**Exam 2 Review – HSS 332 (Health Psychology)**

**Stress – Week of October 8**

What is stress – Process by which we perceive and respond to stressors

* Stressors – examples – demanding events or situations that trigger coping
  + Money, work, family, health, school, etc.

Appraisal of stressors

* Primary appraisal – understanding what an event is and what it means (harm, threat, or challenge)
* Secondary appraisal – assessing whether personal resources are sufficient to meet the demands of the environment
* Person-fit environment – results from process of appraising events, assessing potential resources, and responding to the events

Fight or flight – what is it? – Mobilize an organism to attack threat or flee

* Body response – pupils dilate, decrease salivation, sweating, increased breathing and heart rate, inhibit digestion, reduced immune response, secrete stress hormones

General adaptation syndrome

* Phase 1 – Alarm phase (Motivate)
* Phase 2 – Resistance (coping)
* Phase 3 – Exhaustion (reserves depleted)
* Criticisms?
  + Assigns limited role to psychological factors
  + Not all stressors produce same response
  + Chronic activation or exhaustion?

Tend and befriend theory

* Respond to stress with social affiliation and nurturant behavior
* Oxytocin – stress hormone (“cuddle” hormone)
  + Motivates you to seek support
* Gender differences in stress response
  + Women – more likely to seek social support, oxytocin, more empathetic under stress
  + Men – socially withdraw and turn to substance abuse, aggression, less empathy and less turning to others under stress

Studying stress

* Studying stress in the lab
  + How – timed tests, public speaking, etc.
  + Examples – How many people will get sick after exposed to cold virus under stress?
* Inducing disease
  + How?
  + Examples?
* Life Events – Major events that can be stressors (i.e. losing a loved one, getting fired)
* Daily Hassles – day-to-day stressors (i.e. traffic)
  + Which is a better predictor – life events or daily hassles?
  + Daily hassles are better predictors because things will continually stress you out without you knowing it, so you become less likely to seek help.

Beneficial stress effects

* Examples?
  + Improve immune system response
  + Motivates action
  + Focusing priorities
  + Feeling engaged, energized, satisfied
  + Providing challenges

Effects of stress

* Harmful – mental and physical systems overwhelmed rather than strengthened, immune functioning and other health factors decline from damage
* Long-term stress – production of new neurons declines, neural circuits in brain break down, premature aging

How does stress cause illness?

* Direct physiological effects – elevated lipids, elevated blood pressure, lowered immunity, increased hormonal activity
* Health behavior changes – increased smoking and alcohol use, decreased sleep, increased drug use, poor diet, little exercise
* Psychosocial resources – decreased optimism, treats to self-esteem, threatened social support
* Health care – decreased treatment adherence, delay in seeking care, obscured symptom profile, decrease likelihood of seeking care

**Stress Continued – Week of October 15**

Individual differences in stress response

* Reactivity
  + Cohen et al. (2002)
    - Participants – 115 adults
    - Complete stress public speaking task
    - DV – get a cold
    - Results – high cortisol levels and high life events led to getting sick.
    - Psychobiological reactivity to stress is an important factor.
* Type A and Type B Personalities
  + Characteristics of both
    - Type A – competitive, impatient, aggressive, perfectionist
    - Type B – easy going, relaxed, patient
  + Health outcomes – 70% of men who developed coronary heart disease were type A personality.
* How you interpret and think about stress
  + Brooks (2014)
    - IV – I am anxious, I am excited, no emotional statement
    - DV – singing performance
    - Results – accuracy of singing in “I am excited” group was much higher than either anxious group or control group.
  + Brooks (2014) – Study 3
    - 140 undergrads – deliver a speech
    - IV – “I am calm” or “I am excited”
    - DV – rated on: persuasive, confident, competent, persistent, duration of speech
    - Results – excited group was more persuasive, competent, confident, and persistent than calm group
  + Kelly McGonigal’s TED Talk: “How to Make Stress Your Friend”
    - Evidence?
    - Results?

What makes events stressful?

* Negative events
* Ambiguous events
* Involve central life goals
* Uncontrollable events

Importance of perceived control

* Animal research?
  + 3 rats: executive rat – has control over shocks – can turn it off, subordinate rat – can’t stop shocks, control rat – no shocks
    - Only the subordinate rat has increase ulcers – it’s not the level of shocks, but the control over the shocks
* Human research?
  + Nursing Home study –
    - IV – high personal (and lasting) control vs. standard welcome
      * Pick a plant to take care of, pick a movie for movie night, vs. being given a plant and having to go to movie night.
    - DV – who dies
    - Results – 15th month: high control = 15% mortality rate, standard = 30% mortality rate
      * High control removed – standard = no change, removed control – rate rose to 20%

Effects of early life stressors

* Low SES
* Exposure to violence
* Living in poverty

Adverse childhood experiences (ACE)

* Exposure to ACEs and health outcomes – physical, emotional, and sexual violence
* Evidence – higher ACE score = worse health outcomes
  + 7+ = 3x risk of lung cancer
  + ACEs impact developing brains and bodies of children – can effect behavioral choices
  + Even if you don’t participate in bad health behaviors, still have higher risk of heart disease, etc.

**Coping, Resilience, & Social Support**

Coping – thoughts and behaviors used to manage demands of stressful situations

* The coping process – stressful event, its stage, and anticipated future outcome, Appraisal and interpretation of stressor, Coping responses and strategies, Coping outcomes
* Personality and coping
  + Neuroticism – anxiety, depression, hostility, associated with poor health habits, poor health, higher mortality, higher stress levels
  + Positivity and health – better mental and physical health, better coping, improved coping/less stress indicators
* Psychosocial resources
  + Optimism – “Its for the best”
  + Psychological control
    - Control-enhancing interventions
  + Self-esteem
  + Consciousness
  + Self-confidence
  + Intelligence

Resilience

* What is it – helps individuals bounce back and adapt to stressful situations
* Grit – perseverance and passion for long-term goals
  + Duckworth’s research
    - Examples – Setbacks don’t discourage me. I don’t give up easily.
    - I am a hard worker.
    - I finish whatever I begin.

Coping styles

* Avoidant vs. approach coping styles
* Problem-focused (dealing directly with a stressor) vs. emotion-focused (regulate emotions experienced) coping
* Emotional approach coping – actively processing and expressing emotions
* Proactive coping – anticipating potential stressors and acting in advance
* Which styles are best suited for different situations – problem focused is linked with better health outcomes

Coping and external resources

* Time
* Money
* Education
* Decent job
* Friends
* Family
* Standard of living
* Presence of positive life events
* Absence of other life stressors
* SES

Status and Health – example from animal world (baboons)

* Odds of recovery from sickness/injury is 3x greater for high status males than low status males. Short-term stress experienced by alpha males is good stress, and high status males get more social support.

Brief cope – questionnaire assessing coping style

Coping interventions

* Mindfulness
  + What is mindfulness? – Self-regulation of attention to present moment experiences, approaching present moment
  + Mindfulness based stress reduction
    - What is it – systematic training in mindfulness – helps people manage reactions to stress
    - What was it developed for – chronic pain patients
  + Chronic pain and mindfulness meditation (meta-analysis: Hilton et al., 2016)
    - Results – mindful meditation improves pain, depressive symptoms, and quality of life
  + Meta-analysis on MBSR and health benefits
    - Decreased symptoms of depression, chronic pain, anxiety, binge eating disorder, cancer, coronary artery diseases
  + Meditation can alter physical structure of the brain (Lazar et al., 2006)
    - Results – experience meditators boasted increased thickness in parts of the brain that deal with attention and sensory input
  + Meditation changes our cell
    - Breast cancer patients
    - IV – 90 minute mindful meditation, 90 minute discussing feelings, workshop on reducing stress (control)
    - DV – Blood samples
    - Results – mindfulness preserved their telomere length 🡪 control group had shorter telomere length (cells aged faster)
  + Benefits of mindfulness
    - Health
    - Emotions
    - Social life
    - Self-control
    - Brain
    - Productivity
  + Meditation and Sports
  + Criticisms of Mindfulness (Van Dam et al., 2017)
    - Poorly defined definitions or mindfulness, methodological issues
    - Need more well-designed long-term research
* Expressive writing
* Relaxation therapies
* Self-affirmation

**Coping and Social Support Continued - Week of October 23**

Social support

* What is it – Information from others that one is loved, cared for, etc.
* Types of social support – Tangible assistance (services, financial assistance, goods), informational support, emotional support (reassuring someone that they are important and cared for), Invisible support (helping someone without their knowledge)
* Effects of social support on illness – lowers likelihood of illness, speeds up recovery, reduces mortality risks, and encourages individuals to use healthcare services
* Why is social support beneficial? – Biopsychosocial pathways 🡪 positive effects on cardiovascular, endocrine, and immune systems
* Social support and pain management (Master et al., 2009)
  + Methodology –
    - Participants in first 9 months of relationship
    - IV – shown pictures of partner or of similarly attractive stranger during fMRI and receiving shocks
    - DV – Pain
  + Results – Partners photo reduced pain by 40%, activated the brains reward centers and reduced activity in major pain areas of brain
* “Lending a hand” (Coan et al., 2006)
  + Methodology
    - Participants are married women
    - IV – Hold hand of husband, stranger, or no hand while getting shocked in fMRI machine
    - DV – pain
  + Results – Holding husbands hand most effective in reducing activation in neural systems associated with threat (greatest effects seen with self-reported high quality of relationship)
* How does social support moderate the effects of stress?
  + Direct effects hypothesis – SS is beneficial during non-stressful as well as stressful times
  + Buffering hypothesis – Physical and mental health benefits chiefly evident in times of high stress
* Social media and social support – downsides of social media – could be getting wrong type of support or not getting any support from social media
* Why some people are better at getting help
  + Genetics – some people are more likely to draw on social support
  + Social skills – social competence, social anxiety, etc.
* What kinds of social support are most effective – significant other or close friend may be most effective. Satisfying marriage is one of best predictors of stress
  + Not all social support is equally beneficial

**How prejudice, discrimination and stereotyping impact health**

Key terms

* Prejudice – Affective (emotions, mood, feelings)
* Stereotyping – Behavioral (behaviors towards/against)
* Discrimination – Cognitive (conceptions/beliefs)

Stereotype threat

* What is it? – Perceived vulnerability to a stereotype causes apprehension and interferes with performance
* Who does it affect?
* Stereotype threat and exercise/diet intentions (Seacat & Mickelson, 2009)
  + Methodology
    - 100 Overweight women
    - IV – Stereotype prime or control (non- stereotype prime)
    - DV – reported health intentions and self efficacy
  + Results – stereotype prime: lower levels of diet and exercise efficacy and health intentions than control group. Exposure to weight stigma associated with greater cortisol reactivity

Can the stress of being a minority or stigmatized group result in worsened health outcomes?

* Minority stress
  + What is it? – Stress experienced by minority individuals (chronic stressor)
  + How minority stress impact health – can result in higher rates of physical and mental health problems
* Studying groups under stress
  + Race
    - Life expectancy 3.5 years shorter for African Americans than white Americans – die by cardiovascular disease 1.5 times more
    - Black Americans under treated for pain relative to white Americans
    - Black patients less likely than whites to receive important medications or surgical procedures
    - Suicide rates among ethnic immigrants tied to amount of hate speech
    - Discrimination 🡪 substance abuse among Native Americans
    - Minorities tend to receive lower quality health care, even if insurance status, income, age, and severity of conditions are comparable
  + Gender
    - Women in US have best health in states with more equality
    - Health of women linked to status in society (more equality = better health 🡪 world health organization)
    - Most medical research is done on men
  + Sexual Orientation
    - Experiences of prejudice, expectations of rejection/discrimination
    - Hiding and concealing one’s sexual orientation, Internalized homophobia
    - LGBT have higher rates of mental illness (2.5 times) 🡪 stigma, prejudice, discrimination create a stressful social environment
    - Individuals with concealable stigmas face stressors and psychological challenges.
    - Poorer general health, more chronic diseases, gastro-intestinal problems, cancer, cardiovascular disease
  + Age
    - Workplace discrimination (forced early retirement)
    - Elder abuse 🡪 1 in 6 older adults have faced some form of abuse
    - Belief that old age = illness can impact health
    - Differential quality of care, treatment recommendations, diagnosis, etc.

**How prejudice, discrimination and stereotyping impact health – Week of October 29**

Hoffman et al. (2016) racial bias in pain perception

* Methodology?
* Results?
* Conclusions?

BiDil – first drug approved by FDA for a specific racial group

* Methodology?
* Results?
* Implications?

**Special Topic - Happiness**

Why study happiness?

* Nun study
  + Findings – Longitudinal study looking at autobiographical sketches written upon joining sisterhood. More positive emotion in excerpts correlated to longer life
* Positive emotions predict health and longevity
  + Hope/curiosity 🡪 higher life satisfaction and better health habits
  + Positive emotions play protective role in disease development
* Positive emotion 🡪 lower cortisol levels and lower ambulatory heart rate
* Reviewed 7 types of evidence 🡪 makes strong case that high subjective well‐being (SWB) causes better health and longevity (Diener & Chan, 2011):
* Happiness is related to work productivity
* Happy people have better health habits, remember more information about health
* Happy people are more altruistic
* Positive emotions can undo the deleterious effects of negative emotions
* Well-being (positive emotions, purpose, engagement) may be one of our best weapons against mental disorder

Buying Happiness (Dunn, Aknin, & Norton, 2008)

* In-class replication
* Methodology?
* Results

Happiness has its up and downs

* Throughout the day
* Throughout the week

Wealth and well-being – can money buy happiness?

* What does the research suggest – higher income is associated with less daily sadness, but NOT less daily happiness

Is the world getting better?

* Steven Pinker – TED Talk
* Evidence – Rates of war, homicide, illness, dictatorship, extreme poverty, and starvation have decreased

Positive psychology – study of conditions under which people become happy and flourish

* How do you measure happiness?
  + Subjective well-being

Happiness Stability

* Heritability (twin studies)
  + Minnesota twin study
    - 2310 twins
    - Measured happiness – SES, educational attainment, family income, marital status, religious commitment did not account for happiness
    - Happiness was associated with genetic variation
* Set-point theory
  + Life events
    - Brickman (1978) study examining happiness among lottery winners and paraplegics
      * Results – Lottery winners years later 🡪 no change in happiness
      * Paraplegic years later 🡪 no change in happiness
      * Over time, we adapt. Negative and positive events have an immediate impact, but it doesn’t last.
* Dan Gilbert – surprising science of happiness (TED talk)
  + We’re not always good at predicting what makes us happy
  + We underestimate our ability to overcome challenges
  + We adapt pretty readily and find ways to be happy even when things don’t go as planned.

Principles guiding happiness

* Adaptation-level phenomenon
* Adjusting expectations
* Relative deprivation

Can we teach happiness?

* Seligman’s work
  + Focus on gratitude
  + Gratitude study (Williams et al., 2014)
    - Methodology
    - Results
  + Underestimating the power of gratitude (Kumar & Epley, 2018)
    - Methodology – Wrote a letter of thanks, made predictions of how recipient would feel and perceive them.
    - Results – Writers of thank-you consistently underestimated how positive the recipients felt.

**Complementary and Alternative Medicine (CAM) - Week of November 5**

What are complementary and alternative medicines (CAM)?

Diverse group of therapies, products, and medical treatments. Represent vast and unevaluated aspect of care, national center for complementary and integrative health is body of government that looks at CAM.

* Types of CAM treatments and therapies
  + Dietary supplements
    - Evidence – small effect on cancer in men, no effect on heart disease
    - Vitamins with high levels of iron associated with increase mortality in older women
  + Prayer
    - Evidence – fewer complications post surgery, protects against high blood pressure, associated with longer life, does not slow progression of cancer
  + Acupuncture
    - Evidence – provides some patients with pain relief, may activate brain structures that modulate perception of pain
  + Hypnosis
    - Evidence – in 18 studies, pain relief in 75% of patients
    - Medical hypnosis – example – 10% of people can undergo major surgery without anesthesia with help of hypnosis
  + Meditation – may help with pain management and controlling stress and anxiety
    - Meditation changes our cells (Carlson et al., 2015)
      * Breast cancer patients
      * IV – 90 minute mindful meditation, 90 minute discussing feelings, workshop on reducing stress (control)
      * DV – Blood samples
      * Results – mindfulness preserved their telomere length 🡪 control group had shorter telomere length (cells aged faster)
  + Yoga
    - Evidence – people report significant decrease in stress and anxiety
  + Guided Imagery
    - Evidence – can alleviate stress and induce relaxation
  + Chiropractic Medicine, Osteopathy and Massage
    - Evidence – may help with back pain, based on limited empirical work
* Evaluation of CAM
  + Methodological issues…
  + Highly individualized, when/why do they work
  + If they help make you feel less stressed, and helps those who swear by it, does it really matter if it actually works?

The placebo effect

* Examples: sham knee surgery can help as much as real knee surgery, saline injections can cause allergic reactions in participant is told it contains an allergen, people exposed to fake poison ivy develop rashes, inhaling useless drug can improve lung functioning in children with asthma by 33%.
* What is the placebo effect? -
* How does the placebo effect work?
  + Changes in physiology
    - Changes in mood – reduce stress response
    - May stimulate release of opioids
  + Placebo Effects and the Brain (Wager et al, 2004)
    - Methodology?
    - Results?
* Delivery of the placebo effect
  + What matters? – if provider believes treatment will work, seems warm, competent, empathetic, and takes time with the patient
  + Quality of care (Kaptchuk et al)
    - Methodology – 262 adults with IBS
    - IV – no treatment, sham acupuncture with limited interaction with practitioner, or sham acupuncture with a lot of interaction
    - Results – most relief came from most interaction with practitioner
* Ethics of using a placebo?
  + Deception?
    - Placebos without deception (Kaptchuk et al., 2010)
      * Methodology – 80 patients with IBS
      * IV – no treatment vs. openly labeled placebo
      * DV – symptom relief
      * Results – participants with placebo reported twice as much symptom relief than no treatment
* Importance of context with placebos
  + How does the situation affect placebos?
    - Formal medical setting vs less formal setting
    - Shape, size and color, quantity can matter
      * Between red and blue pills, Italy: blue pills are less effective than red for me (soccer team name is basically blue), but everywhere else, blue is more effective at causing drowsiness
* Nocebo effects
  + Study example – Acupuncture pain
  + 270 patients
  + IV – pain reducing pills vs. acupuncture
  + DV – pain
  + Results – both treatments were fake, study was designed to compare 2 placebos🡪 2/3 felt better after, 1/3 complained of awful side effects after
* Double-blind experiments – both the administrator and participant are unaware as to who gets the placebo (so administrator of treatment does not have any expectations)
* Ironic effect of dietary supplements (Chiou et al., 2011)
  + Methodology – IV – take dietary supplements or not. DV – survey about other health habits
  + Results? – When people take dietary supplements, they feel like they can “cheat” in other aspects during the day

**Pain and Discomfort**

What is pain? – A sensation that can hurt, cause discomfort, distress, or terrible agony

* What does pain mean to a provider – pain is a byproduct to a patient – pain is the problem

Why study pain

* Low-level feedback about the body
* Can lead a person to seek treatment
* Inadequate pain relief is a serious medical concern – most common reason for euthanasia requests (assisted suicide)

Social Pain

* How is social pain similar to physical pain – relies on same pain-related neurocircuitry that physical pain relies on
  + Evidence?
    - Kross et al (2011) fMRI study – same parts of brain are activated when experiencing physical or social pain
    - DeWall et al (2010)
      * Played a game in which participants experiences rejection
        + IV – Tylenol vs. Placebo
        + DV – brain activity
        + Results – placebo showed increased activity in areas involved in pain experience, Tylenol did not show higher levels of activity

**Pain and Discomfort continued (week of November 12, 2017)**

Pain depends on interpretation, context, culture, gender, and emotional state

* Evidence?

How do we measure pain?

* Questionnaires
* Neuroscientific methods
* Pain behavior
* Validity of pain measurements – Pain is subjective, and is self reported

Physiology of Pain

* Brings tissue damage into conscious awareness
* Negative emotions exacerbate pain

Acute vs. Chronic Pain

* What is acute pain – 6 months or less, short lived, decreases with time and treatment (i.e. broken limb)
* What is chronic pain – at least 6 months long, pain doesn’t dissipate with time or treatment (i.e. arthritis)
  + Types of chronic pain – **chronic benign pain**🡪 relatively unresponsive to treatment, severity of pain varies, **recurrent acute pain** 🡪 intermittent episodes of pain that are acute in character, but chronic in condition, recurs for more than 6 months, **chronic progressive pain** 🡪 persists longer than 6 months with severity increasing over time, associated with malignancies or degenerative disorders
  + Common sources of chronic pain?
    - Back pain – 70-85% of Americans have back pain at some point in their lives
    - Headaches - ~45 million Americans have chronic recurrent headaches
    - Cancer pain – majority of advanced cancer patients suffer moderate to severe pain
    - Arthritis pain – 40 million Americans
    - Neurogenic pain – pain resulting from damage to peripheral nerves or central nervous system
    - Psychogenic pain – pain not due to an identifiable physical cause
* Why is the distinction of chronic vs. acute pain important?
* Condition/Traits that increase perception of pain
  + Depression
  + Anger suppression
  + Anxiety disorders
  + Substance use

Treatments to help with pain control

* Pain control techniques may:

1. Eliminate feeling altogether
2. Reduce the pain to sensation
3. Enable patients to tolerate pain more successfully

Pharmacological control of pain

* Administration of drugs
  + Drawbacks?
    - Addiction – more Americans died from drug overdose in 2016 than any year on record (over 63,000)
    - Undesirable side effects
  + Opioid Epidemic
    - In 2012, physicians wrote 259 million prescriptions for opioid pain killers
    - Increase in opioid drug overdoses (both from prescription opioids and heroin)
    - Alternatives to opioids?
      * Examples?
      * Endogenous opioid peptides – natural pain suppression system in our body

Control of pain

* Surgical control of pain
  + Drawbacks – can be expensive, short lived relief, and can cause more pain
* Sensory control of pain
  + Counterirritation – inhibiting pain in one part of the body by stimulating or mildly irritating another area
  + Exercise – increase mobility and help chronic pain patients
* Psychological control of pain
  + Biofeedback – try different behaviors to help with pain based on some bodily function (i.e. heartbeat)
  + Relaxation techniques – relaxing muscles and changing blood flow
  + Distraction – focus on something other than the pain
  + Coping skills training
    - Avoidant vs. approach coping
  + CBT – reappraising pain sensations

Pain and Sports – what can we learn about the experience of pain by examining athletes?

**Management of Chronic Illness**

Prevalence – 50% of the population has a chronic condition

* 3/4ths of nation’s health spending
* Quality of life
  + Components – physical functioning, psychological functioning, social functioning, disease or treatment related symptoms
* Why study quality of life?
  + End of life care – what do doctors want vs. non-doctors? – Most do not want life saving treatments, but they want pain medication, because they want to be comfortable
    - Precursor study - Podcast
* Emotional responses to chronic illness
  + Denial
  + Anxiety
  + Depression
* Coping with chronic illness
  + Strategies
    - Social support/direct problem-solving
    - Distancing
    - Positive focus
    - Cognitive escape/avoidance
    - Behavioral escape/avoidance
  + Approach coping
  + Pharmacological interventions
  + Individual therapy
  + Coping skills training
  + Relaxation, stress management, and exercise
  + Social support interventions

**Heart Disease, Hypertension, Stroke, and Diabetes (week of November 26)**

Cardiovascular Disease (CVD)

* Affects 60 million Americans
* Includes
  + High blood pressure
  + Stroke
  + Heart disease
* Uncontrollable risk factors (CVD)
  + Family history
  + Age – over 65 is more susceptible
  + Gender
    - Number 1 killer of women and men
      * Kills more women – most studies are about men, don’t know signs for women
        + Estrogen – prevents early onset CVD, more common in post menopausal women
  + Race/ethnicity
  + SES
* Additional risk factors (CVD)
  + Hypertension
  + Obesity
  + Cholesterol levels
  + Metabolic Syndrome (3 or more of the following)
    - Obesity centered around the waist
    - High blood pressure
    - Low levels HDL
    - Difficulty metabolizing blood sugar
    - High levels of triglycerides
  + Tobacco Use
* Psychosocial risk factors
  + Personality – Type A vs. Type B
    - Negative emotions – Aggression, anger
  + Hostility
    - Higher in men
    - Runs in families
    - Interpersonal conflict
    - Physiological reactions
  + Other psychosocial risks and CVD
    - Anxiety and Depression
    - Social Instability
    - Vigilant Coping
    - Bad Family Environment
    - Workplace related Stress
    - Urbanization
    - Lack of Social Support
    - Loss of control over life
    - Social Isolation
* Stress and CVD – Chronic and acute stress is linked to CVD (interacts with genetic factors)
  + Biological reactivity
* Management of CVD
  + Stress management
  + Targeting depression – CBT used
  + Social support

Coronary Heart Disease (CHD) – Narrowing of coronary arteries

* Caused by Atherosclerosis
* Risk Factors
  + High cholesterol
  + High blood pressure
  + Elevated levels of inflammation
  + Diabetes
  + Cigarette smoking
  + Obesity
  + Lack of Exercise

Hypertension – measured by levels of systolic and diastolic BP

* Occurs when the supply of blood through the vessels is excessive
  + Prevalence – extremely prevalent in states with high rates of obesity
  + Risk factors
    - Childhood temperament and BP reactivity
    - Gender
    - Genetic Factors
    - Emotional Factors
    - Family environment
    - Stress
  + Treatments?
    - Drug treatments
    - Low-sodium diet
    - Reduction of alcohol
    - Weight-reduction
    - Exercise
    - Caffeine restriction
    - CBT
  + Recommended Treatment: combo of CBT and drugs
  + Problems – Hidden diseases

Stroke

* Disturbance in blood flow to the brain
  + Blood flow to localized areas of brain is interrupted
  + Cerebral hemorrhage
* Warning signs
  + Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
  + Sudden confusion, trouble speaking, or understanding
  + Sudden trouble seeing in one or both eyes
  + Sudden trouble walking, dizziness, loss of balance or coordination
  + Sudden severe headache with no known cause
* Risk factors
  + High blood pressure
  + Heart disease
  + Cigarette smoking
  + High red blood cell count
  + Transient ischemic attacks (mini strokes)
  + Negative emotions
  + Psychological distress
* Consequences?
  + Motor problems
  + Cognitive problems
  + Emotional problems
  + Hemispheric Lateralization – some functions are localized in one hemisphere of the brain (speech is left, spatial tasks and facial recognition is right)
    - If damage to left hemisphere, could have communication issues, if damage to right hemisphere, could have issues with faces and spatial tasks

Type II Diabetes

* Chronic condition that impacts how your body processes blood sugar (glucose)
* Primarily due to obesity and lack of exercise among those who are genetically predisposed
  + Symptoms
    - Frequent urination
    - Fatigue and dryness of the mouth
    - Impotence
    - Irregular menstruation
    - Loss of sensation
    - Frequent infection of skin, gums, or urinary system
    - Pain or cramps in legs, feet, fingers
    - Slow healing of cuts and bruises
    - Intense itching and drowsiness
  + Risk factors
    - Overweight
    - Get little exercise
    - Have high blood pressure
    - Have sibling or parent with diabetes
    - If you had a baby weighing over 9 pounds at birth
    - Member of high risk ethnic group, including African Americans, Latinos, Native Americans, Asian Americans, and Pacific Islanders
  + Health implications
    - Coronary heart disease
    - Eating disorders
    - Difficulties in sexual functioning
    - Blindness among adults
    - Nervous system damage
    - Risk for depression
    - Kidney failure
    - Foot ulcers
    - Alzheimer’s Disease
    - Cognitive dysfunction
    - Risk of heart attack or stroke
  + Interventions
    - * CBT
      * Weight control improves glycemic index
      * Self management and problem solving skills
      * Social skills training
      * Behavior modification
      * Pharmacological therapy
      * Lifestyle intervention and medication can greatly reduce incidence of diabetes
* Alzheimer’s disease - A growing number of researchers believe Alzheimer’s may be a type of diabetes
  + Evidence – people with type 2 diabetes more likely to develop Alzheimer’s, levels of insulin and insulin-like growth factors are lower in individuals who suffer from Alzheimer’s, insulin has helped improve memory skills of people with mild-to-moderate Alzheimer’s and pre-Alzheimer’s disease

**Exam 2 – Thursday, November 29**