

Psychology

An Introduction to the stuff you
will be learning this year.

Psychology

- Is the scientific study of **behavior and mental processes.**
 - As a **natural science (biology)**, psychology looks for biological explanations for human behavior.
 - As a **social science (philosophy)**, psychology explores the influences of society on individual behavior.

(Psychology provides tools to help us gain insight into our own behavior, as well as our relationship with others.

Psychologists attempt to explain & predict why people behave, feel, and think as they do. They attempt to learn ways in which people can improve the quality of life.

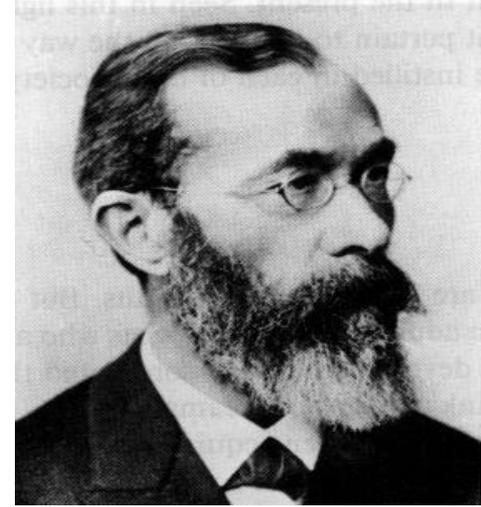
Waves of Psychology



- The science of psychology has gone through about 5 different waves since it started.
- Waves are different ways of thinking over time.

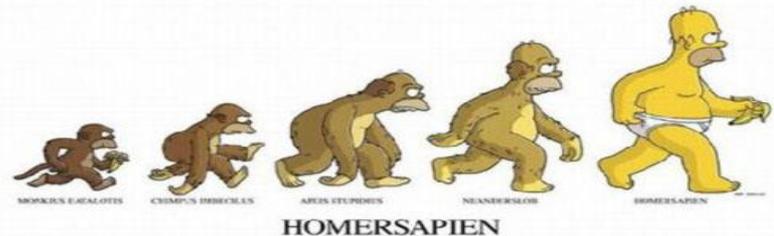
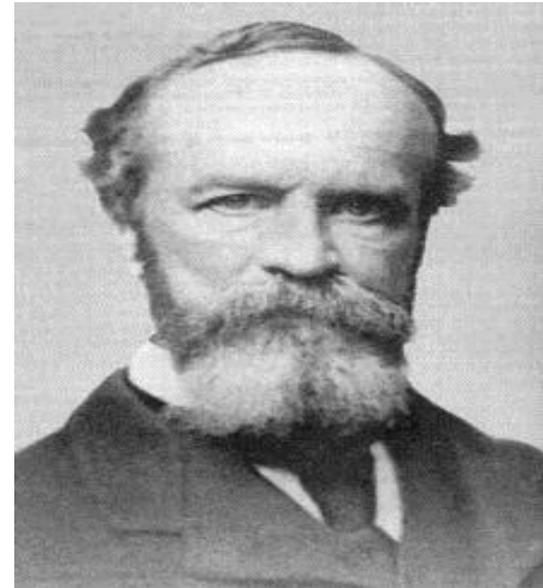
Wave One: Structuralism

- Started with William Wundt's first psychological laboratory and his concept of structuralism.
- Basic structure of thought and the brain.
- Edward Titchner:
Used Introspection, self reflection to learn about yourself.
 - What are your thoughts and experiences as you look at a rose?



Functionalism

- Focused on the function or purpose of the conscious mind as well as behaviors.
- **William James:** Smelling is what the nose does, thinking is what the brain does; why?
 - These things develop because they have adapted to help our survival and the survival of our ancestors.
- Based heavily on Darwinist thinking.



Wave Two: Gestalt Psychology

- Led by Max Wertheimer, these guys focused not on how we feel, but on how we experience the world.
- The whole of an experience can be more than the sum of its parts.



This may seem like one picture, but it can be perceived as 3 different faces. Can you find them?

Think for a moment of all the reasons that you love your mom.
If you add all those reasons up, do they equal your love for your mom?
Hopefully not!!!

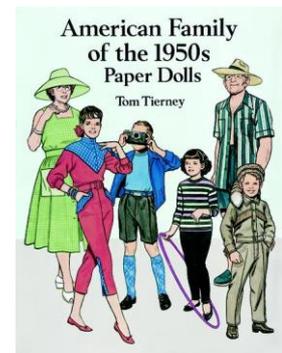
Wave Three: **Psychoanalysis**

- This wave of thinking started with Sigmund Freud (in the early 1900's).
- In a nutshell, during this time period people believed that most of your feelings come from a hidden place in your mind called the unconscious.
- We protect ourselves from our real feeling by using defense mechanisms.



Wave Four: Behaviorism

- During this time period (early to mid 1900s), people started to ignore how you feel inside.
- All that mattered was how you acted.
- B.F. Skinner was forerunner of Behaviorism.
- If you could change your behavior, who cares how you feel.
- Very popular during the conservative 1950's when social appearance mattered more than self expression.



Wave Five: Eclectic

- We are now in wave five....which is about variety.



- Psychologists pick and choose what theories to use depending on the situation and the client.

Wave Five is made up of about 8 different perspectives.

In other words, psychologists today, pick and choose from about 8 schools of thought to help you with your problems.



Thus we have:

THE EIGHT SCHOOLS OF PSYCHOLOGY

Biological (Neuroscience) Perspective

- All of your feelings and behaviors have an organic root.
- **Psychobiologists study how the brain, the nervous system, hormones, and genetics influence our behavior.**
- Use PET and CAT scans

Let us imagine for a second that your dog died. You become depressed. You stop eating and sleeping. What would a psychologist from this school say is going on and how might they help you?



Behavioral Perspective



Pretend that you fail psychology class. You become depressed. In turn, you begin to binge and gain weight.

What do you think a behaviorist may do?



They would probably ignore the fact that you are depressed and just focus on your overeating.

Maybe make you run a mile every time you eat over 2000 calories.

- **Focuses on observable behaviors while putting feelings to the side.**
- **We behave in ways because we have been conditioned to do so.**
- To change behaviors, we have to recondition the client.
- B.F. Skinner
- Ivan Pavlov

Cognitive Perspective

- Focuses on how we process, store, and use information and how it influences our thinking.
- How do we see the world?
- How did we learn to act to sad or happy events?
- Cognitive Therapist attempt to change the way you think.
- Jean Piaget



You meet a girl...
Hopes are high!!!

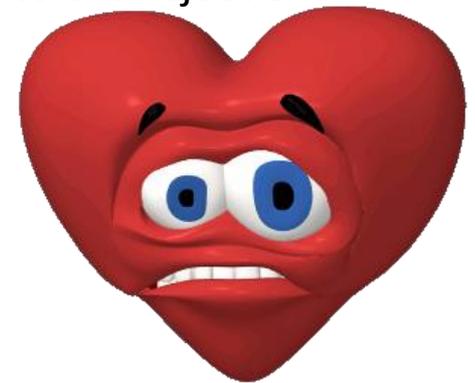


She rejects you...don't
even get a phone
number.

How do you react to the rejection?



Some learned get back on
the horse
And try again.



Some learned to give up
and live a lonely life of
solitude.

Humanist Perspective

- Peaked in the late 1960's and 70's....so it focused on spirituality and free will.
- We have to strive to be the best we can be "self-actualization".
- Emphasizes how each person is unique and has a self-concept and potential to develop fully.
- Carl Rogers



Psychoanalytic Perspective

- Focuses on the unconscious mind.
- We repress many of our true feelings and are not aware of them.
- In order to get better, we must bring forward the true feelings we have in our unconscious.
- Sigmund Freud



If a man has intimacy issues and cannot form relationships with others. What do you think someone from this school may think?



Perhaps they may delve into the man's unconscious and discover that he was bullied when he were younger. The bullying may have caused fear in getting close to others.

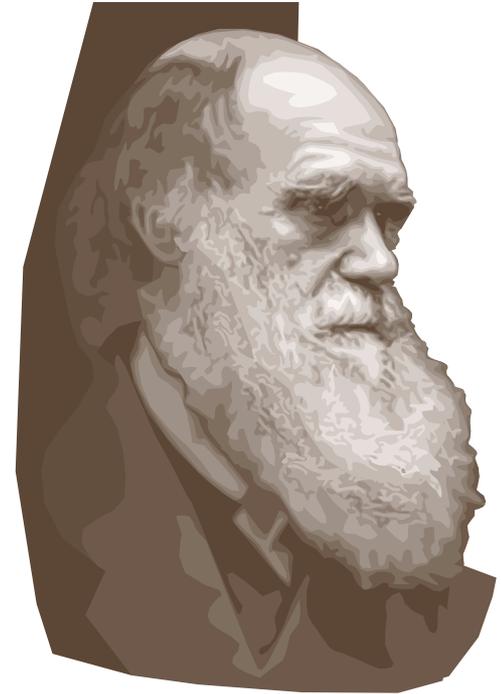
Social-Cultural Perspective



- Says that much of your behavior and your feelings are dictated by the culture you live in.
- Ethnicity, gender, culture, socioeconomic status influence behavior.
- Some cultures kiss each other when greeting, some just bow.
- Does your culture place value on individual or the group?
- Leonard Dobb

Evolutionary Perspective

- Focuses on Darwinism.
- We behave the way we do because we inherited those behaviors.
- Nature vs. Nurture
- Thus, those behaviors must have helped ensure our ancestors survival.



It's 4 a.m. and "Steve" is engulfed in the green glare of his computer screen, one minute pretending he's a ruthless mafia lord masterminding a gambling empire, the next minute imagining he's an evil sorcerer or an alien life form.

Steve, a college student, is playing a Multiple User Dungeon (MUD) game- a fictional game modeled after Dungeons and Dragons that is played by sending online messages to other players. But as he continually logs on for hours, Steve finds himself sleeping through classes, forgetting his homework, and slipping into "Internet addiction"

1.) Why do you think Steve is spending so much time on the Internet when he knows that his schoolwork is suffering?

2.) As a psychologist, how do you plan to help Steve? Which approach would you use? Explain. (Choose one or a combination of the psychological perspectives we discussed yesterday that you think would best help Steve)

Monday January 30, 2017

Objective- Compare and Contrast case studies, surveys, and naturalistic observation and explain the importance of proper sampling

Journal Log- Write “ Approaches to Psychology Practice”. Complete the handout.

Homework- 1) Vocab Quiz 2/1 2) Test & Review Sheet due 2/3

Experimentation and Research Methods



It is actually way more exciting
than it sounds!!!!

Why do we have to learn this stuff?

Psychology is first and foremost a science.



Thus it is based on experiments and research.

Applied V. Basic Research

- **Applied Research** has clear, practical applications.
- **YOU CAN USE IT!!!**

Looking for a cure for cancer

- **Basic Research** explores questions that you may be curious about, but not intended to be immediately used.



Studying how kissing changes when you get older is interesting...but that's about it.

Research on therapies for drug addicts has a clear purpose.

Survey

- Definition: asks people to report their behavior or opinions

– Examples:

- Political polling
- U.S. Census
- Dancing with the Stars voting



Survey

Advantages and Disadvantages

- What's good about surveys?

- Cheap to administer
- Gather a lot of information about a lot of people quickly



- What's bad about surveys?

- Wording Effects

- “affirmative action” vs. “preferential treatment”;
“welfare” vs. “aid to the needy”

- Sampling Error

- Low response rate

- People Lie!!!!

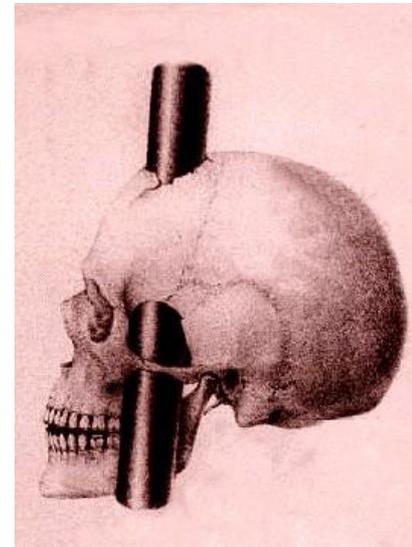


Case Study

- Definition: an observation technique in which one person is studied in depth in the hope of revealing universal principles

– Examples:

- [Genie the Wild Child](#)
- Phineas Gage → → → → → →
- Anorexia Study



Case Study

Advantages and Disadvantages

- What's good about case studies?
 - One person can tell us a lot about humans in general
- What's bad about case studies?
 - One case may be misleading!!!
 - “My uncle smoked two packs a day for sixty years and never had health problems!”

What about the case study of John and Kate (+8)? Really interesting, but what does it tell us about families in general?



Naturalistic Observation

- Definition: observing and recording behavior in NATURALLY occurring situations
- We do NOT interfere in naturalistic observations...we simply watch and record!
- **Example**: Jane Goodall [observing chimpanzees](#)



Naturalistic Observation

Advantages and Disadvantages

- What's good about naturalistic observation?
 - See authentic behavior
- What's bad about naturalistic observation?
 - Can't interfere at all



Correlational Study

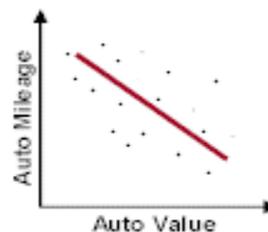
- Definition: examines RELATIONSHIPS between two variables
- **Correlations range from -1 to +1 (correlation coefficient).**
 - The number is the STRENGTH of the correlation!
 - Positive (+) correlations mean that as one variable increases, so does the other
 - Negative (-) correlations mean that as one variable increases, the other decreases

- **Examples:**

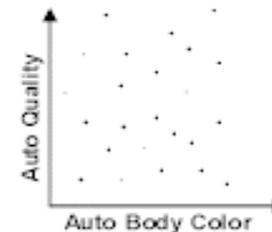
- Temperature and ice cream eaten (+)
- TV watched and grade performance (-)

Correlation
Relationship Between Two Quantities
Such That When One Changes, the Other Does

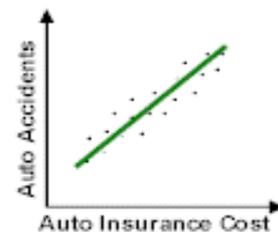
Negative



Zero



Positive



Types of Correlation

Positive Correlation

- The variables go in the SAME direction.



A

Studying and grades hopefully has a positive correlation.

Negative Correlation

- The variables go in opposite directions.



F

Heroin use and grades probably has a negative correlation.

Are the following POSITIVE or NEGATIVE correlations?

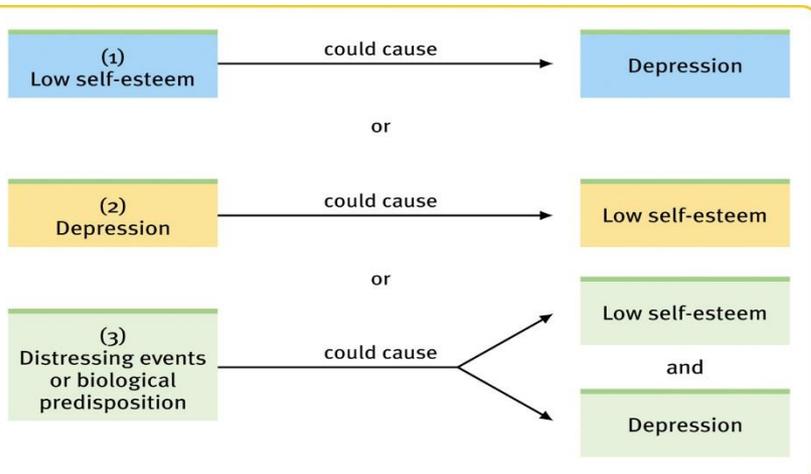
- The more young children watch TV, the less they read
- The more sexual content teens see on TV, the more likely they are to have sex
- The longer children are breast-fed, the greater their later academic achievement
- The more often adolescents eat breakfast, the lower their body mass.

Correlational Study

Advantages and Disadvantages

- What's good about correlational studies?

– Can show a relationship between variables



- What's bad about correlational studies?

– Correlation does not prove causation!
– Third variable problem

- Ice cream eaten and drownings



Scientific Method

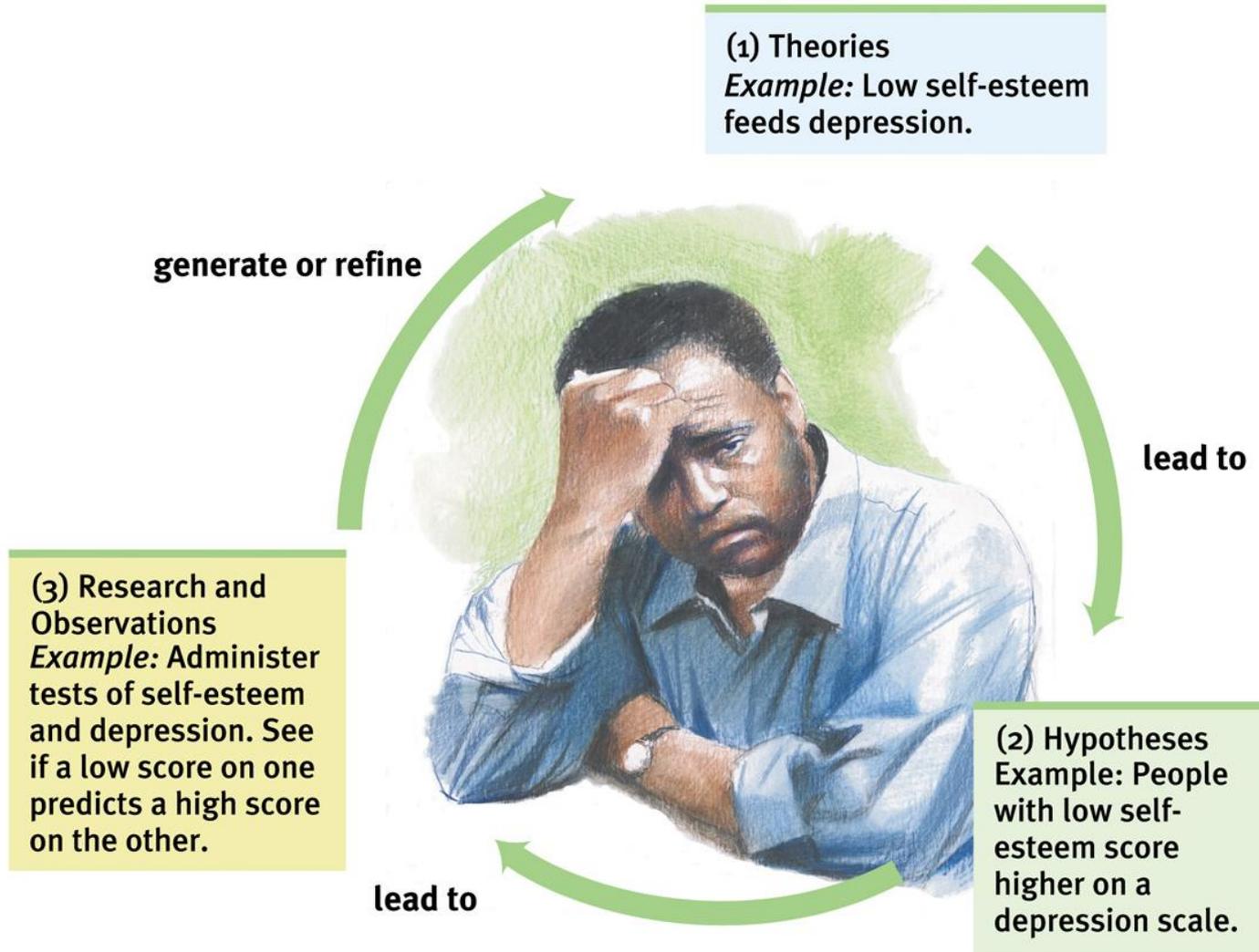
Psychologists, like all scientists, use the scientific method to construct theories that organize, summarize and simplify observations.

Theory

A **Theory** is an explanation that integrates principles and organizes and **predicts behavior or events.**

For example, low self-esteem contributes to depression.

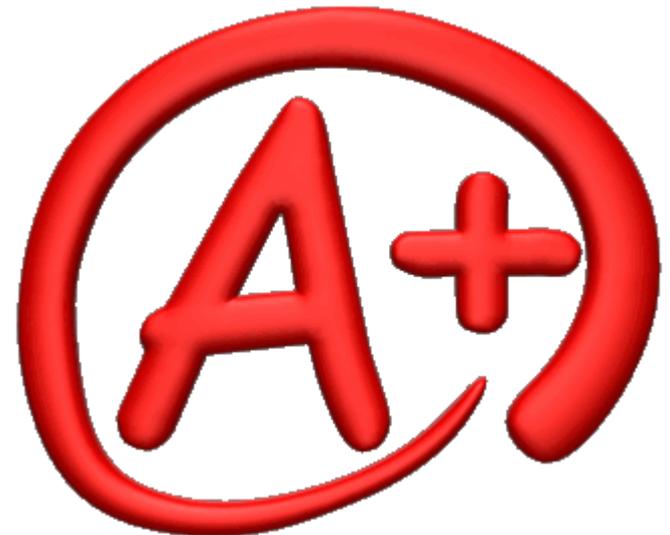
Scientific Method



Hypothesis

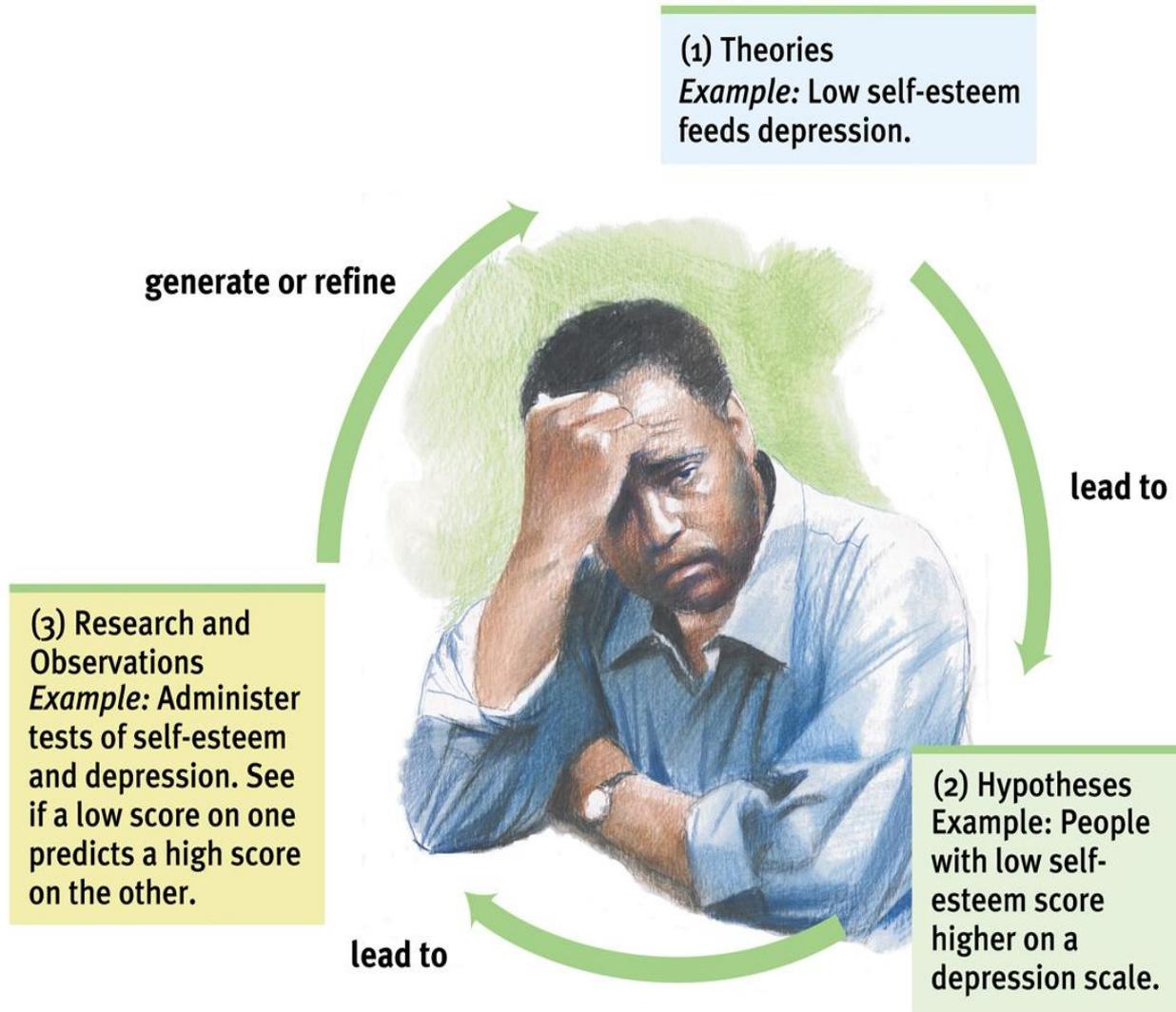
- A **Hypothesis** is a testable prediction, often prompted by a theory, to enable us to accept, reject or revise the theory.
- It's an educated guess, often written as an if/then statement, that expresses a relationship between two variables

If Sarah participates in class, then she will earn an A+.



Research Observations

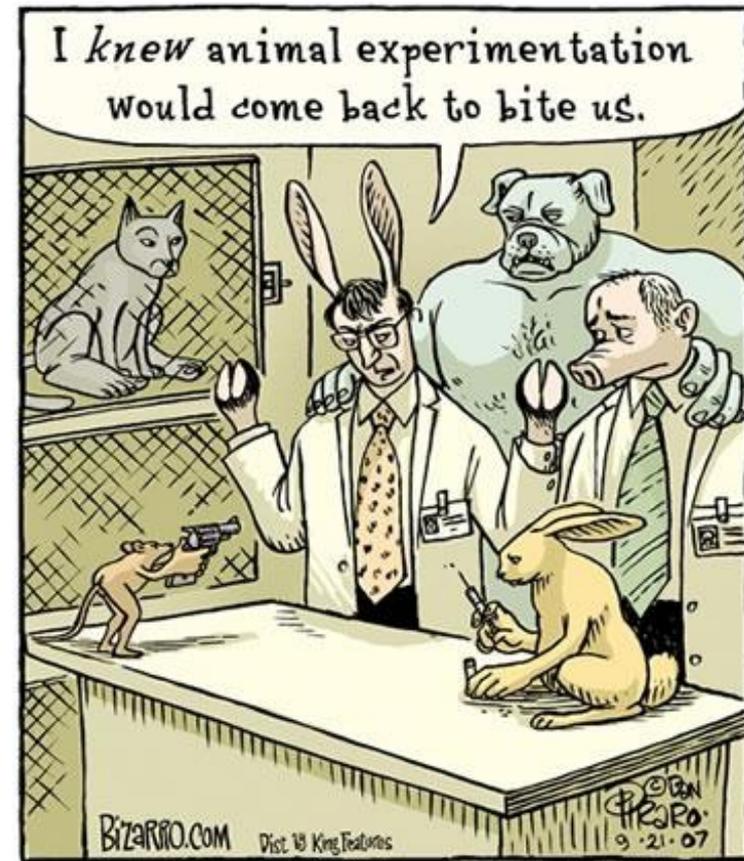
Research would require us to conduct a study to either confirm or disprove our hypothesis.



Experimentation

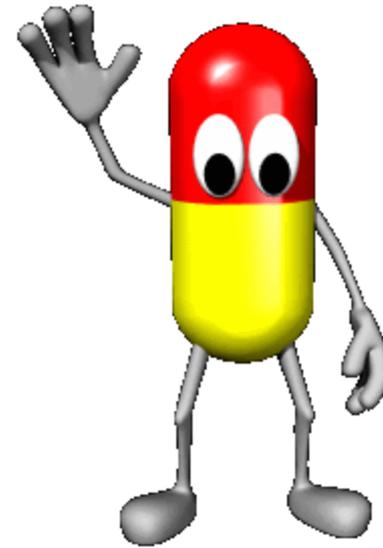
Exploring ****Cause and Effect****

- Like other sciences, experimentation is the backbone of psychology research. Experiments isolate causes and their effects.
- The purpose of an experiment is to determine how a **treatment** affects a **behavior**.
- Looking for cause and effect



Independent Variable (IV)

- An Independent Variable is the factor that researchers manipulate so they can determine its effect. The effect of the independent variable is the focus of the study.
- Whatever is being manipulated in the experiment.
- Hopefully the independent variable brings about change.



If there is a drug in an experiment, the drug is almost always the independent variable.

Dependent Variable (DV)



- Whatever is being measured in the experiment.
- The factor that changes in response to the independent variable

The dependent variable would be the effect of the drug.

Experimental Group

The Experimental Group is the group that RECEIVES the treatment

Treatment usually means the “weird” thing being done to a group

Control Group

The Control Group is the group that does NOT receive the treatment

We need this group to compare to the experimental group to see if the independent variable created an effect or not



IRS



"About this new tax plan — I'd like to volunteer to be in the control group."

Confounding Variables



If I wanted to prove that smoking causes heart issues, what are some confounding variables?

Confounding Variables are other variables that could possibly be affecting our experiment's outcome

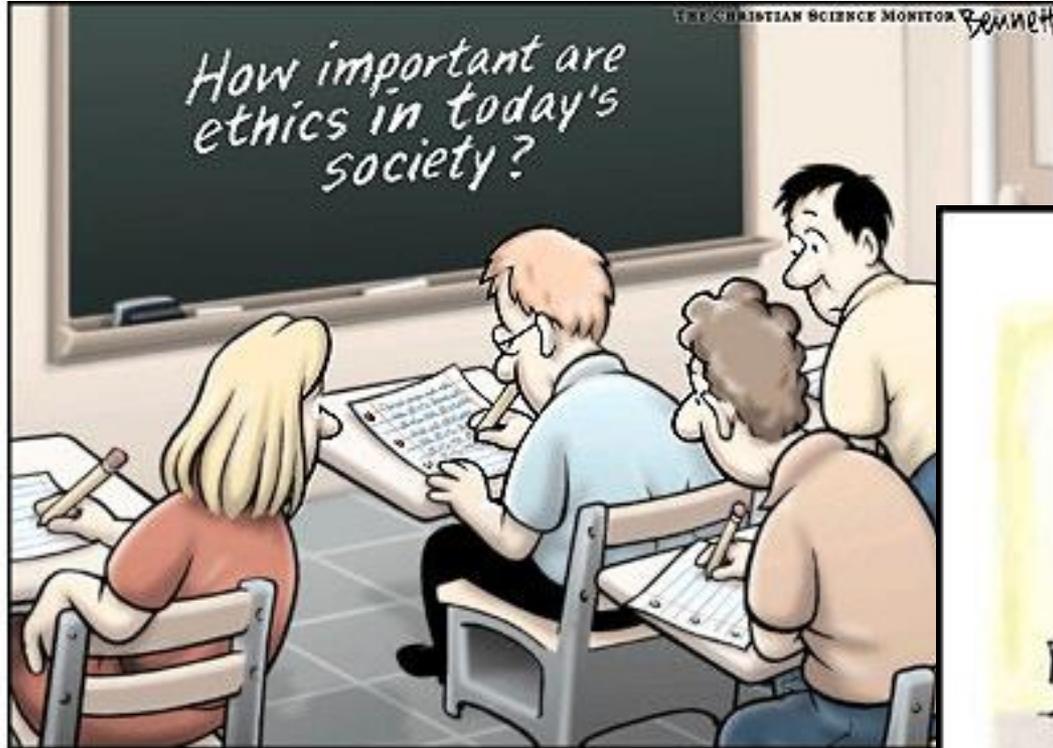
We want to MINIMIZE or ELIMINATE these!!



Lifestyle and family history may also effect the heart.



Experimental Ethics



Approving an Experiment

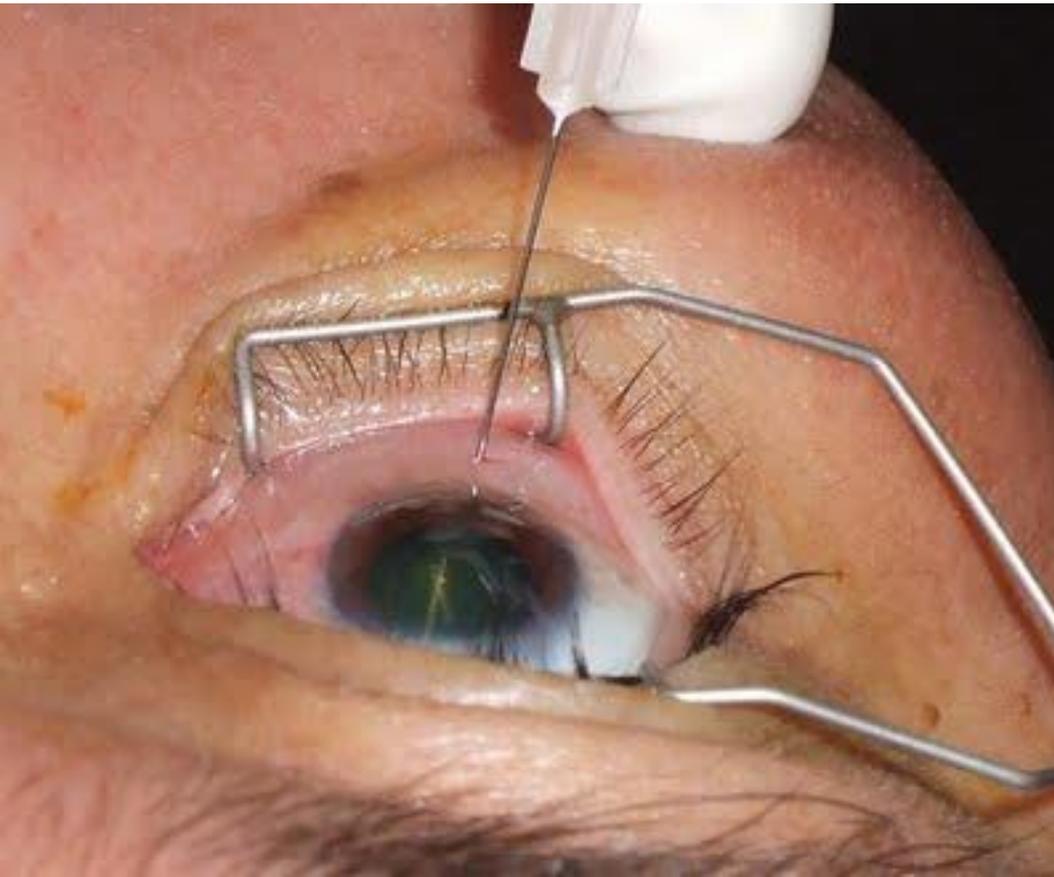
- Ethical guidelines established by the APA (American Psychology Association)
- Before any experiment is conducted, it must be reviewed by an ethics board



*You should spend the next week typing down names of **all** co-authors on your paper.*

Basic Ethical Principles

- 1. Must not harm participants

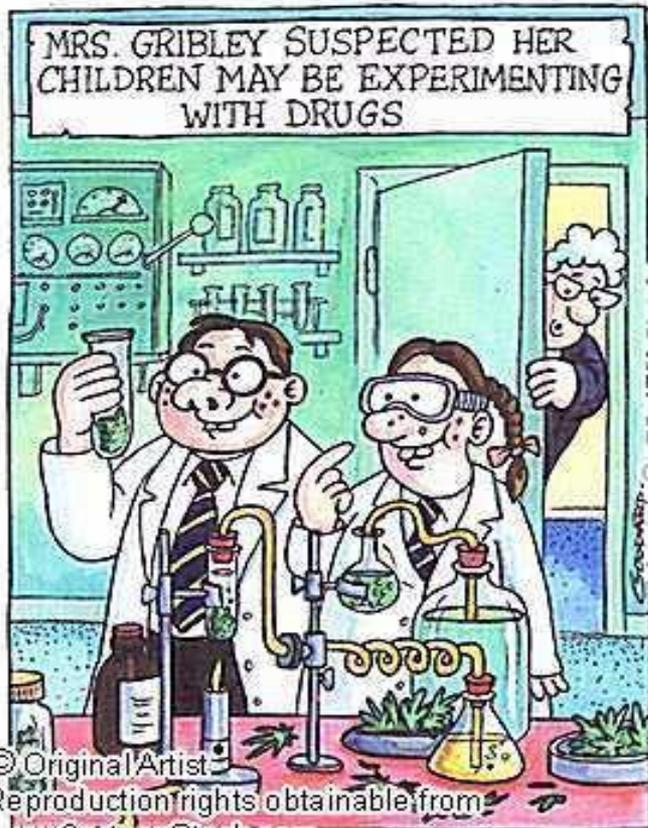


Nazis tried to change eye color by injecting dye directly into the eyeball

Many went blind as a result

Basic Ethical Principles

- 2. Must not break any laws



Hard to do research on the effects of illegal drugs because it would break the law

Basic Ethical Principles

- 3. Must obtain informed consent before and debrief after



Basic Ethical Principles

- 4. Deception is OK as long as participants are informed of the deception after the experiment is concluded



DECEPTION

"Hang on... I think it might be a trap..."

Basic Ethical Principles

- 5. Must keep individual results confidential
 - Exception is when a participant reveals plans to hurt self or someone else





We received him from a lab in U.S.



Boy, I would love to be his pet cat!

- 6. Harm to animals is permissible if it is for the greater human good, there is no alternative, and the benefits outweigh the harm

Why use animals instead of humans?

- The processes that underlie behavior in animals and humans are often similar.
- Animals are worthy of study for their own sake.
- Animal behavior is generally simpler to understand.



Wednesday February 1, 2017

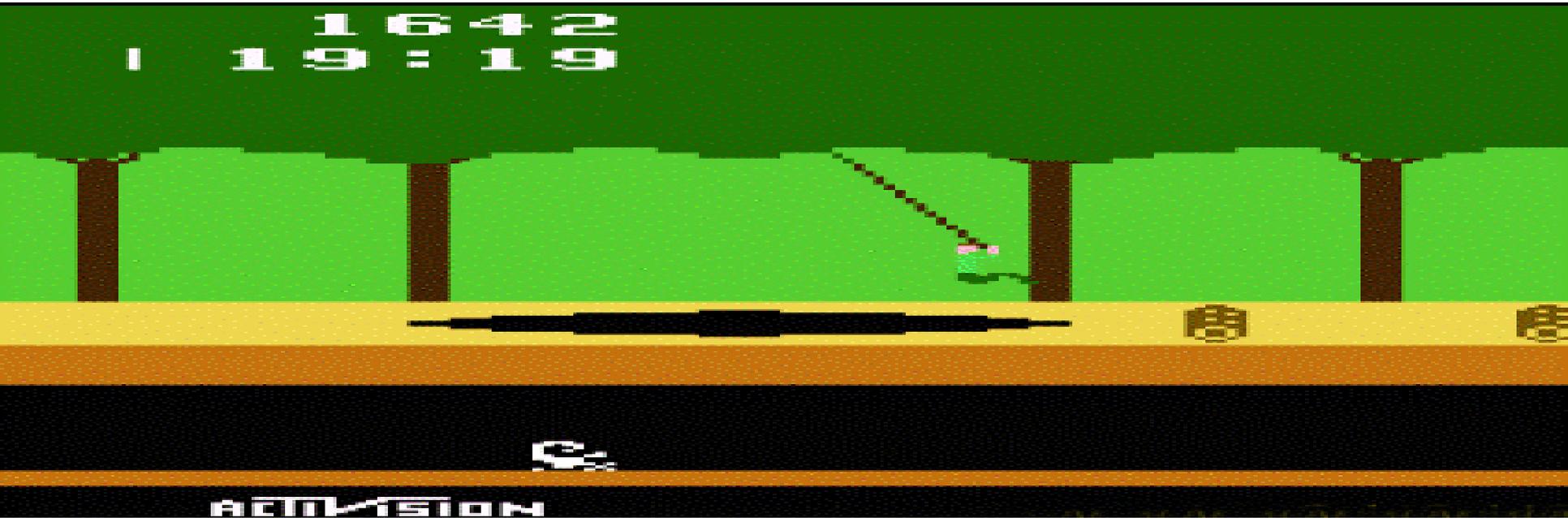
Objective- Discuss and Explain the pitfalls of experimentation

- Journal: Lisa is working on a science project. Her task is to answer the question: "Does Rogooti (which is a commercial hair product) affect the speed of hair growth". Her family is willing to volunteer for the experiment.

Design Lisa's experiment.

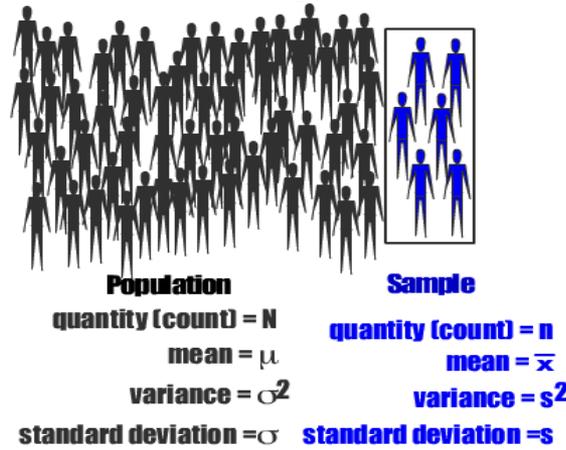
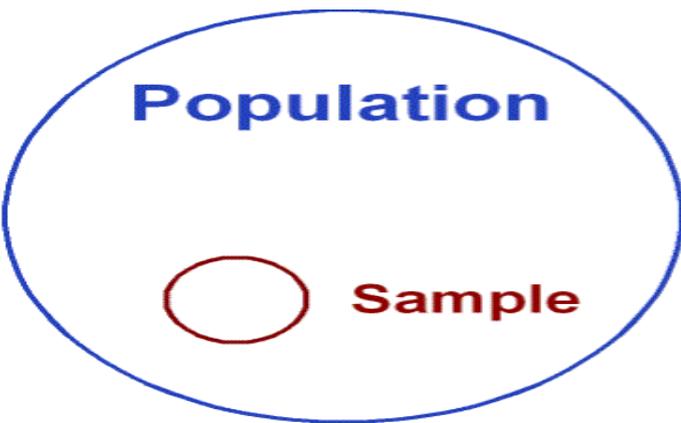
Homework- Test and Unit 1 Review Sheet Due Friday 2/3

Pitfalls of Experimentation



Population and Sample

- **Population**: the entire target that you want to learn about
- **Sample**: those from the population that you select to be part of your study
- **Stratified Sample**-subgroups represented proportionally in the sample.



A subset of the population.

Random Sample/Assignment

- **Random Sample:**
everyone from the population has an equal chance of being chosen for the study (like drawing names out of hat while blindfolded)
- **Random Assignment:**
once chosen, those in the sample have an equal chance of being assigned to the experimental or control group



Random or Stratified?

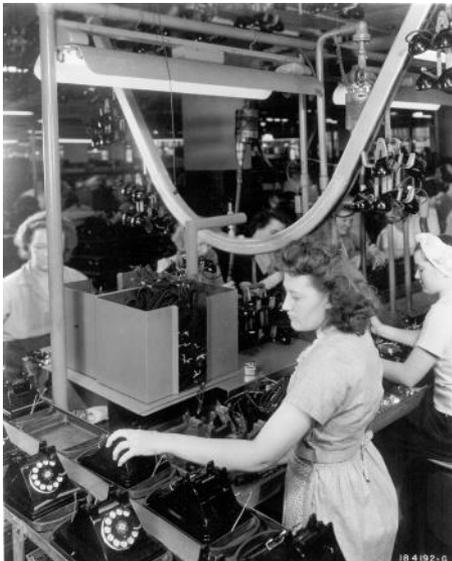
Identify the sampling technique used (random or stratified and explain your answer):

- a) Every fifth person boarding a plane is searched thoroughly.
- b) A researcher randomly selects and interviews fifty male and fifty female teachers.
- c) Based on 12,500 responses from 42,000 surveys sent to its alumni, a major university estimated that the annual salary of its alumni was 92,500.
- d) A market researcher randomly selects 200 drivers under 35 years of age and 100 drivers over 35 years of age.
- e) The names of 70 contestants are written on 70 cards, the cards are placed in a bag, and three names are picked from the bag.

Hawthorne Effect



- But even the control group may experience changes.
- Just the fact that you know you are in an experiment can cause change.



Whether the lights were brighter or dimmer, production went up in the Hawthorne electric plant.

Placebo Effect

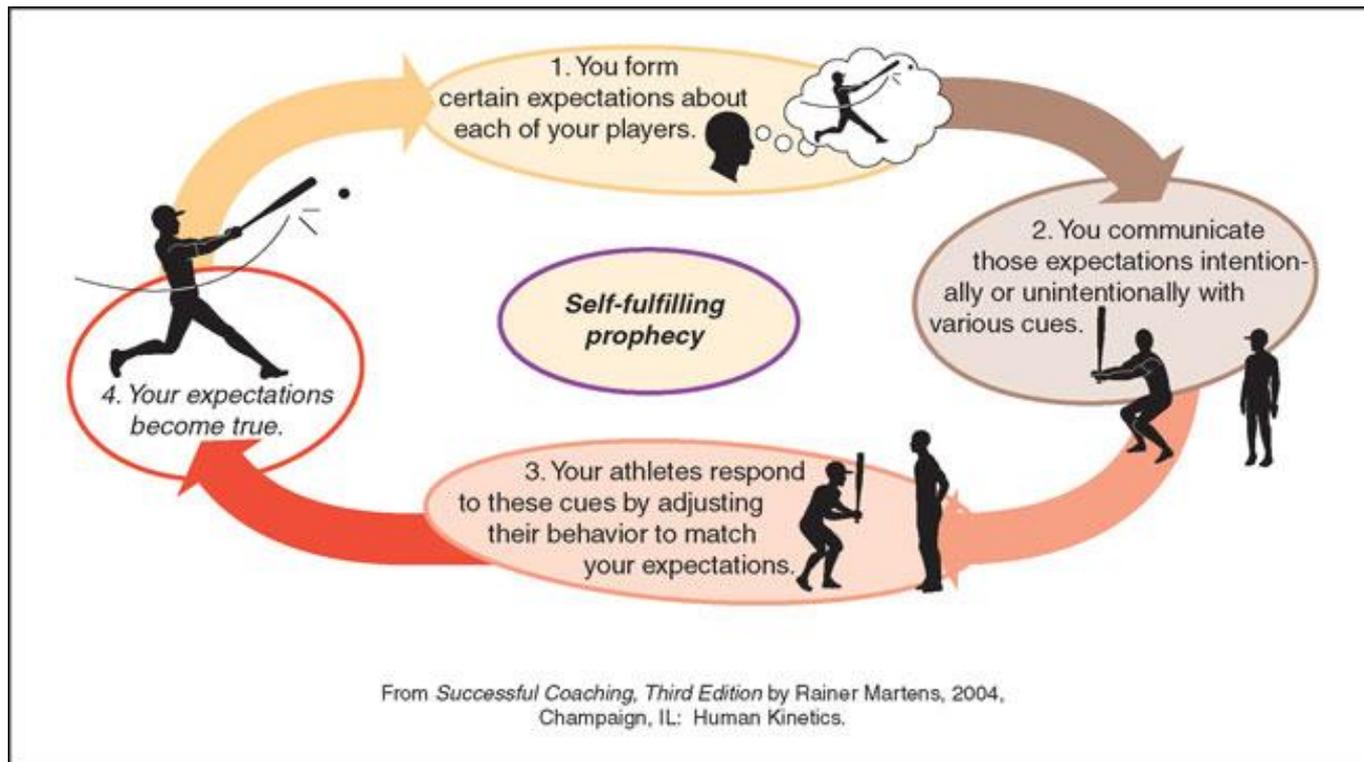


- Sometimes expecting to “get better” will actually make us get better!
- **Placebo** – a substance or treatment that has no effect apart from a person’s belief in it
 - Sugar Pills
- **Placebo Effect** – expectations affect performance
- Can you remember as a child being given a placebo?



Self-Fulfilling Prophecy

- A belief that results in behavior that makes the belief come true
 - Researchers may inadvertently affect results!



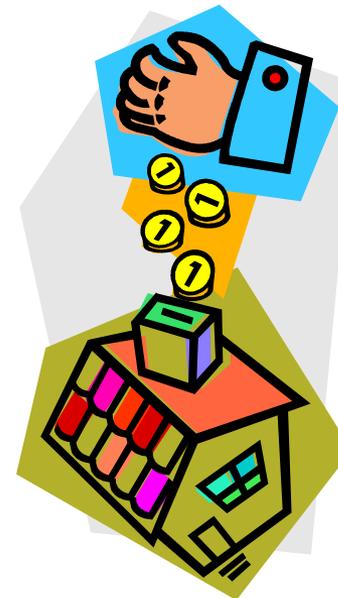
Single-Blind vs. Double-Blind

- **Single-Blind study**: participants do not know whether they are in the experimental or control group
- **Double-Blind study**: both subjects AND experimenters are kept uniformed
- Why conduct a blind studies? To reduce experimenter bias



Overconfidence

- We tend to think we know more than we do.
- 82% of U.S. drivers consider themselves to be in the top 30% of their group in terms of safety.
- 81% of new business owners felt they had an excellent chance of their businesses succeeding. When asked about the success of their peers, the answer was only 39%. (Now that's overconfidence!!!)



Operational Definitions

- I want to measure how being in love affects school performance.

- But how do you measure LOVE? How do you count it?



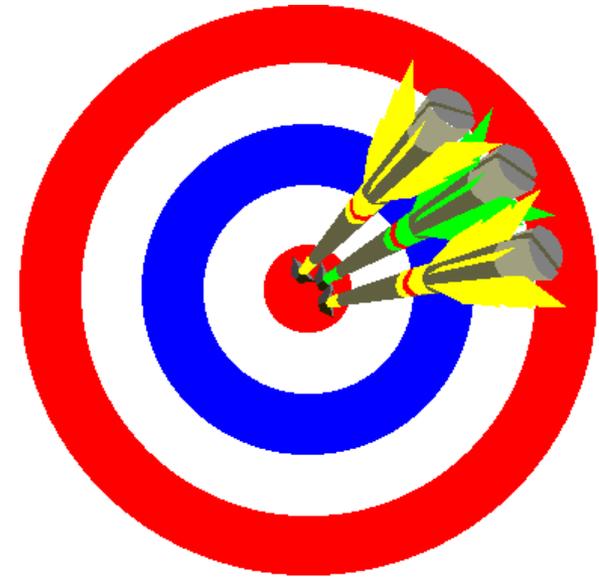
- **Operational Definitions** – precise definitions that show how variables will be measured

- How will the variables be measured in “real life” terms?
- Let’s say “love causes higher GPA”
- We could measure “love” by...
 - Kisses, hugs, etc.



Reliability

- So someone conducts an experiment and finds out their new drug, GullibleMed, cures cancer!
 - Do we just take them at their word and start ordering massive quantities of the drug?
- **Reliability** – replicate the experiment and get the same results to prove it works
 - How would we prove a new bow design is extremely accurate?



Statistical Significance

- You create an experiment to measure the effect of protein shakes on max bench press.
 - Workout group – 155 pounds
 - Non-workout group – 150 pounds
- Can we now say that drinking protein shakes makes you stronger? **NO**
- **Statistical Significance**: results must differ by a certain amount, otherwise they could be due to random chance alone

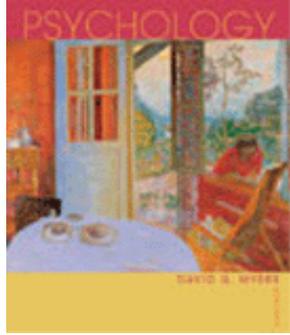


Statistical Evaluation

- **When Statistics Lie**

- Long ago, when John Hopkins University had just begun to admit women students, someone not particularly enamored of (happy with) coeducation reported a real shocker: Thirty-three and one-third percent of the women at Hopkins had married faculty members! The raw figures gave a clearer picture. There were three women enrolled at the time, and one of them had married a faculty man.
- **How did the reporter seek to mislead using an accurate statistic?**

Statistical Reasoning



- **Statistics:** a branch of mathematics that enables researchers to organize and evaluate the data they collect.

Baseball Statistics

- **A batting average is the number of hits per official “at bats” (walks do not count). If a player has a batting average of .250, it means that on average he or she gets a hit every fourth time at the plate.**
- **The earned run average represents the number of runs a pitcher allows per 9 innings of play. Consider the pitcher who pitches 180 innings in a season and allows 60 runs. On the average, this pitcher allows one run every 3 innings (180 innings divided by 60 runs). One run every 3 innings equals 3 runs every 9 innings, so the earned run average is 3. The next time you watch your favorite sport, think about the part that statistics plays in it.**
- **What statistics are kept for your favorite sport (other than baseball)?**

- **Mode**

- the most frequently occurring score in a distribution

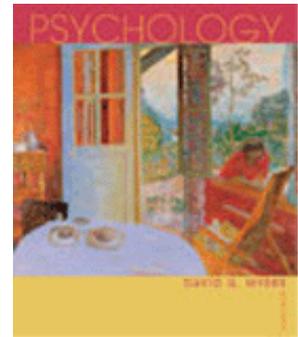
- **Mean**

- the arithmetic average of a distribution
 - obtained by adding the scores and then dividing by the number of scores

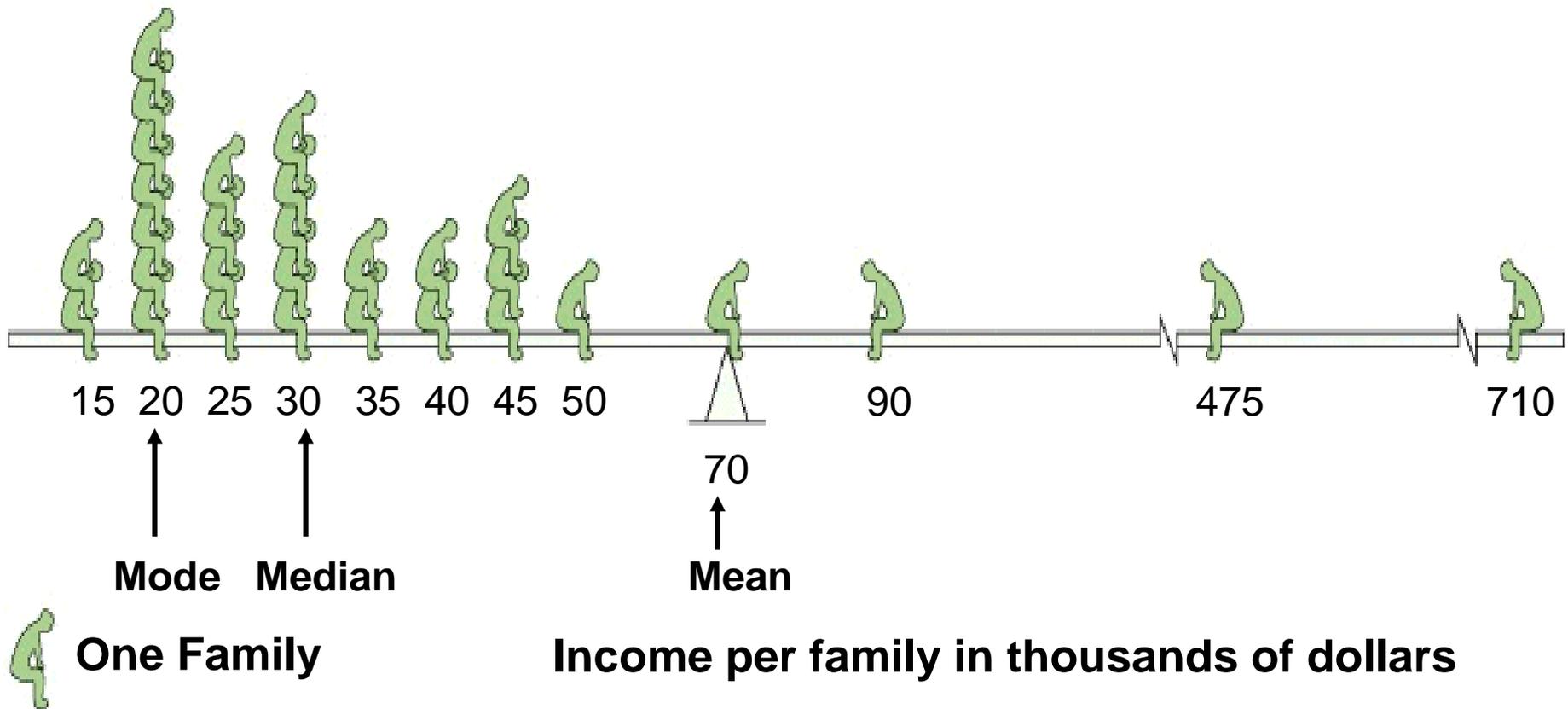
- **Median**

- the middle score in a distribution
 - half the scores are above it and half are below it

Statistical Reasoning



A Skewed Distribution



Central Tendency

- Mean, Median and Mode.
- Watch out for extreme scores or outliers.

Let's look at the salaries of the employees at Dunder Mifflin Paper in Scranton:

\$25,000- Pam
\$25,000- Kevin
\$25,000- Angela
\$100,000- Andy
\$100,000- Dwight
\$200,000- Jim
\$300,000- Michael



The median salary looks good at \$100,000.

The mean salary also looks good at about \$110,000.

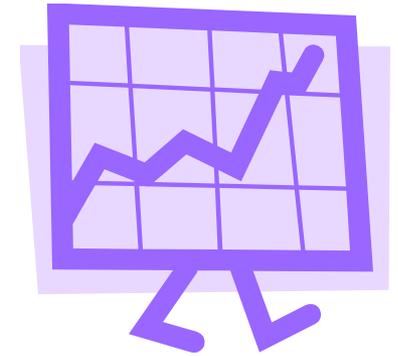
But the mode salary is only \$25,000.

Maybe not the best place to work.

Then again living in Scranton is kind of cheap.



Statistical Reasoning



- **Range**

- the difference between the highest and lowest scores in a distribution

- **Standard Deviation**

- a computed measure of how much scores vary around the mean