

Behavioral Sciences

MD 3

# Behavioral sciences

Psychological  
health and testing

# Psychological health and testing

## Learning Objectives

- ☐☐ Answer questions about stress and how it affects the body
- ☐☐ Demonstrate understanding of how to calculate intelligence testing
- ☐☐ Demonstrate understanding of the various types of personality testing

# Psychological health and testing

## **STRESS**

- Physiologic changes in response to stress include key stress response pathway: hypothalamic-pituitary-adrenal axis.
- Cortisol levels rise, then fall, within 24 hours after stressor.
- Cortisol levels spike again 48–72 hours after stressor.

# Psychological health and testing

- Mood issues including anger, depression, irritability
- Lack of energy, concentration problems, sleeping issues, headaches
- Mental issues including anxiety disorders and panic attacks
- Increased blood pressure, increased heart rate, higher cholesterol
- Risk of heart attack
- In the immune system, reduced ability to fight and recover from illness
- Stomach cramps, reflux, and nausea
- Loss of libido, lower sperm production for men
- Increased period pain for women
- Aches and pains in the joint and muscles
- Decreased bone density

# Psychological health and testing

## **Type A and B Personalities**

**Type A** personality is a cluster of behavioral traits that has been associated with increased prevalence and incidence of coronary heart disease.

- Tends to be impatient, competitive, preoccupied with deadlines, and highly involved with work
- Key component of type A behavior: how they handle hostility
- Has increased incidence of coronary heart disease, even after controlling for the major risk factors (systolic blood pressure, cigarette
- smoking,
- cholesterol)
- If they survive a first heart attack, less likely than type B to have a second attack

**Type B** personality lives at lower stress levels. When faced with competition, they do not mind losing.

# Psychological health and testing

## Stress and Illness

- Mentally healthy individuals do not deteriorate in physical health as quickly as do those in poor mental health. Chronic anxiety, depression, and emotional maladjustment predict negative health events later in life.
- The Holmes and Rahe scale is used to quantify stressful life events.
- Different life events contribute different weightings to the total score.
- The death of a spouse is weighed as the most stressful event.
- There is a positive correlation between stressful life events and developing illness.

# Psychological health and testing

Death of spouse 100

Divorce 73

Marital separation from mate 65

Detention in jail or other institution 63

Death of a close family member 63

Major personal injury or illness 53

Marriage 50

Being fired at work 47

Marital reconciliation 45

Retirement from work 45

Major change in the health or behaviour of a family member 44

Pregnancy 40

Sexual difficulties 39



# Psychological health and testing

• Gaining a new family member (birth, adoption, older adult moving in, etc.)	39
• Major business adjustment	39
• Major change in financial state (a lot worse or better than usual)	38
• Death of a close friend	37
• Changing to a different line of work	36
• Major change in number of arguments with spouse (a lot more or less)	35
• Taking on a mortgage (for home, business)	31
• Foreclosure on a mortgage or loan	30
• Major change in responsibilities at work (promotion, demotion)	29
• Son or daughter leaving home (marriage, college, military)	29
• In-law troubles	29
• Outstanding personal achievement	28
• Spouse beginning or ceasing work outside the home	26
• Beginning or ceasing formal schooling	26
• Major change in living conditions (new home, remodelling, deterioration, etc.)	25

# Psychological health and testing

- Revision of personal habits (dress, associations, qui smoking etc. 24
- Troubles with the boss 23
- Major changes in working hours or conditions 20
- Changes in residence 20
- Changing to a new school 20
- Major change in usual type and/or amount of recreation 19
- Major change in church activity (a lot more or less) 19
- Major change in social activities (clubs, movies, visiting) 18
- Taking on a loan (car, TV, freezer) 17
- Major change in sleeping habits (a lot more or less) 16
- Major change in number of family get-togethers (a lot mor or less) 15
- Major change in eating habits (a lot more or less, eating hours surroundings) 15
- Vacation 13
- Major holidays 12
- Minor violations of the law (traffic ticket, jaywalking) 11

# Psychological health and testing

To find your score, add up all your points:

**<150 points:** relatively low amount of life change and low susceptibility to stress-induced health problems

**150–300 points:** 50% chance of a major stress-induced health problem in next 2 years

**>300 points:** odds increase to 80% chance of a major stress-induced health problem in next 2 years

# Psychological health and testing

## TESTING

### Intelligence Testing

- Intelligence quotient (IQ) is a general estimate of the functional capacity of a person; 70% is inherited, with recent studies suggesting it is mostly from the mother. IQ is not an absolute score, but a comparison among people. Distribution mean is 100, and standard deviation is 15.

To calculate IQ, use the following:

- **Mental age (MA)** method:  $IQ = MA/CA \text{ (chronological age)} \times 100$
- **Deviation from the norm** method: mean IQ = 100 and SD = 15

Intellectual disability <2 SD below the mean

There are several commonly used IQ tests:

- Wechsler Adult Intelligence Scale, Revised (WAIS-R): for adults age  $\geq 17$
- Wechsler Intelligence Scale for Children, Revised (WISC-R): for children age 6–17
- Wechsler Preschool and Primary Scale of Intelligence (WPPSI): for children age 4–6
- Stanford-Binet Scale: for children age 2–18

# Psychological health and testing

<69 Intellectual disability About 2.5% of population

70–79 Borderline

80–89 Low average

90–109 Average About 50% of population

110–119 High average

120–129 Superior

>130 Very superior About 2.5% of population

# Psychological health and testing

## Personality Testing

- **Objective tests** have the following features:
- Utilize simple stimuli (usually questions)
- Have a restricted range of possible responses (choose from provided options)
- Scored mechanistically using scoring key
- Require no clinical experience to score

In **criterion-referenced tests**, results are given meaning by comparing them with a preset standard: “Every student who scores above 75% will pass.”

In **norm-referenced tests**, results are given meaning by comparing them with a normative group: classic example is Minnesota Multiphasic Personality Inventory (MMPI-2), with >550 T/F questions, a validity scale, and a lie scale.

# Psychological health and testing

**Projective tests** utilize ambiguous stimuli and have a wide range of possible responses. Response meaning is interpreted by clinical correlation between collected cases of responses and personal characteristics (psychopathologies); tests are scored by experienced clinicians using consensual standards.

- **Rorschach inkblot test:** patient is asked to look at an inkblot and report what is seen
- **Thematic apperception test (TAT):** patient is asked to tell a story about what is going on in the picture
- **Sentence completion test:** patient is asked to complete a set of sentence stems with the first thing that comes to mind
- **Projective drawings:** patient is given a sheet of paper and asked to draw a house, a tree, a person, a family, etc. (very useful for children, who are unlikely to be able to realistically complete any other personality test)

# Psychological health and testing

- Most stressful life event?
- Second most Stressful life event?



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