Measures of stress

Lesson 5.4.2 | Health psychology

Core ideas

Stress can be measured through self-report questionnaires, interviews, diaries, life-event scales, daily-hassle scales and physiological measures.

Self-report measures can show how stressful a person feels an event is, but answers may be affected by memory, honesty and interpretation.

Life-event scales estimate stress from major changes, but the same event can have different meanings for different people.

Daily-hassle measures can capture repeated everyday pressures that may be missed by only counting major life events.

Physiological measures such as heart rate, blood pressure, skin conductance and cortisol can provide biological evidence of arousal.

No single stress measure is perfect, so researchers often combine methods to compare subjective experience with bodily response.

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Key terms

Self-report measure: A measure based on what a person says about their own stress.

Life-event scale: A checklist or rating method for major changes that may create stress.

Daily-hassle scale: A measure of repeated everyday irritations and demands.

Stress diary: A record of stressful events, feelings and responses over time.

Physiological measure: A bodily measure used as evidence of stress or arousal.

Heart rate: The number of heart beats per minute, often higher during arousal.

Cortisol: A hormone linked with HPA-axis stress activity.

Skin conductance: A measure of sweat-related electrical activity in the skin, often linked with arousal.

Further detail and evidence

Heart rate is relatively objective but responds to exercise, caffeine and illness as well as stress. fMRI measures physiological brain signals, not thoughts directly. Wang et al. (2005) induced stress with monitored mental arithmetic and combined perfusion MRI, subjective ratings, heart rate and salivary cortisol.

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Continued

Wang found stress-related cerebral blood-flow patterns, including right prefrontal activity related to reported stress. Combining physiological and subjective measures supports convergent evidence, while an artificial task may differ from chronic daily pressure.

Evans and Wener (2007) studied 139 rush-hour train commuters using salivary cortisol, self-report and proofreading performance. Nearby seat density, rather than whole-car density, was associated with adverse stress indicators. Do not substitute their separate 2006 commuting-duration study. A later corrigendum corrected Table 1 formatting.

Psychological measures include Type A questionnaires and life-event scales. They are standardised and economical but subjective. A numerical questionnaire score is quantitative data without becoming an objective hormone measure.

Applying the ideas

To assess commuting stress, take cortisol samples at standardised times and compare with an appropriate baseline, since hormone levels vary naturally. Record local seating conditions, not merely the number in the carriage. A questionnaire can add perceived control and personal meaning.

Evaluation and connections

Physiology can be recorded reproducibly yet lacks complete specificity for stress. Self-reports provide experience but are affected by recall and expectations. Multiple methods strengthen interpretation when their limits are recognised. A natural commute improves realism but leaves participant and journey differences uncontrolled.