

# Science of Psychology

PSY W1001 Section 2  
MW 8:40-9:55 Fall 2012



Wednesday, December 5  
Stress and Health

# Announcements

- Last Exam
  - Monday, Dec. 10<sup>th</sup>
- Cumulative Final Exam
  - Wednesday, 12/19 from 9:am - noon
- Please pick up your second exam if you want to see your grades on Courseworks
  - Office hours or Q&A sessions
- Third exam can be picked up during office hours and during Q&A for final
  - Q&A for final will be posted on Courseworks
- Any questions?

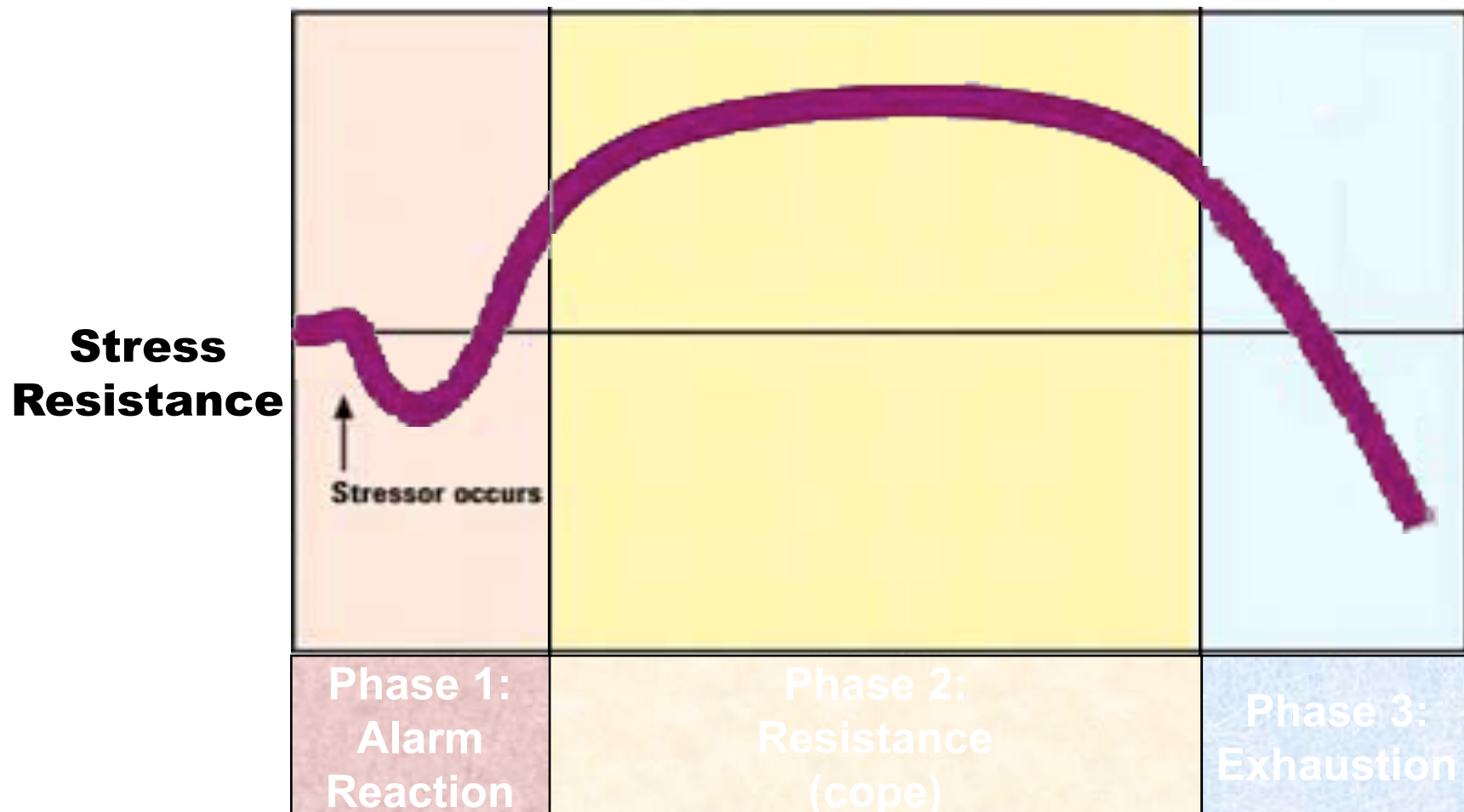
# Sources of Stress



- Stressors
  - What is a stressor?
    - Anything you perceive as a threat
- Stress
- Health psychology
- Major life events

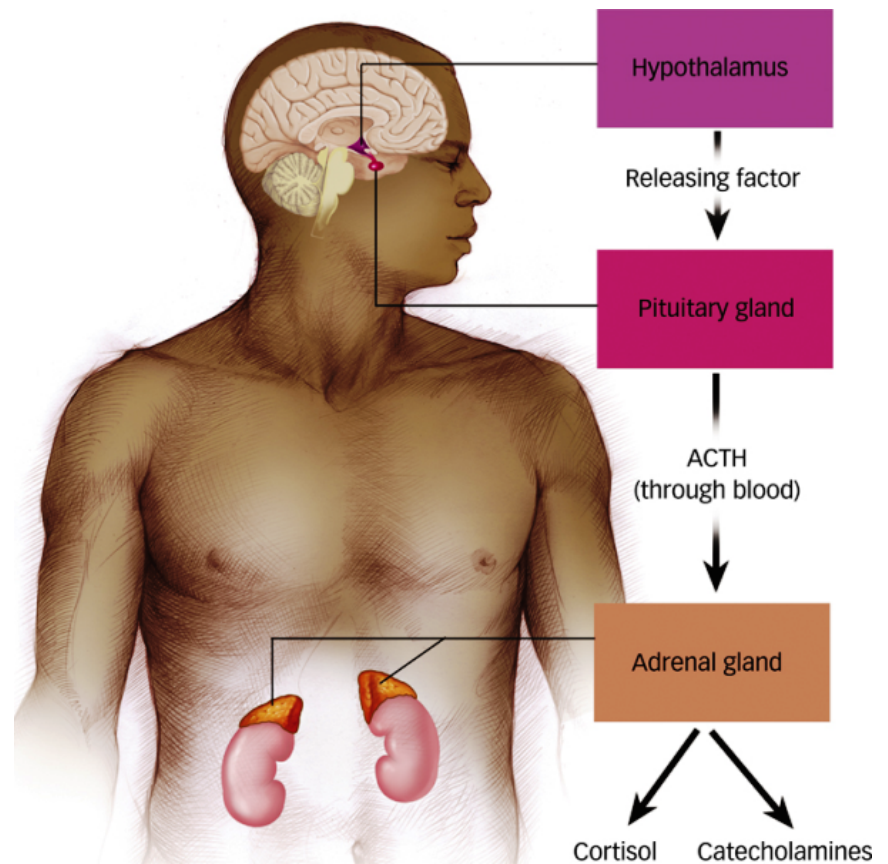
Event Stress Scores	
Death of Spouse	100
Divorce	73
Marital Separation	65
Marriage	50
Pregnancy	40
Addition to family	39
Change to a different line of work	36
Outstanding personal achievement	28
Starting or finishing school	26
Change in living conditions	25
Vacation	13
Holiday season	12

# General Adaptation Syndrome



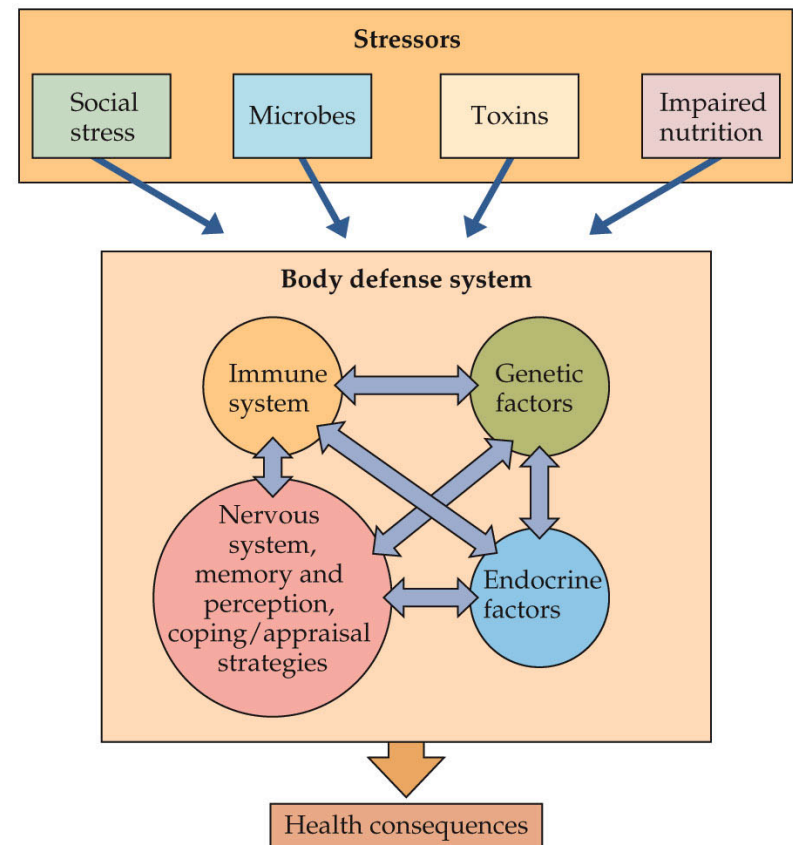
# Stress Reactions

- Catecholamines as an indicator of chronic stress?
- Fight-or-flight response
  - Gender differences
    - Tend and befriend



# Stress and Illness

- The brain affects the immune system through autonomic nerves, and monitors immune reactions.
- The immune system acts as a sensory receptor system, informing the brain.
- The brain and immune system also interact with the endocrine system.

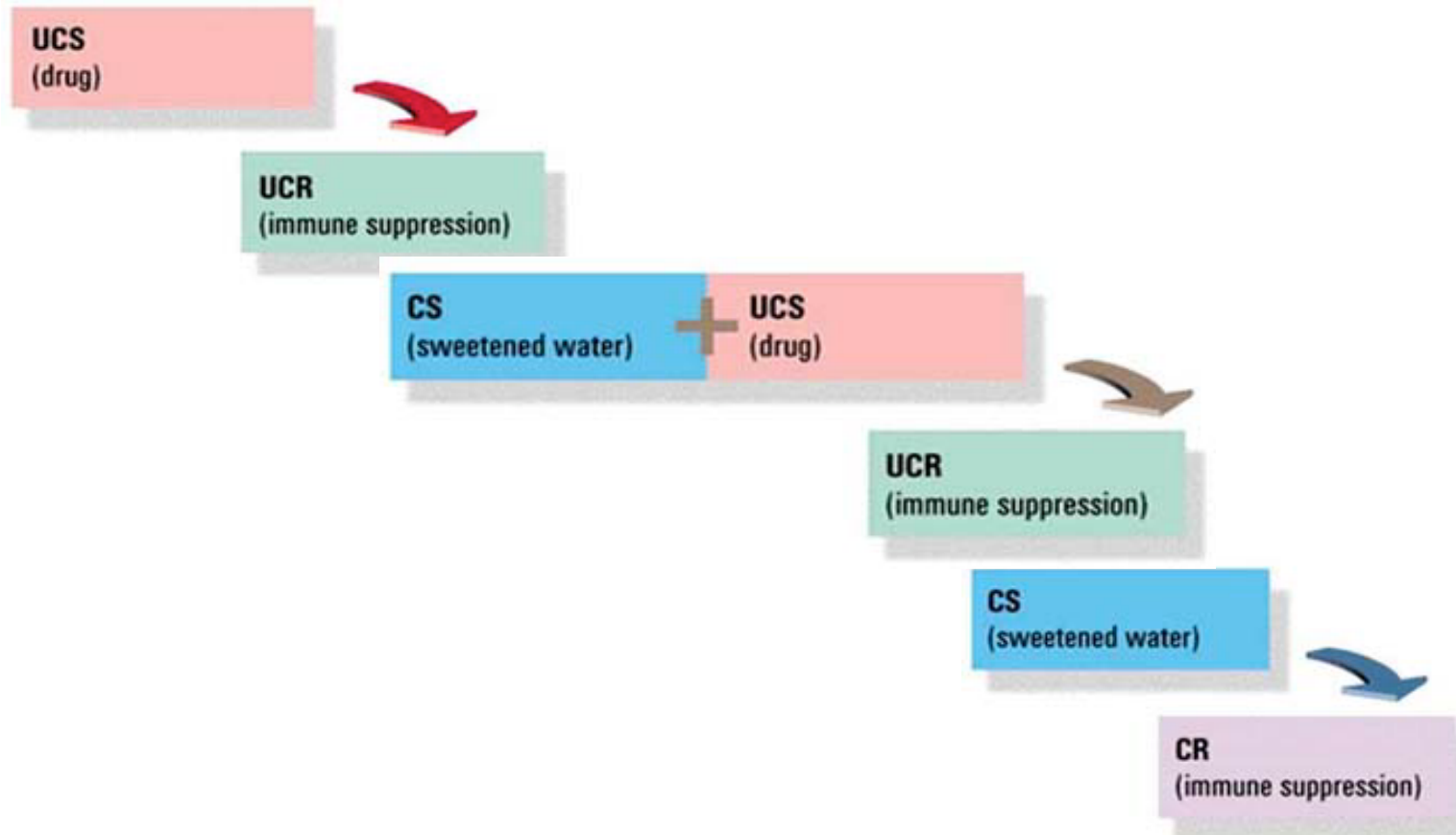


# Long-Term Stress

- Hormones released during stress suppress the immune system.
- This acts as a short-term defense mechanism, allowing for resources to be used elsewhere (escaping a predator).
- Long-term stress is detrimental to immune function.

# Immune Suppression Can Be Learned

- Ader & Cohen's rat study





# Response to Stress

- Psychological Factors
  - Perception of control
  - Explanatory style
  - Chronic negative emotions
  - Hostility
- Social Factors
  - Outside resources
  - Friends and family
  - Positive relationships

# Perceived Control

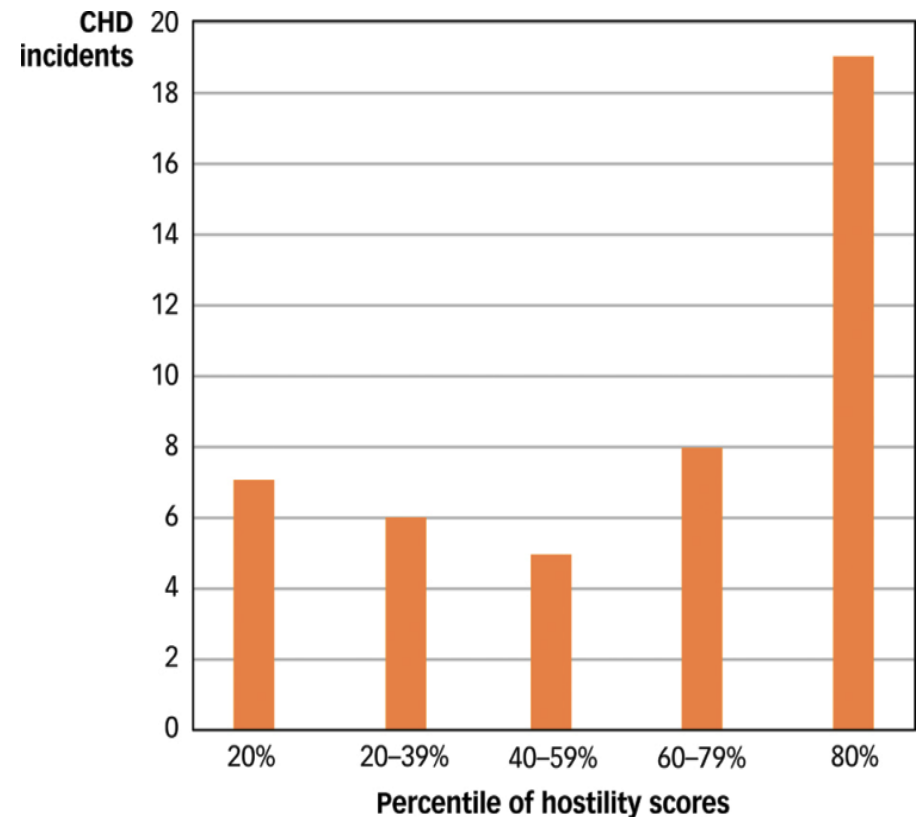
- What happens when stress is unpredictable?
  - Sense of control decreases stress, anxiety, & depression
  - Perceptions of control must be realistic to be adaptive

# Explanatory Style

- Optimism
  - use external, unstable, & specific explanations for negative events
  - predicts better health outcomes
- Pessimism
  - use internal, stable, & global explanations for negative events
  - predicts worse health outcomes

# Stress and the Immune System

- Immune system
  - lymphocytes
- Psychoneuroimmunology
- Social status is related to health
  - less stress?
- Stress and cardiovascular health
  - atherosclerosis
  - type A behavior pattern



# Stress, Personality, and Heart Disease

- Coronary heart disease is North America's leading cause of death
- Habitually grouchy people tend to have poorer health outcomes
- Chronic negative emotions have negative effect on immune system

# Type A vs. Type B Personality

- Type A
  - time urgency
  - intense ambition and competitiveness
  - general hostility
  - associated with heart disease
- Type B
  - more easygoing
  - not associated with heart disease



# Health Outcomes

- Type A Personality
  - Time urgency & competitiveness not associated with poor health outcomes
  - Negative emotions, anger, aggressive reactivity
  - High levels of hostility increase chance of all disease (e.g., cancer)

# Coping with stress

- 92% of college students say they sometimes feel overwhelmed by the tasks they face
- Over 1/3 say they have dropped a course or received low grades in response to stress
- Clearly stress management matters!



# Stress Management—Mind

- A significant part of stress management is control of the mind
- Basic strategies:
  - Repressive coping  
Avoidance (Exam? What exam?)
  - Rational coping  
Confront (How can I prepare for the exam?)
  - Reframing  
Rethink (Exams are a great way for me to show off what I know!)  
stress inoculation training—positive thinking

# Stress Management—Body

- Symptoms
  - Muscle tension
  - Headache
  - Gastrointestinal
- It makes sense that body techniques can be used to reduce it
  - relaxation
    - relaxation therapy
    - relaxation response
  - biofeedback
    - become more aware of internal states
  - aerobic exercise
    - exercise does promote stress relief and happiness

# Stress Management—Situation

- Social support
  - *I get by with a little help from my friends*
- Isolation is extremely harmful
- Good relationships and participation in social activities and groups—helpful on multiple levels
  - help us stick to exercise and diet regimens
  - gives us someone to talk to
  - can help us share the burden or work
- *This is part of the basis of the success of group therapy*

# Stress Management—Situation

- Nonhuman primates
  - Immune suppression from social isolation
- Human primates
  - Many first-year college students experience a crisis in social support
- Some gender differences
  - women tend to seek support under stress
    - Tend and befriend
  - men do not tend to seek support under stress
    - Fight or flight

# Stress Management—Humor

- Humor can help us deal with stress
  - Can reduce sensitivity to pain & distress
  - Can reduce the time needed to calm down after a stressful event
- Helps get over rough spots but is not a long-term solution
  - Comics are not the longest-lived profession
    - Likely due to other lifestyle factors

# Health Psychology

- How do we deal with illness?
- How do we prevent illness?
  - Why are people overweight?
  - Why do people smoke?

# Recognizing Illness and Seeking Treatment

- Focusing inward on physical sensations can magnify symptoms that might otherwise go unnoticed
- Directing attention inward can influence the symptoms we perceive

# Recognizing Illness and Seeking Treatment

- When people are bored, they focus more on physical symptoms
  - But we are influenced by those around us, too
- Research shows that coughing in classrooms increases when someone else has coughed
- People differ in the degree to which they attend to and report bodily symptoms
  - High reporters also have increased brain activity in pain areas of the brain



# Recognizing Illness and Seeking Treatment

- There are those, too, who underreport symptoms or ignore illness
- This comes with a cost
  - less likely to seek treatment
  - can become a form of self-deception
  - may eventually ignore clear symptoms

# Is it all in your head?

- Psychosomatic illness
  - It IS what you think!
- Placebo effect
- Somatoform disorders
  - Physical symptoms are not explained by medical condition
  - Hypochondriasis
    - OCD?
  - Somatization disorder
    - Multiple complaints without medical explanation
      - But, science may lag behind complaints – Epstein-Barr/CFS
  - Conversion disorder
    - Voluntary symptoms/Involuntary experience

# On Being a Patient

- The sick role
  - Changing expectations for the sick
    - “Why should I have to do chores? I’m sick!”
- Malingering
  - Suspected when the secondary gains outweigh the costs
- Patient-practitioner interaction
  - physician empathy
  - technical interaction
  - interpersonal interaction



# Study Questions

- Define stress. Explain why an exam in Science of psychology may be a stressor for you but not for your classmate (using the definition of stress).
- How do major life events affect stress? Are happy events stressors?
- Describe the general adaptation model of stress.
- What does stress do in the body?
- What is the relationship between stress and illness? Stress and immune function?
- Describe the Ader and Cohen experiment that demonstrated a learned immune suppression. Be sure to include correct identification of CS, US, UR and CR.
- What factors contribute to an individual's response to stress?
- What evidence supports the theory that predictable stress is preferable to unpredictable stress?
- How does explanatory style contribute to stress?
- Describe the research on stress and health that explored the relationship between personality type and heart disease. Who has better health outcomes? What factor(s) appear to be most important?
- Describe 3 basic strategies for managing stress using the mind.
- What are some physiological stress management techniques?
- What are the situational stress management techniques?
- Are there any gender differences in stress management strategies?
- Can humor help manage stress?
- What is health psychology?
- What is a psychosomatic illness? Can it be treated?
- Define the somatoform disorders.
- What is the "sick role"?