Learning Objectives: Chapter 1 (Psychology and Scientific Thinking)

- **Define psychology**
  - Scientific study of the mind, brain and behavior
- **Know the ABC's of psychology**
  - A:affect-what we feel
  - B:behavior-what we do
  - C:cognitions-what we think
- **Describe and differentiate the 5 major theoretical frameworks guiding psychology's history (structuralism, functionalism, behaviorism, cognitivism, psychoanalysis)**
  - Structuralism:
    - Identify Basic elements of the conscious experience through introspection
  - Functionalism:
    - Adaptive purposes of psychological selection
    - Natural Selection
    - Understanding the "why?"
  - Behaviorism:
    - Uncovering laws of learning by behavior alone
    - Conditioning
      - Reward/punishment
      - Association
  - Cognitivism:
    - Thinking affects behavior
    - Interception of rewards and punishments determines behavior
  - Psychoanalysis:
    - Internal phycologic processes of which we're unaware
    - Symbols that need to be decoded
    - Unconscious things happen for a reason
      - Childhood experiences
- **Describe and be able to identify the different types of psychologists**
  - Clinical:
    - Treat mental disorders
  - Counseling:
    - Work with people on less severs temporary problems
      - NOT necessarily mental disorders
  - School:
    - Intervention programs for troubled youth
  - Developmental:
    - Study why and how people change over time
    - Most work with infants and children
  - Experimental:

        - Sophisticated research
        - Social/cognitive methods to study memory
    * Biopsychologists:
        - Examine physiological bases of behavior
    * Forensics:
        - people in prison to assist with rehabilitation and treatment of troubled people
- **Contrast basic vs. applied research**
    * Basic:
        - Acquisition of knowledge for knowledge sake
    * Applied:
        - Answer specific questions aimed at solving practical problems "help make the world a better place"
- **Know how common sense can be useful in psychology**
    * Serves as a heuristic or mental "shortcut"
    * Intuition is usually correct
    * Generating hypotheses
    * Learning to "think like a scientist" means learning when to trust your "common sense"
- **Identify the main levels of analysis in psychological science (consider how the focus of attention changes across levels).**
    * "rungs on a ladder"
    * Lower level tired most closely to biological influences
    * Higher levels tied most closely to social influence
    * Cant examine just ONE level
- **Describe the 5 fundamental challenges facing psychology**
    * 1) Human behavior is difficult to predict
    * 2) Actions are produced by <u>many</u> factors
        - Be skeptical of attempts to explain complex behaviors with a single casual factor
        - <u>Example:</u> anorexia: how much of what factors make something uniquely responsible
    * 3) Individual differences:
        - variation among people in their thinking, emotion, personality or behavior
            - **NO theory to explain everyone**
    * 4) Reciprocal determinism:
        - Mutually influence each other's behavior
        - Makes it hard to draw conclusions
    * 5) Behavior is shaped by culture:
        - Cultural differences can limit conclusions scientists can draw about human nature
- **Define pseudoscience**
    * A set of claims that seem scientific, but aren't

    * Lacks the safeguards against confirmation bias and belief perseverance that characterize science
- **Know some warning signs of pseudoscience**
    * Overreliance on anecdotes(there are exceptions to everything)
    * Exaggerated claims
    * Lack of peer review
    * "proof" instead of "evidence"
    * Failure to self-correct when contrary evidence is presented
    * Uses fancy scientific language that doesn't make sense
    * Absence of connection to other research
- **Know why we should care about pseudoscience**
    * 1) Opportunity costs:
        - People may choose to get a treatment that does not work instead of one that could have helped
    * 2) Direct harm:
        - Example: Rebirthing theory
    * 3) Inability to think Scientifically:
        - No more critical thinking
        - *Holds society back from moving forward*
- **Differentiate theory and hypothesis**
    * Theories are general explanations, whereas hypotheses are specific predictions derived from these explanations.
- **Know three types of biases that science safeguards against**
    * 1) Naïve realism:
        - Belief that we see the world precisely as it is
        - "Seeing is believing"
    * 2) Confirmation bias:
        - Tendency to seek out evidence that supports our hypothesis and neglect or distort contradicting evidence
        - "Mother of all bias"
        - **Scientists need to design studies that may "disprove" their theories
    * 3) Belief perseverance:
        - Tendency to stick to initial beliefs even when evidence contradicts them
        - The "don't confuse me with facts" bias
- **Know what it means by to a scientific skeptic**
    * Being scientifically skeptical does not mean being closed minded
    * Evaluate claims with an open mind but insist on persuasive evidence before accepting them
    * Skeptics are willing to change their mind with enough evidence
- **Define critical thinking**
    * A set of skills for evaluating all claims in an open-minded and careful fashion
        - Allow us to overcome our own bias
- **Identify and explain the six principles of critical thinking**