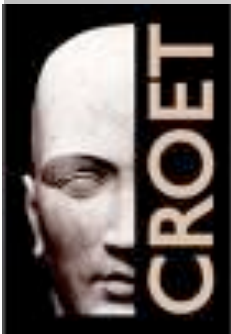


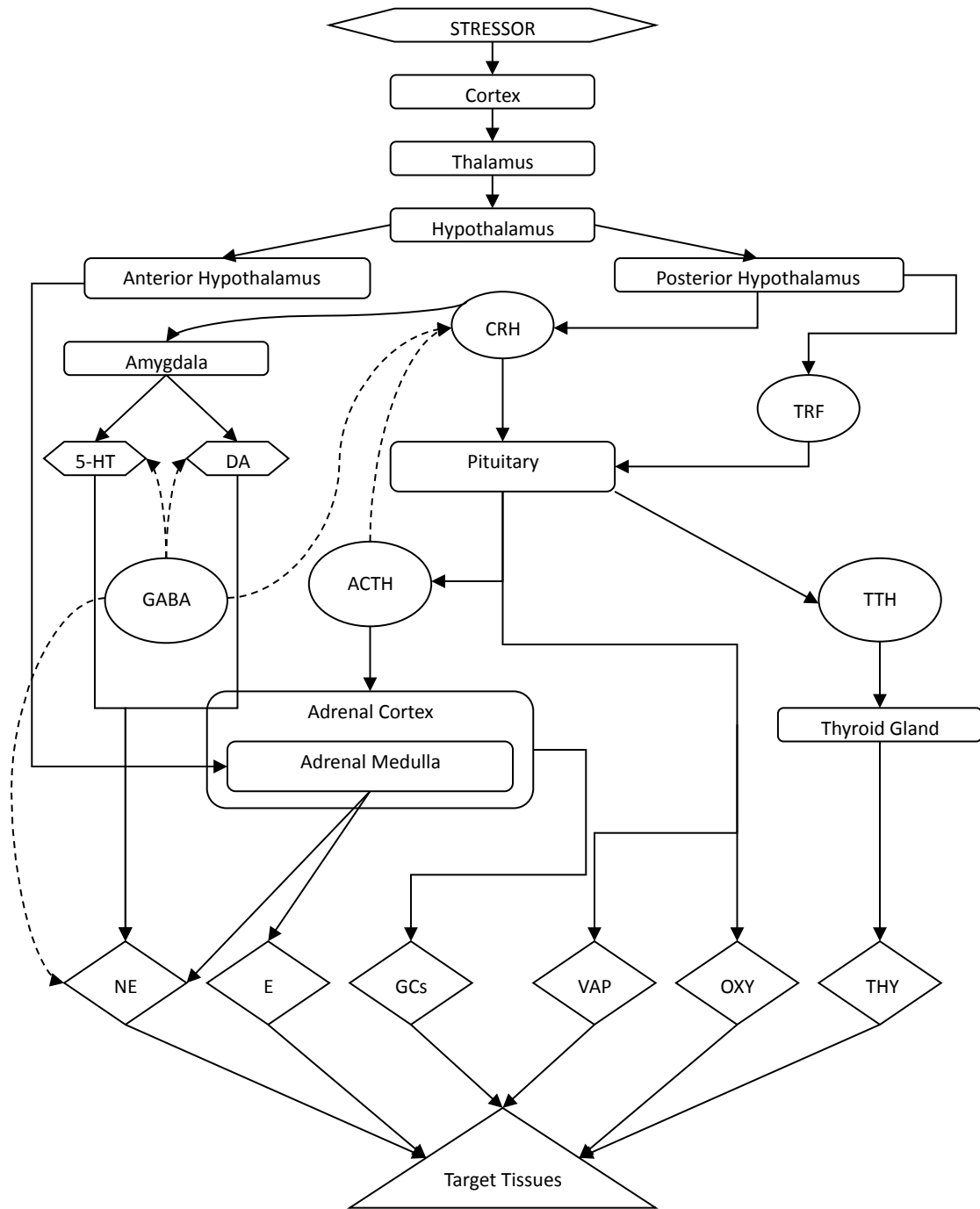
Mental Health, the Workplace, and Exercise

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Overview

- Mental health
 - Depression, Anxiety
 - Stress
- How mental health affects the workplace
- How exercise can help
 - Exercise and depression, anxiety, and stress
 - How does exercise affect mental health?
- Questions

Depression and Anxiety

- Affect approximately 9.5% & 8.3% of the U.S. adult population, respectively
- High comorbidity – nearly 75% with depression also have anxiety



Depression

- Depression symptoms:
 - Depressed mood, loss of interest and pleasure, weight gain/loss, insomnia, psychomotor retardation, fatigue
- Range from depressive symptoms, to depressive episodes, to depressive disorders
- Examples:
 - Major Depression, Bipolar Disorder, Postpartum Depression

Anxiety

- Anxiety symptoms:
 - Unpleasant emotional state, rapid heart rate, sweating, nausea, chills, trembling, hyperventilation
- Range from out-of-the-blue, to situational phobias, to anxiety disorders
- Examples:
 - Generalized Anxiety Disorder, Panic Disorder, Social Anxiety Disorder

Depression and Anxiety Treatments

- Anti-depressant drugs
 - Target serotonin
- Therapy
- < 50% of people receiving treatment
- \approx 35% response rate to anti-depressant drugs



Stress

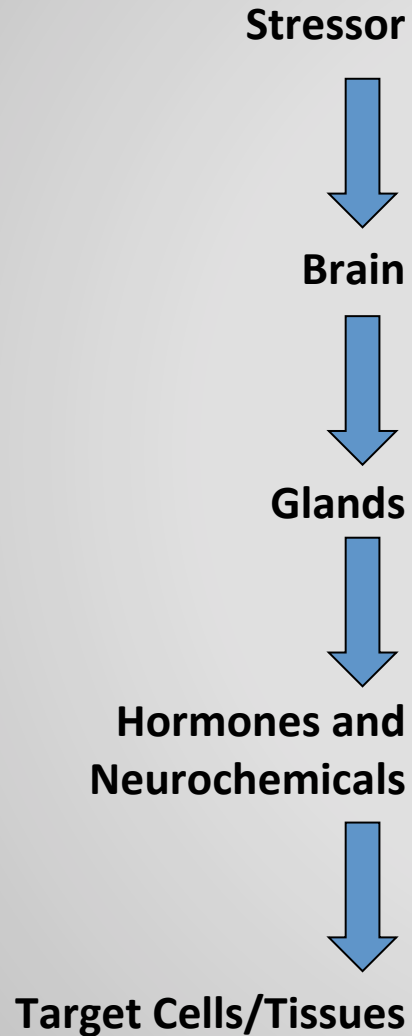
- State of mental or emotional strain resulting from adverse or very demanding circumstances
- Most Americans believe that they are subjected to higher than healthy amounts of stress
- 50% of Americans believe that the amount of stress in their lives has increased over the previous five years

Stress

- Low-to-moderate stress is healthy
- High, chronic stress can have negative health consequences
- Stress Response: How your body and mind respond to stressors



Physical Response to Stress



- Short term effects:
 - ↑ Several neurochemicals
 - ACTH, Cortisol, Epinephrine
 - ↑ Heart Rate
 - ↑ Blood Pressure
 - ↑ Body temperature

Physical Response to Stress

“Fight or Flight” Response

Can be very helpful in some situations

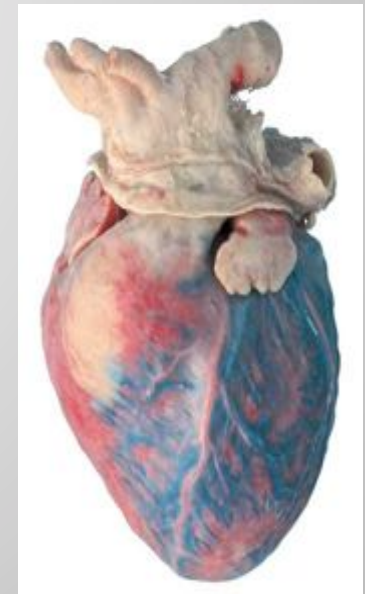
Can be detrimental in others



“People out there in our nation don't have maps, and I believe that our education, like such, as in South Africa and Iraq, everywhere like such as, and I believe that they should...”

Chronic Stress and Health

- High, chronic stress results in:
 - ↑ Hypertension
 - ↑ Atherosclerosis
 - ↑ Coronary Heart Disease
 - ↑ Immune system dysfunction
 - Longer wound healing
 - Activation of latent viruses
- Can't always control sources of stress, but can control how our body reacts to stress



Economic and Social Costs of Mental Health

- \$317 billion burden including indirect costs
 - Treatment costs, lost workdays, lost productivity
- Accounts for 90% of the 33,000 suicides in the U.S.
 - Almost 2x the number of homicides
- Average lifespan for a person with chronic mental illness is shortened by 25 years

How Mental Health Affects the Workplace

- Depression
 - ↑ Sick days
 - ↑ Job Turnover
 - ↓ Productivity
- Absenteeism and Presenteeism
 - Both ↑ with depression/anxiety



How Mental Health Affects the Workplace

- 75% of individuals with a mental illness are tobacco dependent compared to 22% of the general population



- People with a mental illness (6% of population) consume 44% of all cigarettes in the United States
 - Smokers have over 1.5x greater risk for injury

How Mental Health Affects the Workplace

- High Stress:
 - ↑ Sick days
 - ↑ Risk for developing serious medical condition
 - More health risks = ↓ Productivity
- High stress and smoking lead to longer return-to-work after injury



Exercise and Physical Activity

- Physical activity:

Bodily movement that enhances health



- Recommendations for adults:

- 30 minutes of aerobic activity a day on most days of the week

- Brisk walking, moderate bicycling, water aerobics

- Or 25 minutes vigorous activity on 3 days per week

- Running, fast bicycling, jumping rope, sports

- Muscle strengthening activities on 2 days per week

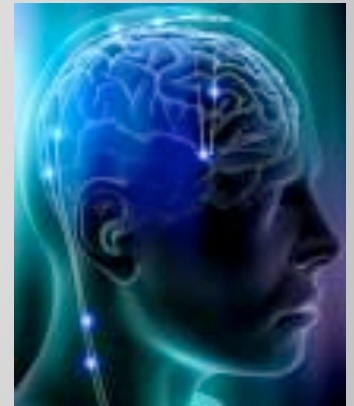
Health Benefits of Physical Activity

- Physical activity improves:
 - Risk of premature death
 - Heart disease, heart attacks, stroke
 - Some cancers (especially colon and breast cancers)
 - Type 2 diabetes
 - Osteoporosis
 - High blood pressure
 - High cholesterol
 - Obesity
 - Injuries



Exercise and Depression/Anxiety

- Decades of research on the effects of exercise on depression and anxiety
- 2 reviews of literature:
 - 148 studies on exercise and depression
 - 140 studies on exercise and anxiety
- Exercise causes:
 - Large reductions in depression
 - Moderate reductions in anxiety



Exercise and Depression/Anxiety

Literature Review Findings

- Works regardless of age, gender, race, fitness level, etc.
- Moderate intensity is sufficient
- Aerobic and strength training are both good, both are better than stretching or yoga

Exercise vs. Traditional Treatments

- Exercise works as well as therapy and anti-depressant drugs for reducing depression and anxiety
- 6-months after treatment, those who exercise have fewer relapses than those who take drugs

Exercise and Depression/Anxiety



- **Why does exercise reduce depression and anxiety?**
 - 7 week study
 - 72 participants were randomly assigned to one of two groups:
 - Stationary cycling for 30 minutes, 3 times per week
 - Yoga/stretching for 30 minutes, 3 times per week
 - Measured depression and anxiety
 - Blood draws before and after
 - Measured serotonin

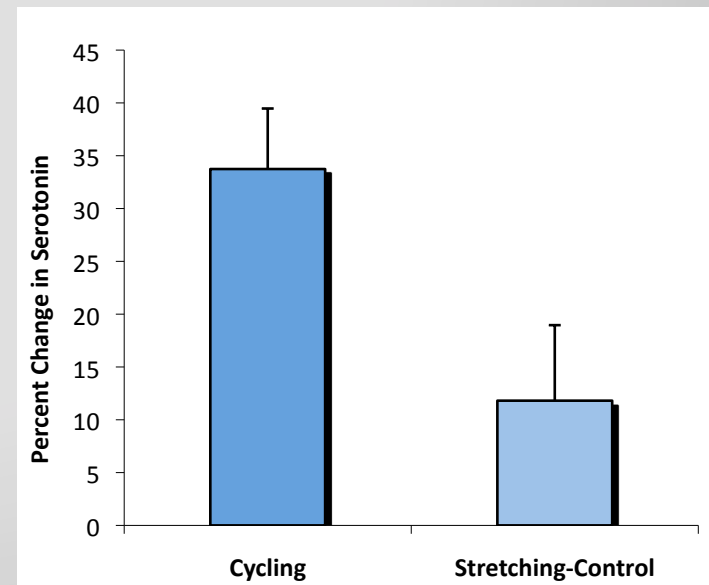
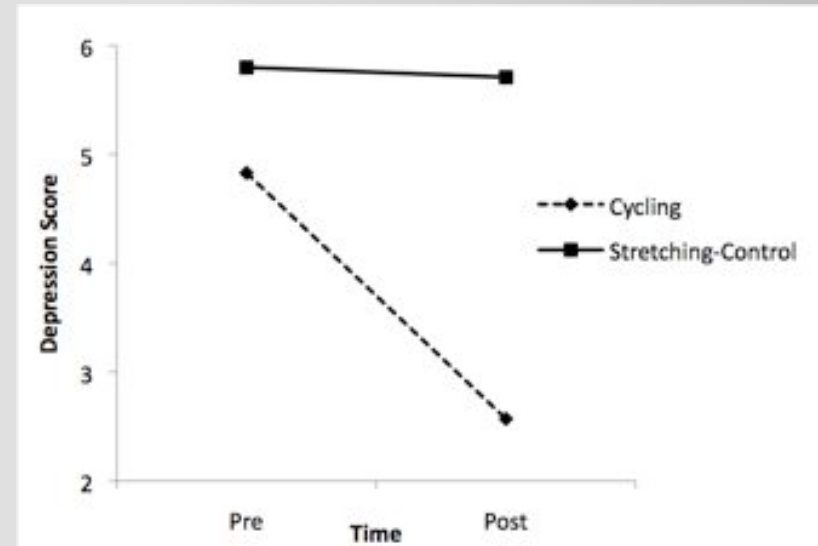
How Exercise Affects Depression/Anxiety

- **Results:**

- Depression decreased in the cycling group
- Anxiety decreased in cycling and stretching groups

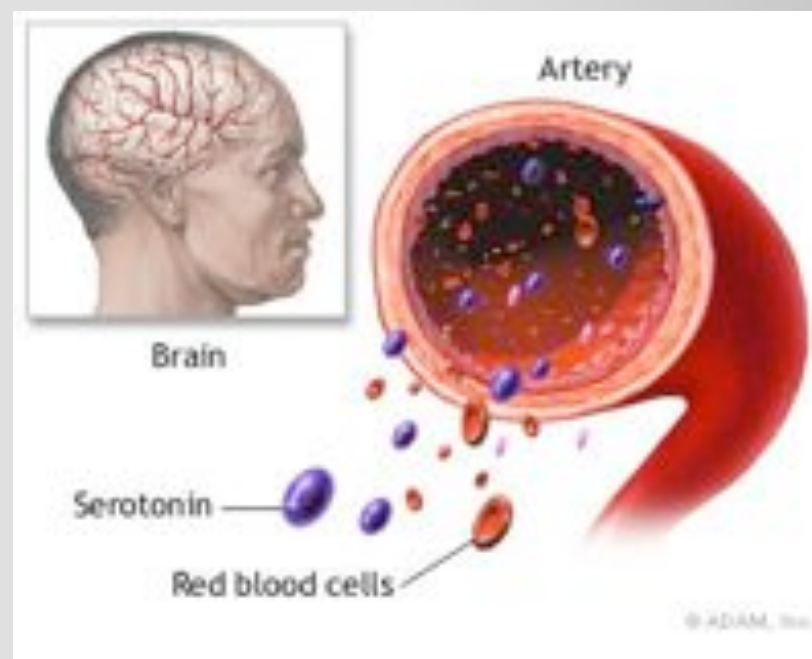
- **Key Findings:**

- Stationary cycling led to changes in serotonin in the bloodstream
- Changes in serotonin were related to decreases in depression



How Exercise Affects Depression/Anxiety

- Physiological changes
 - Increased serotonin production in humans & animals
 - Exercise alters the serotonin system – regulatory function
 - Develops new brain cells



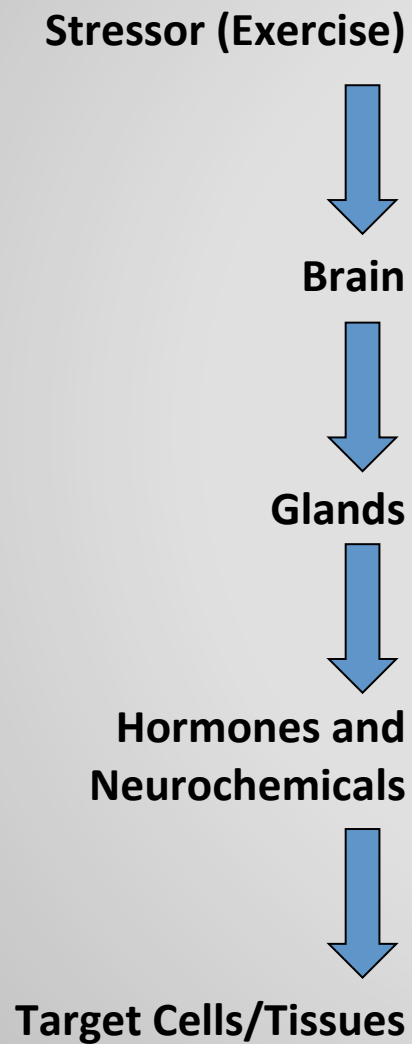
How Exercise Affects the Stress Response

- What do you do when you want to improve at something?



- Practice!
- Exercise is like practice for your stress response

How Exercise Affects the Stress Response



- Short term effects:
 - ↑ Several neurochemicals
 - ACTH, Cortisol, Epinephrine
 - ↑ Heart Rate
 - ↑ Blood Pressure
 - ↑ Body temperature
- Exercise acts as a mild, controlled stressor

How Exercise Affects the Stress Response

- What changes when you exercise regularly?
 - Reduced HR response
 - Reduced blood pressure response
 - 3-4mm/Hg reduction in systolic and diastolic
 - Reduced production of certain hormones
 - Controlled release
 - Feel less “stressed”
- These changes may seem minor, but cumulative effects add up quickly!



Summary

- Mental health problems affect millions each year, and have a significant social and financial impact on the workplace
- Traditional treatments are good, but exercise can go a long way towards improving and preventing mental health problems
- Physical activity is a simple, accessible way to improve depression and anxiety
- Exercise provides protection against the harmful effects of chronic stress

What you can do

- Lead by example
- Mental health screenings
- Include exercise and health promotion in workplace health and safety training
- Alter the work environment
- Encourage employees to exercise, use your imagination!
 - Small incentives for biking to work
 - Games or contests
 - Walks during break time



Questions?

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