

Psychology:

- the scientific* study of behaviors & 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* (subarea & approach) as they earn their degrees.
- *Clinical* psychologists also need 1 yr. internship & must pass licensing exam

See pages 8 & 13

Research areas or specializations (learn about these **on your own** in Table 1.4) i.e.:

- Social psych
- Developmental psych
- Experimental (basic processes) psych
- Biological psych
- Cognitive psych
- School psych
- Clinical psych/counseling psych
- Health psych
- Industrial/organizational psych
- and 9 others.....

Some of the subareas in psych

- Social psych
- Developmental psych
- Experimental (basic processes) psych
- Biological psych
- Cognitive psych
- School psych
- Clinical psych/counseling psych
- Health psych
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- and 9 others.....

Psst...

At least 3 test questions will ask about these specializations (see Table 1.4)

Different Perspectives to Understanding Behavior – Table 1.1 (also study these on your own)

- Psychodynamic
- Behavioral
- Humanistic
- Cognitive
- Biological
- Evolutionary
- Sociocultural

Different Approaches/Perspectives

- Biological
- Cognitive
- Behavioral
- Psychoanalytic
- Humanistic
- Sociocultural
- Evolutionary

Psst...

Yep, you guessed it - a couple test questions will be on the major perspectives in psych

Other Degree Options:

- M.A. in Psych or Counseling or Social Work (takes ~2 years)
- 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)
- (PS Check the link to my Careers page at bottom of syllabus)

Where do the 190,000 U.S. psychologists work?

- ~35% at colleges/universities
- ~21% self-employed
- ~18% business, industry, for profit practices
- ~10% local, state, fed government agencies
- ~9% nonprofit organizations
- ~7% in K-12 school settings
- Only ~ 47% are in clinical/counseling; the other 53% in very diverse work settings.

TIP:

- On average, there will be 7-8 questions on the content related to each class period on our exams.
- Right now, while class is fresh in your mind, try to guess what 7-8 things from today we will have questions on. Write them in the margin next to today's notes.

Goals of Psychological Research

(note: I changed the order a bit from our text)

- Describe the behavior
- Predict the behavior in the future
- Explain the behavior
- Change or control behaviors

Example: Psychologists interested in autism have worked on all 4 of these goals. **Read p 325-327**

Autism Spectrum Disorder

up to 1 in every 68 kids

Identifiable by age of 2-3
Varying degrees of severity
Varying symptoms



Goal: Describing Autism Spectrum Disorder (DSM 5)



- Impaired social communication & social interactions
 - Deficits in the social back & forth of conversations
 - Decreased initiation of social interactions
 - Decreased nonverbal communication & attention to nonverbal cues
 - Decreased ability to develop, maintain or understand social relationships
- Restricted, repetitive pattern of behavior, activities & interests
- Insistence on sameness, routines
- Abnormal response to changes in environment
- Symptoms appear early & cause serious impairment

Goal: Prediction

- **Predicting** who is at risk:
 - 3-4x as many males with autism
 - Couples with 1 autistic child are 50-100X more at risk of having another with autism
- **Predicting** when symptoms may worsen:
 - when there is sensory overload
 - when usual ways of doing things are disturbed

Goal: Change or Control

- **Controlling** the symptoms of autism by avoiding certain situations or stimuli.
- Changing the risk of autism thru genetic counseling (perhaps eventually a genetic test may be possible) & good prenatal care
- Changing the impact of the disorder with early educational intervention

Goal: Explanation

- Explanations in science are rarely final or complete.
- They are usually in the form of a **theory** that seems to fit the existing data.
- As new evidence becomes available, the theory (explanation) may be supported or may have to be revised or even discarded.

Goal: Explanation of Autism

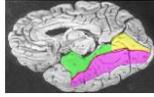
Early theory: Cold, rejecting parenting caused autism - NOT supported as more studies were conducted.

A more recent theory: Autism is caused by vaccinations – turned out this was an elaborate fraud based on falsified data.

More recent theory: Autism is biologically based (abnormal prenatal brain development which may have a genetic basis in most)

Multiple genes involved; if an identical twin is autistic usually the other twin is also.

Biological Perspective:
What's Different in Brain?



- Brain area usually active when we look at others (fusiform gyrus (pink)) is not active in autistics. Instead the "inanimate object" area is active
- Less activity in neurons that seem to be associated with empathy & understanding what others are experiencing ("mirror neurons")
- There are several brain anatomy differences as well as neurotransmitter differences

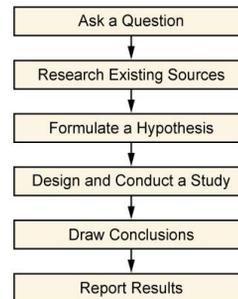
Cognitive Perspective

- Autistic individuals differ widely in their cognitive processes:
- Some are severely retarded with no language abilities ("low functioning")
- Some have relatively fluent speech but don't function as well in academic and social situations ("high functioning")
- Some (>10%) have exceptional abilities ("autistic savants")

Famous Neurologist Oliver Sacks Discusses Autism

- <http://www.youtube.com/watch?v=cZndKnARqB8>
-

The Scientific Method



Research Methods in Psychology

- Descriptive Methods
 - Naturalistic observation
 - Intensive individual case study
 - Surveys/questionnaires/interviews
 - Archival research
 - Correlational studies

Naturalistic Observations by Jane Goodall



- Observing behavior in its natural setting hopefully without affecting the behavior

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

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

Archival Research

- Using archived records or databases of previously recorded data to try to answer research questions

Using Various Research Methods to Study a Behavior Problem (read 324-325 on ADHD)

Attention Deficit/Hyperactivity Disorder (ADHD)

- Diagnosed when a child shows
 - 6 or more symptoms of inattention and/or
 - 6 or more symptoms of hyperactivity and/or impulsivity
 - These symptoms must have been present for at least 6 months & must be inappropriate for their developmental level.
- Do you know someone with ADHD? If we did a detailed study of that person: case study

Naturalistic Observations in the Classroom

- 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 makes use of real-life situations, but it is important to use well-trained, unbiased observers.

Survey Results Reveal:

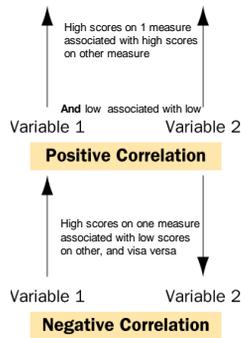
- more males than females
- 5% of USA school kids are taking medication for ADHD
- 50-60% show defiant behavior & higher risk of conduct problems as teens
- 30-60% still have symptoms as adults
- 40% have a parent with symptoms

Research Methods in Psychology

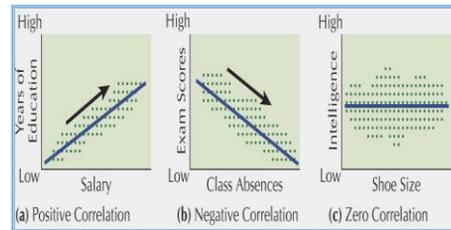
- Descriptive Methods
 - Intensive individual case study
 - Naturalistic observation
 - Surveys/questionnaires/interviews
 - Correlational studies

Correlation

- Correlation: the degree to which one variable or set of data is **related** to another variable or set of data.
- 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.**



The Direction of the Correlation (positive or negative)



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

- How spread out the dots are around the line
- Stronger \longleftarrow \longrightarrow Weaker

