

# Health Psychology

Stress

# Introduction

- **Health psychology:** scientific study of psychological processes related to health and health care (Friedman and Adler 2007)
- Focus on prevention
  - It is now acknowledged that many health problems are directly related to lifestyle choices
- **Goal:** Help people stay healthy, and to start and adhere to treatments

# Different Factors Causing Illness

- **Biopsychosocial model of health and illness:**
  - **Biological factors**
    - Genetics, immune system, age, sex, viruses, infections, lesions
  - **Behaviors**
    - Smoking, drinking, sex life, eating habits
  - **Sociocultural factors**
    - Peer pressure, socio-economic status, ethnicity, expectations
  - **Psychological factors**
    - Sense of control, self-efficacy, optimism, stress and coping

# Stress & Stressors

- **Stress:** negative emotional experience, accompanied by various physiological, cognitive, and behavioral changes
- **Stressors:** Cause stress
  - Noise, violence, pain, job, exams
- **Stress response:** Physiological/psychological changes
  - Stress hormones, distress
- **Stress experience:** Perception of experience and how we deal with it
  - Coping
  - Not always a conscious experience

# Stressors

- Humans are the only species that can *imagine* stressors, and their body reacts as if it was real
  - Robert Sapolsky <3
- Beliefs and expectations play a role in the intensity and character of people's methods of coping with stressors
- **Homeostasis:** balance between external environment and body's normal physiological state
  - When your environment does not cause you stress

# Stressors

- **Acute stressors:** appear suddenly, do not last long, call for immediate attention
  - Physical injuries, attacks
  - Body is alert and deals with stress, then returns to homeostasis
- **Chronic stressors:** last a *long* time, constant source of worry
  - Abusive relationships, bullying, intense jobs
  - Damages the body overtime
  - Body does not return to homeostasis because the stressor is always there

# Work Stressors

- Work-related stress arises if there is a mismatch between the *demands* of a person and their ability to *cope* with those demands
  - i.e. not enough time, factors under their control, not enough support

# Stressors

- Even pleasant changes can be stressful
  - Marriage, pregnancy, promotions
- Because they require the individual to adjust to a new situation (find homeostasis again)
- **The Holmes-Rahe Scale (1967)**
  - Rate life events in terms of how long it would take to readjust/accommodate the stressor
- Findings:
  - Evaluation of stressors is fairly constant across the US
  - Small correlation between high stress ratings and more illness and accidents



# Coping

- **Coping:** efforts to deal with a threat in order to remove it or diminish its impact
- **Sarafino (1994):** Stress arises when people perceive their own resources can not meet the demands of a situation
- The individual's own evaluation of the situation is what matters
  - Impacts the way the person confronts a stressful situation

# Steptoe and Marmot (2003)

- Survey on the interaction of social, psychological, and physiological aspects of stress
  - Seven questionnaires about different stressors
  - Blood samples taken
- **Self-efficacy:** person's feeling of competence to deal with a specific task or problem
- Perception of control and self-efficacy are important psychological factors in stress
- High mean scores on all stressors = higher risk of heart problems, depression, anxiety, etc

# Steptoe and Marmot (2003)

- Stress research must focus on specific stressors in isolation, as well as combinations of stressors
- The accumulated effect of several stressors may put individuals at increased risk

# Physiological Aspects of Stress

- The changes of the sympathetic nervous system prepare the individual to either *confront* or *escape* from the source of stress
  - Fight or Flight response!
- Body responds to stress with *arousal*
  - Example: increased blood pressure and providing glucose to the muscles
  - Adrenal glands release stress hormones to energize the body

# General Adaptation Syndrome (GAS)

- Hans Selye (1956)
- Three staged stress process:
  - The Alarm Stage
    - Fight-or-flight response
  - The Resistance Stage
    - Coping
    - Attempting to reverse effects of alarm stage
  - Exhaustion
    - Incapable of further coping

# General Adaptation Syndrome

- Based off of rat research
- It explains the extreme fatigue people experience after long-term stressors
- However, psychological factors play a small role in the GAS model
- Later stress research based heavily on his alarm and resistance stages

# Stress & Health

- Long-term stress causes an increase in **cortisol**
- Cortisol can lead to:
  - Depression
  - Memory problems
  - Weakened immune system
    - WHY: Cortisol decreases T-cells (natural killers of infection)
    - THEREFORE: Individual is more susceptible to infection

# Kiecolt-Glaser et al. (1984)

- Blood samples of students as final exams approached
  - First taken a month before
  - Second taken the day of
- Second sample had a significant decrease in T-cell activity
- High stress had diminished the effectiveness of the immune system
- Psychological stress influences the immune system as well (i.e. loneliness)



# Cognitive Aspects of Stress

- **Cognitive appraisal** (thinking positively or negatively) seemingly predicts health outcomes
- **Reed et al. (1999)**: HIV-positive people with more pessimistic expectations developed symptoms more quickly and died sooner
- **Kemeny et al. (2006)**: Pessimistic expectation makes people *give up* which influences the immune system

# Cognitive Aspects of Stress

- **Kamen and Seligman (1987):** Attributional style could predict poor health later on
  - EXAMPLE: pessimism or optimism
- Pessimism may be related to *decrease in T-cells and suppression of the immune system*
  - Caused by attributional style and beliefs on the body
- **Greer et al. (1979):** denial and a fighting spirit predicted longer survival for breast cancer
  - Optimism helps people cope with cancer in a way that may prolong life!

# Social Self-Preservation Theory

- Kemeny et al. (2005)
- Threats to one's "social self" (self esteem and status) are associated with specific negative cognitive and affective responses
  - Shame and humiliation
- Threats to social self can influence physical health
  - Immune system, levels of cortisol, etc
- Predicts that biological responses to stress are mediated by self-conscious emotions such as shame and sensitivity to rejection

# Psychoneuroimmunology (PNI)

- Based on the assumption that an individual's **psychological state can influence the immune system** via the nervous system

# Social Aspects of Stress

- If our social relationships are stressful our well-being may be threatened
  - Bullying, abuse, violent neighborhood
- On the other hand: stress can be alleviated via social support
- The early family environment, along with cultural norms, seems to provide the groundwork for social competence
  - Warm/nurturing families teach kids to manage stress effectively

# Transactional Model of Stress

- Lazarus and Folkman (1975)
- Assumes stress involves a *transaction* between an individual and the external world
- A potentially stressful event must be *perceived* as stressful to elicit a stress response
- Psychological factors are therefore important

# Transactional Model of Stress

- Appraisal of stressors within the transactional model of stress:
  - **Primary appraisal:**
    - Event is judged to be irrelevant, positive, or negative to one's well-being
  - **Secondary appraisal:**
    - Different relevant coping strategies are considered before choosing a way to deal with the stressor
- They both influence each other; they are *continuous and interdependent*

# Coping Strategies

- Folkman and Lazarus (1988)
- Problem-focused coping:
  - Dealing with the stressor itself
  - EXAMPLE: Quitting a stressful job
- Emotion-focused coping:
  - Handling the emotional aspects of the stress response rather than changing the situation
  - EXAMPLE: Taking yoga to deal with stressful job



# Coping Strategies

- Carver (2007)
- Problem-focused is more likely to happen if the person **feels they can control** the stressor
- Emotion-focused is more likely to happen if the person **feels they have little control** of the stressor
- It is difficult to make a clear distinction between the two
  - Two kinds of strategies influence each other
  - Problem-focused can reduce unpleasant emotions
  - Emotion-focused can make problem-focused coping more effective

# Coping Strategies

- Emotion-focused coping may be effective short-term, but not in long-term
  - Can cause addictions like alcoholism if you use alcohol to cope
- Thus the term **avoidance coping**
  - Individual only wishes to *avoid* the negative feelings of the stressor than deal with it/fix it
- **Proactive coping**: effort done prior to avoid a stressful experience
  - Like studying hard for an exam

# Ursin and Erison (2004)

- Generally people benefit positively and experience lower levels of stress if they actively do things to reduce stress!
- If one *believes* they can manage stress, the stress is less intensive and long-lasting
- So do some yoga and hang out with friends often!

# Social Support

- **Social support:** feeling that one is cared for and part of a social network with mutual obligations
- Forms of support:
  - **Emotional support:** warmth and understanding
  - **Informational support:** helping a person to understand/logically evaluate a stressor
  - **Practical support:** financial assistance, etc

# Social Support

- Giving social support may strengthen a relationship
- Provides a sense of purpose
  - It signifies that one is important and needed
- Just *knowing* you could get support may be the most beneficial factor of social support!

# Social Coping: Men & Women

- Taylor (2002)
- Theory of “Tend and Befriend”
  - Males tend to exhibit fight-or-flight response to stressors
    - Key hormone: testosterone
  - Females “tend” (undergo nurturing activities) and “befriend” (seek social support)
    - Key hormone: oxytocin

# Social Coping: Women & Men

- **Thoits (1995)**: Women were more involved than men in both giving and receiving social support
- Women are generally more likely to mobilize social support in times of stress
- **Belle (1987)**: Women maintained more same-sex close relationships than men did
- Reported more benefit from contacts with their female friends and relatives

# Culture

- **Taylor (2008):** Culture is a variable that may moderate how social support is perceived
- **Independence vs. interdependence**
  - Individualistic cultures see the self as independent
  - Collectivist cultures perceive the individual as part of a social group (interdependent)
- **Taylor et al. (2004):**
- European, US, and Korean students asked about their ways of coping with stress
- Significantly less Korean students used social support
  - Maybe due to Asian concerns with harmony, social criticism, or losing face



# Support Groups

- **Evans (1979)**: 15 million Americans were using social support groups to deal with mental health
- **Kessler et al. (1997)**: Approx. 25 million people participate in support groups at some point in their lifetime
- **Davison et al. (2000)**: Women, and white people as a whole, are more likely to participate in support groups than men and non-white people as a whole

# Internet-based Social Support

- Help people who do not have IRL support
  - Provides extra support for those that do!
- Participant privacy/security is important when experimenting with it
- **Klemm et al. (1999)** content analysis of internet-based support groups:
  - Members usually sought information, gave information, encouraged, gave support
    - Women were more than twice as likely to provide encouragement and support
    - Men were more than twice as likely to offer information

# Wenzelberg et al. (2003)

- **Aim:** Evaluate the beneficial effects of online support groups
- **Method:** 72 women with breast cancer assigned to a 12 week internet support group
- **Results:** Moderately effective in reducing the participants' scores on perceived stress and depression

# Mindfulness Stress Reduction (MBSR)

- The mind is related to the body, so learning to relax and concentrate on one thing at a time can reduce stress
- **Mindfulness-based stress reduction (MBSR):** relaxation technique developed by Kabat-Zinn in 1979

# MBSR

- Based off of Buddhist teachings
- Involves training in meditation
- **Aim:** cultivate mindfulness
  - **Mindfulness:** awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment
  - AKA: Respond to the situation instead of reacting to it automatically

# MBSR

- Wants the individual to develop the ability to calmly step back from thoughts and feelings during stressful situations
- **Shapiro et al. (1998)** compared stress of students taking MBSR with those *not* taking MBSR as exams came closer
  - Before MBSR started there was no difference in stress
  - As exams got closer and classes were taught:
    - Non-MBSR students increased anxiety (control group)
    - MBSR students were less anxious than they were at the start!

# Evaluation of Shapiro et al. (1998)

- MBSR participants learned to cope with stress better
- Generalization issues:
  - Participants were medical students
  - Self-selected sample
  - Offered course credits (low number of drop-outs)

# Specca et al. (2000)

- Cancer patients were split into MBSR group or waiting-list group (control group)
- Results:
  - MBSR group showed a reduction in total mood disturbance (anger, anxiety, depression) by 65%
  - Stress reduced by 35%
  - More time spent meditating led to greater mood improvement
- Have to keep social desirability effects in mind while evaluating this study!