

Psychological, Social, and Biological Foundations of Behavior Sample Paper

2

Passage I (Questions 1–5)

Researchers examine the relationship between socioeconomic status (SES), chronic stress, and health outcomes in a longitudinal cohort of adults. Participants complete annual surveys assessing perceived stress, allostatic load biomarkers (cortisol, blood pressure, inflammatory markers), and self-rated health. Neighborhood-level disadvantage is quantified using census data on poverty, unemployment, and housing quality. Structural equation modeling is used to test whether allostatic load mediates the association between low SES and poorer self-rated health.

A secondary analysis explores whether the strength of the SES–health link differs by perceived social support.

Question 1

Allostatic load is best defined as:

- a) The immediate fight-or-flight response to an acute stressor
- b) The cumulative physiological wear and tear resulting from chronic stress
- c) A genetic predisposition to cardiovascular disease
- d) The subjective feeling of being overwhelmed

Correct Answer: b) The cumulative physiological wear and tear resulting from chronic stress

Explanation:

Allostatic load quantifies the long-term cost of repeated or prolonged activation of stress-response systems.

Question 2

If the structural equation model shows that the direct path from SES to health becomes non-significant after including allostatic load, this pattern is consistent with:

- a) Moderation
- b) Mediation
- c) Spurious correlation
- d) Reverse causation

Correct Answer: b) Mediation

Explanation:

A significant indirect path through the mediator together with a reduced direct path supports mediation.

Question 3

Neighborhood disadvantage is an example of:

- a) An individual-level psychological variable
- b) A structural (macro-level) social factor
- c) A purely genetic risk factor
- d) A laboratory-induced stressor

Correct Answer: b) A structural (macro-level) social factor

Explanation:

Census-derived neighborhood indicators reflect broader social and economic structures that shape individual health.

Question 4

High perceived social support is hypothesized to buffer the negative effects of low SES. This hypothesis describes:

- a) A main effect of support
- b) A statistical interaction (moderation)
- c) A suppressor effect

d) Measurement error

Correct Answer: b) A statistical interaction (moderation)

Explanation:

A buffer hypothesis predicts that the slope relating SES to health differs according to the level of social support—an interaction.

Question 5

The use of annual repeated measures allows the investigators to:

- a) Establish definitive causal direction in a single wave of data
- b) Examine within-person change over time
- c) Eliminate all confounding variables
- d) Replace self-report with objective biomarkers exclusively

Correct Answer: b) Examine within-person change over time

Explanation:

Longitudinal designs permit analysis of individual trajectories and temporal precedence.

Independent Questions (Questions 6–9)

Question 6

Which of the following is a core feature of the dramaturgical approach in sociology?

- a) Class conflict as the driver of historical change
- b) The presentation of self in everyday life through front-stage and back-stage behavior
- c) The collective unconscious shared by all humans
- d) The iron cage of rationalization

Correct Answer: b) The presentation of self in everyday life through front-stage and back-stage behavior

Explanation:

Erving Goffman's dramaturgical perspective analyzes social interaction as theatrical performance.

Question 7

In classical conditioning, the neutral stimulus becomes a conditioned stimulus when it is:

- a) Presented after the unconditioned response
- b) Repeatedly paired with an unconditioned stimulus
- c) Delivered on a variable-ratio schedule
- d) Associated with negative reinforcement

Correct Answer: b) Repeatedly paired with an unconditioned stimulus

Explanation:

Contiguous pairing of the neutral stimulus with the unconditioned stimulus produces the conditioned response.

Question 8

Stereotype threat is most likely to impair performance when:

- a) An individual is unaware of any group stereotype
- b) A negative stereotype about one's group is made salient in a high-stakes testing situation
- c) The individual belongs to the majority group
- d) The task is extremely easy

Correct Answer: b) A negative stereotype about one's group is made salient in a high-stakes testing situation

Explanation:

Stereotype threat arises when individuals fear confirming a negative group stereotype, especially under evaluative pressure.

Question 9

The demographic transition model describes the shift from:

- a) High birth and death rates to low birth and death rates as a society industrializes
- b) Rural to exclusively urban residence
- c) Agricultural to service-sector employment only
- d) Extended to nuclear family structures exclusively

Correct Answer: a) High birth and death rates to low birth and death rates as a society industrializes

Explanation:

The classic demographic transition traces the decline in mortality followed by fertility as societies modernize.