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

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
- Industrial/organizational psych
- 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

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=cZndKnA8pB8

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

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
  • 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.

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 = ■■■■■■■■■■■■■■■■■■■■ weaker