LESSON 01

SPORT PSYCHOLOGY DEFINED

Sport psychology is a science in which the principles of psychology are applied in a sport and exercise setting. These principles are often applied to enhance performance, however, a true sport psychologist is interested in much more than performance enrichment and sees sport as a tool for human enrichment. The sport psychologists are interested in helping every sport participant reach his or her potential as an athlete. Sport psychology is an exciting subject dedicated to the enhancement of both athletic performance and the social-psychological aspects of human enrichment. In simple terms sport psychology is the study of the effect of psychological and emotional factors on sport performance, and the effect of sport involvement on psychological and emotional factors. These psychological and emotional factors can be fine-tuned and learned which can have a positive effect on athlete's performance in sport and his overall psychological and emotional makeup.

History of Sport Psychology

Sport psychology as a distinct field of study is extremely young and is evolving. The first clear historical example of research being conducted in the area of sport psychology was in 1897.Drawing upon field observations and secondary data, researchers found out that presence of other competitors could facilitate better cycling performance. The first sport psychology laboratory was established by Coleman Roberts Griffith at the University of Illinois in 1925. Following World War II such notable as **Franklin M. Henry** at the University of California, **John Lawther** at Pennsylvania State University, and **Arthur Slater-Hammel** at Indiana University pioneered graduate-level courses and developed research laboratories of their own.

1950 to 1980 are considered as the "formative years" for sport psychology. During this time, a number of research initiatives and textbooks were published. Some of the early textbooks included *Psychology of Coaching*, by John D. Lawther 1951, and *Problem Athletes and How to Handle Them*, by Bruce Ogilvie and Tom Tutko (1966).

Some initiatives in research were Warren Johnson's work with hypnosis and athletic performance (1960s), the development and testing of anxiety inventories by Rainer Martens in (1970s and 1980s) and Albert Carron's and P.Chelladurai's work with sport leadership and team cohesion (1970s and 1980s).

Development of Professional Organizations

A number of professional organizations have evolved since the 1960s. In 1965 the International Society of Sport Psychology (ISSP) is to promote and disseminate information about the practice of sport psychology throughout the world. In North America a small group sport psychologists from Canada and the United States started work on forming their own professional organization for sport psychology. The efforts of this small group came to fruition in 1966 when it was recognized by the ISSP. The name of this new organization was the North American Society for the Psychology of Sport and Physical Activity. NASPSPA. Since then NASPSPA has evolved into an influential academic society focusing on sport psychology in the broadest sense. NASPSPA provided a forum for researches in the areas of sport psychology, sport sociology motor learning, motor control, and motor development to meet and exchange ideas and research. Shortly after the emergence of NASPSPA in the United States, another significant professional organization came into existence in Canada in 1969. This organization was named the Canadian Society for Psychomotor Learning and Sport Psychology (CSPLSP). In order to better address the interests and needs of sport psychologists interested in applying the principle of psychology to sport and exercise, the Association for the Advancement of Applied Sport Psychology (AAASP) was formed in the fall of 1985. AAASP has emerged in the 1990s as the dominant association for the advancement of applied sport psychology as well as research in North America, and perhaps in the world. In addition to these specialized organizations, other associations created interest areas dedicated to sport psychology within their organizations. These

include American Psychological Association (APA), which created its division 47 in 1968 dedicated to sport psychology.

Issue of Certification

Historically, sport psychology emerged as a discipline from physical education. The question arises that 'which people are qualified to call themselves psychologists and to provide services to athletes?'

AAAPA took the issue one step ahead and adopted a certification document outlining the process an individual must take to be given the title of "Certified Consultant, Association for the Advancement of Applied Sport Psychology". As one of the certification criteria, the applicant is required to hold an earned doctorate in an area related to sport psychology (e.g., psychology, sport science, or physical education). To be certified by AAASP both licensed and unlicensed psychologists need to meet the minimum standards as set by the organization.

What Does The Sport Psychologist Do?

Roles and functions of a sport psychologist are described in the categories of clinician, educator and researcher.

The clinical/ Counseling Sport Psychologist

The clinical/ counseling sport psychologist is a person trained in clinical or counseling psychology and may be a licensed psychologist. Generally clinical/ counseling sport psychologists are individuals who are trained specifically to deal with emotional and personality disorder problems that affect athletes.

The Educational Sport Psychologist

Most sport psychologist who received their academic training through departments of physical education considers themselves to be educational sport psychologists. They use the medium of education to teach correct principle of sport and exercise to athletes and coaches. Their main purpose is to help athletes develop psychological skills for performance enhancement. They also help athlete, young and old, to enjoy sport and use it as a vehicle for improving their quality of life.

The Research Sport Psychologist

For sport and exercise psychology to be a recognized and respected science, the knowledge must continue to grow. It is the scientist and the scholar who serve this important role. For the practicing sport psychologist to enjoy professional credibility there must exist a credible scientific body of knowledge.

Accreditation Issue in Sport Psychology

The issue of who is qualified to deliver sport psychology services has been addressed to some degree by AAASP with its certification program, the issue still remains as to who is qualified to prepare or train sport psychologists. Accreditation is the only way to ensure quality and consistency of academic training. Students graduating from accredited programs would be prepared to be certified AAASP consultants.

Multicultural Training Issue in Sport Psychology

Another issue that must be addressed is the issue of multicultural training. Graduates of sport psychology programs should be adequately trained in issues that relate to culture and race. Multicultural counseling is defined as counseling that takes place among individuals from different cultures/ racial backgrounds.

Multicultural training of sport psychology students should be provided in four domains. First, Students should experience a heightened awareness of and sensitivity to cultural groups different from their own. Second they should gain knowledge about people who belong to cultures different than their own. Third, students should learn helping and intervention skills through the process of role playing and stimulated interaction. Finally, each prospective graduate should experience a supervised practicum to gain hands-on experience working with members of a different culture or race.

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LESSON 02

SELF-CONFIDENCE AND SPORT PSYCHOLOGY

Athletes who are highly motivated tend to be very self-confident about their abilities. Yet, a distinction must be made between **global self-confidence and situation-specific self-confidence.**

Global confidence is more of a personality trait or disposition. Global self is an important personality characteristic that facilitates daily living. It can be instrumental in encouraging a young person to try new things, but it is not the same as believing that you can succeed at a specific task. **Situation-specific confidence** is the confidence one shows in performing a particular task. For example, a cricket player may have high level of self-confidence in batting, but a low level of self-confidence in fielding.

Models of Self-Confidence

The three models of self-confidence will be discussed. These include**:**

- Bandura's *Self-Efficacy Theory*
- Harter's *Competence Motivation*, *Sport Confidence Theory*
- Vealey's *Sports-Specific Model Of Sports Confidence*

Bandura's Theory of Self-Efficacy (1997)

Bandura (1997) defines self-efficacy as 'beliefs in one's capabilities to organize and execute the course of action required to produce given attainments". As such, self-efficacy is a form of situation-specified self-confidence.

Self-efficacy is the critical component of what Bandura refers to as social cognitive theory. In order for self-efficacy to develop, the individual must believe that she is in control and that the acts she performed were performed intentionally. The power and will to originate a course of action is the key feature of personal agency. Now for example if a person believes she is in control and that she has the power to produce specific results, she will be motivated to try to make things happen.

Now if an athlete perceives or believes that she can influence for good the outcome of a contest, she will eagerly enter into the competition. Thus, an efficacious athlete is a motivated athlete. The athlete is motivated to work hard to ensure success because she believes that she can succeed.

Bandura proposes four fundamental elements effective in developing self-efficacy. Each of these elements is critical in understanding how an athlete can develop self-efficacy and self-confidence.

Bandura's four fundamental elements in developing self-efficacy

1. Successful Performance

In successful performance the athlete must experience success in order for self-efficacy to develop. With a difficult task, this is an unrealistic expectation, so the coach or teacher must ensure success by initially reducing the difficulty the difficulty of the task. An example of this can be found in tennis and volleyball instructions. A beginner may not be able to successfully serve volleyball across the net on a regulation court, but when the coach encourages the athlete to step into the court several meters, it can be accomplished.

2. Vicarious Experience

Beginning athletes can experience success through models. In learning a new skill the learner needs a template or model to copy. This can be provided by the instructor, a skilled teammate, or a film or video of a skilled performer.

An important component of Bandura's theory is the concept of participatory modeling. In participatory modeling, the learner first observes a model perform a task. Then the instructor or model assists the subject in successfully performing the task. The vicarious experience of success will provide a good foundation for the experience of success in a real situation.

3. Verbal persuasion

Verbal persuasion usually comes in the form of encouragement form the coach, parents, or peers. Helpful verbal statements that suggest that the athlete is competent and can succeed are most desirable. Coaching should be such that it should not contain any negativism.

For example, the coach could say "good swing, Mary. Now remember to keep your eyes on the ball". Verbal persuasion can also take the form of self-persuasion. This is referred to as self-talk.

4. Emotional arousal

Emotional and physiological arousal is the factors that can influence readiness for learning. Proper attention is important in helping the athlete to master a particular skill and develop a feeling of efficacy.

The efficacy of Bandura's model in the sport setting is well documented. Perceived self-efficacy is a strong and consistent predictor of individual athletic performance.

Harter's Competence Motivation Theory (1978)

According to Harter the theory of achievement motivation is based on an athlete's feeling of personal competence. According to Harter, individuals are innately motivated to be competent in all areas of human achievement. An individual's self-perception of success at these mastery attempts develops feelings of positive or negative affect. Successful attempts at mastery promote self efficacy and feelings of personal competence, which in turn foster high competence motivation. As competence motivation increases, the athlete is encouraged to make further mastery attempts.

Conversely, if a young athlete's attempts at mastery result in perceived rejection and failure, and then low competence motivation and negative affect will be the end product. It is hypothesized that low competence motivation will result in a youth sport dropout.

Sports-related studies have provided support for Harter's competence motivation theory. In Harter's model, high competence motivation leads to successful task performance, much as high self-efficacy leads to successful performance.

Vealey's Sport-Specific Model of Sport Confidence (1986)

Vealey defines sport confidence as 'the belief or degree of certainty individuals possess about their ability to be successful in sport'. The athlete brings to the objective competitive situation a personality trait of sport confidence (SC-Trait) and a particular competitive orientation. These two factors are then predictive of the level of situational state-specific sport confidence (SC-state) the athlete exhibits during competition. Situation-specific sport confidence (SC-state) is then predictive of performance or clear

behavioral response. Behavioral responses give rise to subjective perceptions of outcome. Examples of subjective outcome include things such as satisfaction, perception of success. Subjective outcomes in turn influence and are influenced by the athlete's competitive orientation and personality trait of sport confidence.

Vealey (1986) tested the basic tenets of her proposed model and found them to be viable. In doing so, she also developed instruments for measuring SC-trait (Trait Sport-Confidence Inventory), SC-state (State Sport-Confidence Inventory), and Competitive Orientation (Competitive Orientation Inventory).

Vealey's sport confidence model is very useful for explaining the relationship between general sport confidence and situation-specific sport confidence. An athlete who is very successful at one sport transfers much of the confidence derived from his success to other sport situations.

Developing Self-Confidence Through Self-Talk

Self talk basically is an effective technique to control thoughts and to influence feelings. Thoughts and feelings can influence self-confidence as well as performance.

Thoughts that come into an athlete's mind during competition can be either positive or negative. These thoughts are a form of self talk. This athlete must learn to control his thoughts and to structure them to his advantage. This is effectively accomplished through self talk. The athlete must carefully select the actual words and phrases used during self talk and consider them for maximum effectiveness.

Zinsser, Bunker, and Williams (2001) explain that thoughts affect feeling, which in turn influence behavior or performance in sport.

Thoughts → feelings → performance

An athlete may not feel as self-confident in a situation as she ought to feel. Lack of self-confidence will have a negative effect upon how well an athlete performs. When an athlete steps to the foul line to attempt the first of two free throws in basketball, a number of self-efficacy thoughts pass though consciousness. Hopefully, the thought and feeling is one of "give me the ball; I have made this shot a hundred times and I will do it again. Unfortunately, for many athletes the thought that comes into their minds is: "I should be able to make this shot, but what I miss?" The two athletes in this example may be equally skilled as far as years of experience and practice are concerned, but level of state self confidence is very different. In these two situations, self-talk can be effective in either affirming self-efficacy or countering negative thoughts with positive thoughts.

Categories of Self-Talk

Self talk can be in the form of words actually spoken, or in the form of thoughts that come into ones mind. These thoughts can be either positive or negative. As a psychological method for improving self-confidence, self-talk must be positive in nature and lead to positive feelings about an athlete's ability. Self talk is basically used to enhance the self confidence in athletes. Self talk is a strategy used by both players' juniors as well as professional.

The three primary categories of self-talk,

1. Task-specific statements relating to technique
2. Encouragements and effort
3. Mood words

Task-specific statements relating to technique

This category of self-talk refers to words or statements that reinforce technique. For example, in tennis volley, the word "turn" might be used in association with preparation for stepping into the volley.

Encouragements and effort

This category of self-talk refers to words or statements that provide self-encouragement to preserve or to try harder. For example, in cricket, the phrase "you can do it" might be used by a batsman in preparation for hitting a six.

Mood words

This category of self-talk refers to words that precipitate an increase in mood or arousal. Example: the mood words "hard" or "blast" might be used in conjunction with a play in football or soccer.

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SELECTING SELF-TALK STATEMENTS

For self-talk to be effective, three points should be kept in mind when selecting self-talk statements. It must be (a) brief and phonetically simple (b) logically associated with the skill involved (c) compatible with the sequential timing of the task being performed. If the statement is too long and vague it might not be as effective. For example, when hitting a proper cover drive in cricket, proper front foot placement and timing of the stroke are necessary. Key words used for self-talk could be "foot" and "hit".

Specific Uses of Self-Talk

Zinsser in 2001 identified specific uses of self-talk. All of the recommended uses relate directly to or indirectly to the enhancement of self-efficacy

According to Zinsser, self-talk is effective in:

1. Building and developing self-efficacy

Self-talk is effective in stimulating thoughts and feelings that lead to the belief that the person is competent and able to perform the tasks effectively and efficiently

2. Skill accusation

Learning a new skill requires persistence, effort and dedication. Self-talk can be effective in helping the athlete to continue to work hard in order to achieve a worthwhile goal. In becoming proficient in a new skill, the athlete change bad habits and learns new good habits

3. Creating and changing mood

Effective use of mood words can either create a desired mood or change an undesirable one. Words are powerful motivators because of the meaning they convey. In an effort to increase power needed to get out of sprinter's block quickly , the athlete might say the word "go" or "explode" as she powers forward.

4. Controlling effort

Athletes need to be able to sustain effort throughout long practices or competitions. Self-talk can suggest to the athlete to increase effort when it is needed or to sustain effort when it is deemed beneficial for performance learning or enhancement. During long practices, boredom can be a challenge that must be overcome. Self-talk words and phrases such as 'pick it up', 'stay with me' or 'pace' can be effective in controlling effort.

5. Focusing attention of concentration

As with maintaining effort, it is often necessary to remind yourself to stay focused or to concentrate on a task at hand. Athletes often get tired, and when this happens, their concentration can easily wander, if the mind wanders when a coach is teaching an important concept related to the athlete's role on the team, it is imperative that he heightens his concentration. Words or phrases such as 'focus', 'stay with it' or 'now' can help the athlete stay focused.

Constructing Self-Affirmation Statements

Feelings of confidence, efficacy and personal control will be enhanced if sport psychologists assist athletes in constructing affirmation statements that can be used during competition or during preparation for competition. These are statements that affirm to the athlete that she posses the abilities, positive attitude, and beliefs necessary for successful performance. These self-affirmation statements must be both believable and vivid. These statements must be prepared before hand and not left for the athlete to come up with one when they are needed.

Psychological Momentum in Sport

Athletes report a feeling of increased confidence during periods of perceived psychological momentum. It is better described as a boulder rolling down a mountain, gaining seed and momentum as is moves downwards. Psychological momentum is a phenomenon that has been documented in the literature relative to tennis, basketball shooting, volleyball and ice hockey.

As defined by Taylor and Demick (1994), psychological momentum is "a positive or negative change in cognition, affect, psychology, and behavior caused by an event or a series of events that will result in a commensurate shift in performance and competitive outcome". Negative momentum may be characterized as a condition necessary to precipitate positive momentum on part of the opposition. Examples of precipitating events in tennis include a dramatic shot, or winning a game after a long deuce.

Model of Psychological Momentum

Three different models to explain psychological momentum phenomena have been proposed by researchers. These three models are t he antecedents-Consequences model, multidimensional model and the projected performance model. Each model is briefly explained ahead.

Antecedents-Consequences Model

In this model a situational antecedent event such as a dink in basketball or an ace serve in tennis precipitates the perception of psychological momentum. Psychological momentum results in feelings of goal progression, self-confidence, motivation, and energy.

Multidimensional Model

In the multidimensional model, psychological momentum is defined as being either positive or negative. The key element in the model is precipitating event, which leads to a momentum chain. The momentum chain includes a simultaneous change in cognition, affect, and psychological arousal, followed by a change in behavior, a change in performance and so a change in immediate outcome.

Projected Performance Model

Positive and negative psychological momentums are only labels used to describe performance, and are result of extremely good or bad performance. Large positive fluctuations in performance above the mean performance zone are labeled positive psychological momentum while large negative fluctuations below the mean are labeled negative psychological momentum. In the course of an athletic contest, teams and players cycle through phase of good and bad performance. These cycles are often labeled positive and negative momentum but there is no cause and effect relationship between the labels and actual performance.

Psychological Momentum: Fact or Fiction?

Sufficient evidence exists that psychological momentum is real and that it is associated with changes in athletic performance. Authors have concluded that their research supported the antecedent consequence model and the multidimensional model of psychological momentum, but not the projected performance model. Of related interest is the finding by Eisler that team cohesion and psychological momentum are related. Teams that enjoy high levels of task-related team cohesion are more likely to experience psychological momentum during competition than less cohesive teams.

Gender and Self-Confidence

Ellen Lenney (1977) has done a lot of work about women and self-confidence. Lenney argues that women and girls suffer from reduced levels of self-confidence when one or more of three situational variables are present. If these situational variables are not present, then girls and women should enjoy self-confidence equal to that of men or boys. Theses three situational variables relate to (a) the nature of the task, (b) ambiguity of available information, and (c) social comparison cues.

Nature of the task

It seems clear that women respond to some tasks with a great deal of confidence, but to other with little confidence. For example, a woman might be expected to respond with a low level of confidence to a task that she considered inappropriate to her gender role. The kinds of tasks females considered to be gender-role inappropriate would probably vary from individual to individual. Body-building was once considered to be gender inappropriate for women.

Ambiguity of available information

Self-confidence in females depends on the availability of clear and unambiguous information. Females provided with clear feedback regarding their performance with will exhibit as much self-confidence as men. However if the feedback is unclear and ambiguous, women tend to have lower opinions of their abilities and to respond with lower levels of self-confidence than men. For example, women might be more likely to show a lack of confidence if they were asked to hit a volley in tennis without being told what was good or bad.

Social comparison cues

When girls and women work alone or in situations not involving social comparisons, they are likely to respond with self-confidence levels equal to those of men or boys. This is where cooperation rather than competition is emphasized. When placed in situation where performance is compared with that of others in a social context, girls and women are expected to respond with lower levels of self-confidence than those of boys and men in a similar situation.

The result of a meta-analysis conducted, supported Lenny's hypothesis that females will show lower self-confidence than male when performing male-appropriate tasks. As long as the task was not female-inappropriate, however, the analysis did not support Lenny's contention that females will be less confident than males in competitive (social comparison) situations. While research shows that females do not lack self-confidence in all situations, strategies to increase self-confidence in women may be beneficial.

Strategies to Increase Self-Confidence in Women

Some of the proposed strategies to increase self-confidence in women are:

1. Ensure success through participatory modeling.
2. Avoid gender-inappropriate activities.
3. Avoid ambiguity through effective communication.
4. Use effective modeling of correct performance.
5. Decrease competitive situations during learning.

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GOAL ORIENTATION

Goal orientation is similar to achievement motivation; it is the motivation to achieve a goal in sport. There are two types of goal orientations namely; task orientation and ego orientation. In the case of task orientation, the goal is mastery of a particular skill. A task oriented batsman perceives himself of high ability if he can score more runs than what he scored in the last match. The task oriented athlete continues to work for mastery of the skill he is working on, and enjoys feeling of self-efficacy and confidence in so doing. In case of ego-orientation, the goal is to outperform another individual or other individuals. It is no longer enough simply to gain mastery over a skill and make personal improvements. So in ego-orientation, social comparison becomes the driving force. An ego-oriented bowler will try to outperform other bowlers, either by throwing the fastest ball or by taking more wickets than other bowlers. Individual's perceived ability is measured as a function of outperforming others as opposed to self-improvement.

Developmental Nature of Goal Orientation

A child two to six years' old views perceived ability in terms of how well she performed the task the last time. If she notices an improvement in performance, she naturally assumes that her ability has increased and that she is competent at performing the task. At this age she is more tasks oriented than ego-oriented.

At the age of six or seven, the child begins to view perceived ability in terms of how other children perform. She becomes ego-oriented. Perceived ability is now a function of one's own capacity as it is relative to that of others, as opposed to being a function of absolute ability. High ability and competence is only perceived as such if it better than the performance of others. From a developmental perspective, children mature as to how well they are able to differentiate between the concepts efforts ability and outcome.

Children pass through four levels to fully understand these three concepts.

Level 1

At this early stage, the child views efforts, ability, and outcome as the same thing. At this level of development, the child is said to have undifferentiated goal perspective. To the child at this age level, effort, or trying hard, is the same as ability or having a successful outcome. The Child has no concept of how luck differs from ability and how one task can be more difficult than another.

Level 2

At level two, the child is beginning to recognize that there is a difference effort and ability, but the child believes that effort is the major determinant of achieving success. If u try hard and expend lots of effort, you will find success.

Level 3

This is a transitional period, in the sense that the child is beginning to differentiate ability and effort. Sometimes the child will recognize that effort is not the same as ability, but at other times he will revert back to an undifferentiated conceptualization of the two.

Level 4

In level 4 the individual is said to have a differentiated goal perspective. At around age twelve, the child can clearly distinguish among the concepts of ability, effort, and outcome. She also clearly understands the ramifications of task difficulty and recognizes that some tasks will be more difficult than others.

Research by Fry (2000) and Fry and Duda (1997) shows support for this developmental theory of achievement motivation.

Measuring Goal Orientation

To find out whether individuals exhibit task and/or ego goal orientations a number of inventories have been developed. These are the Task and Ego Orientation in Sport Questionnaire (TEOSQ), Perceptions of Success Questionnaire (POSQ) and the Sport Oriented Questionnaire (SOQ). The TEOSQ (Duda, 1989; White & Duda, 1994) is composed of 15 items that measure task and ego orientation. the POSQ (Roberts, 1993; Roberts & Treasure, 1995) is composed of 12 items that measure competitiveness (ego orientation) and mastery (task orientation).the SOQ (Gill , 1993; Gill & Deeter, 1988) is composed of 25 items and purpose to measure competitiveness , win orientation , and goal orientation. It is unclear, however, exactly how each of these factors compares with basic task and ego orientations (Marsh, 1994).

Goal Involvement

There are two types of goal perspective. One is referred to as goal orientation and the other is goal involvement. Both are related to success, goal orientation related to success in general, whereas goal involvement is related to situation specific success. As described earlier, goal orientation is the motivation to achieve a goal in sport. However goal involvement is a situation-specific state measure of how an individual relates to an achievement situation at a specific point in time. Goal involvement can be further divided into two categories; task or mastery involvement, and ego or competitive involvement. Situations that heighten awareness of social evaluation induce a state of ego involvement, accompanied by feelings if increase anxiety. Conversely situations that do not heighten an awareness of social evaluation evoke a state of task involvement, accompanied by feelings of low anxiety. To be ego involved is to display characteristics of an ego-oriented person in a specific situation. To be task involved is to display characteristics of a task-oriented person in a specific situation.

Motivational Climate

Perhaps of greater import than whether an individual is task- or ego-oriented is the motivational climate that the individual is placed in. Just as individuals can be task or ego oriented, learning environment can also be task or ego oriented. The environment could be ego-oriented, with its emphasis upon social comparison. A mastery climate is one in which athletes receives positive reinforcement from the coach when they (a) work hard (b) demonstrate improvement (c) help other learn through cooperation, and (d) Believe that each player's contribution is important. A competitive Climate is one in which athletes perceive that (a) poor performance and mistakes will be punished (b) high-ability athletes will receive the most attention and recognition, and (c) competition between team members is encouraged by coach.

Characteristics of different types of Goal Orientation, Goal Involvement, and motivational Climate

Goal Orientation (Personality trait)

1. Task or Mastery Orientation
    a. Effort important
    b. Mastery Important

2. Ego or Competitive Orientation
    a. Social comparisons important

b. Wining important

Goal Involvement (Psychological State)

1. task or Mastery Involvement
a. Athlete works hard
b. Athlete strives for master
2. Ego or Competitive Involvement
a. Athlete defines ability as winning
b. Athlete strives to win

Motivational Climate (Environment)

1. Mastery Climate
a. Effort rewarded
b. Cooperation emphasized
2. Competitive climate
a. Mistakes punished
b. Competition encouraged

Epstein (1989)and Treasure and Roberts (1995) have proposed that a mastery-oriented climate can be created by the coach or the teacher that will be instrumental in developing and fostering self-confidence and intrinsic motivation in youth sport participants. Coaches need to address each of the following conditions to create a mastery environment:

1. ***Tasks:*** Tasks involving variety and diversity facilitates an interest in learning and task involvement
2. ***Authority:*** Students should be given opportunities to participate actively in learning process by being involved in decision making and monitoring their own personal progress.
3. ***Reward:*** Rewards for participation should focus upon individual gains and improvements and away from social comparisons.
4. ***Grouping:*** Students should be placed in groups so that they can work on individual skill in a competitive learning climate.
5. ***Evaluation*** should involve numerous self-test that focus upon effort and personal improvement.
6. ***Timing;*** Timing is critical to the interaction of all of these conditions.

Research and Goal Perspective Theory

A number of researches have been conducted on various aspects of the theory. Some important findings are mentioned below.

Characteristics of Task and Ego Goal Orientations

Mastery-oriented individuals feel most successful when they experience personal improvement that they believe is due to their hard work and effort. They gain a sense of accomplishment through learning and mastering a difficult task. Task-oriented individuals, regardless of their perception of personal ability, tend to exhibit **adaptive motivational patterns.** This means that they tend to participate in challenging tasks that allow them to demonstrate persistence and sustained effort.

An ego or competitive goal orientation is associated with the belief that success is a function of how well a person performs relative to other people. In this case ability is independent of effort. If a person performs well against other competitors, yet does not expend much effort, this is evidence of greater ability. Thus for ego-oriented athletes, success is outperforming an opponent using superior ability as opposed to high effort or personal improvement. An ego-oriented individual who has high perception of ability should exhibit adaptive motivational patterns (engage willingly in challenging tasks). However, an ego-oriented who has low perception of ability should exhibit a **maladaptive motivation pattern.**

Because his motivation is to win and he does not believe he can win, he will not likely take part in a challenging activity. The obvious disadvantage of an ego orientation is that it discourages participation simply for the fun of it unless one is certain of experiencing success.

In summary, a mastery-oriented will be looking at challenging situations, but an ego-oriented individual will focusing on defeating others with minimum effort. Research on goal orientation has revealed that individuals who are high in task orientation can also be high in ego orientation.

Interaction between Goal Oriented and motivational Climate

Best combination of goal orientation and motivational climate is to be task and ego oriented in conjunction with a mastery climate. This combination should yield the highest levels of actual performance, personal satisfaction, and enjoyment

Self-Handicapping and Goal Orientation

The concept of self-handicapping is that individuals proactively reduce the amount of effort. For example a tennis player misses his training sessions due to fearing losing a match to a stronger competitor. Such an act makes it possible for the athlete to argue that he lost due to lack of practice and not because of lower ability. It is observed that athletes who do so are low on self-confidence.

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CAUSAL ATTRIBUTION IN SPORT

Attribution Theory

The key element in *attribution theory* is perception. When athletes are asked," to what do you attribute your great success?" they are being asked for their perceptions. The fact that their perceptions of why they are successful may be completely erroneous is beside the point. The manner in which athletes answer questions like these reveals their perceptual beliefs.

Attribution theory is a cognitive approach to motivation. It assumes that people, understand, and predict events based upon their cognitive perception. According to attribution theory, the intent of every human being is to explain his own actions in terms of their perceived causes. Fritz Heider (1944, 1958) described his theory as one of common sense, or "naive psychology".

This is a complex theory in which perceived attributions are viewed as greatly influencing a person's actions, feelings, confidence, and motivation. How and athlete feels about herself is directly related to the athlete's perception of cause and effect. The attributions that athletes select reveal their motivational structures. Furthermore, helping athletes to change their perceptions can have a significant effect on their motivation to achieve. For this reason, motivation and attribution theory are very closely related. For example, some young people feel they fail because they lack natural ability. Since natural ability is relatively permanent, it is hard for those children to see that things will ever change for the better. However, if the young athletes can be encouraged to consider bad luck or lack of effort as a cause for their failure, they need not feel that things cannot change always try harder.

The Attributional Model

The basic attribution model was proposed by Heider (1944, 1958). However, several significant contributions by Weiner (1972, 1979, and 1985) have made it much more useful. Most recently, contributions by Russell (1982) and by McAuley, Duncan, and Russell (1992) have improved our ability to measure attribution.

Fritz Heider's Contribution

The basis of Heider's model was the notion that people strive for prediction and understanding of daily events in order to give their lives stability and predictability. Outcomes are attributed internally to the person (personal force) or externally to the environment (environmental force). Effective personal force is composed of the attributional factors **ability** and **effort**, while effective environmental force is composed of the attributional factors **task difficulty** and **luck**.

According to Heider, an interaction occurs between the personal force of ability and the environmental force of task difficulty that yields a separate dimension referred to as can (or cannot). If a task is difficult and yet is accomplished, it must be due to great ability. However, depending on the difficulty of the task and the ability of the subject, several other attributions can give rise to the can or cannot dimension.

The highly unstable factor of luck also enters into many attribution situations. Luck is an environmental factor that can favorably or unfavorably change an outcome in an unsystematic way. All these factors (trying, ability, task difficulty, and luck) combine to result in a behavioral outcome, to which an

individual attributes a cause. Heider reasoned that the personal and the environmental components of causation are additive. Thus the following formula represents his reasoning:

Behavioral outcome = personal force + environmental force

Bernard Weiner's Contributions

Using Heider's basic formulation, Weiner (1972) made several significant contributions to the attribution model that made it easier to understand and apply in achievement situations. Weiner took Heider's four main factors and restructured them into two main causal dimensions. Theses two dimensions he labeled **stability** and **locus of control**.

Weiner then incorporated Heider's four main factors into his two-dimensional classification scheme for causal attribution. Ability was classified as being internal and stable, effort as internal and unstable, task difficulty as external and stable, luck as external and unstable. In his later writing's Weiner (1979, 1985) clarified that a third dimension named **controllability** must be included in the attribution model.

The inclusion of this third dimension created a few conceptual problems that had to be addressed. The first problem was how to differentiate between the dimension of locus of control and the new dimension of controllability. He solved this problem by renaming the locus of control dimension locus and clarifying the distinction between the two dimensions. He explained that locus of causality has to do with whether an outcome was perceived by the individual to be controllable or uncontrollable.

Dan Russell's And Ed Mcauleys's Contributions

To deal with attribution distortion and misclassification, Russell (1982) developed the **Casual Dimension Scale (CDS)**. In using the CDS, athletes are asked to indicate their perceived cause for an outcome, and then to rate the cause relative to nine questions. The scale is composed of three questions for each of the dimensions of locus, stability, and controllability. Since its development in 1982, the Casual Dimension Scale has been used extensively by researchers.

An article by McAuley, Duncan, and Russell (19920) documents the development of the **Casual Dimension Scale2 (CDS2)**, a revision of the original version of the scale. The revised version differs from the original in that it comprises four rather than three casual dimension scales. The four dimensions of the CDS2 are locus of control, stability, personal control, and external control. The original CDS scale failed to distinguish between causes that were controlled by the individual and those controlled by other people. Attributions were simply controllable of uncontrollable, with no clear indication of who was controlling the cause.CDS2 measures four specific dimensions of causality.

Other Considerations

A number of conceptual problems persist. For instance, researchers and practitioners may fail to recognize that the kinds of attributions people make are based on a socialization process that may vary across cultures. Socialization plays an important part in the emphasis that we place on attributions. Attributions depend on what we learn to value. Differences in Socializations will undoubtedly affect the kinds of attributions made.

In addition to social-cultural differences, we also have evidence that young track and field athletes' attributions do not differ as a function of gender, but do differ as a function of race/ethnicity.

A second problem that has often plagued attribution research is that the experimenter can bias a subject's perception of outcome. In many sports related attribution studies, subjects do not perceive themselves to be succeeding or failing until the researcher biases their perceptions b asking, "to what do you attribute your success(or failure). Sometimes success and failure are perceived differently by researchers and athlete. For

example, let's say I play tennis with one of the world's best players. I don't expect to win but if I can win one or two games, I will consider myself a success.

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CAUSAL ATTRIBUTIONS IN COMPETITIVE SITUATIONS

A competitive situation is defined as one in which participants expect that their performance will be evaluated by others in some way. It is an opportunity to compete with others for some internal or external reward. Regarding the internal and external dimensions of attributions, several lines of research have evolved. In this lecture we will be looking at two concepts: Locus of causality, and the covariation principle.

Locus of Causality

Previously called locus of control, locus of causality is the extent to which people believe they are responsible for their behavioral outcomes. To avoid confusion between the terms locus of control and controllability, locus of control dimension is renamed as the "locus of causality". Locus of causality can be of two types; internal locus of causality, and external locus of causality. People with internal locus of causality tend to believe their behaviors influence outcomes. They believe that they are responsible for the outcome and view themselves as in control of their destiny. While those with an external locus of causality, tend to attribute outcomes to outside forces such as fate, chance, and other people. They believe that their outcome is dependent on external sources and so they see themselves at the mercy of the external events.

Perhaps the person most responsible for developing the conceptual framework for the locus of causality was Julian B. Rotter. Rotter (1966) developed the 29-items Internal-External Locus of Control Scale to measure the extent to which people believe they possess some control over their lives. Rotter (1971) stated the following generalities about locus of causality: (1) children coming from a lower socioeconomic environment tend to be external, (2) children tend to become more internal with age, and (3) highly external people feel they are at the mercy of their environment and are continually being manipulated by outside forces.

While it is not appropriate for human beings to always give internal attributions to outcomes, research makes it clear that in the sports environment it is better to have an internal as opposed to external locus of causality. Research suggests that an internal orientation is more mature than an external orientation.

A study noted that gymnastic coaches typically rank-order their gymnasts from poorest to best for gymnastic meets, on the theory that judges expect scores to improve as the meet progresses. The results showed that judges who themselves had an internal locus of control were uninfluenced by order. Conversely, judges who had external locus of control were influenced by order. This suggests that the judges who had an internal orientation were able to overcome the order bias and judge solely on the basis of performance.

Even though an internal locus of causality appears to be preferable to an external locus of causality, this should not be construed to mean that all external attributions are immature. Sometimes external attributions are appropriate and expected. For example, it would be completely normal for athletes to blame defeat on poor officiating if their team had been called for twice as many fouls as the other team.

Covariation Principle

A person's attributions for success or failure can be predicted on the basis of the performance of others on the same task. This phenomenon has been named the covariation principle. According to this principle, when the performance of others agrees with the performance of the participants, attributions will be external. If the performance of others disagrees with the performance of participant, attributions will be internal. For example, if I beat someone in tennis whom everyone else has lost to, I will certainly attribute my victory to an internal cause such as superior ability. Conversely, if I defeat someone in tennis everyone else has defeated, it is very likely that I will attribute my success to an external cause such as my opponents' low ability. When your performance agrees with the performance of others, your attributions are likely to be external in nature (e.g., task difficulty or luck). Conversely, when your

performance disagrees with the performance of others, your attributions are likely to be internal in nature (e.g., ability or effort).

Perceived Causality and Emotional Response

Emotional response to athletic outcomes occurs on two different levels; attribution free, and attribution dependent. At the initial or primitive level, emotional responses are said to be attribution free. This initial emotional response is given before the athlete had a chance to consider the cause of the outcome. The initial response of an athlete to success is generally happiness of joy. The initial response of an athlete to failure is generally disappointment or sadness.

At the second level, emotional response arise in direct response to causal attributions as to why the outcome occurred. These emotions are attribution dependent, and are said to be distinct and separate from the initial attribution-free emotional response. Theses attribution-dependent emotions reveal a great deal about how the athlete feels about why the outcome occurred.

The affect-attribution relationship provides the sport psychologist with an excellent tool for understanding the cognitions and thoughts of the athlete. Attributions are primarily linked to the emotions of anger, gratitude, guilt, pity, shame pride, self confidence and competence. Failure that is linked to personal controllability results in the emotions of shame, guilt, and perhaps depression. Conversely, success that is linked to personal controllability results in the emotions of pride, self confidence and competence.

Stability dimensions are linked to feelings of hopefulness or hopelessness. If you lose and attribute the cause to something that is not going to change (stable cause) then hopelessness, or the feeling that failure will continue , is the expected affective response. Conversely, if you win and attribute the cause to a stable attribution, the expected emotional response is hopefulness, or the expectation that you will continue to win. On the other hand, if an athlete loses but attributes the cause to something that is unstable and can change, for example, not enough effort, then he can be hopeful that things will be different next time with a little more effort. But if an athlete wins but attributes the cause to something unstable, such as good luck, then the expected affect is uncertainty.

The kinds of attributions that young athletes make in response to success and failure are closely linked to their feelings of self-esteem and self-confidence and suffering. Individuals suffering from low esteem are more likely than individuals high in self-esteem to internalize a failure and respond with negative affect.

Expectancy and Attribution

A hopeful individual has expectations that future contests will result in success, whereas a hopeless individual has expectations that future contests will result in another defeat or failure. This has been proven in the medical field too, as a hopeful patient suffering from a mental/physical disease has better chance of recovering faster or surviving longer than a hopeless patient. Given that attributions are linked to emotions and that emotions are linked to cognitions, we can see the critical importance of attributions for athletic outcomes.

Learned Helplessness

Learned helplessness is a situation where an individual thinks that he has no control over the situation and just gives up. This concept was developed by Seligman (1995) and he defines learned helplessness

in terms of the phrase "giving up without even trying". It is caused by the perception that one has no control over his failures, and that failure is inevitable.

Research done on children shows that "learned helpless" children who show a deterioration of performance under the threat of failure tend to attribute their failure to stable factors such as lack of ability. Conversely, "learned helpless" children who show enhanced performance under the threat of failure tend to choose unstable factors such as luck or lack of effort. Attributing success to stable factors suggests to the child that success is a realistic expectation for the future. On the other hand, attributing failure to a stable factor suggests to the child that failure is a realistic expectation for the future.

Attributional Training

Research with attributional training has clearly shown that planned interventions can alter ways that an athlete perceives outcome, as well as alter actual performance. A functional attribution strategy is one in which athletes are taught to explain the causes of a failure outcome as being controllable and unstable. A dysfunctional attribution strategy is one in which athletes are taught to explain the cause of a failure outcome as being uncontrollable and stable. Research with children suggests that attributional training can positively influence a child's future expectations and performance.

Attributional training can also be effective with adults, although not as effective as it is with children. Adults respond well to attributional training as long as their perceived competence is not too low. Athletes with maladaptive attributional patterns give failure attributions that are more internal, stable, uncontrollable, and global than those of the nonmaladaptive athletes.

To help athletes choose suitable attributions, the following steps are recommended:

1. Record and classify attributions that athletes make to successful and unsuccessful outcomes
2. For each outcome, discuss with the athlete causes or attributions that might lead to a greater expectancy for success and increased effort.
3. Provide an attributional training program for athletes who consistently give attributions that lead to negative implications for the future outcomes.
4. For best results, combine planned goal setting with attributional training.

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MOTIVATION IN SPORT

Motivation is basically something that energizes, direct, and sustains behaviors. There are two kinds of motivation in sports i.e. intrinsic motivation and extrinsic motivation, but at the fundamental core, intrinsic motivation is little more than taking part in an interesting activity simply because of love for the activity or the game. **Intrinsic motivation** is basically the internal desire of the players to perform a particular task, to do certain activities because it gives them pleasure, develops a particular skill, or it's morally the right thing to do. Whereas **extrinsic motivation** are the motivational factors external to the individual and unrelated to the task they are performing or in other words extrinsic motivation refers to motivation that comes from an external as opposed to an internal source. Examples include money, and other rewards. Intrinsically motivated players are bound to do much better in their fields, because they are willing and eager to learn new stuff. Their learning experience is more meaningful.

Integrated Theory of Motivation

The integrated theory of motivation includes the notions of intrinsic and extrinsic motivation. The theory is based upon the centerpiece of **self-determination**. Self-determination is the unifying psychological construct that brings meaning to the overall concept of motivation.

Social factors and psychological mediator are seen as determinants of motivation that lead to certain consequences.

Social Factors

Social factors facilitate or cause feelings of competence, autonomy, and relatedness. The specific social identified in the model include experiences of success and failure, experiences with competition and cooperation, and coaches' behaviors.

Success and Failure

As athletes participate in a sport they have many opportunities to experience i.e. to say they may have to face failure or negative feedback or success or positive feedback. Successful experiences on one hand leads to the belief that one is competent and efficacious relative to skills being learned and performed. Whereas, failure feedback on the other hand leads to a reduction in the belief that one is competent and efficacious.

Competition and Cooperation

Achievement situations tend to focus upon either competition or cooperation. Putting the emphasis upon defeating the opponent is an ego or competitive goal orientation that is associated with a loss in intrinsic motivation. Also, consistent with self determination theory is the observation that competition reduces feelings of autonomy, as the focus is external and not internal. Just as competition relates to an ego goal orientation, cooperation relates to a task or mastery goal orientation.

Coaches' Behavior

The third social factor that can influence an athletes' perception of competence, autonomy and relatedness is the Coaches' behavior. The coach could insists on being in complete control and determining, even down to the last detail, exactly what transpires on the playing field or practice field.

Or the coach be more democratic in nature and is willing to share the perception of control with athletes.

The controlling coach risks destroying the intrinsic motivation of the athlete for the sake of personal control or even perhaps more wins.

Psychological Mediators

There are three psychological mediators which determine motivation, they are:

1. Competence

Self determination theory values competence as a prerequisite for motivation, but by itself it is not a sufficient condition for its development. It is clear that competence (self confidence) is critical to the development of intrinsic motivation, but without autonomy you do not have self determination, and without self determination you do not have intrinsic motivation. Competence without autonomy gives rise to the efficacious pawn. In the efficacious pawn you have an individual who is confident that he can successfully perform a task, but who is doing it for an external reason. When the external reason is removed, he will no longer be motivated to perform the task, although he may do it without enthusiasm or real motivation.

2. Autonomy

The concept of autonomy is central to self determination theory. You cannot exhibit self-determination without autonomy. According to self-determination theory, every individual has the basic innate need to be an "origin" and not a "pawn"

3. Relatedness

The third innate psychological need is the need for relatedness. Relatedness is necessary for a person to be self actualized, or to realize his full potential as an athlete and as a human being. Relatedness has to do with the basic need to relate to other people, to care for others and have others care for you. As all human beings are social animals and for that they have to interact with other people similarly it is very interesting seeing athletes supporting each other on the playing field. To a large extent, an athletes' enjoyment in sport is associated with how she relates to other athletes on her team, as well as to the coaches and support personnel.

Levels of Motivation

Level of motivation depends on seven factors, and they are:

1. Amotivation

The least self-deterministic kind of motivation is no motivation at all. This is referred to as amotivation. Amotivation refers to behaviors that are neither internally nor externally based. For example, an amotivated athlete might say that he is not sure why he plays a particular sport, and he does not see any benefits related to the sport. It is the relative absence of motivation.

2. Intrinsic Motivation

The kind of motivation that exhibits that highest level of self-determinism is referred to as being intrinsic or internal in nature. Intrinsic motivation is motivation that comes from within. Intrinsic motivation is believed to be multidimensional. The three aspects or manifestations of intrinsic motivation are towards knowledge, towards accomplishment, and towards experiencing stimulation.

Intrinsic motivation towards knowledge reflects an athlete's desire to learn new skills and ways of accomplishing a task. Intrinsic motivation towards accomplishing reflects an athlete's desire to gain mastery over a particular skill and the pleasure that comes from reaching a personal goal for mastery. And similarly intrinsic motivation towards experiencing stimulation reflects the feeling that an athlete gets from physically experiencing a sensation innate to a specific task.

3. Extrinsic Motivation

By definition, extrinsic motivation refers to motivation that comes from an external as opposed to an internal source. Extrinsic motivation comes in many forms, but common examples include awards, trophies, money, praises, social approval, and fear of punishment.

4. External regulation

A behavior that is performed only to obtain an external reward or to avoid punishment is said to be externally regulated. For example, an externally regulated runner takes part in a 10-kilometer race because of the promise of a trophy and a cash reward. . Now this behavior leads to self determination and the perception of being in personal control. The athlete in this example is pawn in terms of exercising personal control of their behavior.

5. Introjected regulation

Extrinsic motivation that has undergone introjected regulation is only partially internalized. For example the degree to which an athlete feels that he practices daily to please his coach, as opposed to practicing to become a better player because he wants to become a better player.

6. Identified regulation

When an athlete comes to identify with an extrinsic motivation to the degree that it is perceived as being her own, it is referred to as being an identified regulation. Identified regulation is present when an athlete engages in an activity that he does not perceive as being particularly interesting, but he does so because he sees the activity as being instrumental for him to obtain another goal that is interesting to him.

7. Integrated regulation

The most internalized form of regulation is referred to as integrated regulation. When regulation mechanisms are well integrated, they become personally valued and freely done. At this level, a behavior previously considered to be externally controlling becomes fully assimilated and internally controlled. For example, an athlete will perceive his coach's controlling behavior as being completely consistent with his own aspirations and goals and no longer perceives them as being externally controlling.

Consequences of Motivation

High levels of intrinsic motivation and internalized extrinsic motivation should lead to positive affect, positive behavioral outcomes, and improved cognition. Research shows that athletes who engage in sport for self-determined reasons experience more positive and less negative affect, have greater persistence, and exhibit higher levels of sportspersonship.

Researches which support the integrated model include:

- Pelletier et al.(1995) report

- Markland (1999) report.
- Kowal and Fortier (2000) report
- Ferre-Caja and Weiss (2000) report

Cognitive Evaluation Theory

Cognitive evaluation theory is a sub theory to the integrated theory of intrinsic and extrinsic motivation. Cognitive evaluation theory puts forward the view that extrinsic motivation has the potential of diminishing an individual's intrinsic motivation. That is, rewards can either add to or detract intrinsic motivation. There are two components of the theory. The controlling aspect of the theory predicts that intrinsic motivation will be reduced if extrinsic motivation is perceived as being controlling. The other component, informational aspect, predicts that extrinsic motivation will actually enhance intrinsic motivation if an external reward is perceived as being suggestive of personal competence.

Research support for cognitive evaluation theory is strong as evidenced by a recent meta-analysis and other investigations. Research on attribution theory indicates that external rewards can damage a young athlete's intrinsic desire to compete. The **multiplicative principle** suggests that his interaction between intrinsic and extrinsic rewards could either add to or detract from intrinsic motivation.

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FLOW: THE PSYCHOLOGY OF OPTIMAL EXPERIENCE

Mihaly Csikszentmihalyi (pronounced cheeks-me-high) is credited with being the originator of the FLOW concept. FLOW is not an acronym, but a way of expressing a sense of seemingly effortless and intrinsically joyful movement.

You experience **FLOW** when you are engaged in an interesting activity for its own sake and for no other external purpose or goal. In his original conceptualization of the FLOW construct, Csikszentmihalyi (1990) described FLOW as an end in itself, something that is to be enjoyed and appreciated. The key term in the FLOW construct is that of the **auto telic experience**. An auto telic experience "refers to a self-contained activity, one that is done not with the expectation of some future benefit, but simply because the doing itself is the reward".

The nine defining characteristics of the FLOW experience are:

1. Requirement of a challenge/skill balance.
2. Merging of action and awareness (sense of automaticity and spontaneity)
3. Goals that are clearly defined
4. Clear , unambiguous feedback
5. Total concentration on the skill being performed
6. Sense of being in control without trying to be in control(paradox of control)
7. Loss self-awareness (becoming one with the activity)
8. Loss of time awareness
9. Auto telic experience (end result of all of the above)

The nine defining characteristics of the FLOW experience form the basis of an instrument developed by Jackson and Marsh (1996) for measuring FLOW. The FLOW State Scale (FSS) is composed of thirty-six items that measure the nine dimensions identified by Csikszentmihalyi. In studying the FLOW experience, Jackson identified factors believed to facilitate FLOW, as well as the other factors believed to prevent the occurrence of the Flow state.

Factors believed to facilitate or to prevent the occurrence of the Flow state (Jackson, 1992, 1995)

Facilitate

- Development of a positive mental attitude
- Positive precompetitive affect
- Positive competitive affect (during contest)
- Maintaining appropriate attentional focus.
- Physical readiness (perception of being prepared)
- Unity with teammate(s) and /or coach

Prevent

- Experiencing physical problems and mistakes.
- Inability to maintain appropriate attentional focus.
- Negative mental attitude
- Lack of audience response

Goal Setting in Sport

It takes a lot of hard work and dedication to become a world champion in any sport. An accomplishment of this magnitude is only realized through the judicious setting of daily weekly and long-term personal goals. **Goal setting** is a theory of motivation that effectively energizes athletes to become more productive and effective. Goal setting by athletes represents either internal or external motivation, depending on whether or not the goals are internalized and personalized.

Basic Types of Goals And Their Effectiveness

There are three basic types of goals that have been identified in the sport psychology literature. These three different types of goals are outcome goals, performance goals, and process goals.

1. Outcome goals

Outcome goals focus on the outcomes of sporting events and usually involve some sort of interpersonal comparison. A typical outcome goal might be to win a basketball game, place first in a volleyball tournament, defeat an opponent in tennis, or finish the season with a winning record. It is very typical of coaches to speak in terms of the number of wins they hope to have in a particular season.

2. Performance goals

Performance goals specify an end product of performance that will be achieved by the athlete relatively independently of other performers and the team. A typical performance goal for an individual athlete might be to strike out seven batters; score twenty-five points in a basketball game serve five aces in a tennis match, or get fifteen kills in a volleyball game. Intuitively, athletes and coaches should prefer performance goals to outcome goals for two fundamental reasons. First, if performance goals are accomplished, there is a good possibility that outcome goals will also be accomplished. Second, personal satisfaction can be realized from the achievement of performance goals even if outcome goals remain unfulfilled.

3. Processes goals

Process goals focus on specific behaviors exhibited throughout a performance. The important thing for the athlete and coach is that they understand clearly the distinctions between the three and use them all effectively.

Reasons Goal Settings Results in Improved Performance

There are four basic ways in which goal setting can influence performance.

1*. Directed attention*

Goal setting causes the athlete to focus her attention upon the task and upon achieving the goal relative to the task. When she has no specific goal, the athlete's attention wanders from one thought to another without any particular direction. Setting a specific goal causes the athlete to focus her attention on that goal and upon the task that is associated with that goal.

Focusing the athlete's attention on a specific takedown move and practicing it until it was mastered would make it possible for the athlete to achieve his goal.

2. *Effort mobilization*

Once an athlete's attention is directed towards a particular goal, it is necessary for the athlete to put forth the effort necessary to achieving that goal. The very act of increasing or mobilizing effort will have a positive effect upon improved performance.

For example, consider the bowler who wishes to consistently bowl a score of around 250. To bowl consistently in this score range, the athlete must be able to follow a strike with another strike, or at least a spare. Goal setting will therefore have an effect of increasing the athlete's effort during practice so that he can accomplish his goals.

3*. Persistence*

A third way that goal setting influences performance is through persistence. To be successful, an athlete must persist for a long period of time. Persistence is a by-product of effective goal setting. As long as the goal is present and the athlete wants to obtain the goal, he will persist in the effort needed to accomplish it.

Take the example of Tiger woods; thirty days after winning the U.S Open by fifteen strokes, Tiger woods won the British Open by eight strokes. In doing so he accomplished a career Grand Slam at age twenty-four. Woods now masters in both U.S open as well as the British Open.

4. ***Developments of new learning strategies***

Goal setting promotes the development of new learning strategies. Without goals for improvement, an athlete is content to get along with the learning strategies and skills that she currently possesses. Setting of new goals not only directs attention, mobilizes effort, and nurtures persistence, but it forces the athlete to learn new and better ways of accomplishing a skill or task.

For example if the athlete is successful in setting and meeting process goals, improved performance and outcome should be the result. It is interesting to note while watching major league baseball that the catcher will frequently remind the pitcher of a particular process goal relative to pitching technique. For example if the pitcher starts to drop his delivery release point* sidearm delivery) the catcher often mimics the correct overhand throwing action to remind the pitcher of correct technique.

Which Types Of Goals Are Best?

A number of investigations have been conducted contrasting the three different types of goals. Outcome goals, performance goals, process goals, are all good but research supports the position that a multiple goal strategy is the best.

Used in isolation, outcome goals are probably the least effective, but when used in conjunction with performance and process goals, they are helpful. It would seem that a goal-getting strategy that uses all three types of goals is best for the athlete in terms of psychological development, achievement and motivation.

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PRINCIPLES OF EFFECTIVE GOAL SETTING

Goal setting improves performance by directing attention, increasing effort and persistence, and motivating athletes to learn new strategies. Goal setting must be well planned and effective if it is to result in desirable performance results. The following principles should be followed by coaches and athletes in setting effective goals.

1. Make goals specific, measurable, and observable.
2. Clearly identify time constraints.
3. Use moderately difficult goals; they are superior to either easy or very difficult goals.
4. Write goals down and regularly monitor progress.
5. Use a mix of process, performance, and outcome goals.
6. Use short-range goals to achieve long-range goals.
7. Set team as well as individual performance goals.
8. Set practice as well as competition goals.
9. Make sure goals are internalized by the athlete.
10. Consider personality and individual differences in goal setting.

1. Make goals specific, measurable, and observable

The terms specific, measurable, and observable are all related to one another. A **specific goal** is one that focuses exactly on the goal to be achieved. For example: "shooting 80% accuracy in free-throwing shooting" is specific, but "becoming a better basketball player" is not. Whereas a **measurable goal** is one that you can quantify, in the sense that you know exactly how close you are to achieving the goal. The general goal "to become a better server in tennis" is not measurable because you don't know when you have achieved the goal. Similarly an **observable goal** is one that you can measure, because you can observe it. For example, the goal "to hit 80% of my free throws" is observable as well as measurable, because if I shoot with 75% accuracy, I know I have fallen short. Observable performance goals are also referred to as behavioral or action oriented goals.

2. Clearly identify time constraints

Setting time constraint goals that are too short can make a goal seem unreachable and discourage the athlete. Setting time constraint goals that are too distant can also have negative ramifications. Research shows that if an athlete can realistically accomplish a goal in thirty days, don't set a goal to accomplish it in sixty days, because the athlete will use all sixty days to realize the task.

A well-stated goal should be timely in the sense that it specifies time constraints associated with the goal, but also timely in the sense that it reflects an appropriate amount of time to accomplish the goal. If the time constraints is too long, the athlete may procrastinate over the achievement of the goal, while if it is too short, the athlete will view it as unrealistic.

3. Use moderately difficult goals; they are superior to either easy or very difficult goals

Goals should be moderately difficult, so that athletes must work hard and extend themselves in order to meet them. At the same time, however a goal must be realistic, in the sense that the athlete must believe that the goal is achievable. If a goal is perceived by an athlete as not being realistic or achievable, she may become discouraged and not try to achieve the goal.

Recently, 52 percent of Olympic athletes indicated a performance for moderately difficult goals, whereas only 25 percent preferred very difficult goals (Weinberg, Burton, Yukelson & Weigand, 2000)

The acronym **SMART** has been used by sport psychologists to help athletes remember five important characteristics of well-stated goals.

According to Weinberg and Gould (1999) goals should be:

- Specific
- Measurable
- Action-oriented
- Realistic
- Timely

4. Write goals down and regularly monitor progress

An effective goal is one that you write down and monitor regularly to determine if you are making progress. You must take care to avoid making this a laborious and tedious task. If you want to achieve a goal then writing it down and knowing how you are doing relative to achieving the goal is of critical importance.

An effective goal is not one that you think about and then forget. An effective goal also not one that you write down , place in a time capsule, and then open up a year later to see if you have accomplished it. For example, Weight trainers generally are asked to keep a daily log of the amount of weight lifted and the number of repetitions accomplished for each exercise. By recording her goal weight and repetitions for each exercise, the athlete is able to monitor her progress on a daily or weekly basis. Without this kind of recording system, it is unlikely that the athlete could make any sustained progress towards achieving her goals.

5. Use a mix of process, performance and outcome goals

A multiple goal strategy will yield the best performance and psychological results. One should never use an outcome goal strategy by itself. Outcome goals (success/failure) serve as a useful purpose when used in conjunction with process and performance goal, but by themselves they can lead to a loss of motivation. an athlete has a great deal of personal control over process and performance goals, but not so much in outcome goals.

6. Use short-range goals to achieve long-range goals.

When you set out to climb to the top of a mountain peak, your long-range goal to be on top of the mountain looking down within a certain time frame. As you begin the steep climb, however, you almost immediately start making short range goals. For example, you might see a plateau about one hundred yards up and set a goal to get to that point before stopping for a rest. His process continues until you make your last one hundred yard short range goal to reach the top of the mountain before stopping to rest.

7. Set team as well as individual performance goals

Performance goals can be set for a group or a team just as they can be set for an individual. Research shows that the group that set goals as a team performed better than the individual-goal group.

8. Set Practice As Well As Competition Goals

Successful Olympic athletes also value the importance of goal setting for practice as well as competition (Orlick & Partington 1988)

There are number of ways in which practice goals could help an athlete achieve competitive performance goals. For example if a basketball player has a competition performance goal to hit 45% of her field goal attempts, then she should have the same goal for practice. It makes no sense to practice with no goal in mind relative to individual performance and then expect to achieve competitive performance goals. If I am going to be a good shooter during competition, then I had to be a good shooter in practice as well. Setting practice goals is the way to accomplish competition goal.

9. Make sure goals are internalized by the athlete

One of the most important ingredients of good goal setting is that goals are accepted and internalized by the athlete (Locke, 1991). If an athlete sets her own goals, it is relatively certain that she will internalize them. Conversely, if goals are assigned to the athlete by the coaching staff, it is possible that the athlete will not feel ownership for the goals. It only means that the athlete must accept and internalize the goals she either sets herself or is assigned by the coach. Expecting athletes to set their goals is not always the best strategy, because they may not be aware of effective goal setting principles.

Based on their meta-analysis, Kyllo and Landers (1995) concluded that in sport it is best to let athletes either set their own goals or participate in the goal-setting process.

Researchers say that there is no advantage to participative or self-set goals over assigned goals in terms of goal attributes. Athletes must accept and internalize their goals regardless of who initially wrote the goals down. Athletes must feel as though they are in control (self-determination), but it is not necessary for athletes to set their own goals in order to feel this way.

10. Consider personality and individual differences in goal setting

When coaches are involved in the goal setting process, they should take into consideration personality differences. Research shows that gymnasts who exhibited an internal locus of causality disposition performed best when they used a "set you own goals" strategy; in contrast, gymnasts who exhibited an external locus of causality performed best when they used a "coach-set goals" strategy.

The failure of a particular goal-setting plan to work with a particular athlete may be due to the personality and psychological characteristics of the athlete, and not the goal-setting strategies employed.

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A TEAM APPROACH TO SETTING GOALS

There are three components of a team approach to setting goals and they are: (a) the planning phase, (b) the meeting phase, and (c) the evaluation phase.

The Planning Phase

Planning is the first stage for setting goals for team. At this phase the coaching staff conducts a need assessment exercise. In a need assessment, the coaching staff carefully reviews the team as a whole, and each individual, relative to areas of needed improvement. Start with the team as a whole and list the strengths and weakness of the team. From the list of weaknesses, you can articulate specific team needs and write them down.

From the list of team needs, you may conclude that the team needs to improve in team cohesion (togetherness), physical fitness, and ball handling skills. From these team needs, you should write down specific goals that state in observable terms if and when team goals are achieved. For example, when training camp begins, each member of the team will be able to run three miles in less than seven minutes.

Areas of needed improvement are listed for each athlete on the team. Following this exercise, goals should be written that are specific, measurable, and realistic. They should be written and planned in a way consistent with the SMART principle.

Before moving into the next phase that is the meeting phase the coach must carefully consider how best to approach the athletes with the needs assessment and goals for the team and individual athletes. Athletes must accept and internalize the goals that coaches give them. This is the best accomplished by involving the athletes in the actual goal-setting process. There is no sense in approaching this step from a dictatorial perspective, because if the athlete does not internalize a goal, then it is not his.

In addition to considering how to involve the athlete in the goal-setting process, the coach must plan how to implement the goal-setting process and to monitor it once it is implemented.

The Meeting Phase

The most straight forward component of the meeting phase is the initial meeting, in which team goals can be reflected upon and discussed. This can be very useful in terms of discussing previous year's performance and giving a realistic assessment of what to expect for the future. Coaches should educate athletes on the differences between outcome, performance and process goals. Process and performance goals tell the athlete exactly what they must do as a team to accomplish outcome goals.

In a subsequent meeting, coaches should instruct athletes on the SMART principle and on how to write and put into words their own personal goals. Together coaches and athletes mutually agree on goals to be targeted.

In addition to setting clear, measurable goals, coaches must implement a plan or strategy to achieve the stated goals. And in setting goals, coaches must assist athletes in developing a plan to accomplish the goals.

A series of short-range goals should be set to help break the long-range goal into smaller units. The coach and athlete must decide what daily running schedule would be most beneficial for the athlete. A detailed strategy must be decided upon if the athlete has any hope at all of achieving a difficult goal. Every goal must have a plan by which to achieve it.

The Evaluation Phase

The evaluation phase of goal setting should take place at the end of the competitive season, but also throughout the season. Goals set by the team and by individuals should be monitored regularly. Monitoring of process and performance goals should take place following each competition, as well as after practice sessions. It is critical to the evaluation component of goal setting that performance statistics be kept on every game and match.

Outcome goals are easier to monitor because they relate to success or failure. Without constant monitoring, feedback, and evaluation, the goal-setting process will not be effective.

Common Goal-Setting Pitfalls

Failure to consider the principles of effective goal setting would represent ten different ways to undermine the goal-setting process. In practice, though, there are several common pitfalls, or reasons goal setting does not result in improved performance.

These pitfalls come under the general headings of:

- Poorly written goal statements
- Failure to devise a goal-attainment strategy
- Failure to follow the goal-attainment strategy
- Failure to monitor performance progress
- discouragement

Poorly written goal statements

One common problem for athletes is that their goals are so vague and general that they cannot tell if they are making progress (Weinberg 1997). Violation of the SMART principle in setting goals is the most common reason goals are not met. Among other things, a goal must be specific, measurable, action orientated, realistic, and timely.

Failure to devise a goal-attainment strategy

A goal without a plan to achieve the goal almost always results in ineffective goal setting. Without a well-conceived plan to improve drive distance and accuracy, approach shot accuracy, and putting accuracy, it is unlikely the athlete will achieve the goal.

Failure to follow the goal-attainment strategy

Once a goal-attainment strategy or plan has been decided upon, it is necessary to follow the plan. Not completely committed to the program, the man fails to lose any weight during the first six months, so he gives up and decides goal setting dose not work.

Failure to monitor performance progress

Failure to monitor measurable and observable progress in sport makes it impossible to tell if goal setting is working. for example if you're a quarterback in college football, and your goal is to increase pass completion percentage, you wont have to worry about monitoring your progress, because the coach will tell you exactly how many passes you attempted, and how many you caught.

Discouragement

There are many ways that discouragement can sabotage the effectiveness of goal setting in sport. Here are some of them;

Goal difficulty

Athletes get discouraged with goal setting when the goal appears too difficult or nonrealistic. If performance is being monitored, adjustments in goals can be made. If goals are too hard and seem impossible to obtain, it makes sense to adjust the goal to make it more reasonable.

Use of outcome goals

When an athlete sets only outcome goals and does not realize the goals, this can be very discouraging. For example if your goal was to win seven out of ten soccer matches, and you have already lost five games with only five to go, what you really have to do is just revise the outcome goals down from 75% wins to 25% wins, but it would be better if you focus on achieving performance and process goals. It is never too late to start setting personal performance goals.

Too many goals

Whatever the reason, athletes can get discouraged when they try to accomplish too many things at once. If an athlete is just learning to play the game of tennis, there are numerous areas of needed improvement. The athlete should not try to accomplish too much at once. She should slow down and focus upon one goal at a time.

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YOUTH SPORT

When people think of applied sport psychology, they usually think of elite athletes and how to improve athletic performance. This is certainly the focus of sport psychology, however, when you consider that there are millions of children between the ages of six and eighteen, you see the tremendous potential for human enrichment and development. If every child who participated in sport emerged with increased self-confidence, greater perceived ability, increased intrinsic motivation, and greater self-esteem, the world and society would certainly be better for it. Unfortunately, many youth who would like to participate in organized sport programs are unable to do so because of limited resources. This lecture is dedicated to the important topic of youth sport. We will be looking at the benefits of youth sports, reasons children participate or withdraw from sports, potential negative factors associated with the youth sport experience, training volunteer coaches in developed countries, and the coach-parent relationship.

Youth sport programs can be classified into two categories; school-sponsored programs, and nonschool programs. School sponsored programs operate at schools and generally they have the luxury of dedicated facilities and qualified coaches, although this is not always the case. Nonschool youth sport programs operate in quite a different way. These programs are usually run by agencies and city recreation departments. Nonschool programs usually do not have dedicated places for practice and uses volunteers as coaches. Typically, an adult volunteer is assigned to supervise and to coach a team. Love for sport, of course is the primary motivation of the adult to volunteer to spend hundreds of hours of his free time coaching children. We will be discussing youth sport as a whole, covering both types of youth sport programs.

Benefits of Youth Sports and Reasons Why Children Participate

Studies show that the number one reason children give for participating in youth sports is "to have fun." When it isn't fun any more, the young athletes will find something else to do. Based on numerous investigations, following motives for participation have been identified by youth sports participants:

1. The motive to have fun and to enjoy participating in sport.
2. The motive to learn new skills and to improve on existing sports skills.
3. The motive to become physically fit and to enjoy good health.
4. The motive to enjoy the challenge and excitement of sports participation and competition.
5. The motive to enjoy a team atmosphere and to be with friends.

This list also represents some of the perceived benefits of youth sport participation. The benefits of youth sport participation include having fun, learning new sports skills, getting physically fit, experiencing the excitement of competition, and making new friends. Other intangible benefits include things like learning to cooperate with teammates and coaches, learning what it means to be a good sportsperson, and developing a sense of perceived competence and self-efficacy. A positive youth sports experience will enhance intrinsic motivation, which will in turn lead to continued participation in sports throughout a lifetime.

Potential Negative Factors Associated With the Youth Sports Experience

If youth sports are not organized and supervised by responsible adults, there may be some negative consequences of youth sport participation. The potential negative consequences of youth sport participation are:

Too much competition and focus upon winning.

Competition gives the youth sport participants an opportunity to put all of their training and hard work to the test. The problem arises when winning becomes so important that it becomes the sole purpose of competition. When winning becomes that important, it forces an external locus of control, and the athlete's sense of self-determination and autonomy is diminished, as is intrinsic motivation.

Distress and anxiety

Too much emphasis upon competition and winning leads to increased levels of distress and anxiety. These terms are related to a child's fear of failure and worry about disappointing others. You simply cannot enjoy playing a cricket game if you are fearful every time it is your turn to bat or are worrying that the ball might be hit to you when you are in the field. The FLOW experience should be kept in mind, and the focus should be towards enjoying the experience. You cannot experience FLOW if your focus is upon winning. Your focus must be on the experience itself and not upon outcome. The FLOW experience and feelings of anxiety and distress are incongruent with each other.

Violence and aggression among adults

Another negative factor associated with youth sport is violence and aggression among adults. According to some researches, it is something that is increasing rather than decreasing.

Why Youth Drop Out Of Sports?

Children's surface reasons for withdrawal from sports are:

1. Participating in sport not being fun anymore
2. Failure to learn new skills or to improve on existing skills.
3. Lack of physical activity
4. Lack of thrills, challenges, and excitement
5. Poor team atmosphere, not making friends

Another surface reason given by youth sports participants for dropping out is "change of interest" or "other things to do". An athlete's decision to drop out from one sport does not mean that she is a dropout from all youth sport activities. She might be giving up swimming for tennis, or badminton for field hockey. Consequently, it is important to determine if a youth is a specific-sport dropout or a general-sport dropout. Withdrawing from one sport to participate in another is less of a concern to sport psychologists than dropping out from sports altogether.

Other than surface reasons of why youth dropout, there are the underlying psychological **reasons** for withdrawal. Distress and worry associated with too much emphasis upon winning and competition is an example. There factors undermine a child's intrinsic motivation or love for the activity. There is no longer an intrinsic reason to continue sports participation, and the external rewards are insufficient motivators. Withdrawal from sport for underlying psychological reasons is more serious than withdrawal due to surface reasons.

Training Volunteer Coaches in Developed Countries

The best way to assure a quality youth sport program is to provide quality training and supervision of volunteer coaches (Smith & Smoll, 1997). A number of coach training programs have been developed to assist volunteer coaches in creating a positive and enjoyable athletic experience; we will be briefly discussing Coach Effectiveness Training (CET; Smith & Smoll, 1997).

There are two types of reactions of coaches which may affect sport participation. **Reactive behaviors** are coach reactions to players or team behavior. For example, a player makes a mistake and the coach responds by verbally chastising the player. **Spontaneous behaviors** are initiated by the coach and do not occur in response to player behavior.

Coach Effectiveness Training (CET)

The coach effectiveness training (CET) program is based upon over twenty years of research. The purpose of the CET is to teach youth coaches how to engage in team building. Effective team building results in teams that have a positive climate, whose members enjoy a sense of satisfaction, and feel attraction to the team as well as each team member. The purpose of team building is not necessarily to better win/loss record, but the promotion of more enjoyable and valuable developmental experience. A CET workshop lasts approximately for two and a half hours. Behavioral guidelines for effective coaching techniques are presented and discussed.

Coach-Parent Relationships

To a large extent, problems in youth sport come from two basic sources. The first is a failure on the part of coaches and parents to distinguish clearly between the youth sports model and the professional model of sport, and the second is what Smith and Smoll (1996) have named the "reversed-dependency trap" the youth sports model provides an educational setting for the development of desirable physical and psychological characteristics in the youth athlete. Conversely, the professional sports model is a commercial enterprise in which the stated goals to entertain and to make money. Some parents and coaches fail to differentiate between the two and act as if they are the same. The reversed-dependency trap describes a situation in youth sport in which the child becomes an extension of the parent. A parent comes to define his own sense of self-worth in terms of the success and failure of his son or daughter. When this happens, the parent becomes a "winner" or a "loser" through his young athlete. The guiding principle for a coach-parent relationship is good communication, and that it is two way street.

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LESSON 12

ATTENTION AND CONCENTRATION IN SPORT

According to William James (1890), attention is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. It Implies withdrawal from some things in order to deal effectively with others. In sport, nothing can be more important than paying attention to the object at hand. Sport psychologists have recognized the importance of attention, and that it can be very complex. This topic consists of ten important concepts; first five will be discussed in this lecture, and the remaining in lecture thirteen.

Important concepts include the following:

1. Information processing
2. Memory systems
3. Measuring information
4. Selective attention
5. Information processing capacity
6. Attentional narrowing
7. Being in the zone
8. Measuring attentional focus
9. Attention control training
10. Associative versus dissociative attentional styles.

Information Processing

There are two basic approaches to explaining behavior. The first and probably better understood is the behavioral, or **stimulus-response approach**. In this way of looking at things, the world is explained through a series of stimulus-response (S-R) connections. With animals this approach has been extremely successful, but for human beings it seems too simplistic. There seems to be more to human behavior than the simple act of strengthening the bond between a stimulus and a response. Certainly, a great deal goes on in the brain between the time that a stimulus is given and the time that a response in initiated. This notion is accepted by the cognitive psychologists and is referred to as the **information processing model** of behavior. The information processing model contains a stimulus and a response, but a large number of mental operations occur between the two. For a person to experience a stimulus and respond to at a later time, there must be a memory storage capacity. That is, the person must have a memory, or place to save important information. Once the information has been saved, the person must be able to reactivate or retrieve it. Retrieval enables us to use the information to make decisions about forthcoming responses. This is information processing in action, and it takes place constantly on the athletic field.

Memory Systems

There are three basic memory systems:

Sensory information store
Short-Term Memory (STM)
Long-Term Memory (LTM)

Sensory Information Store

The first stage in the human memory system, sometimes called sensory register. This storage system is capable of holding large amounts of sensory information for a brief amount of time before most of it is lost. Information is thought to remain in the sensory register for up to one-half second before it is either lost or transferred to a more permanent storage system.

Short-Term Memory (STM)

The short term memory (STM) is the center, or crossroads, of activity in the information processing system. Information comes into STM for rehearsal from both sensory store and permanent memory. Information that comes into STM from the sensory store is often new or original information. If we do not rehearse and memorize it quickly, we will likely forget it. For example, when one gets a new telephone number, he tends to repeat it several times to remember it. The quality of rehearsal determines whether or not information in STM is passed on to long-term memory. The absolute capacity of short-term memory is relatively limited, for example, it would be difficult for an average person to retain more than seven separate words or numbers in STM at one time.

Long-Term Memory (LTM)

Whereas information in short-term memory is present for only a brief period of time, information in long-term memory (LTM) is relatively permanent. Once information is stored in LTM, it is theoretically permanent. Information in LTM can be continually upgraded, reorganized, and strengthened. New information can also be added to LTM.

Measuring Information

Psychologists can measure the amount of information that is conveyed by a particular problem or task. The amount of information conveyed or transmitted by a particular problem is measured in bits of information, (short for "binary digit"). The more bits of information conveyed the more difficult the problem being presented.

There is a clear relationship between an athlete's skill and information conveyed. As skill increases, information conveyed increase. The more information conveyed by an offensive player, the more difficult it is going to be for the defensive player to respond. Applying this principle in the game of cricket, a highly skilled bowler will be conveying more information and making it difficult for the batsman to respond.

Selective Attention

Selective attention is the ability to gate out, or ignore, irrelevant sensory information, and to pay attention to relevant information. Each of us has experienced the feeling of over stimulation that can result in an inability to concentrate. If it were not for our ability to concentrate on one or two relevant items at a time, we simply could not function. The ability to selectively attend to appropriate stimuli is critical in most athletic situations. In basketball, an athlete must concentrate on the basket while shooting a free throw rather than being distracted by the noise from the crowd. In cricket, an athlete facing the bowler must concentrate on ball instead of being distracted by thoughts of a previous play. Some athletes are better than others at selectively attending to important cues. This is one difference between the good athlete and the outstanding athlete.

For highly trained and skilled athletes, the process of selective attention is very efficient. When skilled basketball players step up to the free throw line, they refuse to allow anyone or anything besides the task at hand to capture their attention. Coaches refer to this process as "concentration". However, some athletes never so learn how to cope with distraction. Every little thing distracts them, or they concentrate on wrong things.

Limited Information Processing Capacity

An alternative approach to studying attention is to view it in terms of information processing capacity, or space. We have the capacity to attend to more than one thing at a time. For example, a person driving

a car can listen to music, steer the car, and shift gears all at the same time. If a specific task requires all of the information processing space, than that specific task is selectively attended to at the expense of all others. If a specific task does not require all of the available space, then more than one task can be attended to at one time, depending upon the attentional demands of the second task. this is called the capacity model of selective attention.

In the capacity model of attention, more than one piece of input can be attended to at one time and more than one response can be made at one time, if the demands on available space are not too severe.

Wrisberg and Shea (1978) demonstrated through the use of the reaction time probe that the attentional demands of a motor act decrease as learning increases. In other words as a motor act becomes automatic or learned, the demands on the limited information processing capacity of the athlete decrease, and the athlete can attend to other cues. Reaction time probe is a technique used in attention research to determine if a certain primary task requires information processing space.

An important factor that should be considered is the notion of individual differences (Keele & Hawkins, 1982). No two individuals are alike in terms of the amount of attention required to deal with more than one task at a time. Therefore, one should not assume that two athletes possessing an equal amount of playing experience will perform the same when confronted with a multiple-task problem. One athlete might experience some difficulty in performing tasks A and B together, but perform task B and C flawlessly. On the other hand, a second athlete might experience difficulty performing tasks B and C together, but experience no difficulty with tasks A and B together.

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LESSON 13

ATTENTION AND CONCENTRATION IN SPORT

This lecture is a continuation of lecture twelve, the remaining five concepts of attention and concentration which will be discussed in this lecture are:

- Attentional narrowing
- Being in the zone
- Measuring attentional focus
- Attention control training
- Associative versus dissociative attentional styles.

Attention Narrowing

An athlete's ability to attend to appropriate stimuli during competition has been termed attentional focus. The concept of attentional focus includes the ability of an athlete to both narrow and broaden her attention when necessary. For example, in cricket, a fielder attempting to run out a batsman must be able to broaden his attentional focus in order to see other teammate who will be collecting his throw and hitting the stumps. The same player must be able to narrow his attentional focus while batting in order to block out distractions from the crowd.

The notation of attentional narrowing is best understood in terms of cue utilization. Environmental cues provide the athlete with needed information for a skilled performance. In any sport task, many cues are available to the athlete. Some are relevant and necessary for quality performance; others are irrelevant and can damage performance. Under conditions of low arousal, the athlete picks up both relevant and irrelevant cues. The presence of irrelevant cues should result in a decrement in performance. As arousal increases, the athlete's attention begins to narrow. At some optimal point, attentional narrowing gates out all of the irrelevant cues and allows the relevant cues to remain. At this point performance should be at its best. If arousal increases still further, attention continues to narrow and relevant cues are gated out, causing deterioration in performance.

High levels of arousal may also lead to the phenomenon of distractibility. In addition to gating out potentially relevant cues, high arousal may also decrease an athlete's ability to selectively attend to one stimulus at a time. Distractibility has the effect of decreasing the athlete's ability to discriminate relevant and irrelevant cues, and to focus upon relevant cues. The athlete who is suffering from distractibility tends to experience sudden and significant decrements in performance. Performing in an athletic event requires an athlete to narrowly focus upon the task at hand in order to realize success. Too much arousal undermines the athlete's ability to narrowly focus attention in a quality manner, while too little arousal may introduce unwanted competition between irrelevant and relevant cues.

Most recently, Janelle, Singer, and Williams (1999) reported the results of an experiment in which increased arousal decreased performance on both a central car driving task and a peripheral reaction time task. Similarly, research conducted by Williams and Elliot (1999) showed that under conditions of increased and decreased attentional narrowing, athletes alter the way in which they scan peripheral information. Under conditions of low arousal, athletes used peripheral vision (broad focus). Under conditions of high arousal they use peripheral scanning (narrow focus).

Attentional flexibility refers to the ability of athletes to quickly and effectively shift their attention from one location to another. Another characteristic of attentional flexibility is the ability of individuals to shift from a very narrow attentional focus to a very broad focus.

Cognitive interference is defined as "thoughts of escape" and "task-irrelevant thoughts". Any random thought or event that would tend to break an athlete's concentration could be considered cognitive interference.

When Athletes Are In the Zone

When the body is brought to peak condition and the mind is completely focused, even unaware of what it's doing, an individual can achieve the extraordinary (Tolson, 2000). The concept of a zone of optimal functioning was first introduced by Russian psychologist Yuri Hanin (1980) when he presented his theory of optimal functioning relative to state anxiety. Another individual who is often mentioned in discussion of the "zone" is Mihaly Csikszentmihalyi, (1975) who generated the concept of FLOW. Being a "physical genius" is not just being in the "zone", it is perfecting your game mentally and physically, so that you are in the "zone" when you need to be.

In learning a new sport skill, an athlete must focus upon **controlled processing** of information. This means that the athlete must attend to the details of executing the skill to be learned. For example, a beginning basketball player's attention is focused on learning how to dribble a basketball, to the exclusion of other important cues. Controlled processing is relatively slow and effortless, consuming most of the available information processing capacity of the individual.

Once a sport skill is mastered, it comes under **automatic processing.** The execution of the skill is still being monitored by the brain, but because it is well learned it requires little conscious attention. Now, the basketball player will be focusing most of the available information processing space on other basketball related cues.

The perfect execution of a sport skill is best thought of as an elegant interaction between mind and body.

Measuring Attentional Focus

Landers (1988) identified three primary ways in which attention may be measured by sport psychologists. In method one a behavioral assessment of attention is made using the reaction time probe technique. In this procedure, attention demands of a primary are estimated based on a subject's performance on a secondary reaction time task. The second method used by sport psychologists for assessing attention is the use of psychological indicators. Psychological arousal and attentional focus are closely related. As the level of arousal increases, an individual's attentional focus tends narrows. The third method is through the use of the self-report. The self report method is more of an indicator of attentional focus as a personality trait or disposition

Attention Control Training

Sport psychologists have written extensively about attention control training (Nideffer, 1992; Nideffer & Sagal, 1998; Schmid & Peper, 1998; Zinsser, Bunker, & Williams, 2001). The primary component of **attention control training** (ACT) is the process of narrowing or widening attention through arousal management strategies.

Focusing Attention

As an athlete prepares for competition, she will focus her attention internally, as she considers thoughts and feelings associated with analyzing and rehearsing; and externally, as she assesses the situation, teammates, and opponents. Attention control required for actual competition is generally externally focused and ranges from narrow to broad, depending on the situation.

Thought Stopping and Centering

In addition to arousal management, attention training must teach the athlete how to eliminate negative thoughts. Self-talk is an attentional strategy designed to focus an athlete on positive thoughts and

behaviors. It is critically important that the athlete learns to use attention to stop negative thoughts and to focus on positive thoughts. Attention control is a technique designed to keep the athlete from slipping into a cycle of anxiety and self-doubt.

It is important for an athlete to approach every sport situation with a positive attitude and belief that she can win. When negative thoughts come into consciousness, they must be removed or replaced by positive thoughts. The process of stopping a negative thought and replacing it with a positive one is referred to as **thought stopping** (Zinsser et al, 2001). It is a basic principle of psychology that an athlete cannot give quality attention to more than one attention-demanding task at a time. Once the negative thought has been displaced, the athlete centers her attention internally. The process of **centering** involves directing thoughts internally. Many athletes accomplish this by taking a deep breath and exhaling slowly.

The following basic steps are used in the thought-stopping and creating procedure:

Displace any negative thought that comes into your mind with a positive thought.

Center your attention internally while making minor adjustments in arousal.

Narrowly focus your attention externally on a task-relevant cue associated with proper form.

1. Execute the sport skill as soon as you have achieved a feeling of attentional control.

Learning the thought-stopping and centering procedure takes practice. The critical point to understand is that negative thoughts can be displaced, and that though the process of centering, the thoughts that capture attention can be controlled. The conscious process of thought stopping and centering will divert the athlete's attention from threatening thoughts and anxiety-producing stimuli. Selective attention will effectively gate out the unwanted thoughts if the correct thoughts are pertinent and meaningful to the athlete.

Associative Versus Dissociative Attentional Style

Morgan (1978) hypothesized that marathon runners adopt one of two attentional styles to assist them in training and competition. The associators internalize the directions dimension of attention and focus on the body's sensory feedback signals. The dissociators externalize the direction dimension of attention and gate out or block sensory information from the body.

Measurement of Attentional Style

Masters and Ogle (1998a) noted that researchers have utilized six different methods of measurements. Methods of measurement include:

1. Pencil-and-paper inventories
2. Structured interviews
3. Tape recording during running
4. Objective data
5. Subjective data
6. Experimenter rating

Pencil-and-paper inventories include the Running Style Questionnaire (RSQ; Silva & Appelbaum, 1989); Brewer, Van Raalte & Linder, 19996), and the Thoughts During Running Scale (TDRS; Goode & Roth, 1993).

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LESSON 14

PERSONALITY AND THE ATHLETE

Sport psychologists have long been intrigued with the question of whether or not successful athletic performance can be accurately predicted on the basis of personality or psychological assessment. Effectiveness of psychological testing in predicting athletic success is quite frequent. A large percentage of professional teams use psychological testing to assist them in making personnel decisions.

In the 1960s and 1970s, research involving the athlete and personality assessment was very popular. Ruffer (1975, 1976a, 1976b), for example, cited 572 sources of original research in a compilation of references on the relationship between personality and athletic performance. In recent years, however, interest in this kind of research has waned because of lack of consistent correlations between personality factors and athletic prowess.

The concepts to be introduced and studied in this lecture are:

- Definition of personality
- Theories of personality
- Measurement of personality
- The credulous versus skeptical argument
- Personality and sport performance.

Personality Defined

Personality is defined as an individual's characteristic pattern of thinking, feeling, and acting. In other words personality is "all the consistent ways in which the behavior of one person differs from that of others, especially in social situations." The key words in this definition are basically "consistent" and "differs". An individual's personality defines the person in unique ways that remain stable and consistent over time. If an athlete consistently exhibits the characteristics of being assertive on and off the athletic field, we might say that he is an assertive person.

Theories of Personality

The four major theoretical approaches to the study of personality are as follows:

1. Psychodynamic theory
2. Social learning theory
3. Humanistic theory
4. Trait theory

Psychodynamic Theory

This theory basically deals with Unconscious conflicts between internal impulses and social restraints. Perhaps the most influential proponent of psychodynamic theory was Sigmund Freud. Among the neo-Freudians are Carl Jung, Erich Fromm, and Eric Erickson. Freud's psychodynamic theory and his method of treating personality disturbances were based primarily upon self-analysis and extensive clinical observation of neurotics.

Two distinguishing characteristics of the psychodynamic approach to personality have been its emphasis upon in-depth examination of the whole person, and its emphasis upon unconscious motives.

In Freud's view, the id, ego, and superego form the tripartite structure of personality. The id represents the unconscious instinctual core of personality; in a sense, the id is the pleasure-seeking mechanism. In contrast, the ego represents the conscious, logical, reality-oriented aspect of the personality. The superego represents the conscience of the individual; it is the internalized moral standards of society impressed upon the person by parental control and the process of socialization. Freud proposed that the ego aids in the resolution of conflicts between the id and the superego. Essentially, Freud advocated a conflict theory of personality. In this respect, the three parts of the psychi structure are always in conflict.

The individual's personality is the sum total of the dynamic conflicts between the impulse to seek release and the inhibition against the impulses. The individual's unconscious sexual and aggressive instincts are major determinants of behavior according to Freud. Athletic aggression represents a potential example of this approach. Instinct theory provides one explanation for the phenomenon of violence in sport.

Social Learning Theory

The basic position of the social learning theory is that human behavior is a function of social learning and the strength of the situation. An individual behaves according to how she has learned to behave as this is consistent with environmental constraints. If the environmental situation is prominent, the effect of personality traits or unconscious motives upon behavior should be minimal. According to social learning theory, a child's performance and behavior is a function of the child's experiences and environment.

The origin of social learning theory can be traced to Clark Hull's 1943 theory of learning and to B.F. Skinner's (1953) behaviorism. Other researchers, such as Miller and Dollard (Miller, 1941), Mischel (1986), and Bandura (1977, 1986), extended the Hullian notions of human behavior. Two of the primary mechanisms through which individuals learn are **modeling** and **social reinforcement.** Modeling, or imitative behavior, refers to the phenomenon of learning through observation. Albert Bandura's social learning theory is based primarily upon this important concept. According to Bandura, behavior is best explained as a function of observational learning. Social reinforcement is based upon the notion that rewarded behaviors are likely to be repeated.

For example, a young cricket player observes on television that professional athletes are often able to intimidate bowlers through aggressive behavior. Using the professional athletes as his model, he tries the same tactics in his game, and is reinforced by the coach with a pat on the back. This example illustrates how young athletes develop questionable behaviors through modeling and social reinforcement.

Humanistic Theory

The major proponents of the humanistic theory of personality are Carl Rogers and Abraham Maslow. Rogers and Maslow argued that human nature is inherently healthy and constructive. At the center of the humanistic theory of personality is the concept of **self-actualization**. The human organism possesses an innate drive or tendency to enhance itself, to realize capacities, and to act to become a better and more self-fulfilled person. In the developing personality, openness to experiences that then shape the individual is of c critical importance. It is not necessarily the experience that shape the individual, but the individual's perception of that experience. Self-actualization is an on going process of seeking congruence between one's experience and one's self concept.

Maslow's contribution to the humanistic theory is in the development of his hierarchical motive system based on the notion of hierarchical needs. For Maslow, the end goal of all human experience is self-actualization, but to get there the person must first have lesser needs fulfilled.

Trait Theory

The basic position of trait or factor theory is that personality can be described in terms of traits possessed by individuals. These personality traits are considered synonymous with dispositions to act in a certain way. Traits are considered to be stable, enduring, and consistent across a variety of differing situations.

Among the most ardent advocates of trait psychology are psychologists such as Gordon Allport, Raymond Cattell, and Hans Eysenck. Cattell (1965, 1973) identified thirty-five different traits that he believed described a personality. Using a similar approach, British psychologists (Eysenck & Eysenck, 1968) concentrated on the dimensional traits of neuroticism-stability and introversion-extraversion. Cattell emphasized the importance of the environment. Cattell (1965) believed that typical responses are a function of both the situation (environment) and the personality disposition. This is evident from his formula,

R = S x P in which, R= response, S= situation, and P= Personality.

The thirty-five specific personality traits originally identified by Cattell in 1965 form the basis of the fifth edition of the 16PF, a measure of personality. In recent years, traits psychologists claim to have identified the big five personality traits (John & Srivastava, 1999; Kalat, 1999). The big five traits which are believed to represent a consolidation of Cattell's original thirty-five personality traits are the following:

1. Neuroticism
2. Extraversion
3. Agreeableness
4. Conscientiousness
5. Openness to new ideas.

The greater strength of the trait theory of personality is that it allows for the easy and objective measurement of personality through the use of inventories. If it can be demonstrated that a collection of traits can accurately describe a person's psychological profile, then this certainly is superior to a psychoanalytic approach, in which personality is inferred through less objective techniques. Conversely, the weakness of the trait approach is that it may fail to consider the whole person, since according to this approach; personality is represented by a collection of specific traits.

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LESSON 15

THE MEASUREMENT OF PERSONALITY

It should be pointed out that the various methods of assessing personality correspond closely to the basic personality theories we have just discussed. For example, Projective tests such as the Rorschach test are closely linked to the psychoanalytic theory of personality. Conversely, the various paper-and pencil inventories are linked to traits theory.

The methods outlined here are not perfect; nor do psychologists agree on the meaning of the results of any particular test.

There are three basic classes of measurement techniques. They are:

- Rating scales
- Unstructured projective tests
- Questionnaires

Rating Scales

Characteristically, rating scales involve the use of a judge or judges who are asked to observe an individual in some situation. The judge employs the use of a checklist or scale that has been predesigned for maximum objectivity. Usually, if the checklist is used properly and the judges are well trained, the results can be fairly reliable and objective.

Typically, two types of situations are involved in personality assessment using rating scales. And these are,

1. The interview
2. The observation of performance

In **the interview**, the judge asks the subject numerous open-ended and specific questions designed to ascertain personality traits and general impressions. Generally, several interviews are necessary to gain impressions about underlying motives (the core of personality). If the interview is conducted properly, carefully, and systematically, the results can be reliable and valid. However, much depends upon the skill and sensitivity of the person conducting the interview.

On the other hand the observation of a subject during some type of performance situation is the second kind of rating system used for ascertaining personality. As with the interview, observations can be effective if the checklist being used is well designed and planned, and if the observer is highly trained.

Projective Procedures

Projective procedures may also be used to identify traits, but they are commonly used to determine information about underlying motives. Projective techniques allow subjects to reveal their inner feelings and motives through unstructured tasks. Theses techniques are used primarily in clinical psychology and are somewhat synonymous with the psychoanalytic and humanistic approaches to explaining personality. The underlying assumption is that if subjects perceive that there are no right or wrong responses, they will likely be open and honest in their responses.

Several kinds of tests have been developed; amongst them are **Rorschach test**, the **Thematic Apperception Test,** the **Sentence Completion Test**, and the **House-Tree-Person Test**.

The Rorschach Test

Herman Rorschach, a Swiss psychiatrist, was the first to apply the inkblot to the study of personality. The **Rorschach test** was introduced in 1921, and remains the most famous of all the projective testing devices. The test material consists of ten cards. Each card has inkblot on it, which is symmetrical and intricate. Some of the cards are entirely in black and white, while others have a splash of color or are nearly all in color. The cards are presented to the subject one at a time and in a prescribed order. As the cards are presented, the subject is encouraged to tell what he sees.

Though the Rorschach test has not been used extensively by sport psychologists to evaluate personality in athletes but there is no doubt that the responses the clients give to the Rorschach test contain a wealth of personal information. The question is whether the psychologist can accurately interpret the response. Research (Weiner, 1994) suggests that when the Rorschach is used as an objectively scored test, as recommended by Exner (1986), it is a reliable and psychometrically sound test.

The Thematic Apperception Test

The Thematic Apperception Test, developed by Henry Murray and his associates in 1943 at the Harvard University Psychological Clinic, has been used almost as extensively as the Rorschach test. The TAT is composed of nineteen cards containing pictures depicting vague situations, and one black card. The subject is encouraged to make up a story about each picture. In contrast to the vague blots in the Rorschach test, pictures in the TAT are rather clear and vivid. For example, the sex of the characters in the picture and their facial expressions are generally identifiable. It is believed that subjects reveal or project important aspects of their personalities as they weave the characters and objects in the picture into either an oral or a written story.

Like the first test that is the Rorschach test the TAT has not been used extensively by the sport psychologists to measure athlete's personality. But its validity and reliability are highly dependent upon the skills and training of the individual administrating and interpreting the results.

Structured Questionnaire

The structured questionnaire is a paper-and—pencil test in which the subject answers specific true-false statements. There are many different kinds of questionnaire type personality inventories. For our purposes we will focus our discussion on the **two** most commonly used personality inventories.

One of these inventories was developed to be used with individuals suffering from personality disorders, while the other was developed for normal populations.

1. Minnesota Multiphasic Personality Inventory

The **Minnesota Multiphasic Personality Inventory** (MMPI) is the most widely used of all personality inventories. It basically consists of a series of true/false questions designed to measure personality traits and clinical conditions of the athletes.

The original version of the MMPI, **composed of 550 items**, was developed in the 1940s and is still in use (Hathaway & McKinley, 1940). A revised version of the inventory, composed of 567 items, was developed in 1990 and named the MMPI-2 (Butcher, Graham, Williams, & Ben-Sporath, 1990). These authors also developed a new form of the inventory to be used with adolescents (MMPI-A). The traits measured by the MMPI-2 include the following **hypochondria, depression, hysteria, psychopathic deviation, masculinity-feminity, paranoia, obsessive-compulsive behavior, schizophrenia, hypomania, and social intraversion**. The inventory also includes items to detect lying and faking

good/bad scores. While the MMPI-2 was designed specifically for use with clinical populations, it may be used with normal individuals (Hathaway & McKinley, 1967)

2. Cattell's Sixteen Factor Personality Inventory

Developed by Robert Cattell (1965), the Sixteen Factor Personality Inventory **(Cattell 16 PF)** is based upon **thirty-five personality traits** originally identified by Cattell. Through a statistical process known as factor analysis, Cattell reduced the thirty-five specific traits to sixteen broader traits or factors.

The current edition of the 16PF is titled the 16PF Fifth Edition (Russell & Karol, 1994), and is composed of 185 items. The 16PF takes from thirty-five to fifty minutes to complete and is designed for adults, or those aged sixteen years and over. The 16PF measures 16 primary personality factors; it also included a social desirability index to assess faking good or bad.

16Pf Primary Traits

1. Warmth
2. Reasoning
3. Emotional Stability
4. Dominance
5. Liveliness
6. Rule-Consciousness
7. Social Boldness
8. Sensitivity
9. Vigilance
10. Abstractedness
11. Privateness
12. Apprehension
13. Openness to Change
14. Self-Reliance
15. Perfectionism
16. Tension

Cattell believed that the sixteen traits measured by the 16PF could be further condensed down to five secondary or **global personality traits which are,**

1. Extraversion
2. Anxiety
3. Tough-Mindedness
4. Independence
5. Self-Control

Plotted standardized scores produce what sport psychologists call a **personality profile**. A standardized score is a score that has been converted from a raw score so that it indicates whether an individual is high or low in a characteristic relative to other individuals of the same gender, age, and academic background.

When the sport psychologist uses the 16 PF, materials and instructions are provided that show her how to convert raw personality scores into standardized scores and then plot them in a personality profile. In this way each athlete's personality profile can be produced.

In terms of reliability and validity, the Cattell 16PH is a good test to be used for measuring the personality of athletes. Its copyrighted inventory, so it can only be used with the permission of the Institute for Personality and Ability Testing (IPAT).

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PERSONALITY AND THE ATHLETE

Structured Questionnaires Designed For Athletes

In addition to the MMPI and the 16Pf, sport psychologists also use other inventories that may be considered personality inventories. So far we have learned that we could measure the personality trait of self-confidence using Vealey's (1986) Trait Sport-Confidence Inventory. We learned that we could measure task and ego goal orientation using either the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda 1989), or the Perceptions of Success Questionnaire (POSQ; Roberts, 1993). We learned that we could measure attentional focus using Nideffer's (1976) Test of Attentional and Interpersonal Styles (TAIS). These inventories were designed to measure specific personality disposition or traits.

In addition to the specific trait inventories, sport psychologists have developed general personality inventories designed to measure personality traits in athletes. These inventories have generally been developed for the purpose of studying the relationship between personality and athletic performance. You should know that no scientific study to date has shown a strong statistical relationship between personality variables and athletic ability. Personality and psychological testing can play an important role in player development, but no evidence exists to justify its use in making personnel decisions.

In this section three personality/psychological inventories will be mentioned, they are:

- Athletic Motivation Inventory
- Winning Profile Athletic Instrument
- Troutwine Athletic Profile

Athletic Motivation Inventory

The Athletic Motivation Inventory (AMI) was developed by Thomas Tuko, Bruce Ogilvie, and Leland Lyon at the Institute for the Study of Athletic motivation at San Jose State College (Tutko & Richards, 1971, 1972). According to its authors, the AMI measures eleven personality traits related to high athletic achievement. They are:

1. Drive
2. Aggression
3. Determination
4. Responsibility
5. Leadership
6. Self-confidence
7. Emotional control
8. Mental toughness
9. Coachability
10. Conscience
11. Trust

The reliability and validity of the instrument has been questioned by many researchers. However, Tutko and Richards (1972) say that thousands of athletes have been tested and that the AMI was originally based upon the 16PF and the Jackson Personality Research Form. Studies suggest that AMI is a poor predictor of psychological strength of ice hockey players.

Winning Profile Athletic Instrument

The Winning Profile Athletic Instrument (WPAI) was developed by Jesse Llobet of Psy-Metrics. The WPAI is a fifty-item inventory that measures conscientiousness and mental toughness. Llobet (1999) reported internal reliability coefficients of .83 and .87 for these two factors respectively. When completing the instrument, athletes are asked to use their own sport as a frame of reference for answering questions.

Troutwine Athletic Profile

The Troutwine Athletic Profile (TAP) was developed by Bob Troutwine, a professor of psychology at William Jewell College (Carey, 1999); Rand, 2000). Psychometric properties of the TAP have not been published in any of the mainline sport psychology journals; nor has anything scientific been published about the validity of the test in terms of predicting athletic success.

The Credulous Versus Skeptical Argument

Many sport psychologists are polarized on the issue of the credibility of personality research. On one side, a few researchers believe that positive and accurate predictions can be made about sport performance from personality profiles based on measured traits. Proponents of this position are considered credulous in nature are generally willing to use results of personality testing in predicting athletic success. On the other side are sport psychologists who tend to be skeptical, minimizing the value of personality assessment in predicting athletic success.

Personality is not a strong predictor of athletic performance, but it is a predictor. Based upon what is known about personality, it is unreasonable to expect a high correlation between a personality disposition and a physical skill. A person's basic personality should be viewed as just one factor that can contribute to athletic success.

Personality and Sport Performance

Since 1960, several comprehensive literature reviews have been completed in an attempt to clarify the relationship between personality and sport performance (Cofer & Johnson, 1960; Cooper, 1969; Hardman, 1973; Ogilvie, 1968, 1976; Morgan, 1980b).

Literature shows a consistent relationship between personality and sport performance when (a) response distortion is removed, and (b) data are analyzed using a multivariate approach. A multivariate approach is used when multiple measures of personality are analyzed simultaneously, as opposed to separately.

It is good to remember that the relationship between sport performance and personality is far from crystal clear; it seems equally true that certain general conclusions can be drawn.

Athletes versus Nonathletes

Athletes differ from nonathletes on many personality traits (Gat & McWhirter, 1998). Research shows that athletes who participate in team and individual sports are more independent, more objective, and less anxious than nonathletes. From Hardman's (1973) review it is also clear that the athlete is often more intelligent than average. Cooper (1969) described the athletes as being more self-confident, competitive, and socially outgoing than the nonathletes.

Athletes tend to be alert, enthusiastic, forthright, self-sufficient, reality based and practical, and exhibit low anxiety, emotional detachment, low superegos, and high levels of sensation seeking.

Personality Sport Type

Can personality profiles of athletes in one sport be reliably differentiated from those of athletes in another sport? The first real attempts to answer this question were made with bodybuilders. Research by Henry (1941), Thune (1949), and Harlow (1951), for example, suggested that bodybuilders suffer from feelings of masculine inadequacy, and are overly concerned with health, body build, and manliness. Studies showed that bodybuilders were high in achievement motivation and resistance to change, but relatively normal in other traits measured.

Researches were also carried out on other athletes; results showed that when football players and wrestlers were contrasted with gymnasts and karate participants, significantly different personality profiles emerged. The wrestlers and football players had similar profiles, while the gymnast and karate athletes differed from each other, as well as from the wrestlers and football players.

Schurr, Ashley, and Joy (1977), in their signal research, clearly demonstrated that personality profile differences exist between players of team and individual sports, and between players of direct and parallel sports. Team sport athletes were observed to be more anxious, dependent, extraverted, and alert-objective, but less sensitive-imaginative, than individual sport athletes. Direct sport athletes (basketball, football, soccer, etc.), were observed to be more independent and to have less ego strength than parallel sport athletes.

Super-athletes are runners, swimmers, cyclists, and triathletes who are dedicated to endurance activities. Super-adherer would also differ from athletes in other sports in certain personality traits. The literature shows that athletes in one sport often differ in personality type and profile from athletes in other sports. It seems reasonable for example to expect a football player to be more aggressive, anxious, and tolerant of pain than a golfer or a tennis player. However, the point still needs to be made that the state of the art (or science) is still not so refined that one could feel justified in arbitrarily categorizing young athletes based on their personality profiles.

Player Position and Personality Profile

Now here as well the same concept can be applied to whether athletes of a certain sport exhibit different personality profiles based on player position.

In recent years we have experienced an age of super specialization in team sports. In baseball, outfielders are inserted based on whether they hit left or right handed. In football the offense and defense of the same team rarely come in contact with each other. In volleyball, hitters and setters have specialized roles that dictate the sorts of defensive and offensive assignments they fulfill. Similar kind of specializations can be observed with most other team sports.

In a study reported by Schurr, Ruble, Nisbet, and Wallace (1984), a comparison was made between players position in football and personality traits. Using the Myers-Briggs Type inventory (MBTI), the authors concluded that linesmen differ significantly from backfield players in terms of judging and perceiving traits. Linesmen tend to be more organized and practical, while defensive and offensive backs are more flexible and adaptable. Interestingly, No reliable differences were noted between offensive and defensive linesmen, while offensive backs tended to be more extraverted and defensive backs more introverted.

Personality Profiles of Athletes Differing in Skill Level

It is basically the ability to distinguish between successful and unsuccessful athletes in any particular sport using personality traits has never been particularly successful. Foe example if we are using collegiate wrestlers and karate participants we can not successfully distinguish between the successful and unsuccessful performers.

Likewise using tennis and baseball players we can not distinguish between successful and unsuccessful players. Similarly a research was done and the researchers were unable to distinguish between starters and nonstarters in high school boys basketball.

The lack of relationship between personality traits and skill level are the results of the Schurr et al. (1977) research. Successful and unsuccessful sport participation in this study was determined based on whether or not the athlete earned a letter or award. The results of this comparison using the global factors of the 16 PF failed to show a significant relationship between performance and personality. It does not seem reasonable to expect that a group of first string athletes could be separated from a group of second string athletes based solely on personality traits. Both of these groups consist of highly skilled athletes in the first place, or they would not be on the team. Additionally the task of differentiating between two groups of relatively successful performers on the basis of skill itself is very tenuous and arbitrary task.

One exception to the general rule is that skill level cannot be differentiated as a function of personality may occur when elite athletes are compared with athletes of lesser ability. As elite athletes move up the athletic pyramid, they become more alike in their personality and psychological traits. At the base or entrance level of sport, athletes are very heterogeneous, or have different personalities. However, certain personality traits will enhance an athlete's likelihood of advancing to a higher level, while other traits will undermine it. Through a process of natural selection, at each higher level of the athletic personality pyramid, the athlete become more alike, or more homogeneous, in their personality traits. When trying to differentiate between athletes of varying skill levels in the middle and lower parts of the pyramid, we meet with failure. Elite athletes however will exhibit similar profiles and will differ as a group from less skilled groups.

The Female Athlete

The conclusions and generalizations that have been drawn from the previous comparison areas have come primarily through research conducted on male and female subjects. This is not to say that the conclusions would have been any different if female subjects had been used. Indeed, we should expect the results to be essentially the same.

A research shows that the "Comparisons of college athletes and nonathletes, or athletes from different sport groups, did not appear to be consistent in the literature dealing with females". After reviewing much of the available literature on the female athletes and personality, Williams (1980) cautiously concluded that the "normative" female differs in personality profile from the successful female athlete. Specifically, the female athlete is found to exhibit personality traits much like those of both the normative male and the male athletes (i.e., assertive, achievement-oriented dominant, self-sufficient, independent, aggressive, intelligent, and reserved). For example Female body builders were observed to be more extraverted, more vigorous, less anxious, less neurotic, less depressed, less angry, and less confused (Freedson, Mihevic, Loucks & Girandola, 1983)

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LESSON 17

SITUATIONAL FACTORS RELATED TO ANXIETY AND MOOD

We have learned that individuals bring to the athletic situation certain traits or characteristics that are relatively stable and that basic personality traits were predictors of athletic performance. The environment or the situation is believed to interact with the athlete's personality to influence behavior and athletic performance.

Mood State and Athletic Performance

A personality trait is believed to be a relatively permanent disposition. Conversely, a mood state is believed to be a situation specific, somewhat transient, psychological response to an environmental stimulus. For example, the predisposition to be tense in a wide variety of situations is a personality trait, whereas the actual manifestation of tension is situation-specific and is a mood state. From a psychological perspective, a mood state should have a stronger influence on behavior than a personality trait.

Just as the effects of personality on athletic behavior can be determined and measured, so also can the effects of the situation (environment) on athletic behavior be determined. Mood states fluctuate as the situation changes. In this lecture we will discuss the following topics:

- Ways in which sport psychologists measure mood state
- Morgan's mental health model
- Research and the Profile of Mood States
- The interactional model
- The mood profile of the elite disabled athlete.

Ways in Which Sport Psychologists Measure Mood State

The Profile of Mood States (POMS) is by far the most commonly used instrument for measuring mood states in psychology. LeUnes and Burger (1998) noted that the POMS was first used in sport in 1975. Originally developed by McNair, Lorr and Droppleman (1971, 1981, 1992), the POMS is composed of 65 items that measure six mood states:

1. Tension
2. Depressions
3. Anger
4. Vigor (positive)
5. Fatigue
6. Confusion

Five of these mood states are negative in nature, while one is positive (vigor). Since the original development of the POMS in 1971, two additional authorized versions of the POMS have been developed. In addition to the three authorized versions of the POMS, independent researchers have developed four other shortened versions (LeUnes & Burger, 2000; Terry, 1995a). Research has shown that all of the shortened versions are highly correlated with the original 65-item POMS.

The Profile of Mood States and Mental Health Model

Bill Morgan (1979) was one of the first to utilize the Profile of Mood States (POMS) in sport- and exercise-related research. Morgan noted that elite athletes exhibited a mood profile that was lower in negative moods and higher in vigor than a normative sample, and elite athletes also exhibited a more mentally healthy mood profile than less successful athletes. Morgan referred to the notion that the

successful athletes exhibits a more healthy mood profile than less successful athletes or a normative population as the mental health model. According to this model, the successful athlete is viewed as a mentally healthy individual relative to psychological mood. When the standardized POMS scores of the elite athlete are plotted, they take the form of an iceberg, with all of the negative moods falling below the population norm and the vigor score falling well above the norm. This mood profile has come to be referred to as the iceberg profile.

Research has been very supportive of the notion that the successful athlete exhibits an iceberg profile relative to the population norm (average population). Terry and Lane (2000), however, found strong support for the notion that the athlete exhibits a mood profile that is superior to that of the population norm. Consistent with the mental health model, athletes exhibit lower negative mood states and a higher vigor score compared to a POMS normative sample of a similar age group.

Research and the Profile of Mood States

Investigators have been interested in studying the relationship between precompetitive mood and athletic performance. One approach has been to determine if athletes belonging to different achievement levels can be differentiated based on mood state measures. A second approach has been to determine if performance outcome can be predicted based on precompetitive mood. We will take a look at both of these approaches and also look at a conceptual model for studying the relationship between mood and performance.

Mood States and Achievement Levels

In this line of research, investigators attempted to show that scores on the POMS could discriminate among groups of athletes of different skill levels. This is a situation in which athletes of clearly different skill level are given the POMS to see if the scores of the different skilled groups differ.

Beedie, Terry, and Lane (2000) reported the results of a meta-analysis such studies and found the effect size was just .10, which is considered to be very low. So it is not possible to consistently differentiate between athletes of differing skill level.

Mood States and Performance Outcome

In this line of research, investigators try to see whether the performance outcome of athletes of a similar skill level can be predicted based on POMS scores. If I know an athlete's percompetitive mood profile, can I use it to predict how she will do in the competition?

Results of a second meta-analysis by Beedie, Terry, and Lane (2000) shows the overall effect size for this investigation was .35, which is considered to be small to medium. In addition, two moderating variables were identified. A moderating variable is a variable that determines the relationship between two other variables. They two moderating variables were types of sport and how performance was measured.

Type of Sport

Effects were slightly larger for individual sports compared to team sports, and effects were larger for short-duration sports (rowing, wrestling) compared to long-duration sports (e.g., basketball, volleyball).

Measuring of Performance

Effects were larger when performance outcome was conceptualized as subjective and self-referenced, as opposed to objective. An objective outcome would be whether you won or lost a contest, or whether

you recorded a better time than another athlete in a contest. Examples of subjective self-referenced outcomes include (a) post-event self-rating of performance, (b) percentage of personal best, and (c) comparison to expectations.

A stronger relationship exists between mood and performance when performance is measured subjectively than when it is measured objectively. If you are simply trying to predict whether an athlete wins or loses a contest or finishes higher than another runner in a race, mood is a relatively weak predictor of performance.

A Conceptual Model for Predicting Performance

Lane and Terry (2000) proposed a conceptual model for explaining the relationship between percompetitive mood and performance. They proposed that depression is a moderator between other manifestations of mood and athletic performance. High levels of depression are associated with increased anger, tension confusion, and fatigue, but with reduced vigor. The increased levels of negative mood have a debilitative effect upon performance, while reduced vigor has a reduced facilitative effect upon performance. In the absence of depression, vigor will have a facilitative effect on performance, fatigue, and confusion will have a debilitative effect upon performance, and anger and tension will have a curvilinear effect upon performance. Anger and tension, in the absence of depression, can actually facilitate performance up to a point.

The Interactional Model

The notion that the personality interacts with situation to predict performance is known as the interactional model. Information about personality plus information about the environment (situation) plus the interaction between the two is a better predictor of athlete behavior than personality or the situation alone.

Utilizing the interactional model, sport psychologists have been able to identify a psychological profile for the elite athlete. A successful world-class athlete is low in the trait measures of anxiety and neuroticism, and high in extraversion. In terms of psychological mood states, the world-class athlete is low in anxiety tension, depression, anger, fatigue confusion, but high in vigor. In total, the psychological profile of the successful world-class athlete is consistent with positive mental health.

Psychological Profile of the Elite Disabled Athlete

In recent years attention has been devoted to describing the psychological characteristics of the elite disabled or physically challenged athlete. Interestingly, the elite disabled athlete exhibits a psychological profile that is very similar to the profile of the elite able-bodied athlete (Asken, 1991; Shephard, 1990). Wheelchair athletes are higher in self-esteem and physical orientation than disabled nonathletes (Roeder & Aufsesser, 1986)

In addition, the iceberg profile of the elite able-bodied athlete is readily observed in elite disabled wheelchair athlete (Greenwood, Dzewaltowski and French, 1990; Henschen, Horvat & French, 1984). As with the elite able-bodied athlete, the physically challenged elite athlete is generally mentally healthy individual who displays low levels of tension, depression, anger, fatigue, and confusion. The iceberg profile of the elite athlete has also been observed in elite visually impaired male athletes.

In summary, the psychological and mood profile of the elite disabled athlete is very similar to that of the elite able-bodied athlete.

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ANXIETY, AROUSAL, AND STRESS RELATIONSHIPS

In explaining the relationship between anxiety, arousal, and stress, and their relationship to athletic performance, it is important that we understand a number of conceptual relationships. This topic is divided into six sections, they are:

Differentiating among the terms anxiety, arousal and stress
The multidimensional nature of anxiety
Antecedents of anxiety
Measurement of anxiety
Time-to-event nature of precompetitive anxiety
The relationship between anxiety and performance

Three sections are discussed in this lecture and the remaining four in lecture nineteen.

Differentiating Among Anxiety, Arousal, and Stress

The emotion of anxiety affects athletic performance, however, the problem is that the term "anxiety" is closely associated with the terms "arousal" and "stress". We will look how these terms are similar and how they differ. The discussion will focus upon emotions and mood, Selye's concepts of stress, and Lazarus's concept of stress process.

Emotion and Mood

Lazarus (2000a) identified fifteen different emotions and themes associated with each emotion. One of these emotions is anxiety, which is defined as "facing uncertain, existential threat". An emotion, such as anxiety occurs following appraisal and an evaluation of coping resources. A similar chain of events occurs for the emotion of anger, which he defines as occurring in response to "a demeaning offense against me or mine"

Lazarus identifies anxiety as one of the emotions that may have substantial impact upon how an athlete performs. Other emotions, such as anger, guilt and shame, relief, happiness, and pride, may also have a powerful influence upon performance. He states that emotions should not be lumped into positive or negative groups when one is assessing their effect upon athletic performance. Rather, the different emotions should be considered as discrete emotions having discrete effects upon performance. Anger, for example, is often considered a negative emotion, yet it may have either an inhibitory or a facilitory effect upon performance.

Anxiety, then, is an emotion that arises in response to how we in interpret and appraise an environmental situation such as competition. Emotions are sudden reactions to situation that last only for seconds, minutes, or perhaps hours. Moods, however, are more diffuse, and may last for weeks or even months.

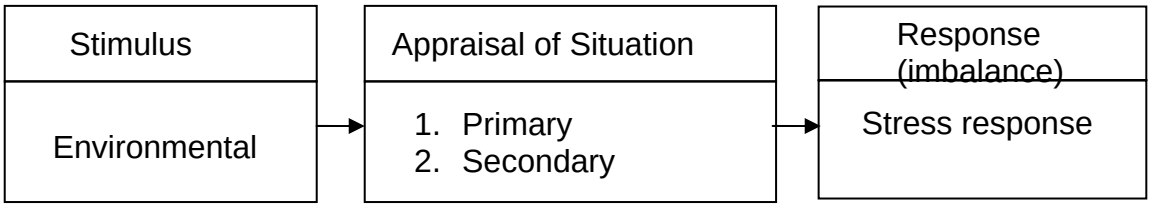
Selye's Concept of Stress

Hans Selye (pronounced "sale-ye") (1983) defined stress as the "nonspecific response of the body to any demand made upon it." In a sense what Selye is saying is that when aroused, the body is under stress regardless of whether the cause is something negative like anger or positive like joy. Anger and anxiety are much harder on the body than are joy and happiness.

Selye allowed that there must be two different kinds of stress. The "good stress" he labeled eustress, and the "bad stress" he labeled distress.

The Stress Process

The stress process is really the information processing model in action as illustrated in the diagram below. The stress process begins with the stimulus (competitive situation) on the left and results in the response (stress response) on the right. In between the stimulus and the response is cognition, or thought processes. Cognition determines how the athlete will respond. The stress process begins with the environment or competitive situation on the left. This is the stimulus. The competitive situation is not by itself stressful. It is how the athlete interprets the situation that determines whether or not the situation is stressful or not. Consider the situation in which an athlete finds himself on the foul line in a basketball game with the outcome of the game resting upon performance. To most people this would be an extremely stressful situation. However, to many basketball players this is exactly the kind of situation that they seek. The situation is not intimidating because they have supreme confidence in their skill and the thought of failure does not enter into their minds.



Upon being confronted with a potentially stressful situation, the individual conducts an instantaneous appraisal or evaluation of the situation. Appraisal of the situation occurs on two levels. The first is referred to as primary appraisal; the second is as secondary appraisal. In primary appraisal, the athlete determines if she has a personal stake in the outcome. If the athlete determines that the outcome is very important to her, then secondary appraisal becomes important.

In the secondary appraisal, the athlete evaluates her personal coping resources to deal with the competitive situation. The outcomes of the primary and secondary appraisals determine whether the stress response will or will not occur.

If an athlete determines either that it makers no difference to him personally, then the stress response does not occur. If, however, the athlete determines that he does not have the resources (skill, confidence, experience) to cope with the situation, the stress response will occur.

The Multidimensional Nature of Anxiety

Anxiety is multidimensional in two different ways. Anxiety has both a trait component and a state component. The trait component is like a personality disposition, whereas the state component is a situation-specific response. State anxiety is an immediate emotional state that is characterized by apprehension, fear, tension, and an increase in physiological arousal. Conversely, trait anxiety is a predisposition to perceive certain environmental situations as threatening and to respond to these situations with increased state anxiety (Spielberger, 1971). If an athlete has a high level of competitive trait anxiety, she is likely to respond to an actual competitive situation with a high level of competitive state anxiety.

Anxiety is also multidimensional in the sense that it is believed that there are both cognitive and somatic components to anxiety. Cognitive anxiety is the mental component of anxiety caused by such things as fear of negative social evaluation, fear of failure, and loss of self-esteem. Somatic anxiety is the physical

component of anxiety and reflects the perception of such psychological responses as increased heart rate, respiration, and muscular tension. Both state and trait anxiety are believed to have cognitive and somatic components. Sport psychological literature, and the notion that anxiety has both cognitive and somatic components is referred as multidimensional anxiety theory.

Antecedents of Precompetitive State of Anxiety

Competitive state anxiety that occurs prior to a competitive situation is referred to as precompetitive state of anxiety. According to Endler (1978, 1983), there are five specific antecedents, or factors that lead to an increase in anxiety in anticipation of an achievement situation. These five factors are:

1. ***Fear of performance failure.*** Fear of getting defeated by a weaker opponent could pose a threat to an athlete's ego.
2. ***Fear of negative social evaluation.*** Fear of being evaluated negatively by thousands of spectators could pose a threat to self-esteem.
3. ***Fear of physical harm.*** Fear of being hit in the hit in the head by a 90 mph fastball could pose a serious threat.
4. ***Situation ambiguity.*** Not knowing if she is going to start a match is sometimes stressful to an athlete.
5. ***Disruption of well-learned routine.*** Being asked to change the way he does things without practice and warming could be threatening to an athlete.

Research has identified fear of failure and fear of negative social evaluation as the most likely causes of state anxiety. Another antecedent of state anxiety is the perceived importance of a competition. Athletes who exhibit high levels of competitive trait anxiety and perceive an event to be important are more likely to perceive it as stressful. In addition to situation factors as identified, a number of personality variables have been identified as being antecedents, or predictors, of competitive state of anxiety. These include:

1. Competitive trait anxiety: Those high on anxiety are also high on anxiety in competition.
2. Goal orientation: High on goal orientation are high on anxiety.
3. Perfectionism: Expecting perfection from self.

Perfectionism involves the setting of exceptionally high performance standards for one's self. Researchers have identified two specific types of perfectionism: normal and neurotic. Normal perfectionism is typically possessed by highly motivated and achieving athlete. Conversely, neurotic perfectionism is a destructive personal characteristic that is associated inflexibility and a variety of other maladaptive cognitions and affective responses such as low self-esteem, guilt and shame.

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LESSON 19

ANXIETY, AROUSAL, AND STRESS RELATIONSHIPS

This lecture is a continuation of lecture eighteen. We were looking at anxiety, arousal, and stress relationship, and had divided this topic into six sections, they were:

1. Differentiating among the terms anxiety, arousal and stress
2. The multidimensional nature of anxiety
3. Antecedents of anxiety
4. Measurement of anxiety
5. Time-to-event nature of precompetitive anxiety
6. The relationship between anxiety and performance

We have looked at the first three sections in lecture eighteen and the remaining will be discussed in this lecture.

Measurement of Anxiety

In recent years, the preferred method of measuring trait and state anxiety has been through the use of pencil-and-paper inventories. Some commonly used inventories utilized or developed by sport psychologists are listed below:

TRAIT	Unidimensional	Sport Competition Anxiety Test (SCAT)
	Multidimensional	Sport Anxiety Scale (SAS)
STATE	Unidimensional	Competitive State Anxiety Inventory (CSAI)
	Multidimensional	Competitive State Anxiety Inventory-2 (CSAI-2)

While pencil-and-paper inventories are the most common measures of anxiety, behavioral and psychological assessments can be very effective. One category of behavioral measurement is direct observation, where the experimenter looks for objective signs of arousal in the subject and records them. Such things as nervous fidgeting, licking the lips, rubbing palms on pants or shirt, and change in respiration could all be interpreted as behavioral signs of activation. The list on the next page shows overt behavioral responses that can be used by the athlete to identify indicators of distress, or state anxiety.

Checklist for Monitoring Distress-Related Behavioral Responses of the Athlete:

Clammy Hands
Diarrhea
Dry Mouth
Fidgeting
Increased Respiration
Irritability
Jitters
Licking of Lips
Mental Confusion
Mental Fatigue
Nausea
Need to Urinate
Physical Fatigue
Rapid Heart Rate
Scattered Attention
Tense Muscles
Tense Stomach
Trembling Legs
Unsettled Stomach
Voice Distortion

Time-To-Event Nature of Precompetitive Anxiety

The ability to obtain independent measures of cognitive and somatic state anxiety has greatly enhanced our knowledge about the athletic situation. One of the factors that is believed to significantly influence the quality of the athletic experience is the level of state anxiety during the time leading up to competition. We have already referred to this as precompetitive anxiety.

Precompetitive cognitive anxiety starts relatively high and remains high and stable as the time-to-event approaches. Conversely, somatic anxiety remains relatively low until approximately twenty-four hours before the event, and then increases rapidly as the event approaches. Once performance begins, somatic anxiety dissipates rapidly, whereas cognitive state anxiety fluctuates throughout the contest as the probability of success/failure changes.

The Relationship between Arousal and Athletic Performance

It is now necessary to use the term arousal as somewhat synonymous with state anxiety. This is the case because researchers have routinely employed a test of state anxiety as the primary means for determining a subject's arousal level. Consequently, most of the reported research will relate negative anxiety to sport and motor performance.

The primary focus is to explain the relationship between arousal and athletic performance: It can be explained by inverted-U theory and drive theory.

Inverted-U theory explains why the relationship between arousal and performance is curvilinear as opposed to linear in nature. Conversely, drive theory proposes a linear relationship between arousal and performance.

The Inverted-U Theory

The inverted U theory has been around for as long as the arousal/performance relationship has been studied. It simply states that the relationship between performance and arousal is curvilinear as opposed to linear, and takes the form of an inverted-U.

One of the difficulties encountered in testing the inverted U theory with humans is our inability to precisely measure arousal. For example, if in a particular study researchers fail to demonstrate that heightened arousal causes a decrement in performance, it is not particularly damaging to the theory. The reason for this is that it can always be argued that for that particular task, arousal was not high enough. If it had been higher performance would have been declined. The problem is that from a human rights standpoint, the amount of arousal researchers can induce is limited. For example, if arousal is induced through electric shock, how much can the researcher elevate the voltage without violating the subject's rights?

Similarly as can be observed, a high level of arousal is necessary for the best performance in gross motor activities such as weight lifting. Conversely, a lower level of arousal is best for a fine motor task such as putting in golf. Each sport skill has its theoretical optimal level of arousal for best performance. Regardless of which type of skill is being performed, they all conform to the inverted-U principle. Specifically, performance is lowest when arousal is very high or very low, and highest when arousal is moderate, or optimum.

Evidence of an inverted-U relationship between athletic performance and arousal is documented in the literature. Klavora (1978), Sonstroem and Bernardo (1982), were able to demonstrate that basketball performance is related to level of arousal, with best performance occurring at moderate levels of arousal and poorest performance tat high ot low levels. Similarly Simons, and Vevera (1987) and Burton (1988) reported that best performance in pistol shooting and swimming, respectively, were related to somatic anxiety in away consistent with inverted U predictions.

While it seems relatively clear that the nature of the relationship between athletic performance and arousal takes the form of the inverted U, it is not clear why this occurs.

Drive Theory

The great contribution of drive theory is that it helps to explain the relationships between learning and arousal, and between performance and arousal. Many young athletes are just beginning the process of becoming skilled performers. The effect of arousal upon a beginner may be different from its effect upon a skilled performer.

The basic relationship between arousal and an athlete's performance at any skill level is given in the following formula:

Performance = Arousal x Skill Level

The basic tenets of drive theory are as follows:

1. Increased arousal (drive) will elicit the dominant response.
2. The response associated with the strongest potential to respond is the dominant response.
3. Early in learning or for complex tasks, the dominant response is the incorrect response.
4. Late in learning or for simple task, the dominant response is the correct response.

We can make several practical applications of these drive theory tenets. First, heightened levels of arousal should benefit the skilled performer, but hamper the beginner. The coach with a relatively young team should strive to create an atmosphere relatively low in anxiety and arousal. Low levels of arousal should increase the beginner's chances of a successful performance. In turn, the experience of success should strengthen self confidence. Skilled athletes, on the other hand, will benefit from an increase in arousal. Similar applications can be made to the performance of simple and complex tasks. For example, a complex task, such as throwing a knuckleball in baseball, will always require a low level of arousal. Conversely, a very simple task, such as doing as high number of push-ups, would seem to benefit from arousal. Utilizing drive theory predictions, the researchers hypothesized that increased arousal caused by major league baseball pressure situations would cause a decrement in batting (a complex task). Four late-game pressure situations were compared with no pressure situations relative to batting performance. Results showed a decrement in batting performance associated with increased arousal, as predicted by drive theory.

Drive theory received tremendous amounts of attention from researchers between 1943 and 1970. however, since then, interest in the theory has diminished significantly. The theory was extremely difficult to test, and the tests that were conducted often yielded conflicting results.

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LESSON 20

ALTERNATIVES TO INVERTED-U THEORY

In the previous lecture we learned that inverted-U theory is the primary theory used by sport psychologists to explain the relationship between anxiety and performance. However, sports psychologists have turned to other more complex theories to explain this relationship. It is believed by many psychologists that the inverted-U theory is a simple theory that does not capture or explain the complexities of the anxiety-performance relationship. In this lecture we look at alternatives to inverted-U theory.

There are five anxiety-performance theories that we will discuss**:**

Martins' Multidimensional Anxiety Theory
Fazey and Hardy's Catastrophe Theory,
Hanin's Individual Zone of Optimal Functioning Theory
Jones' Directionality Theory
Apter's Reversal Theory

Martens' Multidimensional Anxiety Theory

Multidimensional Anxiety Theory is based upon the notion that anxiety is multidimensional in nature, composed of a cognitive anxiety component and a somatic anxiety component.

Multidimensional theory specifically hypothesizes two things (1) a negative linear relationship exists between cognitive state anxiety and athletic performance, and (2) An inverted-U relationship exits between somatic anxiety and performance. According to the mulitidimentional theory, in the case of cognitive state anxiety, as anxiety increase, athletic performance begins to deteriorate. But, in the case of somatic state anxiety, as anxiety increase athletic performance increases to a certain level, and after a certain level athletic performace begins to drop. Somatic state anxiety forms an inverted U-shape.

Fazey and Hardy's Catastrophe Theory

The basic assumptions of the Inverted-U theory are that (a) small incremental increases in arousal result in small incremental increases or decreases in performance, and (b) moderate arousal results in optimal performance. The Catastrophe Theory questions both these notions.

The basic variables of the model includes cognitive anxiety, physiological arousal (not somatic anxiety), and performance. The theory suggests that the relationship between physiological arousal and athletic performance is believed to take the form of the inverted-U when cognitive anxiety is low, but to take a very different form when cognitive anxiety increases. At a high level of cognitive anxiety, performance increases gradually as in the inverted-U, but at some points as psychological arousal continues to rise, performance will show a catastrophic drop-off. In other words, if cognitive state anxiety is high, an increase in physiological arousal can result in a sudden and large decrement in athletic performance.

The basic tenets of Fazey and Hardy's catastrophe model were tested by Hardy and Parfitt (1991) and Hardy Parfitt, and Pates (1994), and both of these studies provided strong support for the basic tenets of catastrophe theory.

Hanin's Individual Zone of Optimal Functioning (IZOF) Theory

The individual zone of optimal functioning (IZOF) was developed by Yuri Hanin (1989). This theory also questions the two basic assumptions of inverted-U theory, but more specifically the notion that a moderate level

of state anxiety results in best performance. IZOF theory postulates that the level of optimal state anxiety best for one athlete may be different from that optimal for the next athlete. Thus, for some athletes, the optimal level of state anxiety was very low, while for others it was very high.

In IZOF theory an optimal level of precompetitive state anxiety is identified and a narrow band of anxiety functioning created around it. The band of optimal functioning is generally considered to be the optimal level of anxiety. If the athlete's anxiety level stays within the IZOF, he will perform well, but if the level is outside the band, his performance will deteriorate. Individual zone of optimal theory is a viable theory for explaining the anxiety-performance relationship. An athlete will perform best if his state anxiety is within a certain zone of optimal functioning.

Strong support for the concept of an individual zone of optimal functioning (IZOF) has been reported by Prapavessis and Grove (1991), Raglin and Turner (1993), and Turner and Raglin (1996). In each of the case, the results favored IZOF theory.

Jones' Directionality Theory

Jones (1991) posits that the absolute intensity of anxiety was not nearly so important as the athlete's perception of whether his anxiety intensity was facilitative or debilitative relative to a subsequent competitive event. In simpler words, an athlete's perception of how intensity affects performance is more important than the intensity itself. Jones labeled this facilitative or debilitative perception the direction component of anxiety.

Therefore, according to the directional theory, the important question is not whether an athlete has a high or low level of anxiety, but whether he perceives that this specific level will help him perform better. The application of directionality theory in sport is illustrated in two studies reported by Hanton and Jones (1999a, 1999b).

Apter's Reversal Theory

Reversal theory, as proposed by Apter (1982), has characteristics associated with both drive and inverted-U theory. it is as much a theory of personality as it is a theory of arousal. Individuals are described as being either telic or paratelic dominant. Telic-dominant individuals have a goal-directed orientation towards life, while paratelic-dominant individuals are fun-loving and have a "here-and-now" orientation. While in a telic frame of mind, the athlete seeks to reduce the level of arousal in order to bring about a state of relaxation. While in a paratelic frame of mind, the athlete seeks to increase arousal in order to increase excitement. The individual's ability to switch back and forth between telic and paratelic modes is referred to as psychological reversal.

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LESSON 21

COPING STRATEGIES IN SPORT

Coping has been defined by Lazarus and Folkman (1984) as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taking or exceeding the resources of the person".

Coping involves a personal response on the part of the athlete to address the stress response. The athlete feels anxious in a competitive situation and tries to use personal coping resources to reduce anxiety. The use of various relaxations or arousal management procedures to reduce anxiety is commonly referred to as stress management. When an athlete uses a stress management technique or any other cognitive or behavioral intervention, this is a form of coping.

In this lecture we will focus our discussion on:

- A conceptual framework for coping strategies and styles
- Measurement of coping skills.
- The dynamic nature of coping skill
- Factors that enhance the generalizability of coping
- Coping strategies used by elite athletes.

Conceptual Framework for Coping Strategies and Styles

Coping strategies are of two types: problem-focused and emotion-focused. Problem focused coping strategies center on alleviating the environmental stimulus that is causing the stress response. For example, in cricket, if a right handed batsman is very anxious when batting against a left-arm bowler, an appropriate problem-focused coping strategy might be to get more experience against a left-arm bowler during practice. Other common names for problem focused coping includes the terms "task-focused coping" and sometimes "action focused coping."

Emotion focused coping strategies seek to regulate emotions in order to reduce or manage cognitive distress. In the same cricket example, the batsman would focus his coping on controlling his emotions through anxiety reduction techniques. Instead of attacking the source of the problem, through problem-focused coping, the athlete seeks to reduce or eliminate the symptoms associated with stress.

Several authors have proposed a third coping strategy and called it "avoidance coping". Anshel and others however, have pointed out that rather than being a coping strategy, avoidance coping is really a coping style. Two different coping styles are identified: approach coping and avoidance coping.

Some athletes prefer an approach style of coping in which their coping preference is to address the stressful situation directly. Conversely, some athletes prefer an avoidance style of coping, in which their preferred coping style is to solve the problem by avoiding the problem. Avoidance coping is also referred to as repression, disengagement, or rejection.

Based upon these four different coping strategies include:

1. Approach/problem-focused coping
2. Approach/emotion-focused coping
3. Avoidance/problem-focused coping
4. Avoidance/emotion-focused coping

Athletes cope with stress by either approaching or avoiding the situation. Within this framework, they will either adopt an active problem-solving strategy or an emotion-focused strategy.

Measurement of Coping Skill

Several different pencil-and-paper inventories have been developed to measure coping resources. Among them are:

- Ways of Coping Checklist (WOCC) by Crocker, Folkman & Lazarus (1992)
- COPE and MCOPE instruments by Craver, Scheier and Weintraub(1989)
- Coping inventory for stressful situations (CISS) by Endler & Parker
- The Coping Style in Sport Survey (CSSS) by Anshel et al. (1990)

The Coping Style in Sport Survey (CSSS) was developed to reflect the coping styles and strategies. The CSSS is composed of 134 items associated with seven common sports-related stressors. The athletes' task is to indicate how she would usually respond relative to the following acute stressors:

1. After making a physical or mental error
2. After being criticized by the coach
3. After observing my opponent cheat
4. After experiencing intense pain or injury
5. After receiving a "bad" call by an official
6. After successful performance by an opponent
7. After poor environmental conditions such as bad weather, poor ground/court conditions or negative crowd reactions

The Dynamic Nature of Coping Styles and Strategies

Sport psychologists have been interested in knowing if athletes' coping strategies are dispositional in nature or if they are consistent with a dynamic process. The dispositional hypothesis posits that athletes have a certain learned or innate way of coping with stress-related situations. Conversely, the dynamic hypothesis posits that athletes' coping responses are dynamic and fluid, changing from situation to situation. Research shows that athletes utilize a dynamic as opposed to dispositional approach to coping with stress.

Applied research (Gould, Eklund & Jackson, 1993; Gould, Finch and Jackson, 1993; Park, 2000) supported the hypothesis that coping strategies and styles are dynamic and fluid.

Factors That Enhance the Genralizability of Coping

The skills athletes acquire to deal with anxiety, low self-confidence, and other stressful sport-related situations may generalize to other more global life situations. This means that if an athlete can learn to cope with failure (or success) in an athletic situation, the coping skill may be transferred to another sport situation or even a stressful nonsport situation such as illness, financial setback, loss of job or loss of friend.

In this regards, Smith (1999) identifies five different factors that can facilitate the generalizability of coping skills to other situations. These factors are as follow:

1. Recognition of stimulus generality

Many stressful life situations are very similar to athletic situations. Recognizing the similarity and recalling the specific coping strategy that was effective in the athletic situations will facilitate transfer of coping skill to another situation.

2. Broad application of coping skill

Some coping skills are very specific to a specific athletic situation, but others are very broad. Progressive relaxation, for example, is a broad coping skill that should generalize to numerous sport and nonsport situations.

3. Personal significance of coping application

A coping skill that was effective in reducing stress related to an issue of great personal significance will be remembered. Coping skills that have proven to be personally important will generalize to other situations.

4. Internal locus of control of coping skill

When an athlete claims "ownership" of a coping skill it is more easily transferred to other situations.

5. Learned resourcefulness

Learning a specific coping skill to address a specific life stress is effective, The resourceful individual looks for broader application of all coping skills and learning experiences.

Coping Strategies Used By Elite Athletes

Gould and colleagues (Gould, Eklund & Jackson, 1993; Gould, Finch & Jackson, 1993) studied coping strategies reported by Olympic wrestlers and National Champion figure skaters. Thirty-nine different themes were found and then were reduced down to four broad dimensions:

a. Thought control strategies example, self-talk, positive thinking, thought control
b. Attentional focus strategies example concentration control, tunnel vision
c. Emotional control strategies example, arousal control, relaxation, visualization
d. Behavioral strategies. Example, set routine rest, control of the environment.

All athletes use all four coping strategies. Female sportspersons utilize social support as a strategy more often than males. Elite athletes tend to use an approach style of coping, with the majority of the strategies being problem or action focused. All these strategies may be categorized under the heading of psychological training, physical training and strategizing, and somatic relaxation.

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LESSON 22

RELAXATION STRATEGIES FOR SPORT

While some athletes may suffer from low levels of arousal, the more difficult problems occur with athletes who experience excessively high levels of anxiety and tension. For these athletes, any strategy calculated to heighten arousal can only cause greater anxiety and tension. Relaxation procedures can effectively reduce tension and anxiety associated with sport. Four prevalent relaxation procedures can be adequately categorized under the broad heading of relaxation. These are:

1. Progressive relaxation
2. Autogenic training
3. Meditation
4. Biofeedback

Each procedure is unique, but they all yield essentially the same physiological result. That is, they all result in the relaxation response. Such procedures result in decreased oxygen consumption, heart rate, respiration, and skeletal muscles activity, while they increase skin resistance and brain waves.

Four different factors are necessary for eliciting the relaxation response. Each of these factors is present to some degree in the specific relaxation techniques that will be discussed. These four elements or factors are (1) a mental device, (2) a passive attitude, (3) decreased muscle tone, and (4) a quiet environment. The mental device is generally some sort of word, phrase, object, or process used to shift attention inwards.

In this lecture we will discuss specific relaxation techniques that are designed to bring about the relaxation response. These techniques as mentioned above include: progressive relaxation, autogenic, training, meditation, and biofeedback.

Mastering the technique of deep breathing for the purpose of relaxation and relieving tension is an important component of each of the relaxation technique we will discuss. Two patterns of breathing are typically used for general relaxation:

- Chest breathing,
- Abdominal breathing.

Chest breathing is usually associated with emotional distress and is often shallow, irregular, and rapid. Conversely, abdominal breathing is associated with relaxation and is often deep, regular, and slow. In practicing the relaxation procedures, the athlete must practice relaxing through deep breathing. The process of deeply inhaling and exhaling in a slow rhythmic fashion is very relaxing to the body mind. Deep breathing can be practiced at any time or place.

Progressive Relaxation

Modern progressive relaxation techniques are all variations of those outlined by Edmond Jacobson (1929, 1938). Jacobson's progressive relaxation procedure requires that subject lie on their backs, the room should be fairly quiet and arms and legs should not be crossed, to avoid unnecessary stimulation. While the goal of any progressive relaxation program is to relax the entire body in a matter of minutes, it is essential that in the beginning the subject practice the technique for at least one hour every day. Once the relaxation procedure is well learned, the relaxation response can be achieved in a few minutes.

Jacobson's method calls for the subject to tense a muscle before relaxing it. Jacobson warns that only the first few minutes of any relaxation session should be devoted to muscle tensing. The remaining time should

be devoted to gaining complete relaxation. For a muscle to be considered relaxed, it must be completely absent of any contractions and must be limp and motionless.

Jacobson's full progressive relaxation procedure involves systematically tensing and relaxing specific muscle groups in a predetermined order. A well-developed relaxation training program requires a great deal of practice in the beginning. Research has clearly shown that progressive relaxation procedures are effective in eliciting the relaxation response.

Autogenic Training

Autogenic training relies upon feelings associated with the limbs and muscles of the body. Autogenic training is very similar to autohypnosis, and is based upon early research with hypnosis. Various authors have suggested different exercises and self-statements to bring about the relaxation response using autogenic training.

Essentially, autogenic training is composed of three component parts that are often intermingled.

The first and most important part, to suggest to the mind a feeling of warmth in the body and heaviness in the limbs.

The second component part of autogenic training involves the use of imagery. In this step, the subject is encouraged to visualize images of relaxing scenes while at the same time focusing upon feelings of warmth and heaviness in the arms and legs.

The third component of autogenic training involves the use of specific theme to assist in bringing about the relaxation response. One particularly effective specific theme is the use of self-statements to suggest to the mind that the body is indeed relaxed.

Research shows that autogenic training is also effective in bringing about the relaxation response.

Meditation

Meditation, as a form of relaxation, is tied directly to the concepts of selective attention. In practicing meditation, the individual attempts to uncritically focus his attention on a single thought, sound, or object. The practice of meditation as a form of relaxation and thought control has its origin in Eastern cultures more than four thousand years ago.

The most common mental device used in transcendental meditation is the silent repetition of a mantra. It is clear that the various forms of meditation can reduce anxiety and tension by evoking the relaxation response.

Biofeedback Training

It has been demonstrated that humans can voluntarily control functions of the autonomic nervous systems. Biofeedback is a relatively modern technique that is based upon this principle. Biofeedback training uses instruments to help people control responses of the autonomic nervous systems. For example, a subject monitors an auditory signal of her own heart rate and experiments with different thoughts, feelings, and sensations to slow the heart rate. Once the subject learns to recognize the feelings associated with the reduction of heart rate, the instrument is removed and the subject tries to control the heart rate without it.

Instrumentation

Athletes could be trained to control their physiological responses in the laboratory; they should be able to transfer this ability onto the athletic field. There are three basic instruments for biofeedback, (1) skin temperature, (2) electromyography and (3) electroencephalogram.

The most commonly used and least expensive form of biofeedback is skin temperature. Although sophisticated instruments are available, a simple and inexpensive thermometer can be used to monitor skin temperature. Another very popular biofeedback technique employs the use of an electromyographic feedback instrument (EMG). A third major instrument used for biofeedback is the electroencephalogram (EEG). Use of the EEG is commonly called brainwave training.

While skin temperature, EMG, and EEG are the most commonly used in biofeedback training, several others are used to a lesser degree. These are the heart rate, and blood pressure.

Biofeedback and Performance

A number of scientific investigations have been conducted to determine the effect of biofeedback on athletic performance. In forty-two studies, 83 percent found biofeedback training to be successful in facilitating sport and athletic performance, as well as beneficial to the athlete's well-being.

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LESSON 23

AROUSAL ENERGIZING STRATEGIES

In the previous lecture we discussed strategies that athletes use to relax and to reduce anxiety and arousal associated with the stress response. In this lecture we are discussing arousal energizing strategies needed to obtain peak performance.

People have been looking to the sport psychologist to learn how to maintain optimal levels of arousal in athletes. The typical approach has been to "psych up" the athletes through various kinds of pep talks and activation techniques. There is, of course, a proper time to get athletes excited and aroused, but often these techniques are applied at the wrong time.

Generally, some athletes have only an intermediate level of skill, and the extra arousal serves only to induce unforced errors. Increasing arousal affects each athlete differently. In most cases, intervention procedures are best applied on an individual basis; each athlete should be treated differently. Some will need a pep talk, but others may need an entirely different form of intervention.

The indiscriminate use of relaxation or arousal energizing strategies has prompted sport psychologists to promote a closer match between precompetitive affect and psychological adjustment. This practice has come to be referred to as the matching hypothesis. In the matching hypothesis, care is taken to make sure that the intervention selected to relax or energize the athlete is matched to the specific symptoms.

Two major strategies to relax or energize are:

- Team energizing strategies
- Individual energizing strategies

Team energizing strategies are those strategies that deal with the team as a whole and are generally orchestrated by the coach. They include such things as:

1. Team goal setting
2. Pep talks
3. Bulletin boards
4. Publicity
5. News coverage
6. Fan support
7. Coach athlete, and parents interaction
8. Pre competition workout
9. Post competition conference

Individual self-energizing strategies are those strategies that the individual uses to induce immediate activation and alertness. From the perspective of the individual, these latter techniques are also referred to as individual psyching-up strategies.

Team Energizing Strategies

As a coach prepares for the season, she recognizes the need to set into motion a number of initiatives designed to keep the team focused and energized. There are a total of nine team energizing strategies; five will be discussed in this lecture and the remaining in the next lecture.

Team Goal Setting

We emphasized the notion that goal setting was theory of motivation and a way to energize teams. Here we reiterate the critical importance of the setting of process, performance, and outcome goals for the team. The coach should provide the leadership in this process, but the athletes must be equal partners in deciding what it is that they want to accomplish as a team and as individuals during the current competitive season. The coach then lays out for the team a plan whereby the goals set by the team can be accomplished. While outcome goals must be addressed, the main focus should be upon process and performance goals that give the team a chance to succeed. Goals are then monitored on a regular basis so that progress can be determined.

Pep Talks

A pep talk by a psychologist or a respected member of the team is the most common method now used to increase the activation level of athletes. But like any verbal communication, it can be either effective or ineffective. Perhaps the most important element of the pep talk is an emphasis on the ingredient that is lacking in the team. If the team is lacking in motivation, pep talk should be targeted at that.

Bulletin Boards

In many ways messages on a bulletin board are identical to those in a pep talk, but they are visually rather than verbally conveyed. Poster-board displays should be placed where team members cannot miss them. Such places as locker room dressing areas and confined training areas are ideal. The bulletin boards should always convey positive, motivating thoughts and ideas. Catchy phrases such as "when the going gets tough, the tough get going" can be effective. Athletes remember these simple phrases and will repeat them later, when they need reinforcement. Other messages on the display board might include personal challenges to members of the team.

Fan Support

Fans tell the athletes that what they are doing is important to people other than themselves. A full session of daily basketball, football, or tennis can burn out many players. Those responsible for promoting the team must do all they can to get people to support the team by coming to watch them.

Coach, Athlete, and Parent Interaction

The interaction between an athlete's parents, the athlete, and the coach are an often-overlooked source of motivation for an athlete. Coaches are often wary about the over-involved and demanding parents. However, often just the opposite situation occurs, and parents are excluded from active involvement in motivating an athlete. Parents provide tremendous support for an athlete's involvement that sometimes goes completely unnoticed.

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LESSON 24

AROUSAL ENERGIZING STRATEGIES

This lecture is a continuation of lecture twenty-three. We have discussed five team energizing strategies in the last lecture. In this lecture we will be looking at four more team energizing strategies, and then we will be looking at some self-energizing strategies.

Publicity/Advertising

The institutions newspaper and other advertisements can be very helpful in generating a team spirit. If the members of the team sense that the student body is behind them, they will work harder to get prepared.

News Coverage

Media can play an important role in energizing teams to perform better. News about a team on the radio or television can give the additional boost to the team to work harder.

Precompetition Workout

In the mid-sixties when the Japanese were dominating the international volleyball scene, an interesting phenomenon was observed. Prior to an international men's match between United States and Japan, the Japanese team came out two hours early and went through a full workout. This was no warm-up as typically observed, but a full-blown practice session to exhaustion. The Japanese went on to defeat U.S.A in three relatively easy games.

Researches began conducting tests along these lines and found out that precompetition workout did not significantly improve performance, but rather it was helpful in reducing feelings of anxiety. Because tension and anxiety can easily hamper performance in competition, precompetition workouts could be an effective tool for preparing an athlete for competition. Precompetition workouts that enhance and increase activation are apparently effective in reducing precompetitive anxiety.

Post competition conference

A post competition conference takes place after a competitive event, where the team management and team members discuss the performance of team. Post competition conference can be very helpful in energizing teams to prepare harder for the next competitive event.

Immediate Self-Energizing Strategies

We have talked about team strategies for energizing athletes, individual athletes need to be able to energize themselves for immediate mobilization. A basketball player who sits on the bench for three-quarter of the game and is then inserted into the lineup is not ready to play mentally or physically. A tennis player who finds his two game lead in the final set slipping away has to energize himself to stop the backward slide.

Self-energizing strategies include:

1. Individual goal setting
2. Self-talk
3. Attentional focus
4. Imagery
5. Self-activation.

Individual Goal Setting

Individual athletes set long-term goals to help motivate them for the long haul across a season. However, successful athletes also use goal setting to motivate and energize them for an approaching competition. To be effective, these immediate goals must be phrased silently or verbally just before the event occurs. Goal setting that is contiguous with an event is a form of positive self-talk containing specific goal parameters. For example, in tennis, the serve receiver's goal on the first serve might be, "block it back." Goal setting, even in acute situations, is highly motivating and energizing, and should be used often.

Self-Talk

Self-talk, or even self-thought, can be used with a positive frame of reference. Actually phrasing and verbally stating cues that remind the athlete of the need to generate greater energy can be effective. Effective self talk statements must be (a) brief and phonetically simple (b) logically associated with the skill involved (c) compatible with the sequential timing of the task being performed. If the statement is too long and vague it might not be as effective. For example, as the tennis player aims for a backhand passing shot down the line, he says or thinks the word, "Blast." Other key words that are symbolic of greater energy and activation include "now," "go," "deep," "hit," and "power."

Attentional Focus

Increased attention is associated with increased physiological arousal. Consequently, strategies designed to increase or narrow attention will also result in activation and greater energy. Narrowed attention occurs when we gate out irrelevant cues that may serve as distractors. The goalie in soccer focuses her attention on the ball and says to herself, "Be fearless and smother the ball." There are certain situations in sport in which maximum effort and maximum arousal are necessary for success. When these situations occur, the athlete has to be fully attentive and fully activated.

Imagery

Imager has both a cognitive and a motivational function. It is the motivational function that makes imagery a viable energizer. As the tennis player prepares for an important serve, he visualizes the ball "leaping" off his racket and "exploding" into the backhand corner of the opponent's receiving court. As the spiker in volleyball approaches the net, she visualizes herself "smashing" the ball over the block and into the unprotected deep down-the-line corner of the opponent's court. Visualizing successful outcomes in situations requiring activation and strong effort is motivating and energizing.

Self-Activation

In addition to all of the energizing techniques mentioned above, successful athletes develop their own methods for energizing themselves on a moment's notice. This is called self-activation. Jimmy Conners, a former tennis great, would slap himself on the thigh in conjunction with various self-talk statements to get himself activated late in the match. Every successful athlete learns ways to self-activate and energize himself when he needs to.

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LESSON 25

IMAGERY

Successful athletes use imagery and visualization to their advantage. Not all athletes are able to verbally describe exactly how they use imagery, but some can. Some great athletes who have commented on the use of imagery in preparing for competition include Michael Jordan in basketball, Chris Evert in tennis and Nancy Kerrigan in figure skating. Imagery has been successful for great athletes.

Imagery is a cognitive-behavioral intervention technique. This topic will be discussed in great detail over the next three lectures. The topic is divided into eight sections, which include:

1. Defining imagery
2. Mental practices as a form of imagery
3. Theories of why imagery works
4. Imagery perspective and sensory mode
5. Measurement of imagery
6. Conceptual models for studying imagery
7. Developing imagery skills
8. Cognitive-behavioral interventions using imagery and relaxation

Defining Imagery

Imagery has been defined as "using all the senses to re-create an experience in the mind".

An expansion of this brief definition clarifies that (a) an image can be created in the mind in the absence of any external stimulus (b) an image may involve one or all of the senses (c) an image is created from information stored in the sensory register, working memory, or long-term memory.

Imagery has been identified as one of the most important topics in cognitive science. Two general theories of imagery have evolved;

a. Pictorialist
b. Descriptionist

The pictorialists state that when we imagine a scene in our mind's eye, we are scanning an actual image that has somehow formed in our brain. The descriptionist argues that there is no such thing as a mental image. That is, when we imagine a physical scene in our mind's eye, we are not really seeing an internal image, but the graphic and detailed nature of our language makes it seem so. Our thoughts, as it were, actually manufacture an image so clear that we think we are seeing one.

Regardless of whether the pictorialist or the descriptionist perspective is most accurate, the images are very real to us. Imagery is the language of the brain. In a real sense, the brain cannot tell the difference between an actual physical event and the vivid imagery of the same event. For this reason, imagery can be used by the brain to provide powerful repetition, elaboration, intensification, and preservation of important athletic sequences and skills.

The powerful effects of images and thoughts are highlighted by a study reported by Hale and Whitehouse (1998). They presented skilled soccer players with videos of critical game situations in which either the word "challenge" or the word "pressure" was flashed on the screen. The word "pressure" resulted in an increase in self-reported anxiety and a decrease in self-confidence compared to the presentation of the word "challenge." The images we see influence the emotions we feel, which in turn influence how we perform.

Mental Practice as a Form of Imagery

Mental practice literature provides evidence that imagery is an effective cognitive-behavioral process for enhancing learning and performance of motor skills. Literature review concludes that mental practice is more effective than no practice. Mental practice used in a complementary fashion with physical practice often yields the best results. The literature suggests that in addition to physically practicing a sport skill, the athlete should spend a small amount of time rehearsing execution of the skill in her mind. Mental practice occurs prior to actual physical practice (mental rehearsal), or it can occur at a time when actual physical practice is not possible (e.g., while traveling, in the locker room, while resting). Research with mental practice has also revealed several principles that enhance the effectiveness of mental practice. These principles are:

Skill Level of the Athletes

An important finding associated with mental practice is that advanced performers benefit from mental practice to a much greater extent than beginners. Research conducted on high school boys showed that mental practice was almost as effective as physical practice for advanced players, but physical practice was far superior to mental practice for beginners.

In other words, a coach or a teacher should not expect mental practice to be effective with athletes who are unskilled in their sports. The more skillful they are, the more useful mental practice will be for them.

Cognitive Component of the Skill

Mental practice is most effective for activities that require some thinking and planning (Hird, Landers, Thomas & Horan, 1991; Ryan & Simons, 1981). Playing golf would be an example of task that has a large cognitive component. You need to workout which sort of swing, or which club will provide the shot you desire.

Mental practice is less effective in a motor task that has a small cognitive component. A bench press in weight lifting would be an example of a motor skill that would seem to have a small cognitive component.

Time Factors and Mental Practice

When it comes to mental practice, more is not necessarily better. Using basketball task, Etnier and Landers (1996) demonstrated that when an athlete hold physical practice constant, mentally practicing for one to three minutes is more beneficial than mentally practicing for five to seven minutes. In this same study it was also demonstrated that mental practice may be more beneficial than mental practice following physical practice. This gives greater credence to the use of mental rehearsal immediately prior to competition.

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LESSON 26

IMAGERY

This lecture is a continuation of the topic we started in the last lecture, imagery. In this lecture we will be discussing theories of why imagery works imagery perspective and sensory mode, and measurement of imagery.

Theories Of Why Imagery Works

While a great deal of research has been published relative to the effectiveness of imagery and mental practice in sport, sport psychologists know very little about the reasons they are effective or how the work. Why should mentally practicing or imaging a physical task result in improved learning and performance? A number of possible explanations to this basic question have been proposed (Hecker & Kaczor, 1988; Janssen & Sheikh, 1994; Murphy & Jowdy, 1992). We will be discussing three theoretical explanations, they are:

1. Psychoneuromuscular Theory
2. Symbolic Learning Theory
3. Attention and Arousal Set Theory

Psychoneuromuscular Theory

Psychoneuromuscular theory posits that imagery results in subliminal neuromuscular patterns that are identical to the patterns used during actual movement. Even though the imagined event does not result in an overt movement of the musculature, subliminal efferent commands are sent from the brain to the muscles. In a sense, the neuromuscular system is given the opportunity to "practice" a movement pattern without really moving a muscle.

Psychoneuromuscular theory is the most plausible explanation for why imagery facilitates physical performance and learning.

Symbolic Learning Theory

Symbolic learning theory differs from Psychoneuromuscular theory. The symbolic learning theory states that mental practice and imagery work because the individual literally plans her actions in advance. Motors sequence, task goals, and alternative solutions are considered cognitively before a physical response is required.

Attention and Arousal Set Theory

Attention and arousal set theory combines the cognitive aspects of symbolic learning theory with the physiological aspects of psychoneuromuscular theory. According to this theory, imagery serves to improve performance in two ways. From a physiological perspective, imagery may help the athlete to adjust his arousal level for optimal performance. From a cognitive perspective, imagery may help the athlete to selectively attend to the task at hand. If the athlete is attending to a task-relevant image, she is less likely to be distracted by irrelevant stimuli.

Imagery Perspective and Sensory Mode

There are two factors to take into consideration when discussing the use of imagery by athletes. The first is the perspective from which imagery is practiced, and the second is the sensory mode from which imagery is experienced.

Imagery Perspective

There exist two perspectives from which imagery can be applied. The two imagery perspectives are internal and external. In internal imagery, the athlete imagines herself executing a sport task from within her own body. Shut your eyes and imagine for a moment that you have a basketball in your hand and you are preparing to shoot a free throw. If your perspective at this moment is from within your body looking toward the basket, this is an example of internal imagery.

Conversely, external imagery is very unnatural to us. In external imagery we imagine ourself to be outside of our body watching from a distance. Let's take the basketball free throw example again. Shut your eyes and imagine you are going to shoot a free throw. This time imagine that you are outside your body, watching yourself from a distance. Its is an example of external imagery. External imagery provides an excellent perspective from which to observe skill technique and form. We might assume that internal imagery is superior to external imagery because it is more natural to us.

Sensory Mode

Kinesthetic sensitivity informs the brain about movements in the joints and in the muscles.

Both internal and external imagery utilize all five of the body's senses, although different sport skills may benefit more from one perspective than from another (Hardy & Callow, 199). It has generally been believed, however, that internal imagery utilizes kinesthetic sensitivity to a greater degree than external imagery.

Measurement of Imagery

A plethora of questionnaires have been developed and proposed for the measurement of various aspects of imagery. An incomplete list of questionnaires on imagery is provided on the next page.

Lists of imagery tests

Gordon's Test Of Imagery Control (GTIC)	Richardson (1969)
Group Test Of Mental Rotations (GMART)	Vandenburg & Kruse (1978)
Individual Differences Questionnaire (IDQ)	Paivio (1971)
Preferred Imagic Cognitive Style (PICS)	Isaacs (1982)
Imagery Use Questionnaire (IUQ)	Hall, Rodgers & Barr (1990)
Imagery Use Questionnaire For Soccer (IUQ-SP)	Salmon, Hall & Haslam (1994)
Sport Imagery Questionnaire (SIQ)	Hall, Mack, Paivio & Hausenblas (1998)
Exercise Imagery Questionnaire-Aerobic Version (EIQ-AV)	Hausenblas, Hall, Rodgers and Munroe (1999)
Questionnaire On Mental Imagery (QMI)	Betts (1909)
Shortened Form Of Questionnaire On Mental Imagery (SQMI)	Sheehan (1967)
Vividness Of Visual Imagery Questionnaire (VVIQ)	Marks (1973)
Movement Imagery Questionnaire (MIQ)	Hall & Pongrac (1983)
Vividness Of Movement Imagery Questionnaire (VMIQ)	Issac, Mark & Russell (1986)
Revised Movement Imagery Questionnaire (MIQ-R)	Hall & martin (1997)

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LESSON 27

IMAGERY

Conceptual Models for Studying Imagery

Imagery has both a cognitive and a motivational function. The cognitive function of imagery is the use of mental imagery to experience specific sport skills and to plan strategies in advance of competition. The motivational function of imagery is the use of imagery to experience goal attainment, effective coping, and arousal management. One function is primarily cognitive, while the other is primarily emotional.

Paivio's Two-Dimensional Model

Paivio conceptualized the practice of imagery to be either situation specific or general in nature. Thus, Paivio's conceptual model of imagery is two dimensional in nature. As revised by Hall (1998) and measured by the SIQ, Paivio's two dimensional model for imagery has five independent uses:

1. *Motivational-Specific (MS)*

In this type of imagery, the athlete imagines herself in a specific setting that is highly motivation. For example, the athlete might herself making the winning basket in an important basketball game.

2. *Motivational General-Mastery (MG-M)*

In this type of imagery, the athlete imagines himself in a general sport situation exhibiting the ability to remain focused. For example, the athlete might imagine himself thinking positive thoughts every time he comes to bat during an important game.

3. *Motivational General-Arousal (MG-A)*

In this type of imagery, the athlete imagines herself in a general sport situation exhibiting the ability to control anxiety. For example, the athlete might imagine using deep breathing to stay relaxed during a tennis match.

4. *Cognitive Specific (CS)*

In this type of imagery, the athlete imagines herself correctly executing a specific sport skill during competition. For example, the athlete might imagine chipping a ball onto the green in a golf tournament.

5. *Cognitive General (CG)*

In this type of imagery, the athlete imagines himself reviewing team defensive strategies in volleyball. For example, he might imagine the team shifting the defensive formation to defend against a quick attack from the middle.

The Four Ws of Imagery Use

According to Munroe, & others (2000), the four Ws of imagery use are where, when, why, and what. With this in mind, the where of imagery use is during training or competition, with research suggesting that most takes place during competition.

The when of imagery use refers to when imagery is used within training or competition. Relative to training, imagery takes place during practice and outside of practice. Relative to competition, imagery takes place

before, during, and after competition, with most of it taking place before competition in the form of mental rehearsal.

The why of imagery use refers to the function of imagery. An athlete engages in imagery in order to invoke either cognitive or motivational changes. The what of imagery use refers to the content or quality of the images that the athlete has.

Developing Imagery Skills

Detailed practical suggestions for helping athletes to improve and develop imagery skills are provided by Vealey and Greenleaf (2001). A sample six-step program to enhance imagery ability is provided below:

1. Find a quiet place where you will not be disturbed, assume a comfortable position, and relax completely before beginning. Deep breathing and progressive relaxation is a suggested way to achieve the relaxed state.
2. Practice imagery by visualizing a colored circle that fills the visual field initially and then shrink to a dot and disappear. Make the circle turn a deep blue.
3. Create the image of a simple three-dimensional glass. Fill the glass with a colorful liquid; add ice cubes and a straw. Write a descriptive caption underneath the image.
4. Select a variety of scenes and images and develop them with rich detail.
5. Imagine yourself in a sport setting of your choice. Project yourself into the image as if you were one of the performers. Imagine yourself successfully performing the task in the scene.
6. End the session by breathing deeply, opening your eyes, and slowly adjusting to the external environment.

Cognitive-Behavioral Intervention Programs Using Imagery and Relaxation

Research has demonstrated that individualized packaged intervention programs are more effective that nonindividuallized programs in which participants select their own strategies. Athletes benefit most from intervention strategies that are designed to fit their needs and are presented in a systematic and organized fashion.

Three cognitive-behavioral intervention programs to be introduced in this section include Visual Motor Behavior Rehearsal (VMBR), Stress Inoculation Training (SIT), and Stress Management Training (SMT).

Visual Motor Behavior Rehearsal (VMBR)

Visual motor behavior rehearsal (VMBR) was developed by Suinn (1972, 1994) as an adaptation of Wolpe's (1958) desensitization procedure for humans. His particular methods of training consisted of:

1. Relaxing the athlete's body by means of a brief version of Jacobson's progressive relaxation techniques
2. Practicing imagery related to the demands of the athlete's sport
3. Using imagery to practice a specific skill in a lifelike stressful environment.

VMBR combines relaxation and imagery into one procedure. Numerous investigations have been reported that demonstrate that VMBR is effective in enhancing athletic performance, as well as in reducing the debilitating effects of overarousal and state anxiety.

Stress Inoculation Training (SIT)

Stress inoculation training (SIT) is a cognitive-behavioral programs developed by Meichenbaum (1977, 1985) that incorporates relaxation training, imagery, and other cognitive processes into a single plan.

Threatening situations are presented through imagery, films, role playing, and real-life situations. For example, if the fear of competition is stressful, the athlete is allowed to experience both imagined and real competitive situations. As soon as the athlete is able to cope with a low level of stress, the situation is changed, and a more stressful situation is presented, in this way, the athlete becomes inoculated against progressively increased levels of stress. Eventually, the athlete's fear of competition is minimized to such a degree that he can cope with it.

Research with SIT in athletic situations has demonstrated its effectiveness in reducing stress (Hamilton & Leith, 1993)

Stress Management Training (SMT)

Stress management training (SMT) is a cognitive- behavioral intervention program developed by Smith (1980) that incorporates relaxation training, imagery, and other cognitive processes. The athlete is taught to understand the nature of stress generally, and to understand the source of her stress specifically.

The athlete learns and practices integrated coping responses which are reduced by the subject through the application of cooping responses learned during skill acquisition.

Research supports the use of SMT for reducing stress and for enhancing athletic performance (Crocker, 1989)

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LESSON 28

THE ROLE OF HYPNOSIS IN SPORT

Like imagery, hypnosis is a cognitive-behavioral process that has both a cognitive function and a motivational function. In a cognitive sense, hypnosis is used to restructure the way athletes think about themselves and about the way they execute and learn new sport skills. In a motivational sense, hypnosis is used to modify emotions, reduce anxiety, increase or decreases arousal, and increase effort. In the initial induction phase, hypnotism is physiologically identical to progressive relaxation, autogenic training, and meditation. All of these intervention strategies are associated with reductions in oxygen consumption, respiration rate, and heart rate.

Perhaps because it is poorly understood, hypnosis is not a widely utilized intervention strategy in sport. Nideffer (1992) is one of the few sport psychologists who advocate its use on a broad scale. A dated but well-known application of hypnosis took place before the first heavyweight boxing match between Muhammad Ali and Ken Norton in 1973. Norton reportedly hired a professional hypnotist to help him bolster his self-confidence and reduce prematch anxiety. Norton won the match in a stunning upset, effectively calling attention to hypnosis as a viable intervention strategy.

While there may be some potential risks associated with the indiscriminate use of hypnosis by an untrained therapist, most concerns about hypnosis are unfounded. It is probably fair to say that hypnosis is more clouded by myths and misconceptions than any other form of psychological intervention.

Our discussion of hypnosis in sport will focus upon the following topics. The first two topics will be discussed in this lecture, and the remaining in the next lecture.

1. Defining hypnosis
2. Theories of hypnosis
3. The hypnotic trait issue
4. Facts about hypnosis
5. Achieving the hypnotic trance
6. Self-hypnosis
7. Improving effective use of hypnosis
8. Hypnosis and athletic performance.

Defining Hypnosis

The term hypnosis comes from Hypnos, the Greek god of sleep (Kalat, 1999), even though it has long been known that hypnosis is not related to sleep. Hypnosis could be defined as "The uncritical acceptance of a suggestion" or "An induced temporary condition of being, a state that differs mentally and physiologically from a person's normal state of being".

Theories of Hypnosis

We will briefly discuss three theories of hypnosis. The first two re represent extreme positions on the issue of the existence of a hypnotic state, while the third represents a compromise position that has been embraced by many psychologists. The theories to be discussed are:

1. Social-cognitive Theory
2. Hypnosis as an Altered State of Consciousness
3. Neodissociation Theory

Social-Cognitive Theory

Social-cognitivists believe that subjects carry out hypnotic behaviors because they have positive attitudes, motivations, and expectations that lead to a willingness to think and imagine using themes suggested by the hypnotist.

Therapists who are of the social-cognitive theory school of thought believe in the use of hypnotism as a method of increasing a client's willingness to accept suggestions, but they do not believe that this state of uncritical acceptance of suggestions represents an altered state of consciousness.

Hypnosis as an Altered State of Consciousness

At the other extreme are psychologists who believe that hypnotized individuals enter into an altered state of consciousness known as trance. It is believed that the trance-like state is different from other nonhypnotically induced states such as daydreaming and relaxation. While in the hypnotic state or trance, the individual is susceptible to suggestions made by the hypnotist.

Neodissociation Theory

Neodissociation theory explains hypnosis without suggesting that the hypnotic trance is responsible for the phenomenon associated with hypnosis. Daydreaming and relaxation are considered by many theorists to be examples of the altered state of consciousness that we experience every day. We drive to work each day with our minds focused on anything but the drive, then suddenly we arrive at our destination with little recall of the actual drive. This is a form of hypnosis, or what is referred to as dissociation.

Neodissociation theory is based on two assumptions:

1. There is a central control system that performs planning and monitoring functions in the brain.
2. Beneath the central control system there are relatively autonomous subordinate cognitive-behavioral systems.

In the hypnotic trance state, however, the two systems are dissociated from each other. In the hypnotic trance state the two systems are dissociated from each other. Some individuals will be more responsive to hypnosis and hypnotic suggestions than others. Through proper preparation, most individuals can benefit from hypnosis, but not all.

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LESSON 29

THE ROLE OF HYPNOSIS IN SPORT

The Hypnotic Trait Issue

A hypnotic state is a situation-specific response tho hypnotic suggestions and induction, while the hypnotic trait is more of a personality disposition toward hypnotic responsiveness. There are at least three principles that can be identified relative to the trait issue, they are:

1. Hypnotic responding does not require any particular skill or abilities. When proper procedures are used, almost anyone can become highly responsive to suggestion.
2. Hypnotic responding requires some stable imaginative inclination or other cognitive abilities. This alone, however, is not sufficient to produce suggested responses. The individual must be sufficiently convinced that she is capable of responding and be motivated to that end.
3. It is likely that responsiveness to the most difficult suggestions, such as amnesia and hallucinations, require a rare aptitude that cannot be taught.

Facts about Hypnosis and Its Application

Psychologists are divided on what the hypnotic trance is, and on whether there is such a thing as an altered state of consciousness relative to hypnosis, but they are in general agreement about the application of hypnosis.

1. The ability to experience hypnotic phenomenon does not indicate gullibility or personality weakness.
2. Hypnosis is not the same as sleep, nor is it related to sleep.
3. Hypnotic responsiveness depends more on the efforts and abilities of the individual being hypnotized than on the skill of the therapist.
4. While hypnotized, individuals retain the ability to control their behavior, are aware of their surroundings, and can monitor events outside the framework of suggestions given during hypnosis
5. Spontaneous amnesia or forgetting is relatively rare following hypnosis.
6. An individual does not need to be hypnotized to be responsive to suggestions.
7. The function of a hypnotic induction is to increase suggestibility to a minor degree.
8. Hypnosis is not a dangerous procedure when practiced by qualified researchers and clinicians.
9. Most hypnotized individuals are not faking compliance to suggestions or merely going along eith suggestions to be cooperative.
10. Hypnosis cannot increase the accuracy of memory.
11. Hypnosis does not precipitate a literal re-experiencing of childhood events.

Achieving the Hypnotic Trance

Five phases are associated with hypnotic trance in subject. They are preparation of the subject, the induction process, the hypnotic phase, waking up, and the posthypnotic phase.

Preparation of the Subject

When subjects are prepared for hypnotism, they must be relieved of any fear and apprehensions they have about hypnotism. Some myths may need to be exposed. For example, subjects may be under the impression that they will lose control, that they will be unaware of their surroundings, or they will lose consciousness. They must have complete trust in the hypnotist and must want to be hypnotized. They also must be told that they will remain in control at all times and will be able to come out of the hypnotic trance if they want to.

Induction Phase

It is during the hypnotic induction phase that the hypnotist actually hypnotizes the subject. There are many induction techniques. The best ones are associated with relaxation, attentional focus, and imagery. In fact, the steps involved in eliviting the relaxation response using these techniques are essentially identical to those in hypnosis.

Generally, induction procedures are fairly standard. They are typically composed of a series of suggestions aimed at eliciting the subject's cooperation and directing his attention to thoughts and feelings about being relaxed and peaceful.

Hypnotic Phase

Once the hypnotic state has been induced, the subject is in neutral hypnosis. In this state, physiological responses are identical to those of the relaxation response. The hypnotized subject is generally asked to respond, either in imagination or physically, to suggestions of the hypnotist.

Waking Up

This phase is coming out of the trance. Actually, a hypnotized subject can come out of the trance anytime. The only reason subjects do not come out on their own is that they don't want to. The relationship between the hypnotist and the subject can be very pleasant one. When the hypnotist wishes to bring a subject out of trance, he or she does so simply by suggesting that the subject wake up on a given signal.

Post-hypnotic Phase

Suggestions given to subjects during hypnosis are often designed to influence them during the post-hypnotic phase, or ather they have come out of the hypnotic trance. Posthypnotic suggestions given to athletes should focus on the way they should feel in certain competitive situations.

Self-Hypnosis

There are two kinds of hypnosis. The first kind is heterohypnosis, and the second is self-hypnosis, or autohypnosis. Our discussion up to this point has focused on heterohypnosis, that which is induced by another person, usually a trained therapist or a psychologist. Heterohypnosis should be practiced only be skilled professionals. Heterohypnosis is based upon a delicate rapport and trust between the therapist and the client. There are two kinds of self-hypnosis. The first is self-induced, and the second is induced as a posthypnotic suggestion following heterohypnosis.

The phases involved in self-hypnosis are identical to those outlined for hypnosis generally. First, the athlete must be completely comfortable regarding the use of hypnosis. Some common strategies for induction are to sit in an easy chair and stare at a spot on the wall, imagine a blank screen, or look into a mirror.

Posthypnotic suggestions given during self-hypnosis should always be couched in positive terms, stressing what is to be accomplished rather than dwelling on negative things to be eliminated.

Improving the Effectiveness of Hypnosis

Five factors have been identified that can influence the effectiveness of hypnosis, they are:

1. The competence of the professional therapist, or the skill of the athlete.
2. The quality of the relationship between therapist and individual being hypnotized is important.
3. The therapist must do her homework and get to know the person being hypnotized.

4. Effective outcomes require practice of the procedures and instructions given during hypnosis.
5. It works best if therapist and athlete both recognize the limitations of hypnosis.

Hypnosis and Athletic Performance

Is hypnosis effective in facilitating athletic performance? Research on this topic yields a number of basic principles. A list of basic principles gleaned from the literature is provided below :

- The more open and susceptible an athlete is to suggestions, the more likely it is that he will benefit from suggestions given to him under hypnosis. This is also the type of individual who is more likely to be hypnotized.
- Once an individual is hypnotized, the deeper the trance is that she is able to achieve, the more likely it is that suggestions given under hypnosis will be effective.
- Positive suggestions are effective in facilitating performance, regardless of ehrther or not the athlete is hypnotized.
- General arousal techniques are more useful than hypnotic suggestions in enhancing muscular strength and endurance. Hypnosis tends to relax an athlete.
- Negative suggestions almost always cause a decrement in performance.
- Hypnosis may be able to help a successful athlete, but it cannot make a good performer out of a poor one.

If properly used, hypnosis may be effective in enhancing the suggestibility of athletes. The heightened suggestibility of athletes may lead to cognitive or behavioral adjustments that may facilitate performance. It is important, however, to not overstate the effectiveness of hypnosis in improving athletic performance. Positive suggestions are beneficial to the athlete, regardless of whether the athlete is hypnotized or not. Hypnosis is not effective in enhancing muscular strength and endurance. Finally, a real danger exists in inadvertently giving an athlete a negative duggestion while he is in a state of hyper suggestibility.

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LESSON 30

PSYCHOLOGICAL SKILLS TRAINING

In this lecture we talk about ways of implementing relaxation procedures, energizing strategies, imaging, and hypnosis for the purpose of developing psychological skill. Our primary focus in this regard has been facilitation of athletic performance. Learning how to focus attention, increase self-confidence, and control the debilitating effects of anxiety and worry is important for both athletes and nonathletes.

In this lecture we will be discussing the following topics:

1. Effectiveness of psychological intervention programs
2. Differentiating between psychological skills and methods
3. Measurement of psychological skills
4. A psychological skills training program

Effectiveness of Psychological Intervention Programs

A number of literature reviews have been published that verify that planned psychological interventions and programs are effective in enhancing athletic performance (Greenspan & Feltz, 1989; Vealey, 1994; Weinberg & Comar, 1994).These reviews confirm that of approximately forty-five studies reviewed, thirty-eight, or 85 percent, have found positive performance effects (Weinberg & Williams, 2001). In addition, a number of more recent investigations have also supported the effectiveness of psychological interventions. Psychological intervention programs are effective in increasing self-confidence, focusing attention, energizing effort, and enhancing athletic performance.

Differentiating Between Psychological Skills and Methods

Coaches and athletes often use the terms psychological skills and psychological method as synonyms, when they actually have different meanings. Psychological methods, techniques, or strategies refer to practices that lead to psychological skill. Examples of psychological methods include goal setting, imagery, progressive relaxation, meditation, self-talk, and hypnosis. Each of these psychological methods, when properly learned and applied, lead to enhanced psychological skill. Conversely, psychological skill refer to learned or innate characteristics of an athlete that make it possible or even likely that she will succeed in sport. Examples of psychological skill include intrinsic motivation, self-confidence, attentional control, arousal control, anxiety control, and general self-awareness.

Measurement of Psychological Skills

Several inventories have been developed that are designed to measure psychological skills used by athletes. Before adopting a specific inventory, the practitioner should become familiar with the reliability, validity, and psychometric properties of the selected inventory.

1. Psychological skills inventory for sports

The Psychological Skills Inventory for Sports (PSIS-5) was developed by Mahoney, Gabriel, and Perkins (1987). The PSIS-5 (5th version) is a 45-item inventory that measures the psychological skills of anxiety control, concentration, confidence, mental preparation , motivation, and team orientation.

2. Athletic coping skills inventory

The Athletic Coping Skills Inventory (ACSI-28) was developed by Smith, Schutz, Smoll, and Ptacek (1995). It measures the psychological skills of coping with adversity, peaking under pressure, goal setting/mental preparation, concentration, freedom from worry, confidence and achievement motivation, and coachability.

3. Test of performance strategies

The Test of Performance Strategies (TOPS) was developed by Thomas, Murphy, and Hardy (1999). It measures a combination of methods and skills of athletes in strategic situations. Factors measured by the TOPS in the competitive situation include self-talk, emotional control, automaticity, goal setting, imagery, activation, negative thinking, and relaxation. Factors measured by the TOPS in the practice situation include the same factors used in the competitive situation, with the exception that negative thinking is replaced by attentional control.

Psychological Skills Training Program

A number of psychological skills training programs have been proposed. A sample psychological skill training program is give below. It has seven phases.

Psychological Skills Training Program (PSTP)

Phase 1: Who is the Client?

They determine who the client is.

Phase 2: Initial Meeting with Athletes.

Initial meeting is critical

Phase 3: Education of the Sport Psychologist Relative to Activity

Period of self-education will be required to help the sport psychologist bridge the gap from being a novice to being fully knowledgeable and conversant about the sport.

Phase 4: Development of a Needs Assessment Plan

The sport psychologist must have a working knowledge of athletes' current psychological skills. This can be accomplished only through formal and informal assessment.

1) Interview
2) Performance profiling
3) Observation of athletes during practice and competition
4) Use of objective pencil and paper inventories

Phase 5: Psychological Methods and Strategies to be Taught

In this phase, a master plan is developed in terms of what, when, and in what sequence psychological methods are to be taught to address psychological skill weaknesses.

Phase 6: Actual Teaching and Learning of Selected Psychological Methods

1. Psychological Methods to be taught, practiced , and applied in competition to enhance psychological skills
    a. Goal setting
    b. Relaxation
    c. Self-talk
    d. Imagery
    e. Attention skills
    f. Self-hypnosis
2. Performance Routines to be taught, practiced, and applied in competition to enhance psychological skills

Phase 7: Ongoing and End-of-Session Evaluation of PSTP

For best results, the PSTP must be continually reviewed and evaluated.

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LESSON 31

PSYCHOLOGICAL SKILLS TRAINING

Who Is the Client?

The first and most critical thing that must be determined by the sport psychologist is who the client is. If the client is the athletic department of the university, then the athletic department defines the nature of the relationship between the sport psychologist and the athlete or the coach. If the client is the coach, then the coach defines the nature of the relationship between the sport psychologist and the athlete. Finally if the athlete is the client, then the athlete defines the nature of nature of relationship.

Initial Meeting with the Athletes

The initial meeting between the sport psychologist and the athletes is pivotal for emphasizing the need for commitment to the PSTP. Coaches and athletes recognize the importance of physical practice and training to prepare for peak performance. Athletes must be equally committed to psychological skills training. Psychological skills training must be viewed as an equal partner to the practicing of physical skills.

Education of the Sport Psychologist relative to Activity

Athletes find it easier to relate to a sport psychologist who understands the nuances of the sport that the athletes are trying to excel in. If a sport psychologist cannot relate to an athlete's feelings in a critical game situation, she will have difficulty gaining the confidence of the athlete. A sport psychologist must be more than a psychologist; she must also be an exercise and sport scientist.

Development of a Needs Assessment Plan

In order to develop a needs assessment plan, the sport psychologist must determine the psychological skill strengths and weaknesses of each athlete and of a team as a whole. This is accomplished through a series of interviews and test administrations as indicated below.

Interview

An open-ended interview is an important way for the sport psychologist to establish a trusting relationship with the athlete. In this interview, the sport psychologist learns the athlete's attitudes about sport psychology, and his perceptions about psychological strengths and weaknesses.

Performance profiling

The athlete then indicates on a scale of 1 to 10 where she feels she falls on that rating scale. This process has been labeled performance profiling. Areas of potential psychological skill improvement may include intrinsic motivation, self-awareness, self-esteem, self-confidence, attentional focus, and arousal control.

Observation of athletes during practice and competition

Regardless of an athlete's perception of personal psychological skill, it is informative to observe the athlete during game-like situations to see how he deals with pressure. This will make it possible to affirm the athlete's belief system about psychological skill. If differences exist between observed and perceived psychological skills, then additional interviews might prove beneficial.

Use of objective Pencil-and-paper inventories.

Where appropriate, inventories such as 16-PF and POMS should be administered and carefully evaluated relative to other subjectively determined information.

Psychological Methods and Strategies to be Taught

Based on needs assessment, it should be clear to the sport psychologist which areas of psychological skill the athletes are strong in and which areas they are weak in. It is likely that different athletes will exhibit different profiles relative to their psychological skills. Based on this information, the sport psychologist develops a master plan detailing how to enhance psychological skill through the application of various psychological methods strategies, and techniques. Timing and sequencing of the delivery of psychological methods is also determined as this time.

Actual Teaching and Learning of Selected Psychological Methods

During this phase, the actual teaching of psychological method is taught with a specific purpose in mind in terms of enhancing psychological skill. For example, if the athlete is lacking in the psychological skill of displaying self-confidence prior to competition, self-talk, self-hypnosis, and imagery might prove to be particularly effective.

Psychological methods to be taught and practiced

An incomplete list of potential psychological methods to be taught include goal setting, relaxation, self-talk, imagery, attention skills, and self- hypnosis.

Performance routines

Performance routine, whether used before, during, or after the execution of a closed motor skill, are designed to help the athletes focus attention appropriately. Research has validated the use of performance routines in sport (Hill & Borden, 1995; Lidor & Singer, 2000)

Ongoing and End-Of-Season Evaluation of PSTP

If a psychological skills training program extends across an entire sport season, it is imperative that it be evaluated at the end of the season. If psychological inventories were administered during the needs assessment phase of the program, these same inventories can be administered at the end of the season, noting changes and improvements in variables of importance.

If an athlete feels uncomfortable about a specific psychological method that she is learning, there is no need to continue it to the end of the program.

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LESSON 32

ETHICS IN SPORT PSYCHOLOGY

In 1965 the internal society of sport psychology (ISSP) was formed in Rome, Italy. The Association for the Advancement of Applied Sport Psychology (AAASP) is the primary organization within the United States and Canada for professionals interested in applied sport psychology.

All members of these societies are bound by a code of ethics that governs their interactions with the public and with other professionals. Their Ethics Code is based in large part on the Ethical Principles and is composed of a preamble and six general principles.

Principle 1: Competence

Members maintain a high standard of competence in their work. In this regard, they recognize the boundaries and limitations of their competence. For example, a member trained in exercise and sport science would not attempt to counsel an individual with clinical symptoms of depression. Members are continually upgrading their knowledge and expertise through workshops and inservice training.

Principle 2: Integrity

Members practice and promote integrity in the teaching, science, and practice of applied sport psychology. In this regard, they always present themselves and their credentials accurately and forthrightly. They do not make deceptive or misleading statements about their qualifications, products, fees, research, or service. For example, a member would not make unsubstantiated claims about a psychological application that she was using.

Principle 3: Professional and Scientific Responsibility

Members take their professional and scientific responsibilities seriously. It is a member's responsibility to protect the reputation of the society and the public from members who are deficient in ethical conduct. In this regard, they are concerned about the ethical conduct of members whose ethical conduct is not of the highest level. For example, a member would take steps to prevent and/or expose unethical conduct in another member.

Principle 4: Respect for People's Rights and Dignity

Members respect the fundamental rights, worth, and dignity of all individuals. An individual's right to confidentiality, privacy, and personal control are respected at all times. In this regard, members are sensitive to individual differences associated with gender, age, race/ethnicity, national origin, religion, disability, sexual orientation, and socioeconomic status. For example, a member would not refuse to provide the highest level of consideration to an individual on the basis of the person's gender or race.

Principle 5: Concern for Other's Welfare

Members are personally concerned with and take steps to ensure the personal welfare of individuals they interact with. Conflicts between members or between members and clients are resolved in a manner which minimizes harm and maximizes the concern for the welfare of others. For example, members do not take advantage of differences in power and influence between themselves and others.

Principle 6: Social Responsibility

Members have a responsibility to share their knowledge and research with members of society. In this regard, their responsibility is to contribute to the common good of society and to protect the rights of individuals as they do so. For example, members freely agree to provide workshops that will teach others how to apply principles of human development. They also agree to share their research findings in appropriate scientific settings.

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LESSON 33

AGGRESSION AND VIOLENCE IN SPORT

A number of critical questions come to mind as one contemplates the issue of sport aggression. Does participating in or observing violent sporting events serve as a catharsis, or release from aggressive tendencies? Conversely, do these events merely teach and encourage further aggression on and off the playing field? Is it possible to eliminate aggression and violence from sports? If so, how?

In the following two lectures we will be discussing aggression and violence in sport. Topics to be addressed include:

1. Defining aggression
2. Theories of aggression
3. Catharsis hypothesis
4. Measurement issues
5. Fan violence
6. Performance issues
7. Situational factors contributing to aggression
8. Reducing aggression in sport

Defining Aggression

Two factors must be presented in order for a behavior to be labeled aggression. First, the behavior must be aimed at another human being with the goal of inflicting physical harm. Second, there must be a reasonable expectation that the attempt to inflict bodily harm will be successful. Consequently, the following behaviors are not really examples of aggression:

1. Doing destructive violence to an inanimate object such as a door or a water cooler.
2. Unintentionally injuring another person during athletic competition.
3. Aggressive behavior in which there is no chance for the intended victim to be injured (e.g., aggressor and victim are separated by bars or by teammates)

Over the years, two basic kinds of aggression have been identified. The first is hostile aggression. For individuals engaged in hostile aggression, the primary goal is the injury of another human being. The intent is to make the victim suffer, and the reinforcement is the pain and suffering that is caused. This sort of aggression is always accompanied by anger on the part of the aggressor. A good example of hostile aggression occurs when a cricket bowler throws a full-toss at the batsman who has angered him.

The second major kind of aggression is instrumental aggression. For individuals engaged in instrumental aggression, the intent to harm another individual is present, but the goal is to realize some external goal such as money, victory or prestige. The aggressor views the aggressive act as instrumental in obtaining the primary goal. A parallel cricket example for instrumental aggression would be on in which the bowler has been "ordered" by his coach to hit a batsman in retaliation for some earlier infraction. The bowler is not necessarily angry at the batsman, but sees hitting the batsman as instrumental in achieving the team goal of winning the game.

It must be emphasized that neither type of aggression is acceptable. The aggressor is guilty of purposely inflicting harm with the intent to injure another person. This must be discouraged at all levels of competition, especially the professional level, because young athletes everywhere emulate the pros.

A third category of behavior that is often confused with aggression is assertiveness, or assertive behavior. Generally, when coaches encourage their athletes to be more aggressive, what they really want is that they be more assertive. Coaches want their athletes to assert themselves and make their presence felt.

Assertiveness involves the use of legitimate physical or verbal force to achieve one's purpose. However, there is no intent to harm the opponent. Even if the opponent is harmed as a result of a tackle in soccer, it is not necessarily aggression. It is merely assertive play, as long as it is within the sprit of the agreed-on rules and the intent to harm is not present. Assertiveness requires the expenditure of unusual effort and energy, but if there is no intent to harm, then any resultant harm is incidental to the game.

Theories of Aggression

Theories of aggression fall into four main categories:

1. Instinct theory,
2. Social learning theory
3. Theory of moral reasoning,
4. The frustration-aggression hypothesis.

Instinct Theory

Instinct theory is based upon the writings of Sigmund Freud and ethologists such as Konrad Lorenz, Freud (1950) viewed aggression as an inborn drive similar to hunger , thirst, and sexual desire. According to Freud, aggression is unavoidable since it is innate, but as with any drive it can be regulated through discharge, or fulfillment. Since humankind is innately aggressive, it benefits society to promote athletic sports and games that provide a socially acceptable outlet for aggression.

Social Learning Theory

Social learning theory posits that aggression is a function of learning and that biological drive and frustration are inadequate explanations of the phenomenon. Acts of aggression serve only to lay the foundation for more aggression, and do not result in reduction or purging of the drive to be aggressive. Perhaps the leading advocate of social learning theory, relative to aggression, is Bandura (1973). Bandura proposes that aggression has a circular effect, i.e., one act of aggression leads to further aggression. This pattern will continue until the circle is broken by some type of positive or negative reinforcement.

Theory of Moral Reasoning and Aggression

Theory of moral reasoning proposes that an individual's willingness to engage in aggression is related to her stage of moral reasoning. Since human aggression is viewed as unethical, this theory suggests that a relationship a relationship should exist between the level of moral reasoning and overt acts of athletic aggression.

Reformulated Frustration-Aggression Theory

As originally presented by Dollard, Miller, Doob, Mourer, and Sears (1939), frustration-aggression theory proposes that aggression is a natural response to frustration, and that the aggressive act provides a catharsis, or purging, of the anger associated with the frustration. Frustrations caused by events that are believed to be arbitrary or illegitimate are particularly galling to athletes.

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LESSON 34

AGGRESSION AND VIOLENCE IN SPORT

The Catharsis Effect

The catharsis effect represents a release of pent-up frustration that makes one feel better. It is a purging of the anger and frustration associated with not being able to accomplish a goal. Venting frustration upon a punching bag or some other inanimate object may serve as a useful catharsis. Venting frustration upon another human being, however, is unacceptable behavior that is likely to lead to more aggression.

Aggression is not cathartic in the sense that it leads to a reduction in the desire to aggress. Aggression leads to an increase in aggression as tempers flare and as the behavior becomes learned.

Measurement of Aggression

A number of inventories have been developed to measure aggressiveness as a personality disposition or trait. Two of these inventories are the Aggression Questionnaire (Buss & Perry, 1992) and the Aggression Inventory (Gladue, 1991). Sport- specific inventories include the Athletic Aggression Inventory (Bredemeier, 1978) and the Continuum of Injurious Acts (Bredemeier, 1985). The actual measurement of aggression, however, is much more difficult. Because aggression is defined as the intent to harm another human being, the measurement device must be able to capture this intent.

Fan Violence

Some of the worst examples of sports aggression and violence occur among the fans watching an athletic contest. Every sports event is attended by individuals who may instigate fan violence. These are individuals who score high in the personality disposition of anger and physical aggression. These individuals are attracted to violence and fighting among fans, and exhibit a false belief about the willingness of other fans to join in acts of violence.

Effects of Aggression On Performance

Conventional wisdom argues that acts of aggression on the part of an athlete will constitute a distraction and result in a decrement in performance. Not only are aggressive acts on the part of an individual distracting to the individual, but they are likely to be distracting to the team as a whole. Research shows, for example, that the lower a team is in the standings, the more likely it will be to engage in aggression.

Situational Factors in a Sport Setting

Factors associated with the occurrence of aggression in sport-specific situations are as follows:

a. Environmental temperature

Archival data suggest that higher temperatures lead major league pitchers to become more aggressive in pitching to batters.

b. Perception of victim's intent

If athletes perceive that an opponent's intent is to inflict harm, they are more likely to respond with aggression against the opponent. This means that perception of an opponent's aggressive intentions may be more salient than such things as defeat and competition.

c. Fear of retaliation

To some degree, the fear of retaliation on the part of the individual who is the target of aggression can inhabit another player from initiating that aggression. A basketball player is a little less likely to elbow her opponent in the ribs if she fears similar treatment from the opponent.

d. Structure of the game

Studies have shown that more aggressive penalties occur as the game score differential increases. When teams are tied or the scores are close, aggression is at a minimum. Research has also shown that the lower the team is in standings, the more its members engage in aggression**.**

e. *Rivalry, familiarity, and frequency of play.*

As players become more familiar with one another due to frequency of play, and as the rivalries become more intense due to geographical location, aggression becomes more frequent.

f. Goal orientation

A respect for rules and officials declines as the ego orientation of the athlete increase. Conversely, high task goal orientation is associated with higher level of sportspersonship.

Reducing Aggression in Sport

Aggression in sport can be curtailed, or at least minimized, if all concerned are interested in doing so. The sad part is that some of the most influential people actually promote rather than discourage violence because they believe it sells tickets.

Research shows that angry feelings and angry behavior, the precursor to hostile aggression can be modified through anger awareness training and role playing. Athletes can learn to control their feelings of hostility anger. Role playing is particularly effective in reducing an athlete's anger feelings and behavior.

Curtailing Aggression and Violence by Athletes

a. Young athletes must be provided with models of nonaggressive but effective assertive behavior.
b. Athletes who engage in aggressive acts must be severely penalized.
c. The penalty or punishment that an athlete receives for an act of aggression must be of greater punitive value than the potential reinforcement received for committing the act.
d. In addition to receiving punishment for acts of aggression, athletes should receive rewards and praise for showing restraint and patience in emotionally charged situations.

Curtailing Aggression and Violence by Fans

a. Potential troublemakers should be closely supervised. Fans with a history of violence and fighting should be identified and denied admission.
b. The sale, distribution, and use of alcoholic beverages at sporting event should be limited and controlled.
c. Athletic events should be promoted and encouraged as family affairs.
d. The media can promote responsible behavior on the part of the fans by not glamorizing acts of aggression.
e. As with athletes and coaches, fan aggression must be swiftly and severely punished.

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LESSON 35

AUDIENCE AND CROWD EFFECTS IN SPORTS

Audience participation is a powerful on athletic performance. Perhaps no social-psychological effect is more important to athletic performance and outcome than the audience, or spectators, effect. While many variables may help create the home court or home field advantage, none seem to be as important as the presence of a supportive audience. Determining how and why an audience presence affects athletic performance is the focus of this section. Topics to be discussed include:

1. Social facilitation
2. Effect of an interactive audience on performance
3. Audience characteristics(size, intimacy, density, and hostility)
4. Team quality
5. Players' perceptions.

Social Facilitation

Social facilitation research is based on the notion that the presence of an audience of one or more spectators can facilitate performance. This is an appealing concept, since almost everyone has experienced the desire to perform better when friends, family, or members of the opposite gender are watching.

Research in the area of social facilitation was significantly influenced by the work of Robert Zajonc (pronounced "science"). Zajonc's classical paper on the topic remains the single most critical factor in the development of social facilitation as a field of inquiry. (Zajonc, 1965). Zajonc proposed that the presence of an audience has the effect of increasing (drive) in performing subjects. Since increased arousal facilitates the elicitation of the dominant response, the presence of an audience will enhance the performance of a skilled individual while causing a decrement in the performance of an unskilled individual. This concept is illustrated below.

For highly skilled athletes:

Crowd influence (increased Arousal) → leads to →performance facilitation

For less skilled athletes:

Crowd influence (increased Arousal) →leads to →performance decrement

Effects Of An Interactive Audience On Performance

Perhaps the most interesting topic associated with the interactive audience is that of the home advantage. The fact that the home advantage exists in such team sports as basketball, baseball, football, ice hockey, and soccer is well documented (Bray, 1999). We will focus upon the most viable explanation for the home court advantage: the presence of a supportive and interactive audience.

Why is there a Home Court Advantage?

The most plausible explanation for the home advantage in sport is the presence of a supportive and interactive audience. The presence of a supportive and emotionally arousing crowd translates into a home court advantage in many situations. Some researches suggest that the advantage favoring the home team is due not to increased performance caused by a supportive audience, but to inferior performance on the part of the visiting team—sort of an away court disadvantage**.**

When is the Home Court/Field a Disadvantage?

Is playing at home always an advantage, or can it sometimes be a disadvantage? For a number of reasons, playing at home can be a home disadvantage. One reason might be that the fans expect you to win at home; this can result in additional pressure to play well. A second reason might be that playing before a very vocal and supportive audience can raise arousal to a level that results in a decrement of performance. The presence of a supportive audience may have the effect of increasing the cost of not winning when you are expected to. The athlete or the athletes begin to "press," which interferes with the execution of skillful play.

Audience Characteristics

Having determined that a home advantage usually exists in sport and that this advantage is related to the presence of a supportive and interactive audience, we should now examine characteristics of the audience.

Crowd Size, Intimacy, and Density

There is evidence in professional baseball that crowd size makes a difference. Factors such as audience density and audience intimacy may be more important than size for creating the home court advantage.

Crowd Hostility

It is generally understood that a supportive and friendly crowd will help the home team. What is the effect, however, of a seemingly hostile crowd on player performance? Research by Greer (1983) demonstrated that sustained hostile spectator protests have a clearly negative impact on the visiting team.

Home Court Advantage And Team Quality

From the previous discussions we understand that the home team usually enjoys a home court or field advantage. Factors that contributed most to the home team advantage, after controlling for team quality, were crowd density, rebounds, steals, and field goal shooting percentage. Winning at home occurs more often for high-quality teams than for low-quality teams.

Players' Perceptions of Home Court Advantage

When asked about their perceptions of the home court advantage, athlete indicated that they believed there was a home court advantage. They further indicated that they felt that home court familiarity and crowd support were the primary factors determining the home court advantage. Finally, athletes believed that they were more self-confidence when they played at home than when they played away.

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LESSON 36

TEAM COHESION IN SPORT

Intuitively athletes, coaches, and sport enthusiasts understand that there is more to athletic success than the collective or individual skills of a team. Sport psychologists refer to this extra team ingredient as group or team cohesion.

There are numerous examples of talented teams that failed to live up to expectations, or to less talented teams who performed far above expectations. In sports, it is a well-established principle that a group of individuals working together is far more effective than the same individuals working independently of one another. On the basketball team, there may be several individuals capable of scoring twenty or more points a game. However, in the interest of team success, the coach may require that one or more of these athletes assume nonscoring roles. For example, a point guard has the primary responsibility of setting up plays and getting the offense started, while the power forward must "crash" the boards and get offensive and defensive rebounds. Athletes who play these specialized roles rarely score as many points as shooting guards or forwards. Yet, out of the desire to be "team players", these athletes accept less glamorous roles for the common good of the team. Thus, as a group or team evolves, a certain structure develops. This structure varies from group to group and situation to situation, but it is critical for team success.

Not only do members of successful teams have the ability to work together (teamwork); they also enjoy a certain attraction to one another. In this respect, it seems logical that teams composed of members who like each other and enjoy playing together will somehow be more successful than teams lacking this quality.

As a social psychological topic, team cohesion ranks as a very important factor for enhancing team performance and feelings of satisfaction among members. In the following two lectures, team cohesion will be discussed in terms of:

- Its defining characteristics
- Its measurement
- Its determinants
- Its consequences
- Its development

Defining Characteristics of Team Cohesion

Albert Carron (1992), a prominent sport social psychologist, defined group cohesion as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of goals and objectives. Fundamental to the study of team cohesion is the understanding of group dynamics. Members of a team or group begin to interact with each other the moment the group is first formed.

Direct and Indirect Measurement of Cohesion

The indirect measurement approach to assessing team cohesion tries to get at team cohesion by asking each team member how she feels about every other member of the on some basic question (e.g., How much do you like the different members on your team?). Summed scores from team members would represent a measurement of team cohesion.

The direct measurement approach to assessing team cohesion is direct in the sense that players are asked to indicate how much they like playing for the team (individual attraction) and how well they feel the team functions as a unit (group integration). Research using the indirect approach has generally failed to find a

meaningful relationship between team cohesion and team or individual behavior. the indirect approach to measuring team cohesion is very rare in sport psychology research today.

Measurement of Team Cohesion

A number of inventories have been developed for measuring team cohesion in sport. An incomplete list of inventories include:

1. Sports Cohesiveness Questionnaire (SCQ; Martens & Peterson, 1971);
2. Team Cohesion Questionnaire (TCQ; Gruber & Grey, 1981);
3. Sport Cohesion Instrument (SCI; Yukelson, Wienberg and Jackson, 1984);
4. Group Environment questionnaire (GEQ; Widmeyer, Brawley & Carron, 1985);
5. Team Psychology Questionnaire (TPQ; Partington and Shangi, 1992)

Of these five inventories, the Group Environment Questionnaire (GEQ) has been sport psychologists' primary inventory of choice over the last fifteen years. The GEQ has continued to be used extensively by researchers and practitioners The GEQ is composed of eighteen items that measure the four team cohesion dimensions.

The four team cohesion dimensions measured by GEQ are:

- Personal factors
- Team factors
- Leadership factors
- Environmental factors

Determinants of Team Cohesion

Now let's focus attention upon the determinants of team cohesion.

In an important study reported by Widmeyer and Williams (1991), factors that determine team cohesion were investigated. In this investigation, team cohesion was measured using the GEQ. The results of this investigation revealed that all the four determinants, personal factors, team factors, leadership factors and environmental factors predictive of some aspect of team cohesion. The strongest predictor of team cohesion, however, was personal satisfaction. The best way to develop team cohesion is by cultivating a personal feeling of satisfaction towards the team and team members.

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LESSON 37

TEAM COHESION IN SPORT

Consequences of Team Cohesion

Most research on consequences of team cohesion has focused upon performance. The primary question that has been asked is to what degree team cohesion leads to improved team or individual performance.

Research has consistently shown that a significant relationship exists between team cohesion and athletic performance (Carron & Dennis, 1998; Mullen & Cooper, 1994; Widmeyer, Carron & Brawley, 1993). This observed relationship is much stronger when task cohesion as opposed to social cohesion is involved, and when interactive as opposed to coactive sports are involved.

Interactive sports are those team sports, such as volleyball, basketball, and soccer, that require members of the team to interact with one another. Coactive sports are those activities, such as bowling, archery, and riflery, that do not require members of the team to interact with each other for team success.

We will now be discussing other consequences of team cohesion. These include direction of causality for the cohesion-performance relationship, improving group self-efficacy, predicting future participation, homogeneity of team cohesion, disruptive effects of self-handicapping, and team momentum.

Direction of Causality for the Cohesion-Performance Relationship

As mentioned before, numerous investigations have verified that a significant and positive relationship exists between direct measures of team cohesion and performance in both individuals and team sports. Almost all athletes, however, have experienced the "halo effect' of success. When your team is winning, it is a lot easier to feel at one with your team and with your teammates. Team cohesion leads to team performance, and Team performance leads to team cohesion**.**

Improving Group Self-Efficacy

Research by Kim and Sugiyama (1992) likewise points to the importance of group or team self-efficacy in helping teams believe that they will be successful. Teams that have developed high levels of team cohesion tend to exhibit high of group efficacy as well.

Predicting Future Participation

Sports participants who exhibit high levels of social cohesion also exhibit high scores in the expectation that they will participate in sport during the following season. This prediction is undoubtedly related to the further observation that high levels of team cohesion are related to lowered state anxiety. Individuals low in state anxiety are more likely to continue sports participation.

Homogeneity of Team Cohesion

Research indicates that homogeneity of team cohesion among both starter and nonstarter is an important predictor of successful team performance. Successful volleyball teams are characterized by high levels of team cohesion on the part of both starters and nonstarters. Conversely, less successful teams are characterized by a lack of homogeneity (agreement) in team cohesion between starters and nonstarters.

Moderator of the Disruptive Effects of Self-Handicapping

Self-handicapping represents the strategies athletes use to proactively protect their self-esteem by creating excuses for their performance in forthcoming events through adopting or advocating impediments for success. Typical excuses might include missing practices due to injury or illness, partying and loss of sleep, school commitments or distractions. If success follows, the athlete or athletes can always internalize (take credit for) the victory, but if failure follows, they will have numerous external explanations as to why they have failed. This behavior causes disruption in the athlete's preparation for competition, and is therefore referred to as self-handicapping.

Research indicates that team cohesion has a moderating effect on the trait of self-handicapping.

Effects of Team Cohesion on Psychological Momentum

Research demonstrated, using high school volleyball players, that a high level of task cohesion is associated with perceived psychological momentum. Here we learn that teams that enjoy a high level of task cohesion are more likely to enjoy the benefits of psychological momentum. For teams that are high in task cohesion, this perception of psychological momentum is likely to be more pronounced.

Developing Team Cohesion

Given that team cohesion is an important characteristic of successful teams, how can it best be developed? In this section we will address that important question in three different ways. First, we will discuss the development of team cohesion as a process. Second, we will discuss team building as a way to develop team cohesiveness among team members. Finally, we will identify specific interventions calculated to enhance team cohesion.

Team Cohesion as a Process

Very early, Tuckman (1965) described four basic stages that a team must pass through in order to emerge as a cohesive unit. The four stages include forming, storming norming and performing

In the forming stage, the athletes experience the excitement of a new relationships and getting together with teammates for a common goal or cause. In the storming stage, the athletes struggle with the frustrations. During the norming stage, members of the team start agreeing upon common goals. Finally, during the performing stage, the team is ready to perform as a cohesive unit.

Team Building

Team building is to "promote an increased sense of unity and cohesiveness and enable the team to function together more smoothly and effectively." Thus, team building is a process that should lead to cohesiveness among members of a team.

In the direct intervention approach, the sport psychologist works directly with athletes and employees to empower them, through a series of educational seminars and experiences, to develop a shared vision, unity of purpose, collaborative teamwork, individual and mutual accountability, team identity, team cohesiveness, open and honest communication, and trust at all levels. In the indirect intervention approach, the sport psychologist teaches coaches and managers to conduct team building with their athletes and employees.

Specific Interventions Designed to Enhance Team Cohesion

1. Acquaint each player with the responsibilities of other players.
2. As a coach or teacher, take the time to learn something personal about each athlete on the team.
3. Develop pride within the sub-units of large teams.

4. Develop a feeling of "ownership" among the players.
5. Set team goals and take pride in their accomplishments.
6. Make sure that each player on the team learns his role and comes to believe it is important.
7. Do not demand or even expect complete social tranquility. The complete elimination of any friction may actually suggest a complete lack of interest in group goals.
8. Since cliques characteristically work in opposition to the task goals of a team, avoid their formation.
9. Develop team drills and lead-up games that encourage member cooperation.
10. Highlight areas of team success, even when the team loses a game or match.

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LESSON 38

LEADERSHIP IN SPORT

Theories of Leadership

Early interest in leadership centered on the traits or abilities of great leaders. It was believed that great leaders were born and not made. Leadership traits are relatively stable personality dispositions such as intelligence, aggressiveness, and independence. Leadership behaviors have to do with the observed behavior of leaders and have little to do with their personality. Traits found in all successful leaders are referred to as universal traits, as opposed to situational traits. Situational traits and situational behaviors are those traits and behaviors that may help make a leader successful in one situation but are of little value in another.

Universal Trait Theories of Leadership

Trait theory has its origin in the "great man" theory of leadership, which suggests that certain great leaders have personality traits and personality characteristics that make them ideally suited for leadership. Supporters of trait theory believe that successful leaders have certain personality characteristics or leadership traits that make it possible for them to be successful leaders in any situation.

Universal Behavior Theories of Leadership

Shortly after World War II the focus in leadership research turned from universal traits to universal behaviors of successful leaders. It was believed that successful leaders had certain universal behaviors. Once theses universal behaviors were identified, they could be taught to potential leaders everywhere. This approach to leadership was very optimistic, since anyone could learn to be a successful leader simply by learning certain predetermined behavioral characteristics. If these universal behaviors could be mastered, then anyone could be a successful leader. Unlike trait theory, the belief was that leaders are made, not born.

Fiedler's Contingency Theory

Fiedler's contingency theory provides an excellent example of a leadership theory that is situation-specific, but retains the notion of personality traits. Fiedler's theory is one of many that use the contingency approach. The contingency approach to leadership suggests that leader's effectiveness is somehow situation-specific, and that leaders that are effective in one situation may not be in another. In a sense, effective leadership depends on specific environmental situations. However, Fiedler's theory differs from most situational theories, since the emphasis is on relatively stable personality traits, as opposed to behaviors. Thus, a particular personality disposition that seems to be effective in one leadership situation may not be effective in another.

According to Fiedler (1967), the contingency model of effective leadership posits that the effectiveness of a group is contingent on the relationship style (personality traits) and the degree to which the situation enables the leader to exert influence.

Situation-specific behavior theories of leadership

The theories in this section view leadership as a function of the interaction between leader behavior in a specific situation and the situation itself. In this section we will be discussing two theories:

- Path-goal theory
- Life cycle theory

Path-Goal Theory

The basic proposition of path-goal theory is that the function of the leader is to provide a "well-lighted path" to assist the follower in achieving goals. This is done by rewarding subordinates for goal attainment, pointing out roadblocks and pitfalls on the path to success, and increasing the opportunities for personal satisfaction. For example, if an athlete's goal is to break a school record in the mile run, it is the coach's job to provide a training program that is rewarding and enables the athlete to accomplish this goal.

Life Cycle Theory

Life cycle theory places the emphasis in leadership behavior on the subordinates and not on the leader. The appropriate combination of task and relationship behavior depends on the maturity of the follower.

Coach-Athlete Compatibility

An important factor linked with leader effectiveness is coach-athlete compatibility, or the quality of the relationship between the coach and the athlete. Compatibility between coach and athlete has been shown to be an important determinant of team success and satisfaction. In studying coach athlete compatibility, researchers compare behaviors of effective coach-athlete dyads (pairs) with those of less effective dyads.

Compatible coach-athlete dyads are characterized by good communication and the presence of rewarding behavior flowing from coach to athlete. Conversely, incompatible coach-athlete dyads are characterized by a lack of communication and rewarding behavior. In compatible dyads, coach and athlete freely interact with each other. There is a feeling of mutual respect, an appreciation of each other's roles, and a desire to communicate honest feelings. Theses feelings are not present in the incompatible dyads. Rather, there is a feeling of detachment and isolation from each other. Effective and open communication cannot take place in an environment of exclusion. Quality interaction, communication, and respect between coach and athlete lead to athlete satisfaction and improved performance.

Player Position, Leadership Opportunity, and Stacking

Playing Position and Leadership Opportunity

Investigations show that athletes who play in certain central positions on the playing field benefit from greater leadership opportunity. For example, in cricket, a wicketkeeper will probably have greater leadership opportunities than a person fielding at the boundary.

Playing position and stacking

Stacking refers to the disproportionate placement of blacks or minorities into positions of low centrality relative to task dependence and propinquity. If stacking does occur in sport, African Americans should be underrepresented in positions of high centrality. Studies of centrality and racial segregation have shown that minority players are underrepresented in central positions, where opportunities for leadership are greatest.

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LESSON 39

EXERCISE PSYCHOLOGY

Documentation of the psychological benefits of regular exercise has led to the inclusion of "lack of exercise" as a fourth factor for heart disease that can be modified or controlled by the individual. The other three risk factors are smoking, high blood pressure and elevated cholesterol. Among other things, regular physical exercise helps lower cholesterol, decreases the percentage of body fat, mediates the effects of diabetes, reduces weight, and lowers blood pressure.

Over the next four lectures we will be looking at exercise psychology in great detail. Will be discussing the following topics related to exercise psychology:

a. Psychological benefits of exercise
b. Theoretical explanations for the relationship between exercise and improved mental health
c. Exercise adherence and determinants
d. Theories of exercise behavior
e. Fitness as a moderator of life stress
f. The immune system, cancer, HIV and exercise
g. Social physique anxiety
h. Exercise addiction
i. Eating disorders

Psychological Benefits of Exercise

A large body of literature has been amassed that supports the position that regular exercise leads to improved psychological affect. Improved psychological affect is manifested in the form of a reduction in negative affect (e.g., anxiety and depression) and an increase in positive affect (e.g., self-efficacy, vigor, well-being).

Exercise in many cases is as effective as psychotherapy and antidepressant drugs in treating emotional disorder. These conclusions are supported by several narrative reviews and meta-analysis (Craft & Landers, 1998), Hale, Koch and Raglin, 2000; Van Landuyt, Ekkekakis, Hall & Petruzzello, 2000).

Type of exercises

Studies cited to support the relationship between exercise and psychological affect benefits have used both acute and chronic exercises. Acute exercise refers to exercise that is of short duration (e.g., thirty minutes).Chronic exercise refers to long-term exercise (e.g., twelve months). Aerobics exercise refers to exercise that is accomplished at an exercise intensity that allows for the intake of sufficient oxygen to maintain continuous exercise. Anaerobic exercise is one in which the exerciser does not get enough oxygen to maintain continuous exercise. Anaerobic exercise requires the athlete to breathe hard following exercise in order to replenish stored energy. After a bout of anaerobic exercise, the athlete will need period to time to "catch her breath." This is not generally necessary with aerobic exercises. Synchronized swimming is an example of anaerobic exercise. Resistance exercise usually involves the use of weights or weight training to provide resistance to the muscles, for example, weight lifting.

Special Populations

We turn our attention now to the beneficial psychological effects of regular physical activity on special populations of people. Special populations can be divided into three categories; clinical patients, children and elderly, and disabled individuals.

Clinical Patients

The benefits of regular physical activity are even greater for individuals suffering from psychological disorders than for normal individuals. Using a meta-analysis procedure, it is observed that:

a) Both aerobic and nonaerobic exercises were effective in reducing clinical depression.
b) More depressed individuals benefit more from exercise.
c) Exercise was as beneficial as psychotherapy and drug therapy for reducing depression.
d) Long-term exercise programs are more effective than short-term programs for reducing depression in the clinically ill.

In addition to treating depression and anxiety, exercise is also an effective treatment for clinical patients suffering from schizophrenia. Results of the exercise program showed psychological improvements in the form of reduced auditory hallucinations and better sleep patterns. In another investigation, Martinsen, Raglin, Hofart, and Friis (1998) demonstrated that patients suffering from severe panic disorder could safely undergo vigorous exercise without suffering panic attacks.

Children and Elderly

Research has also shown the beneficial effects of exercise on children and older adults. Children's exercise behaviors are greatly uninfluenced by their parents' attitudes and behaviors regarding exercise. Factors that can influence a child's decision to be physically active include parents' beliefs, the children's perception of their own competence, and, to come extent their goal orientation.

Regarding exercise and the elderly, research shows that participation in aerobic exercise selectively preserves some cognitive functioning that normally declines with age.

So, for the elderly, there is not only the benefit of improved fitness and improved psychological affect associated with exercise, but also the prospect of slowing the decline of some cognitive functions. Exercise in the elderly is associated with the preservation of certain aspects of memory and spatial relationships and reduction in confusion, tension, and anger.

Disabled Individuals

Finally, it is important to mention that the beneficial psychological effects of regular exercise extend to physically challenged individuals as well. For example, wheelchair sport participants have been observed to enjoy greater psychological benefits from physical activity than wheelchair nonparticipants in sport.

Moderating Variables

In addition, research suggests that there are a number of variables that may moderate or facilitate the effectiveness of regular exercise on metal well-being.

Time of Day

Research suggests that time of day is not an important factor relative to psychological benefits derived from exercise. You get just as much affective benefit from running in the morning as from doing so at midday or in the evening.

Mode of Exercise

The psychological benefits of acute aerobic exercise appear to the same, regardless of the mode of exercise. Cox et al. (2000) observed no difference in anxiety between treadmill and stepper exercisers following a thirty-minute bout of exercise.

Music

Research suggests that listening to music during exercise can increase positive affect in the exerciser.

Attentional Strategy

Relative to attentional strategy, there is evidence that a dissociative (external) attentional strategy may result in greater psychological benefits (Masters & Ogles, 1998b). Runners who are asked to listen to their own heart rates during exercise (internal focus) exhibit greater emotional stress than runner who dissociate during exercise.

Social Environment

The social environment associated with exercise has an effect upon psychological benefits of exercise. Research results show increased benefits for the socially enriched environment in the form of revitalization and self-efficacy.

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LESSON 40

EXERCISE PSYCHOLOGY

Theoretical Explanations for the Relationship between Exercise and Improved Mental Health

Many hypotheses have been proposed to explain why exercise is associated with improved mental health. We will be discussing six of them. The first three explanations are considered to be psychological in nature, while the remaining three are physiological in nature.

Psychological Explanations

Cognitive Behavioral Hypothesis

The basic premise of the cognitive behavioral hypothesis is that exercise encourages and generates positive thoughts and feelings that serve to counteract negative mood states such as depression, anxiety, and confusion.

When individuals master task s they perceive to be difficult, they experience an increase in self-efficacy. Exercise is perceived by nonexercisers as a difficult task. When to nonexercisers succeeds in becoming a regular exerciser, she experiences a feeling of accomplishment and self-efficacy. An increase in self-efficacy is helpful in breaking the downward spiral of negative affect associated with depression, anxiety, and other negative mood states.

Social Interaction Hypothesis

The basic premise of the social interaction hypothesis is that social interaction associated with exercising with friends and colleagues is pleasurable and has the net effect of improving mental health.

Distraction Hypothesis

The basic premise of the distraction hypothesis is that exercise affords an opportunity for individuals to be distracted from their worries and frustrations. It may be that distraction provides a viable explanation for short-term reduction in depression and anxiety, but not for long-term reduction.

Physiological Explanations

Cardiovascular Fitness Hypothesis

The basic premise of the cardiovascular fitness hypothesis is that improved mood state is associated with improved cardiovascular fitness**.**

Amine Hypothesis

The basic premise of the amine hypothesis is that increased secretion of chemicals that serve as neurotransmitters is related to improved mental health. Theoretically, exercise stimulates the production of neurotransmitters that in turn have a positive effect upon psychological mood.

Endorphin Hypothesis

The endorphin hypothesis postulates that exercise is associated with brain production of chemicals that have a "morphine-like" effect on the exerciser (pain reduction and general euphoria). This effect has been referred to, in popular literature, as the "runner's high." The general euphoria produced by the endorphins serves to reduce the levels of depression, anxiety, confusion, and other negative mood states.

Exercise Adherence and Determinants

Another important aspect of exercise psychology is to determine what motivates individuals to start exercising, what motivates them to adhere to an exercise program, and what motivates them to try again after failing the first (or second) time.

Transition from Sedentary State to Exercise Adoption

Exercise determinants motivate individuals to make the transition from sedentary lifestyle to regular exercise. Individuals likely to adopt a vigorous exercise lifestyle exhibit the following characteristics:

1. Confidence they can succeed at a vigorous exercise program (exercise self-efficacy)
2. Knowledge about what constitutes a healthy lifestyle.
3. Knowledge about the importance and value of regular exercise.
4. The perception that they enjoy a high level of self-control.
5. Good attitudes about the value and importance of regular exercise.
6. Initial condition of not being overweight or obese.

It has often been hypothesized that parental involvement in vigorous physical activity would be a strong determinant of the exercise behavior of their children. What does predict vigorous physical activity in children is parental beliefs about the value and importance of vigorous physical activity.

Transition from Adoption to Maintenance or Dropout Status

Determinants of exercise adherence are:

1. Available time.
2. Behavioral coping skills
3. Equipment and facility accessibility
4. Exercise self-efficacy
5. Group cohesion
6. High risk of heart disease
7. Intrinsic motivation
8. Personal perception of good health
9. Social support

Determinants of exercise nonadherence are:

1. Being a blue-collar worker
2. Being overweight or obese
3. Mood state disturbance relative to exercise
4. Physical discomfort during exercise
5. Being a smoker
6. Social physique anxiety

Transition from Dropout Status to Exercise Resumption

The transition from being an exercise dropout to resuming a vigorous exercise program is an important part of the exercise psychology literature but statistics are not available on the percentage of people who drop out off an exercise program and then get started again.

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LESSON 41

EXERCISE PSYCHOLOGY

Theories of Exercise Behavior

Psychological models of human behavior have been applied to the exercise-setting in an attempt to explain why people don't exercise, why they start to exercise, and why they do or do not continue to exercise, and why they start exercising again if they stop. These models include:

- The Theory of Reasoned Action
- The Theory of Planned Behavior
- The Transtheoretical Model
- Social Cognitive Theory

The Theory of Reasoned Action

The theory of reasoned action proposes that the main precursor of a behavior such as exercise is the individual's intention to perform the behavior. The intention to perform the behavior is determined by the individual's attitude towards the behavior as well as social norms or social pressure to perform the behavior. Research by Estabrooks and Courneya (1997) has demonstrated the effectiveness of the theory of reasoned action in exercise settings. While the theory of reasoned action is a viable model for predicting exercise behavior, research has demonstrated that its predictive power is increased when personal control is added to the model. This observation led to the development of the theory of planned behavior.

The Theory of Planned Behavior

The theory of planned behavior is an extension of the theory of reasoned action. The intention to perform a behavior is fundamental to the theory. Intention is determined by the individual's attitude towards the behavior and social norms. The difference between the theory of reasoned action and theory of planned behavior is the addition of behavioral control to the latter model. An individual will maintain or initiate an exercise program if his intention is firm and he feels in control. Intention is in turn a function of his attitude towards exercise and perceived social support. Several researches have demonstrated general support for the theory of planned behavior in predicting exercise behavior. Strong support for the theory of planned behavior is also provided through meta-analysis reported by Hausenblas, Carron, and Mack (1997).

The Transtheoretical Model

According to the transtheoretical model, individuals pass through five dynamic stages in adopting healthy long-term exercise behavior. The stages are dynamic, because individuals may move in and out of the several stages before reaching the final stage, which is also dynamic.

The five stages are: (5)

1. Precontemplation
2. Contemplation
3. Preparation
4. Action
5. Maintenance

Other factors that interact include self-efficacy, perception of gains and losses, and a set of psychological obstacles that may need to be addressed (e.g., personal or family conflicts).

Social Cognitive Theory

Social cognitive theory provides a viable way to explain exercise behavior. Individuals who are dissatisfied with their current exercise behavior who exhibit high levels of exercise self-efficacy, and who set exercise goals are generally able to achieve their goals. Exercise self-efficacy is a powerful predictor of exercise behavior. Individuals who believe in themselves and believe that they can be successful at maintaining an exercise program generally are successful.

Fitness as a Moderator of Life Stress

Given the positive relationship between exercise and improved mental health, it follows that physical fitness should serve as a buffer against life stress. The ability of individuals to insulate, protect, or inoculate themselves against the stresses of life through regular exercise is called stress inoculation. Research shows that the psychological benefits associated with regular exercise do not normally require an increase in physical fitness. Aerobics fitness, however, does appear to be a necessary precursor to the stress inoculation effect. Aerobically fit individuals appear to be inoculated against stress, illness, and the general hassles of life to a greater extent than less aerobically fit individuals. Children and adults who engage in healthy behavior that leads to physical fitness can insulate themselves from various physical and psychological health problems throughout their lives.

Life stress represents an accumulation of the daily hassles and challenges of living out our lives. Individuals who exercise regularly and maintain a high level of physical fitness are less susceptible to the negative effects of life stress. Evidence of this hypothesis has been provided by a number of researchers. Research results of an investigation show an interactive relationship between life stress, physical fitness, and number of visits the the health center (illness). Being physically fit serves to inoculate the individual against illness during periods of high stress. Conversely, physically unfit individuals appear to be unprotected against high stress.

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LESSON 42

EXERCISE PSYCHOLOGY

The Immune System, Cancer, HIV and Exercise

In recent years research has linked two of the great plagues of our time (cancer and HIV) to exercise and its effect on the immune system. While exercise has generally been linked to benefits, in cases of excess it can have negative consequences. It is like a two-edged sword: it cuts both ways. If applied in moderation it can have beneficial effects, but if applied in excess it can have negative effects.

Exercise and Cancer

Moderate exercise is linked to a lowered incidence of colon and breast cancer. Young women who regularly participate in physical exercise activities during their reproductive years have a reduced risk of breast cancer. Individuals who have cancer, but who exercise regularly, may benefit from improved psychological well-being, preservation of lean tissue, and enhanced immune system.

Exercise and the Immune System

Research clearly suggests that exercising in moderation leads to improved psychological mood and enhanced immune system functioning. Conversely, it is widely believed that chronic intense and stressful exercise may result in mood disturbance and in suppression of the immune system. There is growing evidence that for several hours following heavy sustained exertion, the immune system is suppressed.

It is believed that the immune system is stimulated and strengthened by moderately intense exercise, but suppressed by overly intense exercise. It appears that there exists an optimal level of regular physical activity conducive to the resistance to illness. Apparently, you can have too much of a good thing.

Exercise and Human Immunodeficiency Virus

It is widely believed by medal professionals that the presence of the HIV ultimately leads to acquired immune deficiency syndrome (AIDS). Increased anxiety and depression should be viewed as risk factor facilitating the development of AIDS. Because exercise has been positively linked with decreased anxiety and depression, it follows that chronic exercise is effective in retarding the negative progression and effects of HIV.

Research suggests that moderate exercise is an effective complementary therapy for treating psychological manifestations associated with HIV infections.

Social Physique Anxiety, Physical Self-Concept, and Body Image

Social physique anxiety, physical self-concept, and body image are all constructs that describe how an individual feels about her physical body. While these constructs are not identical to each other, they are correlated, and are predictive to exercise behavior. A high score on social physique anxiety and low scores on physical self-concept and body image are predictive of a low level of exercise behavior. Individuals who are anxious about their bodies, have low physical self-concepts, and have low body images have a hard time getting motivated to exercise.

Social physique anxiety is the anxiety people experience when they perceive that other people evaluate their physiques negatively. Physical self-concept is the perception that people have about themselves relative to the physical-self. Physical self-concept is closely tied to the notion that an individual's feeling of self-worth and self-esteem is related to how he perceives himself within his body. Body image refers to the images or

pictures people have about their bodies. The image that a person has about her own body can be quite different from the one that other people have of her. Research shows that physically active people have better body image than physically inactive people.

Exercise Addiction

Exercise addiction is generally defined as a psychophysiological dependence on a regular regimen of exercise. The normal benefits associated with regular exercise at a moderate intensity are lost for the exercise-addiction individual. Failure to exercise according to schedule results in a mood state disturbance in the addicted individual. From an attributionial perspective, the addicted exerciser is controlled by the activity, as opposed to the activity's being controlled by the exerciser. Compared to nonaddicted exerciser, addicted exercisers report being more restless and stressed out prior to an exercise bout. They also experience a higher degree of depression, anxiety, and general discomfort when they miss a scheduled workout. An important characteristic of the exercise addict is that he will generally insist on exercising in the face of physical pain or injury.

Another term used to describe the addicted exerciser is obligatory runner. Obligatory runners are highly motivated to exercise, and when they can't, they experience abnormal feelings of anxiety and psychological discontent.

Eating Disorders and Physical Activity

Actual clinically diagnosed eating disorders are relatively rare among athletes and physical activity enthusiasts. Much more prevalent are a whole array of unhealthy subclinical eating disorders. We will discuss both briefly.

Clinically diagnosed eating disorders

The two most severe clinically diagnosed or pathogenic rating disorders are anorexia nervosa and bulimia nervosa.

Anorexia nervosa

They exhibit the following criteria:

a. Severe weight loss
b. Refusal to maintain normal body weight
c. Intense fear of gaining weight or becoming fat
d. Severe body image disturbance

Treatment and recovery requires professional help. The diagnosed anorexic cannot overcome this mental illness herself.

Bulimia Nervosa

They exhibit the following criteria:

a. Binge eating followed by purging at least twice per week for three months
b. Loss of self-control
c. Severe body image disturbance

Bulimics are preoccupied with food and weight, fear getting fat, and exhibit chaotic eating behaviors. Unlike anorexics, bulimics turn to food, rather than away from it. As with anorexia nervosa, treatment and recovery from bulimia nervosa requires professional help.

Sub clinical Eating Disorder among Athletes.

Males and females involved in activities that link leanness to success are often pressured to be thin. This is especially true for female athletes involved in gymnastics and dancers. In an effort to be thin and to meet their coaches' expectations, athletes may turn to a number of questionable eating and exercise behaviors that may compromise their health. Several recent studies have reported on subcilinical eating disorders among athletes. Of particular interest is a meta-analysis involving 92 studies, and 10, 878 athletes (Hausenblas & Carron, 1999). Results of this meta-analysis are as follows:

1. Athletes report more eating disorder symptoms than nonathletes.
2. Athletes competing in aesthetic sports report more eating disorder than those in nonathleteic sports (e.g., gymnastics, dance, diving).
3. Athletes do not have a greater drive for thinness than nonathletes.

Eating Disorder and Unhealthy Exercise Behavior

In some cases eating disorders have been linked to potentially unhealthy exercise behavior. Now let us briefly discuss some of those behaviors and relationships.

Anorexia Analogue Hypothesis

It is hypothesized that male obligatory runners and anorexic females share common personality characteristics and a common drive for thinness which is through excessive exercise. This is the anorexia analogue hypothesis. Research provides only partial support of this hypothesis.

Muscle Dysmorphia

Muscle dysmorphia is defined as a preoccupation with the notion that one is not sufficiently muscular. Individuals classified as being muscle dysmorphic, think constantly about their muscularity and have little control over compulsive weightlifting and dietary regimens.

Wrestlers Making Weight

The adverse physiological effects of rapid weight loss or "cutting" in preparation for competition are well documented in the literature. Rapid weight loss results in decreased plasma volume, dehydration, and hypoglycemia. It also results in a cognitive functioning decrement. Cognitive decrements are noted primarily in short-term memory and digit span recall. Mood state disturbances are also noted in such people.

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LESSON 43

BURNOUT IN ATHLETES

Too much exercise can result in a reduction in the effectiveness of the immune system to fight disease and an increase in negative psychological mood. In a very practical away, exercise can be considered along a continuum from not enough exercise to too much exercise. Negative psychological and biological outcomes are associated with too little and too much exercise. Over-training in athletes represents a paradox, because many of the benefits associated with exercise are reversed in the athlete who trains too much. For the athlete, the question of how much is too much is a complex one. Athletes are continually challenging the delicate balance between training and overtraining, since high levels of training are required for success in sport.

The lecture is divided into four sections that include:

- Defining burnout and other terms
- Models of burnout
- Symptoms and interventions for burnout
- Recommendations for athletes, coaches, and parents.

Defining Burnout and Other Related Terms

Burnout in sport and exercise is "a syndrome of physical/emotional exhaustion, sport devaluation, and reduced athletic accomplishment". As can be observed, the focus of this particular definition of burnout is upon physical and mental exhaustion, reduced interest in sport, and reduced performance. Common terms include overtraining, overreaching, staleness, and withdrawal.

Overtraining and Overreaching

Overtraining implies that the athlete trains beyond the level that is ideal for maximum benefit. Overtraining is maladaptive behavior that may lead to staleness and burnout. Overreaching is a form of short-term overtraining that is a part of normal training. Overreaching that extends for long periods of time at high intensities eventually becomes overtraining. Staleness is the initial failure of the body to adapt to training.

Models of Burnout

We will look at three different models of burnout. They are:

- The stress model
- The investment model
- The sociologically based empowerment model

Stress Model of Burnout

The combination of staleness, overtraining, and burnout are referred to as the training stress syndrome. If the training stress syndrome is not reversed through rest or some other creative intervention, the end result will be withdrawal from sport (sport drop-out)

Thus, burnout is viewed as a response to chronic stress. It is characterized by psychological, emotional, and perhaps physical withdrawal from a sport or activity the athlete formerly pursued and enjoyed.

Investment Model of Burnout

In its simplest form, investment model of burnout can be viewed as an imbalance between the costs and benefits associated with athletic participation. In its more complete form, it is conceptualized as being a function of five determinants of commitment to sport involvement. The five determinants are, reward, costs, satisfaction, investment and alternative. How the athlete evaluates these five determinants will determine whether his commitment is based upon enjoyment or entrapment. If sport commitment is based upon enjoyment, the athlete will participate enthusiastically. If sport commitment is based upon entrapment, it is only a matter of time before burnout sets in and the athlete withdraws from sport.

Empowerment Model of Burnout

Empowerment model of burnout is based on the notion that burnout in sport is a social problem caused by an overly controlling and constraining social structure. The model suggests that burnout in sport occurs in connection with two conditions:

1. When the sport experience is so constraining that the young person is unable to develop a desirable alternate identity, the athlete seeks to liberate himself from sport.
2. When the social organization of sport is so structured that the athlete comes to believe that he has no control over his life, the athlete seeks to liberate himself from sport.

Symptoms of Burnout and Interventions

There are two sets of symptoms that include physiological and psychological symptoms of burnout. Physiological symptoms include:

1. Increased resting and exercise heart rate
2. Increased resting systolic blood pressure
3. Increased muscle soreness and chronic muscle fatigue
4. Increased presence of biochemical indicators of stress in the blood
5. Increased sleep loss
6. Increased colds and respiratory infections
7. Decreased body weight
8. Decreased maximal aerobic power
9. Decreased muscle glycogen
10. Decreased libido and appetite

Psychological symptoms include:

1. Increased mood disturbances
2. Increased perception of physical, mental, and emotional exhaustion
3. Decreased self-esteem
4. Negative change in the quality of personal interaction with others (cynicism, lack of feeling, impersonal relating)
5. Negative cumulative reaction to chronic everyday stress as opposed to acute doses of stress.

Recommended Intervention

The first and primary step in addressing burnout is self-awareness. The athlete must first recognize he is suffering from burnout and communicate his feeling to a sympathetic parent, coach, or sport psychologist. The second step is to take time off from the offending activity. In the final and third step, relaxation strategies may be beneficial as coping strategies for reversing the debilitating effects of stress and burnout.

Recommendations for Athletes, Coaches, and Parents

Below are some recommendations for players, coaches and parents on how to avoid burnout.

Recommendations for Players:

- Play for your own reasons.
- Balance sports with other things in life.
- If it is not fun then don't do it.
- Try to make practice as fun.
- Relax and take time off occasionally.

Recommendations for Coaches

- Cultivate personal involvement with player.
- Establish two-way communication with athlete.
- Solicit and utilize player input.
- Work to understand player feelings and perspective.

Recommendations for Parents

- Recognize the optimal amount of "pushing" needed.
- Back off and lessen involvement.
- Reduce importance of winning.
- Show support and empathy for child's efforts.
- Don't coach if not the coach, and separate roles if you are the coach.
- Solicit child's input

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LESSON 44

THE PSYCHOLOGY OF ATHLETIC INJURIES

Physical factors such as overtraining, equipment failure, and poor playing conditions are believed to be the major factors contributing to athletic injuries. Psychological factors play an important role in the incidence, prevention, and rehabilitation of athletic injuries.

In addressing the important subject of the psychology of athletic injuries, three main sections have been prepared. These include:

1. Psychological predictors of athletic injuries
2. Athlete response to injury and rehabilitation
3. Other considerations

Psychological Predictors of Athletic Injury

It stands to reason that if researchers can identify psychological factors associated with the occurrence of injuries, steps can be taken to reduce the number and severity of those that do occur. Any cognitive appraisal that leads to the stress response puts the athlete at risk for injury. Factors that impact the stress response include personality of the athlete, history of stressors, coping resources, and potential interventions.

Stressful athletic situation → Cognitive Appraisals ←→Physiological/Attentional Changes→ Injury

Four others factors moderate the relationship between a potentially stressful athletic situation and an injury. These four factors include:

1. Personality of the athlete
2. History of stressor
3. Coping resources available to the athlete
4. Interventions

Personality Factors

Personality factors include hardiness, locus of control, sense of coherence, competitive trait anxiety, and intrinsic motivation.

History of Stressor

Factors incorporated under the category of history of stressors include stressful life events, daily hassles, and previous injuries.

a. Life stress and daily hassles

Relationship between stressful life events and increased illness is extended to the athletic domain. The more life stress the athlete experiences, the greater is the incidence and severity of athletic injury.

b. Previous Injury

Athletes who are worried about the recurrence of an injury, or about whether or not they have fully recovered from a previous injury, are vulnerable to further injury.

Coping Resources

Coping resources available to the athlete include general coping behavior, social support, stress management techniques, attentional strategy, and prescribed or self-prescribed medication.

Coping Behavior

Any behavior that assists an individual in dealing with a stressful situation is considered to be a coping behavior.

Social Support

Social support is one of the important coping resources available to athlete to reduce the debilitating effect of the stress response. Individuals and groups that provide social support for the athlete include parents, friends, coach, teammates, fraternity/sorority, clubs, and religious groups.

Stress Management Techniques

Many athletes utilize stress management and cognitive intervention techniques as coping strategies for controlling the stress response. Research has demonstrated that effective education in the stress response is associated with a reduction in the number and severity of injuries sustained by athletes.

Attentional Strategy

A coping resource available to distance runners is attentional strategy. Research shows that the dissociative strategy of running is associated with less incidence of injury.

Medication

Many drugs have the ability to influence the stress response, and thus the probability of injury. All these psychological effects have the potential to reduce the coping resources of the athlete.

Interventions

One set of intervention seeks to change the cognitive appraisal of potentially stressful events, while the second seeks to modify the physiological/attentional aspects of the stress response. Cognitive appraisal might be changed by rethinking how one plan to address a particularly stressful situation. Psychological/attentional aspects might be modified through progressive realization and imagery.

Psychological Response to Injury and Rehabilitation

Factors associated with an athlete's psychological response to injury and follow-up rehabilitation occurs after the injury has occurred. It is composed of cognitive appraisal, emotional response, and behavioral response.

Cognitive and Emotional Response to Injury

The psychological response to injury includes both cognitive appraisal and emotional response.

Cognitive Appraisal

Cognitive appraisal helps determine the athlete's emotional response to injury. Most research in cognitive appraisal has focused upon the athlete's perception of self-esteem and self-worth following a serious sport injury.

Emotional Response

Emotional responses include:

a. Fear of the unknown
b. Feelings of tension, anger, and depression
c. Frustration and boredom associated with being injured
d. Negative attitude
e. Grief associated with an injury
f. Emotional coping skills

Behavioral Response to Injury

The third factor leading to injury recovery, and associated with cognitive and emotional response, is the behavioral response of the athlete to injury. The primary focus of research in the area of behavioral response to injury has been upon adherence to injury rehabilitation, coping and intervention, and pain management.

Adherence to Injury Rehabilitation

In order for an injury rehabilitation program to be successful, it is believed that the athlete must adhere to the program. Thus, adherence to sport injury rehabilitation programs has emerged as a very important area of study. Predictors of injury rehabilitation adherence are personal factors and situational factors. Personal factors related to adherence include pain tolerance, tough-mindedness (e.g., self-assurance, assertiveness, independence), and goal perspective.

Situational factors most closely related to adherence include:

a) Belief in the efficacy of treatment procedures
b) Comfort of the rehabilitation clinical environment
c) Convenience of rehabilitation program scheduling

Coping and Intervention

Coping skills possessed by the athlete, and cognitive-behavioral interventions (applied by others or the athlete) are effective in enhancing adherence to injury rehabilitation programs

Pain Management

Pain tolerance is a personality characteristic. Individuals with a low tolerance to pain may have a more difficult time going through the stages of the sport injury recovery process. Performance pain can be differentiated from injury pain. Performance pain is controlled by the athlete and is associated with improved performance and a sense of accomplishment.

Conversely, injury pain is not controlled by the athlete and may be of either the acute or the chronic variety. Acute pain is due to a trauma to the body and is intense and short in duration. Conversely, chronic pain is long lasting, is uncomfortable, continues long after the initial injury, and is very complex in its origin. Pain

can also be categorized as benign or harmful. Benign pain is generally short in duration and is not associated with swelling and soreness. Conversely, harmful pain is present before and after exertion and is associated with swelling, tenderness, and prolonged soreness.

Pain associated with an athletic injury is managed through a combination of pharmacological (prescription drug) and nonpharmacological approaches. Pharmacological pain management strategies are often needed short term. Nonpharmacological pain management strategies are classified as being of the pain-reduction or the pain-focusing variety.

Other Considerations

Rehabilitation Personnel with Psychological Expertise

There are two basic approaches to providing sport injury rehabilitation: the distributed approach and the specialist approach. In the distributed approach, is to make sure that all concerned receive training in sport psychology applications. The specialist approach is to employ a fulltime sport psychologist. In the specialist approach, the sport psychologist works with injured athletes requiring psychological services.

Benefits Associated with Sustaining and Recovering from an Athletic Injury

While it is generally assumed that nothing good comes from an athletic injury, this may not be entirely true. Evidence suggests that successful recovery from an athletic injury is associated with several benefits:

- Personal growth
- Psychologically based performance enhancement
- Increase in self-efficacy, mental toughness, and personal motivation
- Physical and technical development benefits associated with injury/recovery experience
- General health improvement

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LESSON 45

DRUG ABUSE IN SPORT AND EXERCISE

We have learned of athletes who have succumbed to eating disorders for purposes of performance enhancement. We have also learned of athletes who over train and experience burnout in an effort to perform at a level higher than that of their competitors. In this lecture we learn of athletes who turn to the use of drugs in an effort to gain an unfair advantage over their competitors.

There appear to be three fundamental problems associated with the use of drugs to enhance athletic performance. The first problem has to do with ethics. Because drug use for purposes of performance enhancement is illegal, it is ethically wrong to take them in an effort to obtain an unfair advantage over the opposition. Amateur and professional sport organizations publish and continually revise their own list of banned substances. The second problem has to do with the potentially addictive properties of drugs. Once an athlete starts taking a drug for performance enhancement purposes, it may be difficult for her to stop taking them later on. Drugs may be physically and/or psychologically addictive. A third problem is related to the potentially lethal effects of drugs on the health and well-being of athlete.

Psychophysiological Effects of Certain Banned Substances

Each of the drugs or banned substance that will be mentioned in this brief review has both a hoped-for benefit (the reason it is taken by the athlete) and a negative consequence. In some cases the negative consequences are well documented, but in other cases, due to limitations of research, they are not. We will first address the use and abuse of anabolic steroids because of their widespread use by athletes seeking greater size, aggressiveness, and strengths.

Anabolic-Androgenic Steroids

Anabolic steroids are hormones that stimulate protein anabolism in the body. Athletes ingest anabolic steroids because they believe that they are responsible for alterations in body composition that result in greater size, strength, and power. They have both an anabolic effect (increasing muscular strength and size) and an androgenic effect (masculinizing) on the user. Research clearly shows that anabolic steroids use is associated with increased body weight and mass, altered body composition, increased muscle size and strength, increased blood volume, and increased number of red blood cells.

Negative physiological consequences associated with anabolic steroid use include increased risk of heart disease, certain cancers, and undesirable sex-specific effects. Many sport psychologists believe that long-term use of this drug will lead to poor health. Organs that are particularly susceptible to negative consequences of anabolic steroids abuse are those, such as the kidney or liver.

Stimulants

Stimulants, such as amphetamines and cocaine, increase the rate and work capacity of the central nervous system, respiratory system, and heart. The neural-stimulating and cardiac-stimulating effects of these drugs can provide a physiological advantage to the athlete by inhibiting mental and physical fatigue.

Theses drugs are physically and/or psychologically addicting and their use may lead to serious health problems.

Depressants

Depressants, such as barbiturates, sedative-hypnotics, and alcohol, are designed to relieve tension, depression, and anxiety in the athlete. Theoretically, this could help the fearful and anxious athlete by providing a steady effect. Theses drugs, however, do not always have the desired effect on the athlete.

Depressants may actually have the effect of reducing inhibition, reducing judgment, and heightening risk-taking behavior which may in turn result in poor as opposed to superior performance. Theses drugs are also highly addictive, making it difficult to quit using them without severe withdrawal symptoms.

Other Banned Drugs

Other drugs that have been banned by the International Olympic Committee (IOC) include diuretics, hallucinogens, and beta-adrenergic blockers.

Creatine Use by Athletes

Creatine is a naturally occurring energy-producing substance. It is a food supplement extensively used by athletes seeking enhanced performance as it is currently not banned by the International Olympic Committee. Creatine serves as an energy buffer (shield) during periods of intense exercise.

Long-term negative effects on the liver, kidneys, and brain are only beginning to be investigated.

Combating Drug Abuse in Sport

Underreporting is a serious limitation of research involving drug use among athletes. It is even more difficult to get accurate information from athletes about their coach's direct or indirect role in encouraging drug use for purposes of performance enhancement.

Two basic approaches to combating drug use in sport are cognitive techniques and behavioral techniques. Cognitive techniques utilize intellectual and psychological methods to influence behavior and attitude. Behavioral techniques shape the athlete's environment in ways that will elicit desirable responses and behaviors from the athlete.

Cognitive Techniques

Using cognitive techniques, the psychologists utilize support groups among the players to encourage drug abstinence. The psychologist shows concern for athletes, sets limits on unacceptable behavior, develop team policy, and teaches athletes specific coping skills to deal with the pressure to excel. The psychologists must be aware of each athlete's mental status, both in and out of the sport environment..

Behavioral techniques

The focus of behavioral techniques is upon teaching athletes alternative ways to enhance performance that do not include the use of drugs. These alternative to increased performance include teaching motor skills and strategies that lead to increased performance.

Behavioral techniques that are effective include peer involvement in drug education and drug prevention efforts. Young athletes are much more likely to take advice from an admired peer than from an adult. Athletes are much less likely to take drugs for purpose of performance enhancement id they fear detection through mandatory drug testing.

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