CHAPTER 12: Arousal, anxiety and aggression

Practice questions - text book page 154 - 155

1) Which of these is not a theory of arousal in sport?
   a. inverted U.
   b. excitement-arousal.
   c. drive.
   d. catastrophe.

Answer: b.
Explanation:
- Inverted U theory, Drive theory, Catastrophe theory are all accepted theories linking arousal to performance.

2) What are the two fundamental problems that bring aggression to sport?
   a. reinforcement and anxiety.
   b. anxiety and frustration.
   c. anxiety and fitness.
   d. reinforcement and frustration.

Answer: b.

3) In figure 12.11 two players clash during a game, but are not penalised for their actions as there was no intent to harm each other. What type of behaviour does the picture portray?
   a. hostile aggression.
   b. instrumental aggression.
   c. assertion.
   d. foul play.

Answer: c.
Explanation:
- Aggression is intent to harm outside the rules of the game, often referred to as foul play. Since there was no intent to harm, this is assertive behaviour.

4) Which one of the following is a good example of a performer controlling their emotions during physical activity?
   a. shouting at a team mate for playing poorly instrumental aggression.
   b. playing more aggressively because your team is losing.
   c. accepting a decision by the official which you think is wrong.
   d. only fouling when the referee is not looking.

Answer: c.
Explanation:
- Choices a, b, and d. are all aggressive patterns of behaviour, where choice c. shows control of emotion.

5) A thrower prepares for a qualifying competition, but suffers from stress and tries too hard and so performs badly. Which theory explains this behaviour?
   a. catastrophe theory.
   b. multi-dimensional anxiety theory.
   c. inverted U theory.
   d. drive theory.

Answer: a.
Explanation:
- The stress of the situation causes a loss of performance (the catastrophe).
- Drive theory states that if athlete is appropriately skilled then it will help him or her to perform well. In the inverted U theory as arousal increases performance increase up to a certain point (top of the inverted U).
- Multi-dimensional anxiety theory makes a series of predictions:
  - There will be a negative but linear relationship between cognitive anxiety and performance.
  - There will be an inverted U relationship between somatic anxiety and performance.
  - Somatic anxiety should decline once performance begins but cognitive anxiety may remain high if confidence is low.
6) The catastrophe theory is used to explain a golfer’s disastrous failure to win a match having been 3 strokes in the lead coming up to the last green. Explain this situation and why this theory might be useful in preventing a repetition. 4 marks

**Answer:**

- See figure Q12.1.
- This is an extension to the inverted U theory.
- In which during the performance of a skill, as arousal increases performance improves.
- Until an optimum arousal point at which performance is at its best.
- If arousal increases beyond this, performance levels start to fall.
- Until a point at which a drastic loss of form happens - this is the catastrophe.
- So, the golfer is getting excited at the thought of winning - this causes him to miss-hit important shots, and hence lose the match.
- The lesson to be learned is that he must use calming tactics to keep his arousal level below the catastrophe.
- Then he would be somewhere near his optimum point for best performance.

7) A number of PE students are attending trials at their chosen sport. Describe the Inverted U theory and explain how it might affect a student’s performance at the trials. 5 marks

**Answer:**

- See figure Q12.2.
- As arousal (or anxiety) increases, performance increases.
- There is an optimum arousal point at which the performance is best for this particular performer.
- This optimum level depends on the classification of the skill being performed (whether fine or gross, open or closed etc).
- And the habitual nature of the skill - how well learnt the skill.
- Once the optimum arousal level is exceeded, performance falls.
- The message is that if the student tries too hard (arousal too high), then he or she may not do as well as if he or she were to relax and focus at the optimum arousal level.

8) a) What is the difference between state and trait anxiety? 2 marks

**Answer:**

- **State**: feeling of apprehension or stress in a specific situation.
- **Trait**: general stress levels or innate anxiety, anxiety you take to all situations.

b) What coping strategies should the anxious performer draw upon? 5 marks

**Answer:**

5 marks for 5 of:

- Cognitive strategies, for example, imagery, mental rehearsal or selective attention.
- Positive thinking or negative thought stopping.
- Hypnotism.
- Somatic strategies, for example, relaxation.
- Or yoga.
- Attainable goal setting.
- Decreasing the perceived importance of the event.
- Raising self-efficacy or increasing confidence.
- Positive reinforcement.
- Give success.
- Attributional factors.
- Redefine success.
9) a) Discuss the possible relationships between anxiety and performance in sporting activities. 7 marks

**Answer:**

- Anxiety is an aspect of arousal (arousal is required or evident in most sport performance).
- Inverted U theory links arousal and performance in sport.

**Marks given for sketch graph (figure Q12.3) showing inverted U theory.**

- Showing low performance at low arousal.
- Showing high performance at medium arousal.
- Showing low performance at high arousal.
- Small amount of anxiety suggests that the performer is casual or inattentive, therefore unlikely to perform at his or her best (i.e. produce a low performance).
- High anxiety or arousal can cause over-excitement or disruption of concentration or attention or control.
- Moderate levels of anxiety or arousal is optimal and makes a performer ready for action.
- Differences depend on the type of activity, for example, high arousal may be required for contact games, and low arousal or calmness for gymnastics.
- Differences may also be due to the personality of the performer (for example, to perform well extroverts need high anxiety, and introverts need low arousal or anxiety).

- Drive theory (see figure Q12.4), mark given for linear relationship between arousal and performance.
- Drive theory (also called Hull’s theory) can explain what happens for simple skills.
- The more arousal, the better the performance.
- Performance can be explained by \( P = H \times D \) (performance = habit x drive).
- This means that the dominant response is accentuated by high arousal levels (the higher the arousal the better the performance).

b) High levels of arousal have often been linked with stress. Sketch a graph showing the relationship between the performance of a complex skill and level of arousal. 2 marks

**Answer:**

- See figure Q12.3 above for the inverted U graph.
- Inverted U shape.
- Optimum performance at moderate arousal levels.

**c) Add a second curve to your graph showing how the performance of a simple skill might be affected by arousal.** 2 marks

**Answer:**

- Graph in figure Q12.5 showing optimum performance at high arousal level (unbroken green line on graph).
- Or Drive theory, linear relationship between performance and arousal, or the higher the arousal the better the performance (dashed black line on graph).
10) With reference to sporting performance, explain how cognitive and somatic anxiety differ. 5 marks

**Answer:**

You must use a sporting example in your answer.

- **Cognitive anxiety** is a psychological response consisting of:
  - Worry.
  - Inability to concentrate.
  - Loss of attention.
  - Fear of failure.
  - For example, worry that a tennis opponent is a much better player than you.

- **Somatic anxiety** is a physiological response.
  - For example, before the tennis match begins:
    - Increased heart rate.
    - Adrenaline.
    - ‘Butterflies’.
    - Sweaty palms.
  - Cognitive anxiety may remain high during a performance.
  - The more you worry, the bigger the drop in performance.
  - Somatic anxiety should reduce once a performance begins.
  - The effects of somatic anxiety are similar to the inverted U.
  - As anxiety increases, performance improves - up to an optimum point.
  - After this point, further increase in anxiety will lead to reduced performance.

11) Discuss Hull’s drive theory and the inverted U hypothesis as explanations of the anxiety-performance relationship. 10 marks

**Answer:**

- **Hull’s Drive theory**, as illustrated in the graph in figure Q13.6, describes the simple situation where the higher the arousal level, the higher the achievement or performance level.
  - This theory applies to gross skills like weight lifting and sprinting.
  - The theory also states that the more arousal, the more likely that a well-learned skill (a dominant response) will be reproduced.
  - This means that older more deep-seated skills will tend to be produced when a person is very aroused rather than newer less well-learnt skills practised more recently.
  - The implication of this is that a highly aroused performer will need to focus very hard and direct his or her attention very strongly towards a desired response, particularly if this response includes recently learned elements.
  - Otherwise the state of arousal will cause the person to regress to an older, less desirable but dominant response.
  - This theory explains why in some sporting activities, a sportsperson who tries too hard (and who therefore is in a state of high arousal) fails to reproduce his or her best performance.

- **Inverted U theory**, as illustrated in the graph in figure Q13.7, there is an optimum arousal level. As arousal increases, performance increases up to a certain point, if aroused more than this, the performance will go down.
  - Optimum arousal depends on:
    - Type of activity, for example, gross skills (like weight lifting) require high arousal, whereas fine skills (like snooker) require low arousal.
    - The skill level of the performer, the more skilful the performer the higher the optimum arousal level could be.
    - The personality of the performer, in which the more extrovert the performer, the higher the arousal likely to have to be attained by the performer to produce optimum performance.
12) Under-arousal can lead to poor performance. Discuss methods an athlete could use to increase his or her level of arousal to optimal levels. 8 marks

Answer:

- The Inverted U theory (figure Q13.7) says that there will be an optimum arousal level at which performance will peak. Even slight under or over arousal can cause the individual to reduce performance, hence control of arousal will be very important to the top sportsman.
- The term ‘psyching-up’ describes the process of increasing arousal to higher levels.
- It is very important not to ‘over-psych’ since this will cause the athlete to reduce performance.
- Some sports and events will require very high arousal levels to achieve optimal performance. Weight-lifting and throwing events are in this category.
- But even these will require some control since ‘trying too hard’ can cause the fall off of performance indicated by the inverted U.
- Psyching-up can be achieved by self-talk – talking oneself into a state of high arousal – usually accompanied by marching or jumping about as the state of arousal is increased.
- If the sport is snooker, or darts, or a highly technical sport such as tennis, the degree of arousal will need to be reduced and calmness induced.
- This can be done using a process called ‘centring’ in which control of the diaphragm and deep breathing is used to reduce arousal and focus in on an appropriate technique.
- Progressive muscle relaxation (PMR) can be used to calm and reduce arousal in the performer. Here muscles are focussed on in rotation and forced to relax accompanied by deep breathing.
- Mental rehearsal or visualisation can be used to rehearse the precise maximum of arousal by thinking about the process rather than actually doing it.
- This has the effect of rehearsal of the process, including the sequences of muscle activation in which innervations of muscle will happen (the electrical signals will be sent through the nervous pathways from the brain and into the various bits of the body) but not quite at the threshold needed to actually do the activity. Arousal comes into this category and can be rehearsed.

13) a) What do we mean by the term aggression in sports psychology? Give an example from a sport or game which would illustrate your answer. 2 marks

Answer:

- Aggression is the intention or expectation to harm someone else outside the rules of the competition.
- For example, foul tackling where the intention is to injure the opponent rather than to prevent a goal.
- Spectator aggression - displaced from the action on the field, aggression between rival supporters.

b) Using examples from sport, briefly describe the differences between aggression and assertion? 2 marks

Answer:

- Aggression is the intent to hurt outside the rules of the game or sport.
- For example, foul tackling where the intention is to injure the opponent.
- Assertion is (goal directed) robust play within the rules of the game.
- Assertion could be described as instrumental aggression, channelled aggression, balanced tension.
- A suitable games example would be for legitimate yet hard or robust tackling, where the intention is to obtain the ball within the rules of the game.

c) Some team players display unwanted aggression. What are the possible causes of such aggression? 4 marks

Answer:

- Frustration or perceived unfairness.
- High level of competition or the importance of the event or expectations of victory.
- Losing a competition or a sense of failure or loss of self-esteem.
- An innate feeling which cannot be helped or is instinctive.
- Physical contact in the game.
- Influences outside the game.
14) Explain in detail what is meant by social learning when applied to aggression. How can aggressive tendencies be eliminated in a sports situation?

Answer:

6 marks for:
- Social learning is the observation and copying of others.
- If what is observed is reinforced, then it is more likely to be copied.
- It is more likely that the learner will copy others with high status.
- Media which highlight aggression make it seem normal or the expected thing in the situation.
- May be adopted by the performer to be accepted in a group or to avoid rejection from the group.
- Live aggression is more likely to be copied than aggression recorded and played back later.
- Aggression is more likely to be copied if male watches male (or female watches female) - similar role models.
- If the situation is realistic when modelled, then it is more likely to be copied.

6 marks for:
How can aggressive tendencies be eliminated in a sports situation:
- Positively reinforce non-aggressive behaviours.
- Give negative feedback to aggression.
- Punish.
- Remove the offending player from the aggressive situation.
- Suggest that the performer undertakes physical relaxation or control of arousal.
- Promote cognitive strategies or temper control.
- Give non-aggressive role models.

15) a) The aggressive cue hypothesis (Berkowitz 1969), is a theory which explains why aggression may be experienced by sports performers. Using an example from sport, describe the aggressive cue hypothesis.

Answer:
- Aggressive cue hypothesis theory (due to Berkowitz) suggests that frustration causes anger and arousal which creates a readiness for aggression.
- According to Berkowitz, the aggression itself must be initiated by an incident or stimuli that act as cues.
- The player would then associate the cues (a learnt response) with having to be aggressive.
- For example, a player sees a colleague fouled so decides to join in.
- It could be related to a specific playing venue.
- For example, an away venue (associated with previous aggressive incidents) could be the cue where aggressive incidents had previously occurred. This cue could increase players’ arousal levels that would most likely produce aggressive responses.

b) Using examples from sport, explain the frustration aggressive hypothesis.

Answer:
- Frustration aggressive hypothesis (after Dollard) states that aggression is caused by frustration.
- The aggression is the result of blocking, or frustrating, a person’s efforts to attain a goal.
- Sport is frustrating as one player (or team) is always trying to prevent the other side from winning.
- This suggests that frustration always leads to aggression.
- For example, when a rugby player tries to achieve a goal or target and his opponent stops him, the player become frustrated, leading to more aggression.
- For example, fans of a losing team are much more likely to be aggressive, rather than the winning team, owing to their frustration at not winning.
16) A Level. Discuss how theories of aggression can be applied to sport.

**Answer:**

- Aggression in sport involves *arousal* and *anger* and *intention to harm* outside the rules.
- **Instinct theory** suggests that aggressive behaviour is an *innate characteristic* of all individuals.
- We are born with an aggressive instinct that makes *aggressive behaviour* inevitable.
- Sport releases built-up aggression and so the aggressive response is *cathartic* (providing psychological relief through the open expression of strong emotions).
- **Instinct theory** sees aggression in sport as being *healthy*.

- **Frustration aggression hypothesis** (Dollard) suggests that frustration always leads to aggression, and that aggression always stems from frustration.
- Sport is frustrating as one player (or team) is always trying to prevent the other from winning.
- As a consequence it is sport itself that can *cause* aggression.
- Coaches and teachers should therefore help performers cope with frustrating circumstances by rewarding non-aggressive acts and punishing aggressive acts.

- **Aggressive cue hypothesis** theory (due to Berkowitz) suggests that frustration causes anger and arousal which creates a readiness for aggression.
- According to Berkowitz, the aggression itself must be initiated by an incident or stimuli that act as *cues*.
- The player would then associate the cues (a learnt response) with having to be aggressive.
- For example, a player sees a colleague fouled so decides to join in.
- It could be related to a specific playing venue.
- For example, an away venue (associated with previous aggressive incidents) could be the cue where aggressive incidents had previously occurred. This cue could *increase players’ arousal levels* that would most likely produce aggressive responses.

- **Social learning theory** (Bandura 1977) asserts that aggression is a *learnt response* rather than instinctive.
- Social learning states that we learn by *observing* and *copying* the *behaviours of others* through primary socialising agents such as parents, teachers and friends.
- So, a person can learn an aggressive act either by being *taught* or through observational learning and modelling.
- Sport can promote both aggressive and non-aggressive acts.
- For example, if a person observes a role model perform an aggressive act he or she will want to *copy* it.
- Sport can be used to teach aggressive and non-aggressive acts depending on how rewards and punishments are used.