Chapter 1

Critical thinking: Examines assumptions, hidden values & assess conclusions.

Description
- Case study: observation technique where one person is studied in depth of revealing universal principles
- Survey: technique to obtain info about aptitudes/behaviors
- Naturalistic observation: observing and recording behavior without manipulating/controlling the situation

Correlation: Measure of how well 2 factors vary together
Illusory correlation: Perception of a relationship when none exists

Statistics: Mode- most frequently used #
Mean- average(add all the scores & divide by the # of scores)
Median- middle #
Range- difference between the highest and lowest scores
Standard deviation- how much scores vary around the mean scores
Statistical significance- how likely a result occurred by chance

Hindsight bias
- Tendency to believe after learning that one would have foreseen it. I knew it all phenomenon.

Hindsight bias and overconfidence takes us overestimate or intuition.

Operational Definition:
- Statement procedures used to define research variables.

Scientific Method
- Theory: explanation using principles that organizes observations & predicts behaviors.
- Wording effects: Even the subtle changes in wording have dramatic effects in the responses
- Random sampling: A fairly representative sample that gives each member an equal chance to be included

Experiment- investigator manipulates at least one factor to observe the effect on some behavior
Control condition: contrasts with the experimental condition & serves as comparison to evaluate the treatment
Experimental condition: exposes participants to the treatment

False consensus effect: tendency to overestimate the extent to which other share our beliefs
Population: all the cases in a group
Placebo effect: experimental results caused by expectations
Double Blind: Research participants & staff do not know which patients received the placebo or the actual treatment

Culture:
- Enduring behaviors, ideas, attitudes & traditions shared by a large group of people passed on from one generation to the next

*Gender has a role in behavior
*Psychologists study animals because they are close to humans
*Organizations help protect the animals' safety and set rules
*Psychology is not value free- psychologist's own values influence the results
*Experiments can be conducted in humans as long as the subjects have: 1. the following consent
2. Protected from harm and discomfort
3. Confidentiality is preserved
4. Fully explains the research afterwards.
**Cerebral Cortex**
The brain's control & information processing center, composed of glial cells.

**Thalamus**
Relays sensory (except smell) information between lower brain & cerebral cortex.

**Corpus Callosum**
Axon fibers connecting 2 cerebral hemispheres.

**Cerebellum**
Coordinates voluntary movement and balance, memory, processing sensory input.

**Limbic System**
- Doughnut shaped neural system
- **Amygdala** – neural centers, linked to emotion
- **Hippocampus** – linked to memory
- **Hypothalamus** – controls maintenance functions (i.e. eating), helps govern endocrine system, linked to reward and emotion

**Brainstem**
- Automatic survival functions
  - **Reticular Formation** – helps control arousal
  - **Medulla** – controls heartbeat & breathing
  - **Spinal Cord** – pathway for neural fibers to and from brain, controls simple reflexes

**Association Areas**
Areas of cerebral cortex primarily involved in higher mental functions: learning, thinking, remembering, and speaking.

**Left hemisphere:**
- Language, verbal skills

**Right hemisphere:**
- Visual perception, recognition of emotions

**SPLIT BRAIN:** Philip Vogel & Joseph Bogen; severed the corpus callosum to reduce seizures in epileptic patients. This cuts off communication between the hemispheres. [Type a quote from the...]

**Researching the Brain**
- Lesions: selectively destroy brain cell clusters
- **Clinical Observation:** study patients and make observations
- **EEG:** electroencephalogram; record electrical activity
- **PET scan:** shows level of brain activity by measuring glucose
- **MRI:** magnetic fields and radio waves to make brain images
- **fMRI:** detects blood flow to specific areas of study

**5 Areas of Language**
- **Visual Area** – receives written words as visual simulation
- **Angular gyrus** – transforms words into auditory code
- **Wernicke’s area** – interprets auditory code
- **Broca’s Area** – controls speech muscles via motor cortex
- **Motor Cortex** – word is pronounced

**Plasticity:** the brain's ability to modify itself; after injury, the brain can repair itself this way.

**Frontal Lobes**
- (front)
  - Speech, muscle movement, planning, judgment

**Parietal Lobes**
- (top and rear)
  - Sensory input, touch and body position

**Temporal Lobes**
- (sides)
  - Auditory input, specific from each ear

**Occipital Lobes**
- (back)
  - Visual input, specific to each eye
The social clock varies and defines the "right time" for certain events in life.

- Infancy and Childhood:
  - Early years (ages 0-3): Understanding and emotional development.
  - Middle childhood (ages 6-12): Cognitive and social skills.

- Adolescence (ages 13-18):
  - Puberty and physical changes.
  - Identity formation.

- Young adulthood (ages 18-24):
  - Transition to independence.
  - Career and education.

- Adulthood (ages 25+):
  - Career advancement.
  - Family formation.

The development of a child is a complex process influenced by genetic, environmental, and social factors. Understanding these stages is crucial for providing effective support and intervention. 

**Adolescence:** A time of rapid growth and change, with significant physical, emotional, and social developments. Understanding and addressing the challenges during this period is essential for a healthy transition to adulthood.

**Childhood:** A period of rapid physical, cognitive, and social development. Early childhood is a critical time for establishing a strong foundation for future learning and well-being.

**Adulthood:** A stage marked by increasing independence and responsibility. Individuals in their 20s and beyond are often focused on establishing careers, building families, and contributing to society.

**Infancy and Childhood:** A time of rapid growth and development, with a focus on physical, cognitive, and emotional milestones. Early intervention can significantly impact a child's future success.

**Adolescence:** A period of significant change, with physical, cognitive, and emotional developments. Support during this stage is crucial for healthy development.

**Adulthood:** A stage of independence and responsibility. Individuals in their 20s and beyond are often focused on building careers and families.

**Infancy and Childhood:** A time of rapid growth and development, with a focus on physical, cognitive, and emotional milestones. Early intervention can significantly impact a child's future success.

**Adolescence:** A period of significant change, with physical, cognitive, and emotional developments. Support during this stage is crucial for healthy development.

**Adulthood:** A stage of independence and responsibility. Individuals in their 20s and beyond are often focused on building careers and families.

**Infancy and Childhood:** A time of rapid growth and development, with a focus on physical, cognitive, and emotional milestones. Early intervention can significantly impact a child's future success.

**Adolescence:** A period of significant change, with physical, cognitive, and emotional developments. Support during this stage is crucial for healthy development.

**Adulthood:** A stage of independence and responsibility. Individuals in their 20s and beyond are often focused on building careers and families.

**Infancy and Childhood:** A time of rapid growth and development, with a focus on physical, cognitive, and emotional milestones. Early intervention can significantly impact a child's future success.

**Adolescence:** A period of significant change, with physical, cognitive, and emotional developments. Support during this stage is crucial for healthy development.

**Adulthood:** A stage of independence and responsibility. Individuals in their 20s and beyond are often focused on building careers and families.