UNIT 1: RESEARCH METHODS IN PSYCHOLOGY AND ETHICAL CONCERNS
Aim:
- Is psychology a “real” science?

Do Now:
- Is there a difference between experience and knowledge? Explain.

Homework # 2:
Handout: “The Science of Psychology”
Actively Read the article by highlighting and taking notes in the margins. Write a short reaction (7-10 sentences) addressing the AIM question while describing what psychology is and how it developed.
1. Psychology attempts to describe, predict, and explain behavior and mental process by using the methods of science to answer questions.

1. Science relies on evidence, not just coincidental information or memory. Often our memory of the few times that things went well stick with us and influence our beliefs while we selectively forget the times when things did not so work out so well.

2. Common sense is not enough. It lacks the evidence to support our beliefs.

3. **Pseudoscience** is belief in outcomes assumed to be facts but without evidence and replication to prove their existence. Remember, once we thought the earth was the center of the universe and later that it was flat! And no, the shape of your skull does not foretell your personality -- (Gall's Phrenology)
2. DEFINITION OF PSYCHOLOGY

1. "The scientific study of **behavior** and **mental** processes"
2. Psyche = "the mind" and Logos = "the study of"
3. It is a Science! The study of behavior and mental processes, done via the scientific method.
4. It includes our **physical, emotional, cognitive and creative** aspects of the mental process.
5. Our behavior is considered the sum of all of these: our **observable and measurable** human actions.
1. Start with a **problem**: do you have a question?
2. Form a **theory** (general framework for scientific study) about this problem, sometimes preceded by an observation.
3. Generate your **hypothesis**:
   Specific, testable predictions derived from a theory.
4. **Observation**: carefully look for these relationships or those factors that cause the behavior or support your hypothesis.
5. **Replicate** the process again and one should have the same results.
Scientific Method

1. **Question**: What does the scientist want to learn more about?

2. **Research**: Gathering of information

3. **Hypothesis**: An "educated" guess of an answer to the question

4. **Procedure/Method**: Written and carefully followed step-by-step experiment designed to test the hypothesis

5. **Data**: Information collected during the experiment

6. **Observations**: Written description of what was noticed during the experiment

7. **Conclusion**: Was the hypothesis correct or incorrect?
4. IMPORTANT TO REMEMBER WHEN CONDUCTING AN EXPERIMENT!

1. **Subjects:** People or animals upon whom the experiment is conducted.

2. **Variables:** Factors which may change the experiment. It is extremely important that all variables be considered!

3. **Independent Variables:** Factors that the experimenter manipulates or changes in the study.

4. **Dependent Variables:** The part of the experiment that changes as a result of changes in the independent variable.
5. **Experimental Group**: In a controlled experiment, the group subjected (exposed) to a change in the independent variable.

6. **Control Group**: In a controlled experiment, the group **NOT** subjected to a change in the independent variable; used for comparison with the experimental group.

7. **Experimenter Bias**: Expectations by the experimenter that might influence the results of an experiment or its interpretation.
# RESEARCH PSYCHOLOGISTS VS. APPLIED PSYCHOLOGISTS

1. **Research Psychologists:** Psychologists who study the origin, cause, or results of certain behavior.

2. **Applied Psychologists:** Psychologists who make direct use of the findings of research psychologists (give results practical application – “apply” findings). Often deal directly with clients.
THE IMPORTANCE OF SAMPLING

1. **Random Sample:** Sample in which each potential participant has an equal chance of being selected. (“randomly selected”)

2. **Representative Sample:** Sample carefully chosen so that the characteristics of the participants correspond closely to the characteristics of the larger population.
**BASIC RESEARCH METHODS**

<table>
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<tr>
<th>Aim:</th>
<th>Do Now:</th>
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<tr>
<td>• What are some of the research methods psychologists use in their work?</td>
<td>• New way to stay alert experiment!</td>
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**Homework #___:**
No Homework 😊
INTRODUCTION

• In common with other sciences, psychology is concerned with theories and with data.

• A **theory** provides a general explanation or account of certain findings or data. It also generates a number of **experimental hypotheses**, which are predictions or expectations about behavior based on the theory.

For example, someone might propose a theory in which it is argued that some people are more hostile than others. This theory could be used to produce various hypotheses or predictions, such as the following: “hostile people will express anger more often than non-hostile ones; hostile people will react more strongly than non-hostile ones to frustrating situations; hostile people will be more sarcastic than non-hostile people.”
• Psychologists spend a lot of their time collecting data in the form of measures of behavior. Data are collected in order to test various hypotheses.

• Most people assume that this data collection involves proper or true experiments carried out under laboratory conditions, and it is true that literally millions of laboratory experiments have been carried out in psychology.

• However, psychologists make use of several methods of investigation, each of which has provided useful information about human behavior.
Psychology has been defined as the “science of studying behavior”

Similar to other sciences, such as biology, chemistry and physics, much of what we have learned has been due to experiments, and following the “Scientific Method”
Exploring Cause and Effect

In order to determine cause and effect and not just correlation, psychologists use “experiments”

- **Experiment**: a research method in which an investigator manipulates one or more factors (independent variable) to observe the effect on some behavior or mental process (the dependent variable). Random sampling helps control other relevant factors.

- An advantage of experimentation, is the fact that if an experiment is carried out in a reliable manner it can be replicated and so increase its validity.
TYPES OF RESEARCH

1. **Descriptive Research**
   - characterizes the *who, what, when, where,* and *how* about a certain population or phenomenon

2. **Correlational Research**
   - measures the *covariation* of two variables

3. **Experimental Research**
   - examines the *causal relationship* between two or more variables
I. CONSIDERATIONS IN DESIGNING AND EXPERIMENT

A. Experimental Variables:

- **Independent Variable**: the variable that is manipulated; the variable whose effect is being studied

- **Dependent Variable**: the factor that is being measured; the variable that may change in response to manipulations of the independent Variable.

- **Confounding Variables**: These are variables that if anticipated could be controlled in an experimental situation. If they are not controlled they can give rise to an alternative explanation of results. Examples of confounding variables would be situational variables and participant variables.
I. CONSIDERATIONS IN DESIGNING AND EXPERIMENT CON’T...

- **Situational Variables** - types of confounding variable found in the experimental setting, which influence behavior/performance of participants, and include such things as temp, lighting, background noise etc. All must be kept constant in order to maintain validity.

Example:

A large construction project is going on outside the school will probably lower results across the board.
B. Experimental, Control and Placebo Groups

- **Experimental Group**: the group in which the independent variable is being tested on.

- **Control Group**: Used for comparison, not receiving independent variable; “placebo groups” are examples of this.
RESEARCH BIAS & EXPECTANCY

1. Experimenter Bias

   Eagly and Carli (1983) believe experimenter characteristics such as age, sex, and general behavior can have a subtle effect on participants' behaviors in an experimental situation.

   This was one of the reasons participants said they behaved the way they did in Milgram's famous 1963 study into blind obedience to authority.
C. Expectancy Effect
(“Halo Effect” or Self Fulfilling Prophecy’’)

Expectancy effect was discovered by Rosenthal and Fode (1963) and is a great example of experimenter bias!

Using an independent group design, they got two groups of students to train and look after two groups of rats. One group were told they had 'bright' rats, the other 'dull'. In fact there was no difference at all in any of the rats intelligence! Rosenthal and Fode made this up. The students than had to time their rats performance running a maze. The bright rat group produced data that indicated their rats had learned to run the maze quickly. The dull rat group produced data that indicated their rats had learned to run the maze slowly. Rosenthal and Fode concluded that their students (false) expectations of their rats ability had an effect on the overall results.
D. DEMAND CHARACTERISTICS

1. Demand characteristics
   • Orne (1962) writes that demand characteristics are any features of an experiment, which help participants work out what is expected of them, and consequently lead them to behave in an artificial and unnatural way. These features demand a certain response.

Example: Participants search for cues in the experimental environment about how to behave and what might be expected of them. The workers in the Hawthorne Effect (also known as participant expectancy) study more than likely sought out cues to work out they were subjects of psychological research, and behaved as they saw fit in response to these demand characteristics.
E. SINGLE AND DOUBLE BLIND STUDIES

1. Single Blind Studies
   - Many psychological experiments are done in a manner in which the participants are “blind”, or uninformed, about the treatment, if any, they are receiving.

2. Double-Blind Study
   - An experiment in which both the participants and the researchers themselves are not aware of which group has received treatment or placebo. Commonly used in drug-evaluation studies. This is used to control demand characteristics and experimental expectancies.
II. TYPES OF EXPERIMENTAL DESIGN

To control many of the variables that can arise during experimentation, psychologists employ several experimental designs:

1. Repeated Measures Design (within-subjects design)
2. Independent samples/subjects design (Between-subjects design)
3. Matched Pairs Design
A. Repeated measures design

- A repeated measures design occurs in an experiment when you repeat the measure of performance under the differing conditions of the independent variable with the same group of participants.

Ex: Take an experiment investigating the influence of alcohol on driver reaction time. The two conditions of the IV would be a 'no-alcohol' condition, and an 'alcohol' condition. Measure of performance or dependent variable would be a driving simulation test. On one day the participants would undergo condition A (no alcohol) and do the driving simulation test. The DV is of course recorded errors on the test. On another day the same participants would undergo condition B of the independent variable (given alcohol) and once again asked to sit the driving simulation test. Number of errors would again be recorded. This is a repeated measures design.

RMD's suffer from order effect (practicing, fatigue etc…) that can skew your results.
B. **Between-subjects design**

- An *independent group design* is an example of a between-subjects unrelated design used in psychological research. This is because each participant in each group in an IGD experiment experiences only one condition of the *independent variable*, and therefore only provides data for one manipulation of the IV.

Ex. One group gets alcohol than drivers test, the other group does not get alcohol and then carries out driving test.
C. **Matched Pairs Design**

- A mixture b/w the two in this design individuals are matched into pairs based on some related characteristic (age, sex, intelligence etc.) and then they are administered the experiment.

Ex. Pair up someone who does drink with someone who does not and then administer the test and see how they do against one another.

Ex. Grade point averages are often used as the matched variable when testing exam performance and teaching styles.
III. SAMPLING PROCEDURES

How would you select the people?

• We can choose our participants in many different ways. Things to consider are:

1.) **Convenience**: Preferably you would test students in this district and taking psychology. This is an *opportunity sample*.
2.) **Numbers**: if the numbers of participants are too small, then you cannot generalize your results. Optimum size is about 25 to 30 people.

• **Sample**: the particular group of people in which we are interested, like students, managers, or elderly people, is our *target population*. From them we choose our *representative sample*. 
Samples & Sampling

The participant/subject selection technique that allows for generalization of results onto the target population from which your sample is drawn.

You can infer thoughts, feelings and behaviors from a sample and thus for example how target population might think, feel, behave.

A sample must therefore be as representative of the target population as possible. Done by adopting a particular type of sampling technique.

Opportunity sampling sees your sample made up from whoever is available and around at the time. If you need 20 participants an opportunity sample are the first 20 people you find willing to assist.

Random sampling is where every member of a target population has an equal chance of being chosen to take part in your research e.g. 1:10

Stratified sampling occurs when you look at your target population and decide to make up a sample for your research reflecting the make-up of the target population.
**SAMPLING**

- **False consensus effect**: the idea of overestimating the extent to which others share our beliefs and behaviors.

  Most of us hang out with others like ourselves, and so are we truly representative of the whole?

- **Random Sample**: one in which every person in the entire group has an equal chance of participating.

  Large samples are always better than small samples!!
<table>
<thead>
<tr>
<th>Sampling method</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>Random sampling</td>
<td>If the random sample is large enough, random sampling gives the best opportunity for everyone in a target population to participate in your research. In a target population of 2000, a representative random sample of 1:20 would be more representative than one of 1:200. 1:20 as a representative random sample of 2000 would be an unbiased random sample. 1:200 would be a biased random sample.</td>
<td>The bigger the target population the more difficult it is to randomly sample in it. You are unsure who the target population is. If it were a town of 60,000 for example, looking in the phone book and choosing every 1000th person would be a problematic random sample. Not everyone is in the phone book, people are ex-directory, thousands of people only use mobiles whose numbers are not listed etc.</td>
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<tr>
<td>Stratified sampling</td>
<td>When it is important that characteristics/subcategories/substrata of a target population be investigated stratified sampling is most useful. Stratified sampling gives you a truly representative sample of your target population on the basis of those identified characteristics you want to investigate.</td>
<td>Stratified sampling is time consuming because characteristics in the target population have to be identified, and a calculation of their ratio of occurrence worked out. This is to ensure the correct ratios in your stratified sample.</td>
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<tr>
<td>Opportunity sampling</td>
<td>Opportunity sampling is extremely quick and economical. It is the most common method of sampling because it is convenient.</td>
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<td>It is an unrepresentative method of sampling. There is a difficulty when using opportunity sampling to generalise your results to a meaningful target population. If your opportunity sample was 10 first year pupils from a large secondary school anything you might infer from a survey could only be applied to this small unrepresentative group.</td>
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<tr>
<th>Quota sampling</th>
<th>Quota sampling is a quick and efficient way to gather information on specific strata within a population. If you are a consumer intelligence firm and a client was a large fashion chain catering to females in the 16-25 age group, quota-sampling females in this age group above would be ideal from the point of view of efficient market research.</th>
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<td>How the quota sample is chosen is often left up to the researcher. If 100 16-25 year old females were to be the quota sample, an opportunity sample of 100 16-25 year old female students might be used. This quota would not reflect all 16-25 year old females in the target population?</td>
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IV. EVALUATING RESEARCH

**Reliability**: a criterion which assesses the consistency of measurements; to determine whether or not what you are testing is actually measuring the desired behavior.

**Validity**: a criterion that assesses whether or not the variable measures the intended behavior as opposed to some other characteristic or behavior.

**Replication**: all good experiments must be repeated to test their validity!
V. DESCRIPTIVE STUDIES

In everyday life, all of us observe and describe people and their behaviors, and often times draw conclusions, whether accurate or inaccurate, on those behaviors.

A. Case Studies

• A “case study”: the study of one individual in great depth in the hope of revealing things true of us all.
• Case studies can suggest hypotheses for further study.
• They also can show us what may happen.
Positive & Negatives of Case Studies

1. Positive
   • Allow for further studies
   • Can show us what may happen

2. Negatives
   • Individual cases are misleading, an individual can be atypical.
   • Unrepresentative info can lead to mistaken judgments and false conclusions.
   • There always seems to be anecdotal stories that falsify information from case studies.
     Ex. Reports of school shootings or smokers die when they are younger than nonsmokers.....
1. **Phineas Gage** (1848) – his brain injury led the way to believe that the brain was at the route of our behavior.

2. **Kitty Genovese** (1964) – her murder and sexual assault (Winston Moseley) was observed by dozens of people and yet no one called the police or for help. Only two bystanders say the stabbing, the rest thought of it as a lovers quarrel “bystander effect.”

3. **HM** (1957) - is a memory-impaired patient who has been integral in explaining the link between brain function and memory, and in the development of “cognitive neuropsyche”, a branch of psychology that studies brain injury to infer normal psychological function.
B. SURVEYS

• A technique used to collect self-reported attitudes or beliefs. (less depth)
• Advantage of using surveys is the ability to compile a massive amount of info in a short time span
• However, surveys have disadvantages as well, since many are flawed in either the wording or the sample of people chosen.

**Wording Effects:**

• The choice of words used can alter the answers dramatically
  Ex. 27% of Americans approved “gov’t censorship” of media sex and violence, though 66% approved “more restrictions on what is shown on television” (Lacayo, 1995).
• Critical thinkers will reflect on how the phrasing of a question might have affected the opinions respondents expressed.
C. NATURALISTIC OBSERVATION

• Observing and recording behavior in naturally occurring situations without trying to manipulate and control the situation is called “naturalistic observation”

Example #1: Gorillas in the Mist: the story of Diane Fossey (American Zoologist) and the Mountain Gorillas

http://www.youtube.com/watch?v=sy_7OeoZCQY

Example #2: Jane Goodall – studies of Chimpanzees in the wild

• It could include watching animals in the wild or observing parent-child interactions in diff. cultures or recording student’s self-seating patterns in the lunchroom.

• Remember, this does not explain behavior it describes it!!! And so can be revealing...
D. CORRELATION STUDIES

• As surveys and naturalistic observations reveal that one trait or behavior accompanies another we say that the two “correlate.”

• The correlational coefficient is the mathematical expression of a relationship, ranging from -1 to +1

• We use this test to try and predict or imply relationships between two variables.

  Ex. Knowing how much aptitude test scores correlate with school success allows one to predict the future school success of a student. SAT, LSAT etc.

• The value suggests both strength and direction of relationship.

• If the value is close to 1 then we say that two variables strongly correlate.

• The sign represents whether they are related positively or negatively.
Ex. As exercising increases, the risk of heart disease decreases. So, exercising and heart disease correlate negatively.

- A weak correlational implies that there is little to no relationship. The coefficient would be close to zero.
- Despite the fact that correlational studies allow us to help predict behavior, they DO NOT explain causality.

Despite the fact that correlational studies allow us to help predict behavior, they DO NOT explain causality.

- Watching violent TV correlates with aggression, but that does not mean it causes aggression!!!
Correlation: a measure of how closely interrelated two sets of measured variables are related.

- Measures how much two variables correlate with each other
- Does a change in the value of one variable predict a change in the value of the other?

Ex: Do exposure to media violence and aggressive behavior co-occur? How likely are you to see one when you see the other?
CORRELATIONAL RESEARCH

• **Direction**: Is the correlation positive or negative?
  • **Positive** (between 0 and +1): an increase in one variable predicts an increase in the other
    • e.g. height and weight
  • **Negative** (between 0 and -1): an increase in one variable predicts a decrease in the other
    • e.g. self-esteem and depression
  • Correlation of 0: no relationship between the variables
Scatterplot: a graph of a cluster of dots, each of which represents the values of two variables. The slope of the points suggests the direction of the relationship between the two variables. The amount of scatter suggests the strength of the correlation.
CORRELATIONAL RESEARCH

Perfect Positive Correlation

Perfect Negative Correlation
CORRELATIONAL RESEARCH

High Positive Correlation

High Negative Correlation
CORRELATIONAL RESEARCH

Low Positive Correlation

Low Negative Correlation
CORRELATIONAL RESEARCH
ILLUSORY CORRELATION

- **Illusory correlation**: the perception of a relationship where none exists.
- Sometimes if we believe that there is a correlation between two variables we will attempt to recall instances that support that belief.
- Sometimes random coincidences are coincidence! However, its illusory correlations that foster gambling addictions; “hot streaks” vs. “cold streaks” when both are equally possible.
CORRELATIONAL RESEARCH

**Cons:**
- Correlation does not imply causation (VERY IMPORTANT)
- cause may be hinted at, but causal direction is unclear in correlations
FIELD VS. LABORATORY EXPERIMENTS

• Field experiments cannot take into account confounding variables whereas lab experiments can.

• However field experiments usually illustrate normal behavior vs. lab experiments do not.

• As Silverman (1977) pointed out, “Virtually the only condition in which a subject [participant] in a psychological study will not behave as a subject [participant] is if he does not know he is in one.”
Psychologists strive to conduct research that is reliable, valid, and bias-free.

**reliability:** finding the same results in repeated experiments (consistency)

**validity:** the extent to which a test measures what it is supposed to

- **Internal Validity:** the extent to which a study is methodologically adequate
  - Can the observed effect on a DV be safely attributed to manipulation of the IV?

- **External Validity:** the extent to which the findings of a study can be generalized to situations outside the laboratory
  - Are the findings from the study applicable to other groups?
Once data is gathered next it needs to be organized, summarized, and used to make inferences from it, using statistics.

A. Describing Data:
Organizing data, simple graphs can be used, but one must be careful to analyze the graph critically before making inaccurate statements or conclusions.
B. **Measures of Central Tendency**

- After data is gathered and described one must summarize the data using some *measure of central tendency* a single score that represents a whole set of scores.

- **Mean**: arithmetic average. One must be careful with this number b/c the numbers could be skewed by extreme results.

- **Median**: is the midpoint or “50th percentile”. If you arrange all the scores in order from the highest to lowest, half will be above the median and half will be below it.

- **Mode**: the most frequently occurring score or scores
C. Measures of Variation

- **Range**: the difference b/w the highest and lowest scores in a distribution. Provides only a crude estimate of variation.

- **Standard Deviation**: tells how much scores deviate from one another. It is the most useful standard for measuring. A small standard deviation would be most representative of the population.

- **“Statistical Significance”**: a statistical statement of how likely it is that an obtained result occurred by chance. It does not indicate the importance of the result.
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<td>• What approaches to today’s psychologists use to describe human nature?</td>
<td>• If you were a psychologist studying human behavior what would you look for, and what methods would you use to discover / explain the behaviors? Explain.</td>
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Homework #___:
Animal Research Articles
Six Approaches to Psychology

- Neurobiological
- Psychoanalytic
- Behavioral
- Cognitive
- Sociocultural
- Humanistic
THE NEUROBIOLOGICAL APPROACH

1. Behavior viewed in terms of **biological responses**.

2. Examine physical changes that take place.

Ex) Depression is thought to be caused by the lack of certain chemicals – by stimulating the brain to produce these chemicals we can lessen the impacts of depression (i.e.: the use of Prozac.)
**THE BEHAVIORAL APPROACH**

1. Viewing behavior as the product of **learning** and **associations**.
2. Rewards, punishments, associations.
3. We are products of **conditioning** both positive and negative.
   
   Ex) A baby learns that crying get him attention.

4. **B. F. Skinner**
1. Behavior viewed as people being basically **good** and capable of helping themselves.

2. Each person is unique and capable of growth.

3. Do NOT believe that the environment shapes our personality, it only acts as a backdrop for our own internal growth. (I.E. How we handle a tragedy is individual and based on one’s **personal state of growth**.

4. **Carl Rogers**: Saw mankind as worthwhile, capable of free will and choice. Every human had the potential to become great in his / her own way, with just a little guidance.

**ALSO** - Maslow’s Hierarchy of Needs
1. The belief that people are the products of unconscious forces.
2. Sees the human psyche as being dominated by hidden desires.
3. Focuses on sex and aggression hidden in our unconscious since childhood. These hidden impulses control our behavior.
4. In order to control these impulses we must understand them – the process conducted by a therapist is called Psychoanalysis.
5. Developed by Sigmund Freud
1. Emphasizes how humans use mental processes to handle problems or develop certain personality characteristics.

2. The most important human ability is that we can take information from the environment, analyze it, and come up with a solution.

→ Personality is made up of and determined by our understanding of our environment.

→ Internal sentences or thoughts determine personality (i.e.: “I can do this” or “I’ll never get this right”)
THE SOCIOCULTURAL APPROACH

1. Behavior is ruled strongly by the rules and expectations of specific social groups or cultures.
2. Studies the impact that culture, race, ethnicity and religion have on personality.
PRINCESS BOY?? TOMBOY?

http://www.youtube.com/watch?v=8DnbtjXDLv0
http://www.youtube.com/watch?v=MBBffcORtc8
**ETHICS IN RESEARCH - DAY 1**

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<td>• Take out last nights homework assignment. (Animal Research - OPVL)</td>
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**Homework # 4:**
Handout: Milgram & Stanford Experiments
College and Universities have review boards known as an **Institutional Review Board** (IRB) which evaluate the ethical nature of research conducted at their institutions.

- The **American Psychological Association** (APA) is a scientific and professional organization that represents psychology in the United States.
- Developed a Code of Ethics which instructs psychologists to protect their participants from **mental** and **physical** harm.
APA’S GUIDELINES ADDRESS FOUR IMPORTANT ISSUES

1. **Informed Consent**: All participants must know what their participation will involve and what risks might develop. Even after informed consent is given, participants have the right to withdraw from the study at any time, for any reason.

2. **Confidentiality**: Researchers are responsible for keeping all of the data they gather from individuals completely confidential and, when possible, completely anonymous.

3. **Debriefing**: After the study has been completed, participants should be informed of its purpose and the methods that were used.

4. **Deception**: This is an ethical issue that psychologists debate extensively. In some cases telling the participants beforehand what the research study is about will alter its outcome (ex: Reporting Theft). In all cases of deception the psychologist must ensure that the deception will NOT harm the participants and that the participants will be told the true nature of the study during their debriefing.
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**Homework:**
No Homework 😊
ETHICAL ISSUES IN EXPERIMENTATION

- **Milgram Experiment:**
  - Famous experiment on obedience (1947) illustrated how laboratory settings in a revered institution can affect the behavior of participants.

- **Stanford Prison Experiment:**
  - Illustrated what ordinary people would do when put into a prison scenario. The experiment went so awry that it was stopped within 2 ½ weeks. [http://www.prisonexp.org/]
THINGS TO CONSIDER

1. Responsibility to the profession of psychology
   - acknowledgement of other’s work and publications (i.e. citing sources!)
   - honesty in reporting results
   - monitoring the ethical standards and procedures of the research community

2. Competence of the investigator

3. Personal Conduct of the investigator

4. Informed consent
5. Respect for participant integrity
6. Justification for using deception
7. Participant’s right of withdrawal
8. Confidentiality of findings
9. “Debriefing”
10. Use of non-human animals in research