Review Session

- Review class lectures and textbook material
- I won’t talk about the assigned videos
- Time for questions
Class Exam 1

Time: Feb. 04  9:05 a.m.
Place: Room 103, Wilson Hall

*** Please bring your own ID and pencils.
About the exam

• The class exam contains 50 multiple-choice questions covering the lectures, the assigned reading material and videos.

• 11 question from assigned videos, 19 questions from lectures, and 20 questions from the textbook.

• One multiple-choice question has five options.
What is Psychology?

- Psychology is the scientific study of mental processes and behavior.
  
  - Mental processes: contents and processes of subjective experiences like sensation, perception, thoughts and emotions
  
  - Behavior: It generally is what is observed, such as overt actions, written expressions.
What about the branches in psychology?

- Biopsychology (neuropsychology)
- Clinical psychology
- Cognitive psychology
Psychology as a social science is different from others with its focus on individuals, alone or interacting with others. (Ethology and Sociology)

• One of the main purposes in psychology is to predict, control and understand human behaviors.
• Psychology and Philosophy, e.g. free will versus determinism, mind-brain problem, nature versus nurture

• **Paradigm** A broad system of theoretical assumptions employed by scientific investigators, which provides a filter and a focus.

• Different Psychological Perspectives
  Main ideas, metaphors and methods
<table>
<thead>
<tr>
<th>Metaphor Method</th>
<th>Methods</th>
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<tbody>
<tr>
<td>Psychodynamic</td>
<td>Psychoanalysis, case studies</td>
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<tr>
<td>Unconsciousness &amp; consciousness</td>
<td>Tip of Iceberg</td>
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<tr>
<td>Conflicts, no free will,</td>
<td></td>
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<tr>
<td>Behaviorism</td>
<td>Mind as a black box, only study behaviors.</td>
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<tr>
<td>Cognitive</td>
<td>Mind as a computer, information processing</td>
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<td>Evolutionary</td>
<td>Natural selection</td>
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<td></td>
<td>Deductive</td>
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"A toast to mankind!
I assume we're all here."
(1) Understand research methods in psychology:

- experiments
  (independent and dependent variables, confounding variables, control group and experimental group, preventing experimental bias)

- naturalistic observation
- case study and survey
- correlation research
(2) Descriptive statistics

Measures of central tendency and variability

• Mean, median, and mode for measuring central tendency
• Standard deviation (SD) for measuring variability
Lecture 3 & 4  Theme: the determinants of behavior

The principles of behaviors

- Behavior is functional
- Behavior follows the minmax principle
- Behavior always involves conflict
- Behavior is only understandable in context.
The law of effect

- Edward Thorndike

- The nature of general associations between behavior and reward. Rewards are responsible for providing a mechanism for establishing a more adaptive response
Edward Thorndike (1911) Animal Intelligence: An experimental study of the associative processes in animals

Thorndike simply observed that a response that was followed by a reward would be stamped into the organism as a habitual response. If there is no reward following a response, the response would disappear. Rewards were responsible for providing a mechanism for establishing a more adaptive response.
• The peanut butter GELLE theory of behavior

• GELLE Genetics, Early experiences, Life space, Learning and Expectancies.

• Need to understand examples.
“I'd like a king-size promise with extra applesauce, hold the baloney.”
Chapter 3, 4 & 9  Biological bases of psychology

(1) The nervous system
• Neurons: anatomy and information transmission
• Synapses
• General subdivisions of the nervous system

• Gross anatomy and function of the brain
  forebrain, midbrain and hindbrain
Lobes of the cerebral cortex and functional correspondence

- Broca's area (speech production, grammar)
- Frontal lobe (abstract thinking, planning, social skills)
- Central fissure
- Motor cortex
- Somatosensory cortex
- Parietal lobe (touch, spatial orientation, nonverbal thinking)
- Occipital lobe (vision)
- Primary visual cortex
- Wernicke's area (speech comprehension)
- Temporal lobe (language, hearing, visual pattern recognition)

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(2) the endocrine system: major glands and hormones
(3) sensation and perception

- Basic concepts: sensation and perception, absolute threshold, difference threshold, jnd (just noticeable difference)

- Understand Weber’s law and Fechner’s law

- Visual perception
Visual perception

Diagram showing the visual perception pathway in the brain, including the left and right visual fields, retina, optic nerve, optic chiasm, optic tract, lateral geniculate nucleus, superior colliculus, visual association cortex, primary visual cortex, temporal lobe, parietal lobe, occipital lobe, "Where" pathway, and "What" pathway.
(4) Chapter 9  Sleep and Dreaming

Stages of Sleep: non-REM sleep and REM sleep

REM : rapid eye movement
Class Video - Life Space
(The Power of Situation)

• Asch’s Study of Conformity

• The Milgram Experiment
  The Power of Authority: Obedience

• Mock Jail Experiments
There's so much uncertainty!

With a little more certainty, we might understand this crazy world!

At least I think so...
Lecture 5,6 Physiological Processes

- Working characteristics of the nervous system and the endocrine system

- Jim Olds and rats
  Medial Forebrain Bundle

- Sexual differentiation - Interfaces between the brain and the endocrine system, behavioral and psychological effects
Chapter 13 & Lecture 7,8, and 9
Theme: Developmental Processes

- Concepts: Maturation, critical periods
- Early experiences
- The ways of studying development

- Physical development:
  - Prenatal development (germinal, embryonic and fetal periods)
  - Infancy
  - Childhood and adolescence
  - Adulthood and aging
Piaget Stages of cognitive development

• Sensorimotor stage
  (0-2 object permanence),
• Preoperational stage
  (2-7, symbolic thought)
• Concrete operational stage
  (7-12, conservation)
• Formal operational stage
  (12+, manipulate abstract and concrete objects)
(a) CONSERVATION OF LIQUID QUANTITY

Initial equality

Changed state

Conservation question:
Do the two glasses have the same amount of water, or does one glass have more than the other?

(b) CONSERVATION OF NUMBER

Initial equality

Changed state

Conservation question:
Do the two rows have the same number of chips, or does one row have more than the other?

(c) CONSERVATION OF MASS

Initial equality

Changed state

Conservation question:
Do the two pieces have the same amount of clay, or does one have more than the other?

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Study Tips

• Understand some important concepts in the text which overlap with those in Dr. Ray's lectures.

• Understand the important definitions and summaries in the text.

• Study the old test to orient yourself while reading the book. (Sample Test on the class webpage).
Good Luck On Your Exam!