10.1 Stress, arousal, anxiety and coping

Name: _____ Class: _____ Date: _____ **Total: 17 marks**

KEY WORDS stress • arousal • state anxiety • somatic anxiety • catastrophe theory • coping

Objective

Build the skills to answer exam questions on **stress** , **arousal** , **anxiety** and **coping** , and how they affect performance.

You must be able to:

- describe the transactional model of stress and the stress response
- compare theories of arousal and performance
- distinguish state and trait, and cognitive and somatic anxiety
- compare problem-focused, emotion-focused and avoidance coping

1 Key knowledge and worked examples

Stress, arousal and anxiety

Stress arises when a person sees an **imbalance** between the demands of a situation and their resources to cope. In the **transactional model** (Lazarus), **primary appraisal** asks "is this a threat (or a challenge)?" and **secondary appraisal** asks "can I cope?". The same event (a final) can be a threat to one athlete and a challenge to another.

Stress response: the **sympathetic** nervous system and **adrenaline** give a fast response (heart rate, breathing, sweating up); the slower **HPA axis** releases **cortisol**.

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Arousal is a general state of physical and mental activation, from deep sleep to high excitement.

theory	shape	key idea
drive theory	straight line up	more arousal → more of the dominant response: good for experts, bad for beginners
inverted-U	rises then falls	best at moderate arousal; lower optimum for complex, fine skills and beginners
catastrophe theory	sudden drop	if cognitive anxiety is high, beyond the peak performance collapses and does not recover easily
IZOF	individual zone	each athlete has their own zone of best arousal

Anxiety is a negative emotional state with worry and nervousness. **Trait** anxiety: a general tendency to feel anxious; **state** anxiety: anxiety in the moment. **Cognitive** anxiety: worry, negative thoughts; **somatic** anxiety: bodily signs (butterflies, sweating, tense muscles). Multidimensional anxiety theory: performance falls as cognitive anxiety rises, follows an inverted-U with somatic anxiety, and rises with self-confidence. Anxiety is measured with questionnaires (e.g. CSAI-2), physiological measures (heart rate, cortisol) or observation.

Coping: **problem-focused** (act on the cause: plan, practise, ask for help); **emotion-focused** (manage the feelings: relaxation, positive self-talk, reappraisal); **avoidance** (distraction, withdrawing: may help short term only). Chronic stress without recovery can lead to **burnout** (exhaustion, lower sense of achievement, devaluing the sport).

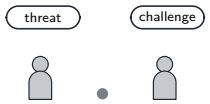
Answer shapes: name the theory, sketch or describe its shape, and apply it to the performer and the skill.

2 Practice

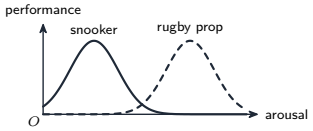
2.1 Distinguish between cognitive anxiety and somatic anxiety. [2]



2.2 Using the transactional model, explain why two players react differently to taking a penalty in a cup final. [3]



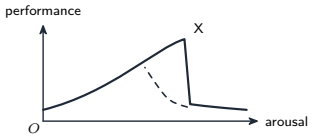
2.3 Using the inverted-U theory, explain why a snooker player and a rugby prop have different optimal levels of arousal. [3]



3 Exam-style questions

3.1 The graph shows catastrophe theory.

(a) Describe what happens to performance at point X. [2]



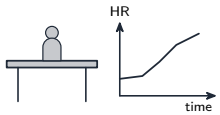
(b) Explain why lowering arousal a little may not bring performance back. [2]

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3.2 A gymnast feels very anxious before competitions.

(a) Outline **two** ways her anxiety could be measured. [2]

(b) Suggest **three** coping strategies she could use and classify each. [3]



Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

cognitive: the mental part: worry, negative thoughts, fear of failure; somatic: the physical signs: raised heart rate, sweating, butterflies, muscle tension

2.2

stress depends on appraisal, not the event itself; primary appraisal: one player sees the penalty as a threat, the other as a challenge; secondary appraisal: the confident player believes they have the skills to cope, so feels less stress

2.3

performance is best at a moderate, optimal arousal and falls if arousal is too low or too high; snooker is a fine, complex skill needing precise control and concentration, so the optimum is low; scrummaging is a gross, simple skill using large muscles and strength, so the optimum is high

3.1

(a) when cognitive anxiety is high and arousal passes the optimum; performance falls suddenly and sharply (a catastrophe), not gradually

(b) recovery needs arousal to fall well below the level where the drop happened (hysteresis); and cognitive anxiety must be reduced first, which takes time

3.2

(a) any two: questionnaire such as CSAI-2 / SCAT; physiological, e.g. heart rate, cortisol, sweat; observing behaviour

(b) any three, each classified: practise the routine in mock competitions (problem-focused); breathing / muscle relaxation (emotion-focused); positive self-talk or reappraising the competition as a challenge (emotion-focused); talking with a coach to make a plan (problem-focused); listening to music to distract (avoidance)

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