

## Stress: Research and Phenomenon



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## Measuring Stress

- Stress has been measured both in laboratory and naturalistic setting
- Using both physiological measures and self-report
- Different setting → different costs and benefits

## Laboratory Setting

- Use the acute stress paradigm to assess stress reactivity and response
  - Ask participants to complete a stressful task → intelligence test, math task, giving public talk, watching horror movie, expose them to unpleasant events (loud noise, white light)
- Enabled researchers to study gender differences in stress reactivity, interrelationship between acute and chronic stress, the role of personality in stress response and impact of exercise on mediating stress-related changes (Pike et al., 1997; Stoney and Finney, 2000)

## Naturalistic Setting

- In a more naturalistic environment
  - Measuring stress responses to specific events → public performance, before and after exam, during job interview, or while undergoing physical activity
  - Measuring the impact of ongoing stressors → work-related stress, normal 'daily hassles', poverty or marriage conflicts
- Provide important information on how people react to both acute and chronic stress in their everyday lives.

## Costs and Benefits

- The degree of stressors in lab setting can be controlled → therefore, different response can be attributed to aspects of individuals (rather than to the stressor itself)
- Researchers can artificially manipulate aspects of stressors in lab setting → related with changes in physiological and psychological measurements

- Lab researchers can artificially manipulate mediating variables → control and presence or absence of social support to assess their impact on the stress response
- The lab is an artificial environment → produce a stress response that differ from natural environment
- Naturalistic → allow researchers to study real stress and how they really cope

- Many uncontrolled variables that need to be measured → for the analysis



## Physiological Measures

- Mostly used in the lab → participants being attached to monitors or having fluid samples taken
- To assess stress reactivity → use polygraph to measure heart rate, respiration rate, blood pressure, and galvanic skin response (GSR), which is affected by sweating
- Take blood, urine or saliva samples → changes in catecholamine and cortisol

- Galvanic skin response (GSR)
- Catecholamine
- Cortisol

## Self-report Measures

- To assess both chronic and acute stress
- Focuses:
  - Life events → Social Readjustment Rating Scale (SRRS; Holmes & Rahe, 1967)
  - Individual's own perception of stress → perceived stress scale (PSS; Cohen et al, 1983)
  - Minor stressors in the form of 'daily hassles' (Kanner et al, 1981)

- Used to describe the environmental factors on stress → stress as the outcome variable
  - Poor working environment causes high stress
- Explore the impact of stress on the individual's health status → stress as the input variable
  - High stress causes poor health

## Cost and Benefits

- Both measurements are used to complement each other → physiological emphasis and psychological perspective
- The costs and benefits:
  - Physiological → more objective, less affected by participant's wish to give a desirable response or researcher's wish of result
  - Self-report → reflect individual's experience of stress, not just what their body is doing

- Self-report → can be influenced by problems with recall, social desirability, and different interpretation of the questions
- Self-report → based on life events or hassles that have been chosen by the author of the questionnaire → different interpretation



## Lab VS Naturalistic

- Lab is artificial, while real-life setting is uncontrolled.
- Johnston and colleagues (Anastasiades et al, 1990; Johnston et al, 1990, 1994) concluded that physiological measures at lab setting concord if:
  - The field measure is taken continuously
  - The analysis take into account physical activity levels (as this produce a similar response to the stressor)

- When the lab task involves active coping, such as video game - rather than a passive coping task, such as cold pressor task
- Important key to congruent is Appraisal.
  - Higher congruence is apparent when the stressors selected are appraised as stressful by the individual (rather than the researcher)
    - indicates that lab assessment may bear some resemblance to real-life stress