STUDY SHEET FOR EXAM 3: PSYCH 2210

FORMAT: - Multiple Choice and True/False Questions Exam is during class time
  - Best way to study: try to define/identify terms below without looking at notes or text. Then go back and check.

TEXT MATERIAL:

Gender Differences in Cognition: Chap 7: p202-203

Cognitive Control:
Ch 12, p345-6; 351-353: H.M. Types of memory; brain structures & memory.
Required articles: Nass, Cognitive Control in Multi-taskers; Poldrack article: Modulation of Competing Memory Systems

Emotions:
Chap 8: p 211-220. NOT COVERED on Exam: hemispheric and facial asymmetry; stress

LECTURE MATERIAL:

Gender Differences

Simon Baron-Cohen studies
- prenatal testosterone and eye contact, play behavior, and corpus callosum asymmetry

Gender Differences and cognition
- male vs. female pattern on spatial and language tasks
- relationship to prenatal testosterone
- pattern in gay and lesbian individuals

Self-Regulation, Cognitive Control, & Technology

- Original Marshmallow Test
- methods, basic results (Adult outcomes)
- Hot vs. Cool systems: characteristics, neural circuits
- Cognitive control- definition, components
- Go No-Go Task: Basic characteristics
- Behavioral & Neural Correlates of Delay of Gratification article: results for go no-task (cool vs. hot versions) for low vs. high delayers; brain imaging results for low vs. high delayers
- Implications for individual & society functioning: Heatherton imaging study in college freshmen (hot vs. cool stimuli and behavioral results one year later); association between credit scores, heart disease, and impulse control in Dunedin Study
New Marshmallow Test
-texting behavior and class performance: results of texting study

Multi-tasking
-Survey results about multimedia use, class performance
-Consequences of “continuous partial attention”: Design & results of “Facebook made me do it” study

Multi-Media Effects on Attention & Memory
- 3 Stage Model of memory & Attention: Sensory Memory, Working Memory; long term Memory
-Cognitive Load Theory: definition of Cognitive load; attentional bottleneck
-Nass article, Cognitive Control In media Multi-taskers: General Methods & Results

Effects of Multi-tasking on long-term memory
-Poldrack article: Modulation of competing memory systems
-Declarative vs. Procedural memory
-brain structures associated with each
-methods & results from Poldrack expt
-Google effects on Long term Memory
-spatial navigation vs. cue and response navigation strategies: brain circuits associated with each; changes after GPS use.
-suggestions on how to increase attention

Emotions

Definition of emotion: 3 characteristics associated with emotion
-Types of emotion:
  primary vs. complex emotions
  Universal emotions
  Display rules & culture
-Physiological changes
  Sympathetic vs. Parasympathetic activity
  Polygraph: uses; problems
-Functions of Emotions: Evolutionary adaptations
  communication
  co-ordination of behavior

Theories of Emotion
James-Lang:
  Theory
  Predictions
  Evidence (e.g., Ax experiment; patterns of activation (brain areas & body maps); botox studies)
-Cannon-Bard: How it differs from James-Lang

-Schachter-Singer Two Factor Theory:
  Predictions
  Evidence: experiment details, results
- Misattribution of Emotion
  - Dutton and Aron Bridge Study
  - misattribution of arousal; excitation transfer

Anatomy of Emotion
Role of the Orbitofrontal Cortex
- Somatic Marker Hypothesis
  "Elliot" case study: effects of tumor
definition of somatic marker; anatomical substrate
consequences of damage to orbitofrontal Cortex: Iowa Gambling test;
response to emotional stimuli
  Acquired "sociopathy" - Phineas Gage
  Developmental psychopathy

Role of the Amygdala
- S.M. case study
  consequences of lacking an amygdala; recognition & experience of emotions;
eye-movement patterns
- Amygdala and recognition of fear in normal subjects
- Fear conditioning
  methodology
  conditioned vs. instructed fear response
  results in patients with amygdala damage
- Tranel Study: role of amygdala in response to external vs. internal threats

Role of the Insula
- results in perception of disgust
- Sanfey article on decision-making in the ultimatum game: methods & results
  - interaction between DLPFC and insula activity in Ultimatum game

-Moral decision-making
- trolley/footbridge dilemma; imaging results
- Raine article on moral-decision-making in adult psychopaths: methods & results

Psychopaths vs. Altruists
- Raine studies on children who lack conditioned fear response and consequences for adult behavior
- differences in amygdala structure & function
- ability to recognize fear expressions in both
Marsh study in altruists