themes. This will facilitate comparison and the construction of new theories as well as a hypothesis.

IPA is also linked to **hermeneutics**, which is the **theory of interpretation** and **symbolic interactionism**. IPA is interested in the diversity of human experience and looks for divergence and convergence in the themes from the analysis of texts.

1. **First, read and reread the transcripts.** Become familiar with each participant’s account. The research looks for key phrases, preliminary interpretations, connections, contradictions, language use, summary statements. These notes can be jotted down in the left-hand margin of the text.
2. **Identify the emergent themes.** The low-level themes spring out from the text and seem to capture something essential about the study. These themes should be noted in the right-hand of the margin. These themes may not be in psychological terminology, but may be raw-data themes.
3. **Structuring emergent themes.** List the themes and see if they relate to each other in higher-level clusters or hierarchies. Label each cluster based on the essence of that theme (such as “childhood cluster” where the themes are “relationship with friends” and “relationship with family.”) The clustering of themes needs to relate back to the data.
4. You should analyze the data until you cannot find anymore new information. This is called **data saturation**.
5. **Summary Chart/Table of the Structured Themes:** the research report will use relevant quotes that illustrate each theme to draw conclusions. This final chart should only include the themes that capture the essentials of the participant’s experience. Other themes should be excluded.
6. The final goal is to generate a new theory based on the data.
STRAIGHT WOMEN AND GAY MEN: being valued for personality and not sexuality
A Qualitative Research Study on Relationships

Tina Grigoriou, 2004, UK

This study examined close friendships between gay men and heterosexual women. The participants were 8 pairs of gay men and heterosexual women who were close friends. They were all British. Grigoriou used face-to-face semi-structured interviews to gather data. The interview schedule started with demographic questions, which were followed by questions regarding initiation, maintenance, and qualities of their friendships. Participants were then asked questions about their roles of families and friends, as well as their feelings towards each other.

The schedule asked questions about the perception others in their social network had about their friendship. The participants who were single were asked to reflect on their previous partners’ conception of this friendship. Finally the participants were asked to compare friendships between gay men and heterosexual women with other forms of friendship they might have. The transcripts were verbatim and were submitted to IPA analysis because this was considered to be the most appropriate way to gain insight into the individual participant’s own understanding of his or her friendship. The analytic strategy in this study followed the IPA steps.

The study revealed that these friendships can be very valuable for gay men, heterosexual women and for their immediate social networks. Other findings include:

- **Gay men do not always trust other gay men as friends:** most gay men reported that they were disappointed with their friendships with other gay men. Most reported a lack of trust in the gay world, which was described as ‘back stabbing’ and ‘bitchy’. Indeed, most of the gay men claimed that their need for intimacy and closeness was fulfilled by their friendships with heterosexual women because they could trust them and rely upon them. Some gay men talked about their need to socialize with heterosexual people so that they feel more ‘normal’ and included within the non-gay world.

- **Straight women prefer a friendship with no sexual overtones:** Previous research suggests that heterosexual women are not satisfied with their cross-sex friendships with heterosexual men. Most talked about a lack of sexual tension in their relationships with gay men, indicating the lack of an underlying sexual agenda. Some heterosexual women claimed that they gained more from their gay friends than their heterosexual female friends. This is because their friendships with gay men offered them a male presence in their lives as well as a male viewpoint on various matters. Moreover, gay men appeared to contribute to women’s positive self-esteem. The women reported feeling good about themselves because they were valued for their personality and not their sexuality.

- **Partners and family can welcome gay men- straight women friendships:** Both gay men and heterosexual women suggested that their friendship was accompanied by acceptance among other members of their social networks. For example, their partners would not regard these friendships as a potential threat to their own relationship. Parents would also welcome and encourage such friendships, and some gay men’s parents hoped they would develop into a romantic relationship. Grigoriou suggests that life course transitions (career, marriage,
parenthood etc.) may have an impact on friendships between gay men and straight women. She also suggests that such friendships can be used as a role model for bridging the gap between gay men and their families.

In terms of reflexivity, the researcher revealed that her interest in the topic came from being a heterosexual woman herself involved in a friendship with a gay man. She also considered whether she might have influenced the participants’ accounts if they were aware of her motivation for the study—for example the fact that the gay men described their female friends positively. The same could be the case for the heterosexual women who only reported positive feelings for their gay male friends. Some gay men did report drawbacks and problems in their friendship with other gay men in a way that they would not have done if interviewed by a gay man.

American and UK television shows have often acknowledged the friendship connection between gay men and heterosexual women (Will & Grace, Sex and the City) as being healthy and empowering.

*Friendship between Gay Men and Heterosexual Women: An Interpretative Phenomenological Analysis* by Tina Grigoriou, Working Paper No. 5 in the Families & Social Capital ESRC Research Group series. Grigoriou is a Research Assistant in ESRC at London South Bank University. The full study can be found at: [www.lsbu.ac.uk/families/workingpapers/familieswp5.pdf](http://www.lsbu.ac.uk/families/workingpapers/familieswp5.pdf)

IPA data analysis eventually revealed the following predominant themes and subthemes:

1. Defining the friendship between gay men and heterosexual women with the following sub-themes:
   a. A close friendship, a different friendship, a complete friendship, a friendship for sad and happy times, a friendship free from pressure, a friendship that is defined with kinship terms.

2. Friends as family
   a. Sub-themes for gay men
      i. Functions of a family choice
         1. A fun family
         2. A supportive family
      ii. She is like a sister bud
      iii. Friends or family as friends?
   b. Sub-themes for heterosexual women
      i. Different use of kinship terminology for gay men and heterosexual women

3. Valued characteristics of the friendship between gay men and heterosexual women with the following subthemes for both:
   a. Openness
   b. Trust
   c. Social support
   d. Having fun
   e. Subtheme for gay men
      i. Feeling more rounded
   f. Sub-themes for heterosexual women
      i. Being valued for their personality and not their sexuality
      ii. Gay male friends as substitutes for heterosexual men

4. Comparing this friendship to other friendships with the following subthemes:
   a. Gay men compare this friendship with gay male friends and heterosexual male friends
   b. Heterosexual women compare this friendship with heterosexual male or female friends.

5. Participants’ understanding of their social network’s perception of the friendship between them with the following subthemes:
a. The family’s perception of friends
b. Partner’s perception of the friendship

The report also includes the analysis supported by quotes from the transcripts:

For example, when Mike was asked if his friendship with Lucy was similar to his friendships with other gay men, he replied “Umm, how is it similar? I think it is different because I would rather talk to Lucy and ask her advice on really very personal things that I wouldn’t actually ask gay men for.”

In conclusion, the research found that the participants were satisfied with their friendships for a number of reasons. For women, the lack of an underlying sexual agenda contributed to positive self-esteem, because they were valued for their personality and not their sexuality. The men expressed disappointment and lack of trust with the gay community and said that they trusted their female friends because they could rely on them. This last conclusion is contrary to previous research on the issue, but the researcher says her sample was small and this response only represents the people in this sample.
Section 15, Types of Qualitative Data (Focus Groups & Observations)

Originally used for communication or market research; also used for public health messages (such as quit smoking). The idea behind a focus group is that the group process can help people to explore and clarify their views in ways that would be difficult to achieve in one-to-one interviews. Focus Groups are usually 6-10 people who often have a common characteristic for the topic of investigation. If the researcher uses open-ended questions that encourage the participants to explore the issues of importance to them, this will enable the participants to talk freely and to generate their own questions. Participants who already know each other are more likely to interact (even with sarcasm, arguments, or jokes). This method also does not discriminate between people who cannot read or write. The facilitator introduces group members to each other, establishes a topic for discussion, sets time limits for discussion, and monitors that the group stays on track.

- **Homogeneous**: participants share key features
- **Heterogeneous**: participants are different.

**Strength of Focus Groups:**
- A quick and convenient way to collect data from several individuals simultaneously.
- Provides a setting that is natural, so it has higher ecological validity than the one-to-one interview.
- Useful for exploring people’s knowledge and experiences because it can be used to gain insight into what they think, how they think, and why they think that way. This includes the way people talk about the problem under investigation—for example, the words they use. It can also highlight cultural values or group norms.
- Participants do not have to read or write.

**Limitations of Focus Groups:**
- Not appropriate for all research questions. If the research deals with sensitive matters and the participants are supposed to talk about their personal experiences, it is not guaranteed that people will disclose information.
- The presence of other participants may result in group dynamics such as conformity.
- Focus group can be a problem when participants are not free (such as in nursing homes or prisons). This raises ethical issues.
Observation

- A data collection method which aims to describe behavior without establishing a cause-and-effect relationship. The raw data collected during an observation may be visual (video), audio (taped conversations), or written.
- Combines Emic and Etic fieldwork, which are terms most often used by anthropologists and the social sciences. These terms refer to two kinds of data concerning human behavior.
- **Emic**: is a description of behavior or a belief of the person within the culture.
- **Etic**: is a description of a behavior or belief by an observer, looking in on other cultures in an attempt to be ‘culturally neutral’.
- Observations may appear easy, but there are a number of challenges:
  - It is not easy to record everything as it happens
  - Research may deal with emotionally charged issues—like death and dying, street gangs, cancer
  - Researcher bias of what is being observed or what the researcher expects to find
  - **Inter-Observable Reliability**: is one way to ensure no bias. Several observers watch the same behavior and then compare their observations.

**Participant Observation**: the researcher takes part in the situation that is being observed. The researcher attempts to feel what it is like in that social situation and to gain a close and intimate familiarity with this area of interest (religious cults, abused women in shelters, street gangs, drug addicts). This process may include observation, listening, participation, documentation of field notes, interviewing, and reflection. The researcher may spend a long time in these surroundings (prison, hospital, streets) and must initiate and maintain a relationship with people they may not like (criminals, cannibals). The researcher even runs the risk of getting hurt (street fight, factory injury, share drug needles). You must write notes on what the people do, say, think, feel, body language, non-verbal cues, speech patterns, etc. The researcher is the only instrument of data collection and must maintain objectivity, continuously reflecting on their own personal bias and beliefs (reflexivity). It may be difficult (or dangerous) to make detailed notes while you are participating. It may take months after completing the observation to analyze all the notes. (see Festinger et al, 1956, Religious Cults)

**Strengths of Participant Observation**:

- Combines the **emic** with the **etic** perspective.
- Provides very detailed and in-depth knowledge of a topic, which cannot be gained by other methods.
- One of the best methods to avoid researcher bias because the researcher seeks to understand how and why the social processes are the way they are, instead of imposing their own reality on the phenomenon.
- Provides a holistic interpretation of a topic, because the researcher takes into account as many aspects as possible of that particular group of people, in order to synthesize observations into the whole. The researcher uses material from the participants themselves to generate “theory”, and tries to explain one set of observations in terms of its relationship with others.

**Limitations of Participant Observation**:

- Difficult to record data promptly and objectively.
- Time-consuming and demanding. The researcher needs to be physically present and try to live the life of the people he/she is studying. This takes time, and is not possible for a short-term project.
- The researcher could lose objectivity. They are supposed to immerse themselves, or “go native” to see the world from their participants’ point of view but this presents problems in terms of objectivity. There is a delicate balance between involvement and detachment.
Covert Participant Observation: *When Prophecy Fails*

*Festinger et al (1956)*

*When Prophecy Fails* is a 1956 classic book in social psychology by Leon Festinger, Henry Riecken, and Stanley Schachter about a UFO cult that believes the end of the world is at hand. Leon Festinger, a social psychologist, read a newspaper article about a religious cult that claimed to be receiving messages from outer space, predicting that a great flood would end the world.

“Prophecy from Planet Clarion Call to City: Flee that Flood.” Dorothy Martin (later changed to Sister Thedra), a housewife from Chicago, had mysteriously been given messages in the form of “automatic writing” from alien beings of the planet Clarion. These messages revealed that the world would end in a great flood before dawn on December 21, 1954. Mrs. Keech had previously been involved with L. Ron Hubbard’s *Dianetics* movement, and her cult incorporated ideas from what was to become Scientology.

The group of believers known as the Seekers, headed by Keech (Sister Thedra), had taken strong behavioral steps to indicate their degree of commitment to the belief. They had left jobs, college, and spouses, and had given away money and possessions to prepare for their departure on the flying saucer, which was to rescue the group of true believers when the rest of the world was destroyed.

Festinger and his colleagues saw this as a case that would lead to *cognitive dissonance* when the prophecy failed. Altering the belief would be difficult, as Keech and her Seekers were committed to maintain it. As Festinger wrote, “If more and more people can be persuaded that the system of belief is correct, then clearly it must after all be correct.” If Keech could convert others to the basic premise, then the magnitude of her dissonance would be reduced.

Festinger and his colleagues infiltrated the Seekers pretending they were converts to the beliefs of the cult. They got to know the cult members and were able to talk with members and see how their beliefs changed when the world did not end. The researchers wanted to find out how people in a cult would cope with the situation when the prophesies failed. Would Festinger's theory of cognitive dissonance account for the psychological consequences of disconfirmed expectations?

Prior to December 20. The Seekers shun publicity. Interviews are given only grudgingly. Access to Keech's house is only provided to those who can convince the group that they are true believers. The group evolves a belief system—provided by the automatic writing from the planet Clarion—to explain the details of the cataclysm, the reason for its occurrence, and the manner in which the group would be saved from the disaster.
December 20. The Seekers expects a visitor from outer space to call upon them at midnight and to escort them to a waiting spacecraft. As instructed, the group goes to great lengths to remove all metallic items from their body. As midnight approaches, zippers, bra straps, and other objects are discarded. The group waits.

12:05 A.M., December 21. No visitor. Someone in the group notices that another clock in the room shows 11:55. The group agrees that it is not yet midnight.

12:10 A.M. The second clock strikes midnight. Still no visitor. The group sits in stunned silence. The cataclysm itself is no more than seven hours away.

4:00 A.M. The group has been sitting in stunned silence. A few attempts at finding explanations have failed. Keech begins to cry.

4:45 A.M. Another message by automatic writing is sent to Keech. It states, in effect, that the God of Earth has decided to spare the planet from destruction. The cataclysm has been called off: “The little group, sitting all night long, had spread so much light that God had saved the world from destruction.”

Afternoon, December 21. Newspapers are called; interviews are sought. In a reversal of its previous distaste for publicity, the group begins an urgent campaign to spread its message to as broad an audience as possible.

The theory of cognitive dissonance predicted that the cult members would either change their beliefs to restore balance to their cognitions, or change their behavior to fit their beliefs. When there was no flood, some group members coped by saying that their prayers had saved the city. They created meaning in nothing happening and created balance in their cognitions. Other members left the cult. This indicated they had changed their beliefs. The study confirmed cognitive dissonance.

Festinger stated that five conditions must be present, if someone is to become a more fervent believer after a failure or disconfirmation:

- A belief must be held with deep conviction and it must have some relevance to action, that is, to what the believer does or how he behaves.
- The person holding the belief must have committed himself to it; for the sake of his belief, he must have taken some important action that is difficult to undo. The more important such actions are, and the more difficult they are to undo, the greater is the individual's commitment to the belief.
- The belief must be sufficiently specific and sufficiently concerned with the real world so that events may unequivocally refute the belief.
- Such undeniable dis-confirming evidence must occur and must be recognized by the individual holding the belief.
- The individual believer must have social support. It is unlikely that one isolated believer could withstand the kind of dis-confirming evidence that has been specified. If, however, the believer is a member of a group of convinced persons who can support one another, the belief may be maintained and the believers may attempt to proselytize or persuade non-members that the belief is correct.

Astonishingly, cults predicting doomsday do not necessarily collapse, but may begin to propagate their belief and convert others, as the Montanists of second-century Turkey or the Anabaptists of sixteenth-century Holland.

Was the use of covert participant observation justified in this study? For homework, read the following web slide show: [www.foxnews.com/slideshow/scitech/2011/01/01/doomsday-duds-armageddon-predictions-proven-wrong/#slide=1](http://www.foxnews.com/slideshow/scitech/2011/01/01/doomsday-duds-armageddon-predictions-proven-wrong/#slide=1)
Being Sane in Insane Places, Covert Participation Observation

Rosenhan, 1973

Conducted in psychiatric wards, the aim of this study was to show that psychiatric diagnosis was not based on an objective set of symptoms but on stereotypes about what a medical disorder should look like.

Rosenhan wanted to see if it was possible for anyone to fake insanity and convince the medical staff that normal people had a serious mental disorder (when they had no disorder at all). Rosenhan and 7 others (5 men, 3 women) were admitted to 12 psychiatric hospitals across 5 states in the US (east and west coast). 1 graduate student, 3 psychologists, 1 pediatrician, 1 psychiatrist, 1 painter, and 1 homemaker.

They complained that they had been hearing voices. The voices were unclear, unfamiliar, of the same sex, and said single words like “empty” or “thud”, or “one, two, three thud.” This was the only deception used in the interactions with the hospital staff and the only symptom they reported. The pseudo-patients answered all other questions truthfully.

They were all admitted to the hospital for observation and once admitted they said they felt fine and were no longer experiencing symptoms. They all acted normally, but 7 of the pseudo-patients were diagnosed with schizophrenia.

Rosenhan’s study paints a disturbing picture of life in the psychiatric hospital. The medical staff could not distinguish the real patients-- but 35 genuine patients could tell the difference, “You’re not crazy. You’re checking out the hospital!”

Rosenhan claimed the staff was biased and interpreted the behavior of the pseudo-patients with the diagnosis they thought they saw. They did not seem to question the diagnosis, even though no other symptoms would support the diagnosis. The researchers made notes while they were in the hospital and the staff viewed this as paranoid and as a symptom of schizophrenia. While every attempt to have a normal human dialogue with the medical staff was ignored, 2100 pills were given to these fake patients (the pills were flushed down the toilet).

The average stay for the pseudo-patients was 19 days before being released. 7 of them were discharged with “schizophrenia in remission”-- implying that it might come back. Rosenhan’s research showed that it is possible that preconceptions (or stereotypes) of the mentally ill may bias the staff to the objective process or the absence of real symptoms. The results of this study would indicate that diagnosis of disorders is not reliable at all.

Rosenhan was not content with the findings that normal people could be classified as abnormal, so he decided to investigate if abnormal individuals could be classified as normal. He told the staff at a psychiatrist hospital that pseudo-patients would try to gain admittance. No pseudo-patients actually appeared, but 41 real patients were judged with great confidence to be pseudo-patients by at least one member of the staff. Of these genuine patients, 19 were suspected of being frauds by one psychiatrist and another staff member.

Rosenhan concluded that it was not possible to distinguish between sane and insane in psychiatric hospitals. His study demonstrates the lack of scientific evidence on which medical diagnosis can be made. It also raises the issues of treatments—that is, if they are properly justified.

Was covert observation justified? What are the ethical issues in this study? Was this participant or non-participant? In what ways does this study illustrate the problem of reliability and validity of diagnosis?


http://psychrights.org/articles/rosenham.htm
Non-Participant Observation: the researcher is *not* a part of the group or situation being observed. Lab Observations: for some studies, researchers may use a lab or classroom, and a one-way mirror where they can observe behavior without interfering (for example: mother and child interactions). Does this really reflect what people do in real life (ecological validity)? Some deception may be used so participants do not know they are being studied.

**Strengths of Non-Participant Observation:**

- May be easier and faster to gather data by this method.
- You may take notes openly and not have to worry about eye contact or participation.

**Limitations of Non-Participant Observation:**

- People who are being observed do not behave naturally (reactivity) and this can invalidate the data.
- Participants may demonstrate reactivity (demand characteristics), they may try to guess what the research is about, or what the researcher wants them to do.
- Researcher bias may also occur. (Example: when someone observes your classroom and your teacher-student interaction).
- Must still maintain the individual’s privacy, and the rule of confidentiality.

**Naturalistic Observation**

Naturalistic Observation: This method was originally used to study animals in their natural environment. Researchers want humans to act as they would normally, in their natural environment—but this is difficult because people and animals change their behavior when observed (reactivity). The researcher should not interfere with naturally occurring behavior. Some researchers spend time with their participants so that they become accustomed to their presence, or they use cameras to film the behavior (and later use for analysis). This can be done without consent only if the behavior observed would normally be expected to be observed by strangers (such as a public place). Be sure to also take cultural consideration in deciding what behaviors might be acceptable to be observed and recorded.

- Example: Kampman (1998) studied how children in kindergarten developed friendships with other children. He spent 6 months observing friendship development, social competency, and conflict resolution.
- Unstructured Observations: the researchers record all relevant behavior. There is no checklist. The behavior studied may be unpredictable. Data collections and analysis are difficult.
- Semi-Structured Observations: there are no pre-determined categories of analysis, but the researcher has decided what overall areas to look for. Data collection is easier, and this approach allows for analysis at a greater depth and detail.
- Structured Observations: the researcher records specific, predetermined features of behavior, using a checklist that has been developed before the observation. Data collection is easier, but data analysis is restricted to the present categories—even if this is not what really happens.

**Strengths of Naturalistic Observations:**

- Ecological validity; the collection of data takes place in a natural environment, and it is assumed that the participants behave in natural ways (in contrast to labs).
- Can be used to collect data in cases where it would be impossible or unethical (such as research on Alzheimer’s patients).
**Limitations of Naturalistic Observations:**

- There is a risk that people do react to being observed—that is, there may be reactivity involved.
- If the researcher collects the data alone, there may be problems in checking the data. Multiple observers in the same field can compare data to ensure match of the data (triangulation or inter-observer reliability).
- The researcher can also document the fieldwork extensively and explain how he/she arrived at the conclusions reached, in order to promote credibility.
- Ethical considerations concerning the appropriateness of observing strangers without their knowledge. The researcher should also be aware not to violate the privacy of participants.

**Covert Observation:**

(Under-cover) participants do not know they are being observed, so they have not agreed to it. The researcher has to “make up” a story to mask the real purpose of the research. This technique works best for groups that do not want to be observed by outsiders, and may be difficult to gain access (street gangs, Hell's Angels, etc). The researcher has to make detailed notes as soon as they can (Example: Rosenhan, 1973; or Festinger et all, 1956).

- **Strength of Covert Observation:**
  - Participants do not know they are being observed so their behavior is very natural (ecological validity).
  - Allows access to a secret, hidden world usually not accessible by other ways.

- **Limitations of Covert Observation:**
  - Difficult to secretly make notes or record data.
  - Ethical issues, the participants have not been asked.
  - It can be dangerous to be undercover in a setting that is dangerous or violent.

**Overt Observation:**

(Open) the participants know that the researcher is observing them. It is important that the researcher has a good relationship with the participants—the data may depend on this.

- **Strength of Overt Observation:**
  - May or may not be given formal consent (depends on the research). If the psychologist participates in the group, the participants are informed about the research and given informed consent.
  - The researcher will always let the participants know that he/she is a researcher—even if they do not know the purpose of the study (for example: you might tell a group of women in a shelter that you are writing a book on domestic violence and how women cope with it). This might be enough to gain acceptance on the project.
Preparation of an Observation:

- Must be carefully planned out (not just “hanging around”).
- Need to find out the problem under investigation, and set up a plan for the observations (contact people, make necessary arrangements).
- Decide what to focus on in the field, while also leaving some flexibility.
- Become familiar with the setting and the people before beginning (reduces the problems of a stranger in the mix or culture shock).
- Be aware (reflexivity) and open of researcher bias (feminist, political views) which may influence your interpretation. The goal is to preserve objectivity so that data collection is not influenced by perception.
- Several observers may be used, or independent observers. One might notice what another missed.
- All field notes should be rich, thick, detailed and descriptive. Decide what kind of notes to take:
  - **Descriptive**: observe what is happening and do not make any inferences.
  - **Inferential**: make inferences about who is being observed, include comments on individual reactions and expressions of emotion.
  - **Evaluative**: make inferences and evaluate behavior. Example: expressions of self-hate in a minority group may be evidence of power relationship in a wider society.
  - Data analysis is then carried out using grounded theory (IPA) based on field notes. This is an inductive approach to data—you begin to create a picture as you collect the data and examine it. Analysis is based on field notes but also data from other sources (interview transcripts, pictures, narratives).

Ethics In Observation:

- The researcher plans how ethics will be kept.
- Needs to obtain informed consent of the people being observed (may be difficult for covert studies).
- For a covert study, researchers make research proposals to ethics committees to be sure they are protecting the rights of participants. The research must provide important information that cannot be obtained any other way—and the research should benefit the group that is being studied.
- Sometimes the researcher can show the participants the location where the observation will take place.
- When conducting natural observations—such as a mall or café, it can be assumed that you are not violating the rights of that person by observing their public behavior in a public place. But when observing private thoughts in a more private setting—such as Alcoholics Anonymous, people may reveal secrets that should remain confidential.
- After the study, the researcher can conduct post-observational interviews—debriefing the participants about the findings (unless the observations were covert).
Section 16, Types of Qualitative Research (Case Studies)

What are Case Studies?

They are an in-depth investigation of the human experience. This may be 1 person, a family, a social group, an event, or an organization. This can also be 1 single case study or a collection of case studies compared. The case study is not a research method but a research strategy.

- The case study is concerned with the description of people’s experiences, feels, or thoughts about a topic under investigation (qualitative data), but it may also include quantitative data measurements—such as blood tests, IQ scores, or survey data. Data can come from semi-structured interviews, participant observation, diaries, notes, letters, photos, official documents, as well as questionnaires.
- It involves taking a person’s personal history in order to make a diagnosis. This approach is grounded in real life, and generally produces rich data that can provide insight into unique phenomena or individual behavior.
- The researcher observes the behavior of an individual, or a group, in their natural surroundings (such as a classroom, or business office).
- A case study should always be reported in context. The researcher should include psychological, sociocultural, historical, or biological dimensions that are relevant to the phenomenon under investigation. Although the study may be narrowly focused, the individuals cannot be understood in isolation of their environment.
- It is important to specify the context in which the case is explored—for example a study about street children could focus on early development, family relations, personality, and social support.

Intrinsic case studies represent nothing but themselves. They are interesting and the researcher wants to gain insight into 1 particular phenomenon (such as a person kept prisoner in a basement, HM amnesia patient, Genie the Wild Child).

Instrumental case studies (also called extrinsic) explain or build a theory around a phenomenon. They represent more general phenomena of interest—such as losing a child, being homeless, or being diagnosed with cancer. Anyone who has experienced this topic is useful to the study, and this study should be useful to anyone else going through this experience (such as changing hospital or business procedure).

Descriptive case studies try to generate a detailed description of a phenomenon. It is believed that such a description will generate new knowledge. The findings are not analyzed in terms of existing theory.

Explanatory case studies aim to describe and find the possible explanations for the phenomenon under investigation. This includes theoretical analysis based on an existing theory, or generation of a new theory.

Triangulation: The researcher may use a variety of data collection methods such as semi-structured interviews, participant observation, personal artifacts (diary, letters, photos, notes), or official documents (case notes, appraisal reports, school records). For example: the researcher may use the person’s memories as well as written documentation of events and observation of video-taped behavior.

- Often the case study focuses on 1 aspect of behavior—such as becoming a parent, memory problems after brain damage (Corkin, 1987), conflicts in school, the consequences of childhood deprivation on cognitive development (Koluchova, 1976), or implementing new procedures in a company.
- The semi-structured interview is a widely used method for case studies, but it’s not the only one. Researchers often use triangulation because case studies can be complex and rich data provides a better all-around understanding of the situation (although open to numerous interpretations). Conclusions based on multiple sources are considered to be more trustworthy and accurate. For example, the study of street children may
include focus groups, semi-structured interviews, observations, accounts from adults in the community, and newspaper articles.

- Case studies allow researchers to investigate topic into far more detail for in-depth investigations of the human experience that cannot be investigated using other types of research methods. This method may highlight aspects of behavior and even stimulate new research. It may also contradict old beliefs.
- It is not possible to replicate a case study because you cannot duplicate the exact group, setting, feelings, etc. Since replication cannot occur, it is often argued that data reliability is low (and subjective). It may also not be possible to generalize the results to the larger public. Sometimes the findings from one case study can be used to validate similar findings from another case study.

**Strengths of a Case Study:**

- Opportunity to investigate phenomenon that could not be studied otherwise. (It would not be possible to create amnesia, forebrain damage from an accident, or abandonment in other ways).
- Permits insight into social processes in a group (group culture, communication patterns, beliefs, attributions, and how these influence behavior and decisions).
- Stimulates new research because the case study highlights areas that need further investigation. Studies of people with brain damage has led to research in memory processes. Studies of youth at risk has led to more intervention programs.
- Contradicts established theories and helps to develop new ones. (Ex: Dyregrov, genocide & resiliency).

**Limitations of a Case Study:**

- Difficult to define a case study. Is it a series of related studies or just a collection of studies dealing with the same question?
- Researcher bias—the researcher’s own subjective feelings may influence the study and influence the way data are collected and analyzed.
- Memory distortion: qualitative data relies on a person’s memory and perceptions (cognitions). The reliance of memory when creating a case history (narrative interview) could be subject to distortion. Participants may also change their accounts to appear more socially acceptable (social desirability).
- It cannot be replicated, it cannot be used for prediction, and the results cannot be generalized. Although if evidence from other findings confirms then it may be possible to generalize from a case study.

**Ethics in Case Studies:**

- The researcher often gets deeply personal information, which should not be shared with others.
- If this information gets published, or written as a research report, every effort to protect anonymity should be taken, such as changing the identities and names of participants, and obscuring obvious details. In a small study there is greater risk of being identified from the report (only 1 pregnant girl in class matches that description).
- Requires the active involvement of the participant, who may be asked to participate in interviews, or write case histories. This can be time-consuming and involves self-reflection that may negatively affect the participant (remembering painful events in detail). The researcher is responsible for these consequences.
- The researcher should also have the professional training to deal with sensitive issues such as sexual abuse, drug use, anorexia nervosa, or childhood deprivation.
- Ethical guidelines also apply such as informed consent, no deception, right to withdraw, debriefing, and confidentiality.
Sexual Reassignment, Longitudinal Case Study of David Reimer

*Dr. John Money, 1974 (published)*

Dr. John Money, one of the world’s leading sex researchers, argued that children were born gender neutral. According to Money, biological sex did not have to correspond to psychological sex (gender). Therefore children could be successfully raised with whatever sex was assigned to them. He had done quite a lot of research on intersex children—children born with ambiguous genitalia—but he believed his theory of gender neutrality could be applied to all children.

In 1966, the Reimer family in Canada had identical twin boys. Due to an accidental burning during circumcision (at 8 months old), one of the boys (Bruce) lost his penis. A psychiatrist announced that the boy would forever be physically defective, and the parents were devastated. They contacted Dr. Money who saw an opportunity to find support for his theory of gender neutrality with this boy who had been born with normal genitals. On his advice, fourteen months later, the boy (Bruce) was fully castrated (his penis and testes were removed) and he was raised as a girl (Brenda). Money further recommended hormone treatment (which was done) and the surgical creation of a vagina (which was not done). Money published a number of papers declaring the reassignment was a complete success.

However things did not go as planned. The little “girl” now named Brenda, did not behave like a girl, and she experienced many problems in school with her peers, due to her masculine behavior. Dr. Money ignored the evidence that everything was not as he predicted. He published scientific articles that used this case study as evidence that nurture is more important than nature.

Feminists also supported the claim that biological differences could not explain gender differences. As a result of Money’s articles, scientific textbooks were rewritten, and it became the normal practice that children born with ambiguous genitals were assigned to a new sex and had genital surgery.

One scientist was convinced that Money was wrong—Milton Diamond, a professor of anatomy and reproductive biology at the University of Hawaii. He had examined the role of hormones on the developing fetus, and he argued that gender-specific behavior was pre-programmed in the womb. After a number of animal studies, Diamond declared that if pregnant females were treated with testosterone, their female offspring would exhibit masculine behavior in spite of their biological sex.

This contradicted Money’s claims, but he continued to put pressure on the Reimer family to continue treatment. Eventually Brenda had a nervous breakdown and refused to see Money any longer. Finally the family told “her” the truth and “she” decided to become a boy again and took the name David.

In the early 1970s, Diamond and Money were attending a conference on transgenderism. According to the book “As Nature Made Him: The Boy Raised As a Girl” Money initiated a loud and aggressive argument with Diamond. One witness claims that John Money punched Diamond; however, the two researchers never confirmed this account.

Dr. Diamond followed up the case of Brenda (David) Reimer with the cooperation of the boy’s psychiatrist Dr. Sigmundson. He tracked down the adult Reimer and found that the sex reassignment had failed. This case, which Dr. Diamond named that of “John/Joan” to protect Reimer’s privacy, has become one of the most cited cases in the literature on gender.
The major tragedy of the decision to raise David Reimer as a girl is that it was popularized as a success. This was unfortunately accepted by physicians as a model for how to deal with infants with intersex conditions. Dr. Diamond was the first to alert physicians that the model was faulty. He recommended that physicians (1) do no surgery on intersexed infants without their informed consent; (2) assign such infants in the gender to which they will probably best adjust; (3) refrain from adding shame, stigma and secrecy to the issue, by assisting intersexual people to meet and associate with others of like condition. Dr. Diamond encouraged considering the intersex condition as a difference of sex development, not as a disorder. After all, many other cultures allow for 3-5 or more alternate genders.

Until the 1980s, Money continued to use this case study as evidence for his theory of gender neutrality and the success of gender reassignment surgery. He spoke publicly against Diamond’s theory of hormones, as a major factor of gender development.

In 1997, Diamond published an article in Archives of Pediatric & Adolescent Medicine, where he presented important evidence that individuals are not gender neutral at birth, and that psychosexual development is not determined by genitalia or upbringing, but rather by chromosomes and hormones. He also argued that chromosomal males should be raised as males, and that any necessary surgery should be attempted to maintain the individual’s sex. He claimed that attempting to raise the child as a female was not in the patient’s best interests. He is supported by the Intersex Society of North America, which advocates the abandonment of genital reassignment surgery for infants.

Allegations were made that Money had falsified research. Money declared that during the annual visits the Reimer family had lied to lab staff about the child’s progress. In 2000, David and his twin brother alleged that Dr. Money had taken numerous naked photos of the twins during their treatment and had sexually abused both boys during photo shoots. This added stress was harmful to Reimer and instilled in him a fear of Money and his medical “expertise.”

In 2002, David’s twin brother was found dead from an overdose of the drugs used to treat his schizophrenia. On May 5, 2004, David Reimer was asked by his wife for a separation, and he committed suicide. Just before he died, he talked to his wife about his sexual "inadequacy," his inability to be a true husband. Reimer’s parents have stated that they believe Dr. Money’s methodology was responsible for the deaths of both of their sons.

This study obviously raises major ethical concerns, yet Money continued to cite this case study in his research until his death in 2006.

Sources:

John Money, numerous published papers, Harvard University; As Nature Made Him: The Boy Raised As a Girl


20/20 televised interview (A Different Sex, April 19, 2002) also contains primary source.
## Unit 1 Terms to Know

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SOURCES
This guidebook of notes has been compiled from the following sources:

Crane and Hannibal, IB Psychology Course Companion: International Baccalaureate Diploma Programme [Paperback], Oxford University Press, USA; 1st edition (May 9, 2009)
