

# Stress, Coping and Health

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## Health and Illness

- Usually physical illness has been viewed purely in biological terms.
- Physical and emotional well-being are interactive

## Health and Illness

- A century ago the leading causes of death were infectious diseases.
- Now in North America 7 of the 10 leading causes of death are allegedly related to personal habits and lifestyles – but may be primarily a combination of genetics and aging.

## Stress

- Stress is the response to events that threaten and tax an individual's coping abilities.
- Allegedly stress is a major contributor to six of the leading causes of death in the UK
  - CHD, cancer, lung disease, accidental injuries, cirrhosis of the liver, suicide

## Health problems that may be linked to stress 1

- AIDS (Ironson et al., 1994)
- Appendicitis (Creed, 1989)
- Asthma (Sriram & Silverman, 1998)
- Cancer (Holland & Lewis, 1993)
- Chronic pain (Lampe et al., 1998)
- Common Cold (Stone et al., 1992)
- CHD (Orth-Gomer et al., 2000)
- Diabetes (Riazi & Bradley, 2000)
- Epileptic seizures (Kelly & Schranke, 2000)
- Haemophilia (Buxton et al., 1981)

## Health problems that may be linked to stress 2

- Herpes (Padgett & Sheridan, 2000)
- Hypertension (Pickering et al., 1996)
- Hyperthyroidism (Yang, Liu & Zang, 2000)
- IBS (Searle & Bennett, 2001)
- Migranes (Ramadan, 2000)
- MS (Grant et al., 1989)
- PMS (Wu-Holt & Boutte, 1994)
- Rheumatoid Arthritis (Huyser & Parker, 1998)

## Health problems that may be linked to stress 3

- Skin disorders (Arnold, 2000)
- Stroke (Harmsen et al., 1990)
- Ulcers (Murison, 2001)
- Vaginal infections (Williams & Deffenbacher, 1983)

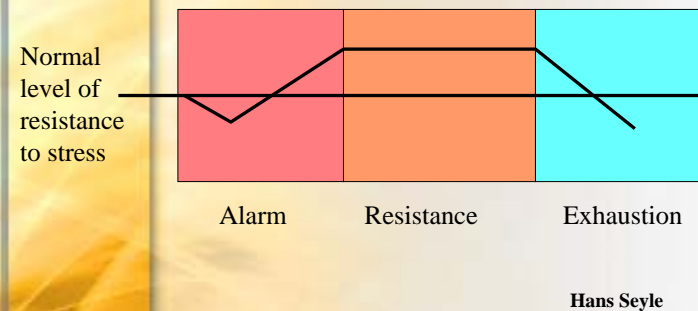
## Stressors

- Disruptive forces operating within or on any system

## Stress in the UK

- Stress related absence from work accounts for half of all sickness rates at an estimated cost of £4 billion
- Early retirement due to stress burnout is increasing, particularly in the public sector
  - The HSE are now planning to include stress at work in risk assessment and legislation
- 75% of GP visits present with at least one form of psycho-social problem

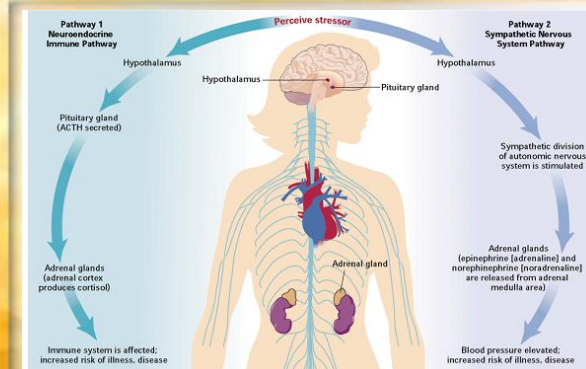
## Stress: General Adaptation Syndrome



## Stress: General Adaptation Syndrome

- General Adaptation Syndrome (GAS) Selye's term for the common effects on the body when demands are placed on it. The GAS consists of three stages: 1) alarm, 2) resistance, and 3) exhaustion.
- In the first phase, the organism becomes mobilized to meet the threat. In the second stage, the organism tries to cope with the threat, and in the third stage, the organism has depleted its physiological resources from trying to cope with the stressor.
- Hans Selye - exposed rats to prolonged stressors cold, fatigue, etc.. and found that all stressors, of whatever type, produced the same pattern of responding....
- He therefore surmised that an organism, when confronted with a stressor, responds in a way that is nonspecific. Overtime, if the person is continually confronted with stressors, there will be wear and tear on the system.

## Biological Pathways to Stress Alarm Stage



## Stress Responses

- Alarm stage
  - Fight or flight (Cannon, 1932)
  - Tend and befriend (Taylor, 2000)
    - Protect self and their young, form alliances



## Stress Responses

- Cognitive appraisal (Lazarus, 2000)
  - Primary appraisal
    - Do I perceive the event as
      - Harmful?
      - Threatening?
      - Challenging?
  - Secondary appraisal
    - What coping responses do I have available?

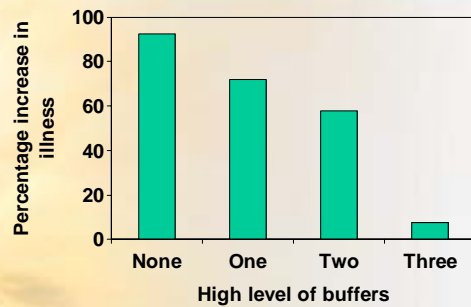
## Examples of cognitive traps

- All or nothing thinking
- Overgeneralisation
- Discounting the positive
- Jumping to conclusions
- Magnification
- Emotional reasoning
- “Should” and must statements
- Personalisation and blame

## Stress and Illness

- Immune System
  - Psychoneuroimmunology
  - Research that indicates immune system and stress are linked
    - Acute stressors: immunological changes
    - Chronic stressors: decreased immune system responsiveness
    - Positive social circumstances and low stress: increased ability to fight cancer

## Illness in High-Stress



The buffers were hardiness, exercise, and social support.  
Kobasa et al. (1985) High-stress business executives were above the stress mean for the entire year of the study.

## Stress and illness

- Life events
  - Social Readjustment Scale
    - Holmes and Rahe (1967)
    - Note whether stressful events occurred during the past 12 months
    - Predict likelihood of serious illness based on total life events score

## Stressful Life Events

1. Death of spouse	100
2. Jail sentence	80
=5. Death of close family member	63
=5. Final year at University	63
6. Severe personal injury or illness	60
7. Marriage	50
8. Losing job	47
9. Financial difficulties	45
12. Pregnancy	40
25. Outstanding personal achievement	28
32. Change in residence	20
31. Change in working hours or conditions	20
42. Christmas	12

Holmes & Rahe, 1967

## Stress - Daily hassles

- Daily hassles
  - Can create a highly stressful life
    - Example: tense job and living in poverty
  - Not on scales of major life events



## Daily Hassles / Stress

1. May have cumulative effect.
2. May influence major life events - illness connection by
  - a. Increasing stressfulness because of major life event.
  - b. Major life event may create increase in daily hassles.

## Stress: An everyday event

### Major stressors vs. routine hassles

- Cumulative nature of stress
- Cognitive appraisals

### Major types of stress

- **Frustration** – blocked goal
- **Conflict** – two or more incompatible motivations
  - Approach-approach, approach-avoidance, avoidance-avoidance
- **Change** – having to adapt
  - Holmes & Rahe – Social Readjustment Rating Scale – Life Change Units
- **Pressure** – expectations to behave in certain ways
  - Perform/conform

## Frustration

- Occurs in any situation where pursuit of a goal is thwarted
- Can't get what you want
- traffic jams to unrequited love
- Unrealistic expectations and frustration

## Conflicts

- Conflicts
  - Deciding between incompatible options
    - Approach/Approach
    - Avoidance/Avoidance
    - Approach/Avoidance

## Conflict

- **Approach-approach**
- choice between 2 attractive goals
- win-win situation
- least stressful

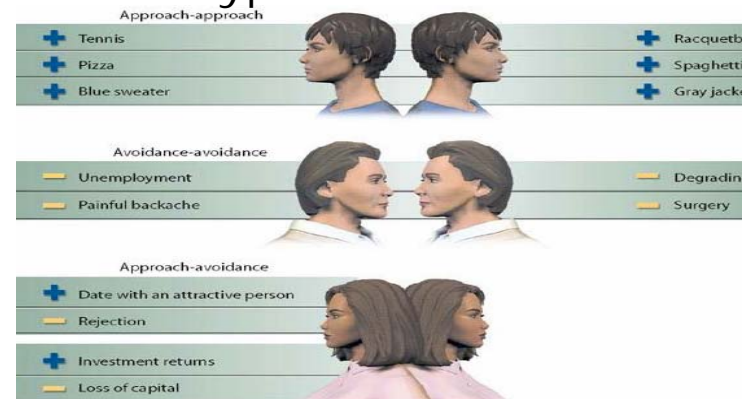
## Conflict

- **Avoidance-avoidance**
- choice between 2 undesirable goals
- lose-lose
- quit miserable job vs. unemployment
- highly stressful

## Conflict

- **Approach-avoidance**
- Choice to pursue a single goal that has both attractive and undesirable qualities
- Promotion = pay raise + increased responsibility
- produces *vacillation* - back and forth behavior, indecision

## Types of conflict



Three basic types of conflict. In approach-approach and avoidance-avoidance conflicts, a person is torn between two goals. In an approach-avoidance conflict, there is only one goal under consideration, but it has both positive and negative aspects.

## Change

- Any noticeable alterations in life circumstances that require readjustment
- not obviously negative events
- changes in relationships, work, finances, etc can be stressful, even when welcomed

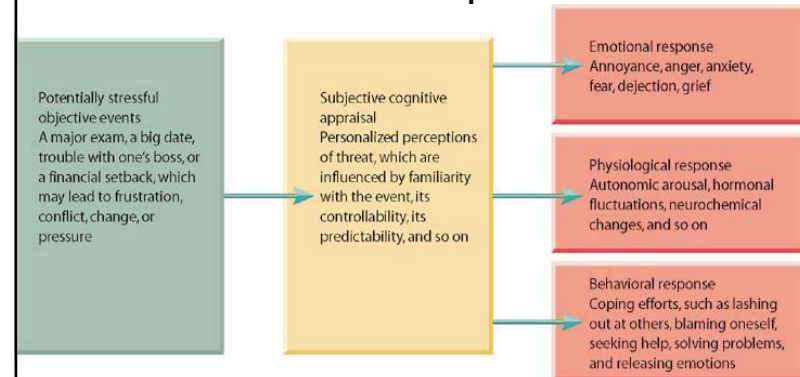
## Pressure

- Expectations or demands that one behave a certain way
- Pressure to succeed at work, to publish, to be cordial, etc
- Pressures to conform to expectations of self or others
- More strongly related to measures of mental health than SRRS and others

## Typical responses to chronic (negative) stress

- Physical responses – racing pulse
  - vague complaints, weight gain or loss, stooped posture, chronic fatigue, foot tapping, etc.
- Emotional responses – annoyance, anger
  - unexplained sadness or anger, easily distracted, daydreaming, frequent mood changes
- Behavioural responses – yelling, avoidance
  - explosive outbursts, impulsive actions, negative statements, cynical or hostile, self critical, chronic abuse of drugs, alcohol or tobacco

## The stress process



A potentially stressful event, such as a major exam, elicits a subjective appraisal of how threatening the event is. If the event is viewed with alarm, the stress may trigger emotional, psychological, and behavioural reactions, as people's response to stress is multidimensional.

## Emotional Responses

- More likely unpleasant than pleasant
- Associated with negative mood
- Dependent on cognitive appraisal
- Emotional response may be motivating (reinforcing, punishing)
- Extreme emotional arousal can interfere with coping and performance
- Common reactions include: annoyance, anger, rage, apprehension, anxiety, fear, dejection, sadness, grief, shame, envy, disgust, jealousy

## Responding to Stress Physiologically

- Fight-or-flight response
  - Physiological reaction to threat – a response to stress
  - Sympathetic nervous system (SNS) is aroused in preparation for action (attack or escape)
  - Holds evolutionary value but, today's value??
- Selye's General Adaptation Syndrome
  - A 3-stage reaction to stress:
    - Alarm
    - Resistance
    - Exhaustion

## General Adaptation Syndrome

- Hans Selye
- noticed that animal physiological responses to stress were similar regardless of stressor
- stress reactions are *non-specific*
- coined the term *stress*

## Behavioral Responses

- *Coping*: Active efforts to master, reduce, or tolerate demands created by stress
- may be positive or negative
- Individuals exhibit styles of coping that are consistent across situations

## Coping - Aggression

- *Frustration-aggression hypothesis*
  - not inevitable
  - context specific
  - displacement
  - catharsis

## Coping - Self Indulgence

- Excessive consummatory behavior
- shopping, smoking, drinking, eating, internet

## Defensive Coping

- *Defense mechanisms*: unconscious reactions that protect individual from adverse emotions (eg, anxiety, guilt)
- shield from stress-eliciting events
- self-deception, distortion of reality
- Commonly unhealthy - avoidant

## Adaptive/Constructive Coping

- Relatively healthy efforts that people make to deal with stressors**
- 1 Confronting problems directly
    - task relevant
    - action oriented
    - rational consideration of options

## Adaptive/Constructive Coping

- 2 Based on realistic appraisal of stress & coping resources
- 3 Recognising and inhibiting potentially disruptive emotional reactions

## Impact of Stress on Psychology

**Stressed?**



- Work-related stress
- *Burnout* - physical, mental, emotional exhaustion attributable to longer-term exposure to stressful situations
  - fatigue, weakness, low energy
  - negative attitudes towards self, others, work
  - hopeless, helpless

## Stress in the workplace

## Stress in the Workplace

**Occupational stress has been related to psychological distress and adverse health outcomes.**

## Stressful Job Factors

1. Physical, chemical & biological hazards.
2. Work overload
3. Work pressure
4. Responsibility for people
5. Role conflict & role ambiguity
6. Inability to develop satisfying social relationships at work
7. Perceived inadequate career development
8. Lack of control over work

## Unemployment

- ▶ Also related to poorer health!
- ▶ Financial Strain
- ▶ Instability

## Ways to Reduce Occupational Stress

1. Reduce physical stressors
2. Minimize unpredictability and ambiguity.
3. Involve workers in decision-making.
4. Make jobs as interesting as possible.
5. Promote social relationships.
6. Reward workers for good work.
7. Watch for signs of stress, boredom, hostility, and intervene.

## Work Stress and Families

**Factors protecting women from multiple role strain.**

1. Having control and flexibility over the work environment.
2. Having good income.
3. Having someone to help with the housework.
4. Having adequate child care
5. Getting help from one's husband.

## Multiple Roles for Men

- ▶ **Combined roles can be good for men's well-being too.**
- ▶ **There are risks of transmission of stress from workplace to home for men.**

## Stress Moderators

- Social Support
- students reporting greater social support had higher levels of antibody re: combat respiratory infections
- strength of relationship rivals cigarette-cancer relationship

## Stress Moderators

- *Optimism* - expectance of positive outcome
- related to lower incidence of illness and more effective immune functioning
- cope in more adaptive ways

## Coping Strategies

## Coping Strategies

- Problem-focused coping
- Emotion-focused coping
  - May be either adaptive or maladaptive



## Coping Strategies

- Optimism and positive thinking
  - Cognitive restructuring
  - Positive self-talk
  - Self-efficacy
  - Positive self-illusion

## Coping Strategies

- Social Support
  - Tangible assistance
  - Information (and knowing is less stressful than ignorance)
  - Emotional support



## Coping Strategies

- Four main ways to deal with conflict
  - Act aggressively
  - Act manipulatively
  - Act passively
  - Act assertively

## Coping Strategies

- Strategies for becoming more assertive
  - Set up a time for discussing what you want to discuss
  - State the problem in terms of its consequences for you
  - Express your feelings
  - Make your request

## Coping Strategies

- Why is religious commitment associated with better health?
  - Some provide health-related services
  - May promote healthier life style
  - Help people cope effectively with stress
  - Sponsor social connections

## Coping Strategies

- Stress management techniques
  - Meditation
  - Relaxation
  - Biofeedback

## Healthy Living

- The Big Four
  1. Exercise
  2. Diet
  3. Attitude and avoiding 'bad' stress
  4. Don't do things that are risky!

## Healthy Living: Exercise

- Exercising regularly
  - Aerobic exercise
  - If exercise enough to burn more than 2000 calories a week, reduce risk of heart attack by 66%
  - More realistic goal: exercise 30 minutes or more on most, preferably all days

## Moderate Physical Exercise

Walking, briskly (5 to 7 km/h)  
Cycling for pleasure or transportation (~~3~~ 16 km/h)  
Swimming, moderate effort  
Conditioning exercise, general calisthenics  
Racquet sports, table tennis  
Golf, pulling cart or carrying clubs  
Canoeing, leisurely (3 to 6 km/h)  
Home care, general cleaning

## Vigorous Physical Activity

Walking, briskly uphill or with a load  
Cycling, fast or racing (>16 km/h)  
Swimming, fast treading crawl  
Conditioning exercise, stair ergometer, ski machine  
Racquet sports, singles tennis, racquetball  
Golf, practice at driving range  
Canoeing, rapidly (~~3~~ 7 km/h)  
Moving furniture

## Healthy Living: Exercise

- Exercising regularly
  - Weight training
    - Can burn calories just as effectively as aerobic exercise
    - In the resting state, muscles burn more calories than fat does
    - Thrice a week adequate for substantial change

## Healthy Living: Exercise

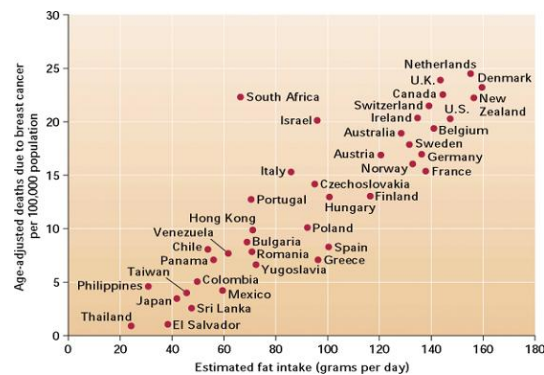
- Strategies for increasing exercise
  - Chart your progress
  - Make it something you enjoy doing
  - Learn more about exercise
  - Do it with someone!

## Healthy Living: Diet

- Eating healthily
  - Avoid junk food
- Negative effects of poor nutrition
  - Schooling
  - Diabetes
  - Cultural impact...



## Cross-Cultural Comparisons of Diet and Cancer

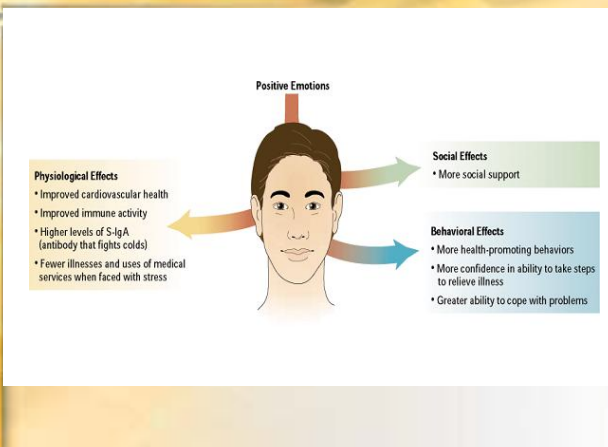


## Healthy Living: Attitude

Well established relationship between attitude and health:

*Positive Mental Attitude*

## Healthy Living: Attitude



## Healthy Living: Attitude

- Positive emotions, illness, and health
  - Placebo effect
    - de la Fuente-Fernandez et al. (2001)
    - Procedure: Injected Parkinson patients with apomorphine or placebo
    - Results: PET scans indicated that both groups showed a similar release of dopamine

## Healthy Living: Attitude

- Personal control
  - Learned helplessness: perceived lack of control
  - Rodin and Langer's (1977) study of elderly nursing home residents
    - If given more control, better overall health and less likely to die during next 18 months

## Healthy Living: Attitude

- Type A behavioural pattern - illness
  - excessively competitive, hard-driven, impatient, hostile
- Type B behavioural pattern - health
  - relaxed and easygoing

## Healthy Living: Attitude

- Hardiness
  - sense of commitment, control, and treating of problems as challenges
    - Correlated with better health, especially when combined with other factors
  - Individual differences based on culture, personality, appraisals, role models...

## Practice Essay Questions

- Describe some psychological evidence that is relevant to our understanding of the sources and causes of stress. Evaluate this evidence. Based on the above evidence, suggest a psychological programme to reduce the stress of examinations. Give reasons for your answer.
- (a) Outline one technique used to manage stress. (b) Evaluate the difficulties in measuring the effectiveness of stress management programmes.
- How can stress causes illness? Discuss both behavioural and physiological routes.
- Discuss and evaluate the impact of the main physiological and psychological reactions to stress.
- Critically evaluate the extent to which individual differences modify the effects of stressors.
- Discuss the main physiological and psychological reactions to stress. Are there any interactions between them?