Psychology:
• the science of behavior & mental processes
• makes use of the scientific method
• empirical - relies on research findings to answer questions and draw conclusions
• Uses the same careful, systematic, unbiased gathering of data & testing of hypotheses as other sciences

Psychology studies:
• both normal & abnormal behavior
• both humans & other species
• all aspects of behavior

Knowing Something About Professionals in the Field

Or “What qualifies him/her to give me advice?”

How many of you already know a psychologist or related professional?

Becoming a Psychologist:
• Earn the Ph.D. (4-5 years grad work + a major research project called your dissertation) OR
• A smaller number earn the Psy.D. (less emphasis on research, more on therapy) or Ed.D. (psych applied to Education)
• All psychologists specialize (perspective & subfield) as they earn their degrees.
• Clinical psychologists also need 1 yr. internship & must pass licensing exam

See pages 12-13 & Appendix C

Psychology’s Current Perspectives Table 1.1 on p.11 (learn these on your own)

• Neuroscience
• Evolutionary
• Behavior Genetics
• Psychodynamic
• Behavioral
• Cognitive
• Sociocultural

Current Perspectives

• Neuroscience
• Evolutionary
• Behavior Genetics
• Psychodynamic
• Behavioral
• Cognitive
• Sociocultural

Psst... A few Test 1 questions will be on these perspectives
Psychology’s 3 Main Levels of Analysis

Main subfields (learn about these on your own on p. 12-13 & Appendix C) i.e.:
- Biological psych
- Developmental psych
- Cognitive psych
- Personality psych
- Social psych
- Industrial/Organizational psych
- Counseling psych
- Clinical psych
- and about 9 others in Appendix C

Some of the subfields in psych
- Biological psych
- Developmental psych
- Cognitive psych
- Personality psych
- Social psych
- I/O psych
- Counseling psych
- Clinical psych

At least 3 test questions will ask about these subfields

Goals of Psychological Research
- Describe the behavior
- Predict the behavior in the future
- Explain the behavior
- Control or modify behaviors

Research Methods That Help Develop the Description of a Behavior
(Descriptive Methods)

Other Degree Options:
- M.A. in Psych or Counseling or Social Work (takes ~2 years; more limited job opportunities)
- To become a psychiatrist you first earn your M.D., then specialize in clinical psych
- A psychoanalyst is a psychologist or psychiatrist with special training in Freud’s approach to revealing the unconscious
- A large variety of psychology-related jobs are available to those with a B.A. in Psych, as well as jobs where insight into behavior is a plus (sales, management, marketing, education, criminal justice, service jobs)
- (see link to my Careers page at bottom of syllabus)
**Case Study**

- Intensive study of an individual

*Sybil*

Case studies: Can provide in-depth data on an individual and spark ideas for further research

- BUT we can't assume data will apply to all others with the same condition – can't generalize

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**Naturalistic Observations**

- Observing behavior in its natural setting as unobtrusively as possible.

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**Observing Kids at Play in Their Natural Environment**

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**Survey**

- Using questionnaires or interviews to efficiently collect data from many people

- But data may not be useful if:
  - questions are poorly written or administered
  - sample of participants is not representative
  - the self-reported responses are not accurate

- Common way of getting a representative sample: a random sample of the population being studied

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For example, these descriptive methods helped build a description of ADHD (p 373)
Attention Deficit/Hyperactivity Disorder (ADHD)

- Diagnosed when these DSM criteria are met:
  - 6 or more symptoms of inattention and/or
  - 6 or more symptoms of hyperactivity and/or impulsivity
  - These symptoms must have been present before the age of 12, for at least 6 months & must be interfering with school, social or work functioning

- Do you know someone with ADHD?

Naturalistic Observations in the Classroom Revealed:

- Compared to the average kid, those with ADHD have more trouble:
  - staying in their seats or sitting still,
  - paying attention, following instructions
  - completing work, staying on task
  - controlling impulses, controlling temper
- This method collects data in real-life situations, but it is important to use well-trained, unbiased observers.

Survey Results Reveal:

- ~11% of USA school kids receive this diagnosis & many are taking medication for ADHD
- 2X more males than females
- ~50-60% show defiant behavior & higher risk of conduct problems as teens
- ~30-60% still have symptoms as adults
- ~40% have a parent with symptoms

Research Methods That Help Make Predictions

- Once many observations have been made, patterns may emerge that help predict the behavior
- Correlational research statistically analyzes these patterns

Correlation

- **Correlation**: the degree to which one variable or set of data is related to another variable or set of data, and how well one variable predicts the other.
- **Correlation coefficient**: statistical calculation indicating the strength and direction of this relationship.
  - Varies between -1 (perfect inverse or negative correlation) and +1 (perfect positive correlation)
- Correlations help us predict behavior but do not indicate the cause of the relationship.
- Remember: Correlation does not prove causation.
Correlation Coefficient
- Positive correlation (between 0 and +1.00)
  - Indicates a direct relationship
- Negative correlation (between 0 and −1.00)
  - Indicates an inverse relationship
- A correlation coefficient close to zero indicates little or no relationship between the 2 data sets

Correlations
- The larger the correlation coefficient, the stronger and more predictive the relationship between the data sets.
- A strong negative correlation is just as predictive as a strong positive correlation.

Strength of a Correlation
- Look at how spread out the dots are around the line
- Stronger: → weaker
Twin Studies
Look at Correlations

Is Hyperactivity Correlated in Twins?
• Male fraternal twins show almost no correlation (+.05) in their level of activity
• But male identical twins show a strong correlation (+.71) in their level of activity
• Supports the hypothesis that genetics play a role in ADHD, but does not prove a cause-effect relationship.
• Must use the Experimental Method to determine cause-effect relationships

Why is an experiment different?
• Tests hypothesis by comparing the behavior of 2 or more groups of participants under very controlled conditions.
• Groups are treated as similarly as possible EXCEPT for the critical variable (the independent variable) that the researcher is interested in.
• The researcher intentionally manipulates or varies the independent variable to study its impact on behavior, while keeping everything else constant.

Hypothesis
• A testable prediction about the relationship between 2 or more variables
• Examples:
  • Consumption of alcohol will impair short-term memory.
  • Relaxation training will reduce test anxiety and improve test performance.
  • Watching a violent video will increase violent behavior.

Random Assignment of Participants to Groups
• To make the 2 groups of an experiment as equal as possible initially, most often participants will be randomly assigned to 1 group or the other.
• This assures that there are no systematic differences between the groups.
Groups:

- **Experimental group** – the participants exposed to the independent variable that the researcher is really interested in (e.g. watching violence on TV)
- **Control group** – the participants NOT exposed to the independent variable of interest but rather to some substitute control condition (e.g. watching non-violent TV)

Variables in an Experiment:

- **Independent variable** - what the investigator manipulates or varies; the thing that is different in the experimental group versus the control group.
- **Dependent variable** - the behavior that is observed, measured, tested; the actual data collected from both groups.
- The researcher must define both the independent & dependent variables as they will be used in his/her study. These are "operational definitions"