

Module Overview

- What is stress
- The impact of stress on mental health and quality of life
- Biological, psychological and social aspects of stress
- Individual differences and stress
- The transaction model of stress
- Coping and mental health
- The psychology of wellbeing and resilience
- Wellbeing and resilience in applied contexts

Assessment

Assessment Component 1 – Individual presentation (10 minutes) – 50%: This assessment will expect students to create and deliver an individual presentation demonstrating their understanding of individual differences in stress and/or coping.

Assessment Component 2 – Reflective diary (2,000 words) – 50%: This assessment will enable students to demonstrate understanding of their own cognitive style and coping strategies and to reflect on their own ways of managing stress.

What is stress?

What is stress?

Homeostasis (Cannon, 1932) - Fight or flight response

General adaptation syndrome (Selye, 1956)

Distress (negative stress) vs eustress (positive stress)

Appraisal approach (Lazarus, 1993)

Diathesis-stress approach



What is stress?

"Stress is the constellation of cognitive, emotional, physiological, and behavioural reactions the organism experiences as it transacts with perceived threats and challenges" (Harrington, 2013, p. 8).

What is stress?

We need to consider what stress in relation to health.
E. g., key models: Biomedical and biopsychosocial (Engel, 1977)

World Health Organization:

"Health is a state of complete physical, mental and social well- being and not merely the absence of disease or infirmity." (WHO, 1946)

What is stress? – Biomedical Model



- Health is defined as the absence of disease
- Human body like an intricate machine
- Curative model – undermines prevention
- Fails to accommodate social causes of diseases
- Subjective perceptions of ill-health disregarded
- Medicine is a social enterprise closely linked with exercise of professional power

What is stress? – Biopsychosocial Model



- From disease to wellbeing
- Health is seen as a resource for everyday life
- Health is a positive concept emphasizing social and personal resources, as well as physical capacities
- Moving from viewing health as a state to a dynamic model (i.e. Salutogenic model)

What is stress?



Salutogenic model:

'Health is viewed in terms of resilience as the capability of individuals and communities to cope successfully in the case of significant adversity or risk' (Antonovsky, 1996)

"Health is not a condition that one introspectively feels in oneself. Rather, it is condition of being involved, of being in the world, of being together with one's fellow human beings, of active and rewarding engagement in one's everyday tasks." (Gadamer, 1986)

What is stress?

The salutogenic model is based on the premise that stress and difficulties are integral elements of human existence (Antonovsky, 1979).

What are the underlying origins of health rather than what are the underlying origins of disease?

What move individuals towards health-ease?

Sense of coherence

Sense of Coherence



We are coming to understand health not as the absence of disease, but rather as the process by which individuals maintain their sense of coherence (i.e. sense that life is comprehensible, manageable, and meaningful) and ability to function in the face of changes in themselves and their relationships with their environment.

— Aaron Antonovsky —

AE QUOTES

Sense of Coherence

Comprehensible
Life is predictable, understandable, and explainable

It makes sense to me

Manageable
Pursue and achieve objectives and resources

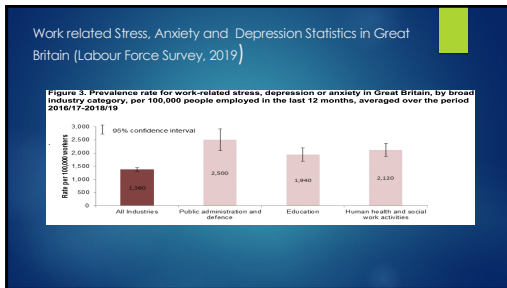
I focus what it takes to do this

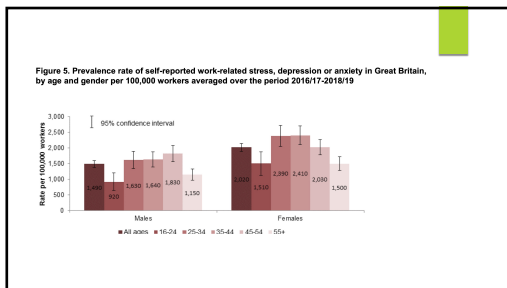
Meaningful
The world is worth it

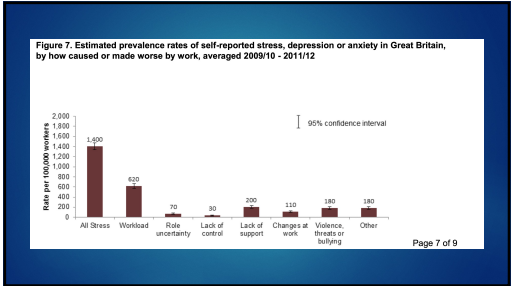
It's worth it

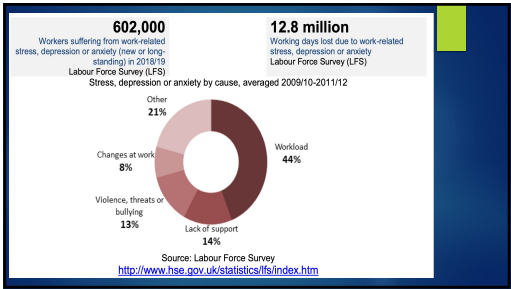
Antonovsky, A. (1979) Health, stress, and coping. San Francisco, CA: Jossey-Bass. 140







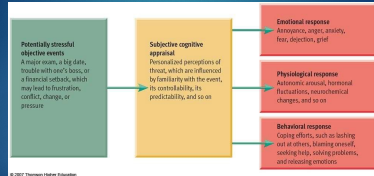




Conclusion

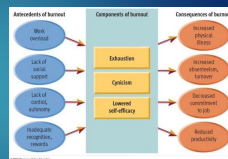
"Work-related stress, depression or anxiety continues to represent a significant ill health condition in the workforce of Great Britain. Work-related stress, depression or anxiety accounts for 44% of work-related ill health and 54% of working days lost, in 2018/19. The occupations and industries reporting the highest rates of work-related stress, depression or anxiety remain consistently in the health and public sectors of the economy. The reasons cited as causes of work-related stress are also consistent over time with workload, lack of managerial support and organisational change as the primary causative factors." (HSE, 2019, p. 8).

Overview of the Stress Process



Effects of stress: behavioral & psychological

- Impaired task performance
- Burnout
- Psychological problems and disorders
- Positive effects



Effects of stress: Physical

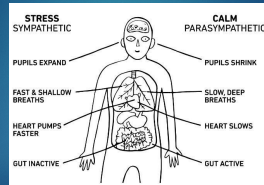
- Psychosomatic diseases
- Heart disease
 - Type A behavior - 3 elements
 - strong competitiveness
 - impatience and time urgency
 - anger and hostility
 - Emotional reactions and depression
- Stress and immune functioning
 - Reduced immune activity

Table 13.4 The Effects of Stress on the Immune System

Stressor	Effect on Immune System	Reference
Acute stress	Increases immune response	Wong, et al. (2000)
Chronic stress	Decreases immune response	Wong, et al. (2000)
Acute stress	Increases immune response	Wong, et al. (2000)
Chronic stress	Decreases immune response	Wong, et al. (2000)
Acute stress	Increases immune response	Wong, et al. (2000)
Chronic stress	Decreases immune response	Wong, et al. (2000)
Acute stress	Increases immune response	Wong, et al. (2000)
Chronic stress	Decreases immune response	Wong, et al. (2000)



Physiology of Stress



Physiology of Stress

Physiological Responses
 Fight-or-flight response
 Selye's General Adaptation Syndrome
 Alarm
 Resistance
 Exhaustion

Stress as a physiological response

'Fight or flight syndrome' (Cannon 1932): role of Sympathetic Nervous System

'General adaptation syndrome' (Selye 1974): a three-stage stress response:

- **Alarm reaction:** initial awareness of a stressor can cause a downturn in bodily defenses and blood pressure; heart rate may initially decrease before rising to higher than normal levels. Cannot be maintained for long periods.
- **Stage of resistance:** body tries to adapt to a stressor that has not subsided in spite of resistance efforts made during the alarm stage. Arousal reduces but is still higher than normal. Mobilisation of bodily defenses cannot last indefinitely without becoming vulnerable to illness.
- **Stage of exhaustion:** occurs if the resistance lasts too long, resulting in a depletion of bodily resources and energy. Ability to resist stress declines and a likelihood of 'diseases of adaptation' increases, such as cardiovascular disease, arthritis, asthma.

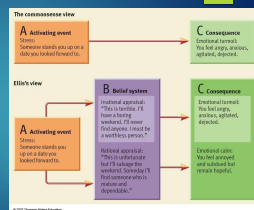
Physiology of Stress

Selye's 'non-specific' stress response unsupported by evidence of different responses to different stressor types, e.g. mental stress v. physical stress.

- role of sympathetic and parasympathetic nervous systems;
- role of adrenalin, noradrenalin (SNS) and acetylcholine (PNS);
- activation of the sympathetic-adrenomedullary (SAM) system;
- action of the hypothalamus and the hypothalamic-pituitary-adrenocortical (HPA) system.

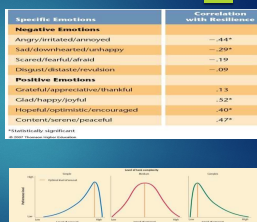
Stress & Health

- Behavioral Responses
 - Frustration-aggression hypothesis
 - catharsis
 - defense mechanisms
- Coping
 - Reappraisal
 - Confronting problems
 - Using humor
 - Expressing emotions
 - Managing hostility



Responding to Stress Emotionally

- Emotional Responses
 - Annoyance, anger, rage
 - Apprehension, anxiety, fear
 - Dejection, sadness, grief
 - Positive emotions
- Emotional response and performance
 - The inverted-U-hypothesis



Stressful Life Events

Event	LCU rating (1-100)
Death of a spouse	100
Divorce	73
Death of a close family member	63
Personal injury or illness	53
Marriage	50
Being fired from work	47
Retirement	39
Sex difficulties	38
Death of a close friend	37
Change to a different job	36
Foreclosure of mortgage or loan	30
San or daughter leaving home	29
Outstanding personal achievement	28
Begin or end school	26
Travels with loss	23
Change in residence	20
Change in social activities	18
Vacation	13
Christmas	12

Table 11.1 Representative life event items from the social readjustment rating scale and their LCUs
(Source: Holmes and Rahe, 1967)

Stress as a stimulus

A stressful event!

• **Catastrophic events** : earthquakes, floods, plane crashes

• **Major life events**: losing one's job, starting a new job, getting married or divorced, giving birth, being bereaved, going on holiday,

- Life events theory (Holmes and Rahe 1967) measures stress of events in terms of life change units (LCU), i.e. average weighted value of the extent of adjustment the event demanded of individuals.

• **Hassles and uplifts**: minor, everyday events and transactions that cause demands (e.g. deadlines), counter-balanced by enjoyable events and transactions (e.g. good conversation) (Kanner et al. 1981).

Life events theory: limitations

- LCU assigned regardless of desirability of event.
- Age bias in likelihood of life event experience.
 - e.g. childbirth, divorce, etc.
- Events may simply not occur.
 - i.e. low frequency
- Intertwined life events may cancel out a LCU.
 - e.g. new job and move house
- It fails to address the moderators of stress.
 - e.g. individual appraisal of events

Stress and immune function dysregulation

Alterations or declines in immune function are frequently associated with the experience of stressful life events.

The immune system is the body's defence against disease.

Immune function declines with age, stress can exaggerate the effects of aging on immune competence.

Humoral immunity: B cells	Cell-mediated immunity: T cells
Operate in the bloodstream Work by releasing antibodies, which then destroy the antigen Include memory cells	Operate at level of the cell Include memory, killer (NK), helper (CD4+) and suppressor T cells Mature in the thymus and not the bone marrow as other white blood cells do

Table 11.4 Specific immunity and cell types

Stress and illness link

The direct route

Stress can produce physiological changes that may lead to the development of illness, particularly in instances where the stress is chronic.

The indirect routes

- (a) People, by virtue of their behavioural responses to stress such as smoking, eating habits and drinking, predispose themselves to disease.
- (b) People, by virtue of certain personality traits, predispose themselves to disease by the manner in which they respond to stress.
- (c) People experiencing stress are more likely to use health services than people who are not under stress. Stress can produce symptoms such as anxiety, fatigue, insomnia and shakiness, which people seek treatment for but which aren't themselves illnesses.

Stress & Illness

- **Stress and the common cold:** the common cold virus (submitted via nasal sprays) was more likely to develop in those who report more chronic life events, perceived stress, negative affect and poor coping (Cohen, 2005).
- **Stress and cancer:** stress may affect tumour cell mutation by slowing down the cell repair process (Rosch, 1996). Mixed evidence of stressful events and cancer recurrence (Graham *et al.* 2002; Palesh *et al.* 2007).
- **Stress and bowel disease:** symptoms of irritable bowel syndrome and inflammatory bowel disease increase during stressful episodes such as pain or diarrhoea (Naliboff *et al.* 1998; Duffy *et al.* 1991).
- **Stress and HIV:** stress may increase speed of symptom onset in HIV+ individuals via effect on NK cells. Depression may affect CD4+ cell count and progression to AIDS (Burack *et al.* 1993; Page-Shafer *et al.*, 1996).

Stress and coronary heart disease

- A cross-cultural study of 11,000 heart attack survivors and 13,000 control reported home, work, financial and major life stress were significantly associated with heart attack (Rosengren *et al.* 2004).
- An acute stressor (i.e. anger outburst, depressive episode) may trigger the rupture of atherosclerotic plaques, disrupting blood flow and cause heart attack or stroke (Sheps 2007).
- Ambulatory blood pressure was significantly higher in workers of high job strain than in those with lower strain (Clays *et al.* 2007).
- The need to distinguish between role of stress in **triggering** or **maintaining** 'indirect' risk behaviours of CHD (e.g., smoking and arterial disease).



Personality & Stress

- **Personality:** overall enduring pattern of thoughts, emotions and behaviours that characterized an individual.
- **Personality traits:** particular characteristics or structural elements of personality that predispose a person to respond in certain ways.
- **Personality type:** a collection of personality traits which occur together consistently.

Stress, Personality and Illness

There are various possible models of association between personality variables and health and illness:

Personality may promote unhealthy behaviours predictive of disease (e.g., smoking) – an indirect link on disease risk.

Personality may indirectly influence illness progression or outcome by influencing individual appraisals.

Personality may be predictive of disease via 'disease-prone personality' – stems from psychosomatic tradition.

Personality traits may predispose to specific illnesses (Type A behaviour and CHD) – physiological, e.g., angry personalities may be more physiologically stress-reactive.

Personality and illness

Neuroticism

- Related to attention to internal states and increased somatic complaints;
- Related to negative affectivity which reflects a generally negative outlook. Associated with subjective, rather than objective, illness experience.

Optimism

- Reflects a positive outlook and positive outcome expectancies;
- Significantly associated with coping, reduced symptom reporting, reduced negative mood or depression and increased well-being;
- Influences appraisals, making problem-focused coping more likely.

Hardiness

- Arises from rich, varied and rewarding childhood experiences;
- Manifest in feelings of commitment, control and challenge;
- Thought to 'buffer' the experience of stress, but evidence is mixed.

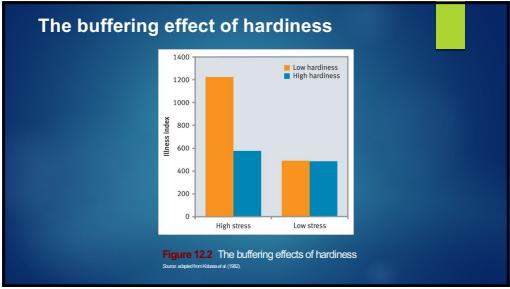
Grand Challenges for Personality and Social Psychology: Moving beyond the Replication Crisis

Andreas Barth¹ and Marcel Zentgraf²

¹Department of Psychology, Royal Holloway, University of London, London, United Kingdom
²Department of Psychology, University of Innsbruck, Innsbruck, Austria

The replication crisis has shaken the field of personality and social psychology in the past few years, after finding out that well-known effects that we have taken for granted failed to replicate (see, e.g., Hare et al., 2015). This has happened partly due to reliance on flawed research conduct, such as conflicting experiments and contradictory statistical tests (e.g., Vianen et al., 2015), but each conduct was not created in a vacuum. It has arisen under pressure to show surprising, non-redundant findings as a requirement for publication in highly selective journals in the quest for career survival and progression. Much has been written about solutions that would ensure that future research is replicable and reproducible (e.g., Preiser and Vianen, 2014; Nisak et al., 2015; Hameed et al., 2015), including in our journal (e.g., Barrett and Barry, 2015) and in the current Research Topic on 'Grand Challenges in Psychology' (Glick et al., 2015). Things are still changing rapidly, with recent solutions already being questioned (e.g., pre-registration practices, see Vickers and Vickers, 2015). We therefore do not wish to re-hash what has been written so elegantly by others (e.g., Stevens, 2015). Instead, we only wish to highlight a few ways in which publishing in Frontiers can help overcome this crisis and we here move on to discuss research avenues that we believe would particularly enhance knowledge and understanding in personality and social psychology.

<https://www.frontiersin.org/articles/10.3389/fpsyg.2017.02048/full>



Type A behaviour (TAB): coronaryheart disease

TAB is a multidimensional concept combining action and emotion and is manifest in individuals showing the following (Friedman & Rosenman 1959, 1974; Rosenman 1978):

- Competitiveness
- Time-urgent behaviours (trying to do too much in too little time)
- Easily annoyed/aroused hostility and anger
- Impatience
- Achievement-oriented behaviour
- Avigorous speech pattern

Personality and illness

Anger-hostility:
Hostility an important predictor of illness.

Hostile individuals are likely to:

- engage in health-risk behaviour
- have lower capacity to benefit from psychosocial resources
- be more stress-reactive



Personality and illness

Type C personality (Temoshok & Fox, 1984; Temoshok, 1987)

- cooperative and appeasing
- compliant and passive
- stoic
- unassertive and self-sacrificing
- tendency to inhibit negative emotions, particularly anger

Type C personality types was found to have an elevated cancer risk but evidence is mixed.

Type D personality (Denollet & Potter, 1992; Denollet, 1998)

A 'distressed' personality with high negative affectivity and social inhibition. Limited research but suggested links with increased mortality following a heart attack/cardiac event, even when controlling for biomedical risk factors.

Stress and cognitions: perceived control

Locus of Control (Rotter, 1966); Health Locus of Control (Walston et al. 1978) - Various types of control have been described:

Behavioural: belief that one can perform behaviours to reduce the negative impact of a stressor (e.g. using breathing techniques during a painful event).

Cognitive: belief that one has certain thought processes or strategies available that would reduce the negative impact of stressor (e.g. distracting oneself from pain by focusing on pleasant thoughts).

Decisional: having opportunity to choose between options (e.g. having anaesthetic prior to a tooth extraction or not).

Stress and cognitions: perceived control

• **Informational:** opportunity to find out about the stressor, i.e. the what, why, when, where, likely outcomes, possibilities, etc.

• **Retrospective:** attributions of cause or control over an event made after it happens: i.e. searching for event meaning can give sense of order in life; e.g. blaming a birth defect on a defective gene (internal) may be more adaptive than attributing blame externally, although this is not clear-cut.
