

UNIT II

MOTIVATION AND GOAL SETTING

DEFINING MOTIVATION

Motivation is an internal energy force that determines all aspects of our behaviour; it also impacts on how we think, feel and interact with others. In sport, high motivation is widely accepted as an essential prerequisite in getting athletes to fulfil their potential. However, given its inherently abstract nature, it is a force that is often difficult to exploit fully.

Some coaches, like Portugal manager Luiz Felipe 'Big Phil' Scolari, appear to have a 'magic touch', being able to get a great deal more out of a team than the sum of its individual parts; others find motivation to be an elusive concept they are forever struggling to master. Elite athletes such as Ottey have developed an ability to channel their energies extremely effectively. Indeed, motivation is essentially about the direction of effort over a prolonged period of time.

Different types of motivation

One of the most popular and widely tested approaches to motivation in sport and other achievement domains is self-determination theory. This theory is based on a number of motives or regulations, which vary in terms of the degree of self-determination they reflect. Self-determination has to do with the degree to which your behaviours are chosen and self-initiated. The behavioural regulations can be placed on a self-determination continuum. From the least to the most self-determined they are amotivation, external regulation, introjected regulation, identified regulation, integrated regulation and intrinsic motivation.

Amotivation represents a lack of intention to engage in a behaviour. It is accompanied by feelings of incompetence and a lack of connection between one's behaviour and the expected outcome.

External and introjected regulations represent non-self-determined or controlling types of extrinsic motivation because athletes do not sense that their behaviour is choiceful and, as a consequence, they experience psychological pressure. Participating in sport to receive prize money, win a trophy or a gold medal typifies external regulation. Participating to avoid punishment or negative evaluation is also external. Introjection is an internal pressure under which athletes might participate out of feelings of guilt or to achieve recognition.

Intrinsic motivation comes from within, is fully self-determined and characterised by interest in, and enjoyment derived from, sports participation. There are three types of intrinsic motivation, namely intrinsic motivation to know, intrinsic motivation to accomplish and intrinsic motivation to experience stimulation. Intrinsic motivation is considered to be the

healthiest type of motivation and reflects an athlete's motivation to perform an activity simply for the reward inherent in their participation.

BUILDING MOTIVATION WITH FIVE GUIDELINES

Motivation is the direction and intensity of one's effort. The **direction of effort** refers to whether a person seeks out, approaches, or is attracted to certain situations. The **intensity of effort** refers to how much effort a person puts forth in a certain situation. It is important to have motivation in sports and everyday life. Without it, a person will not have the drive to do what needs to be done. There are ways of building and enhancing motivation in others. This blog will outline 5 guidelines to help you do this.

1. Consider Both Situations and Traits in Motivating People
2. Understand People's Multiple Motives for Involvement
3. Change the Environment to Enhance Motivation
4. Influence Motivation
5. Use Behavior Modifications to Change Participants' Undesirable Motivations

1. Consider Both Situations and Traits in Motivating People

When you are trying to enhance someone's motivation, you should consider both situational and personal factors. Sometimes, coaches blame students by saying that their lack of motivation is based on their personal characteristics. On the other hand, some coaches blame themselves for the students' lack of motivation. However, it is usually a combination of both of these factors.

2. Understand People's Multiple Motives for Involvement

It is very important to identify why people participate in physical activity. There are several key points that you should think about when you think about what motivates you and others. People participate for more than one reason. A person might do something because they want to get in better shape, but it might also be fun for them to do. People have competing motives for involvement. Sometimes, people have two things that they want to do. For example, some people want to work out, but also have work that needs to be done. Try to think of the days when you want to work out but you have something else that needs to be done too.

3. Change the Environment to Enhance Motivation

You should always learn why people get involved in their sport. Then you have to take that information to fit their environment. For example, some students have the desire to compete, while others would just like to do it recreationally. Teaching and coaching environments should meet the needs of all participants.

4. Influence Motivation

Coaches and other exercise leaders are very important when it comes to influencing motivation in students' or players' motivation. Sometimes, you won't even realize that you are being an influence. Your actions on a good or bad day can influence the environment and either increase or decrease motivation.

5. Use Behavior Modification to Change Participants' Undesirable Motives

Sometimes, people join sports for the wrong reasons. For example, some people join martial arts because they want to be able to hit people and beat them up. This is not what martial arts is about, so that behavior has to be changed. Teaching them that martial arts is about controlling oneself and learning self defense are a few ways that this behavior can be changed.

ACHIEVEMENT MOTIVATION AND COMPETITIVENESS

In sport, achievement motivation and competitiveness are known to be able to influence performance and participation. Achievement motivation is defined as a person's efforts to master a task, achieve excellence, overcome obstacles, perform better than others, taking pride in exercising talent (Murray, 1938). It allows athletes, exercisers, students to achieve excellence, to gain high levels of fitness and to maximize learning respectively. Achievement motivation is also an inclusive of trait view, situation view and interactional view of a motivation of a person. Competitiveness, on the other hand is defined as "disposition to strive for satisfaction when making comparisons with some standard of excellence in the presence of evaluative others" (Martens, 1976). Both deal not just with the final outcome but also the journey of getting to the final outcomes.

"Competition is a process in which the comparison of individual's performance is made with some standard in the presence of at least one other person who is aware of the criteria for comparison and can evaluate the comparison process".

Achievement motivation in sport is one way to learn about how competitiveness develops and what affect it has on sport participants. Competitiveness is a sport-specific form of achievement motivation as well as it developing from achievement motivation. Competition commonly occurs in achievement related situations in sport, but can also be apparent in non-competitive situations as well. This tends to be when the individual measures their performance against personal standards. By concentrating on factors that influence achievement behaviour, it will be easier to comprehend competitiveness

Firstly, Atkinson's (1974) theory of achievement motivation has predicted three broad categories of achievement behaviour. These are choice, intensity and persistence. Choice is

described as the individuals' personal decision to approach or avoid an achievement situation. Atkinson believes that high achievers are more likely to approach competition and achievement situations, whereas low achievers tend to avoid all achievement situations, and especially unwilling with challenging situations. However, what about when there are individuals who are low achievers and involved in competitions? This theory has been criticised due to this. Atkinson's response is that these individuals have been influenced extrinsically to enter the achievement situation.

Next, Atkinson states that the differences in intensity and effort levels depends on whether the individual is a high achiever or not. High achievers tend to put forth intense effort into the achievement situation and therefore are more likely to perform better, whereas low achievers inhibit intense effort, and do not perform as well. Lastly, high achievers are also more likely to persist for as long as they have a chance of success, and low achievers do not persist, especially if the task is more challenging. Additionally, high achievers will also persist at an easy task that they have failed.

In terms of competitiveness in relation to achievement motivation, Scanlan (1978) has talked about two main theories and their association to sport competition. Focusing on Veroff's (1969) model of the developmental of achievement motivation, the individual generally develops achievement motivation through three stages: autonomous competence, social comparison and integrated achievement motivation. Autonomous competence is where the child sets internal standards and goals for themselves. Competition is not a part of this stage. *Social comparison* concentrates the social standards of achievement, which can become apparent when the child starts interacting with peers. *Integrated achievement motivation* includes both autonomous competence as well as social comparison. Depending on which is appropriate, the individual is able to utilise autonomous, internal or social standards. The individuals who tend not to master the autonomous stage are likely to be low achievers. Those who master the autonomous stage but do not progress any further are unlikely to be competitive. Individuals who reach the integrated stage are regarded as performance or goal oriented.

AROUSAL, STRESS AND ANXIETY

Arousal is referred to as a psychological state of alertness and anticipation that prepares the body for action. Individual athletes have different levels of arousal and it is either negative or positive but neutral. Arousal is a blend of psychological and physiological activation, varying in intensity along a continuum. Activation is a synonym for arousal.

Theories of Arousal

Sporting performance and its relationship with arousal can be demonstrated by several theories:

- Drive Theory
- Inverted U hypothesis
- Catastrophe Theory
- Zone of Optimal Functioning (ZOF) Theory

Drive Theory: This is a linear relationship between arousal and performance, as arousal increases so does performance. However evidence suggests that this theory is only relevant up to a point, after which an athlete can be over aroused and performance decreases.

Inverted U hypothesis: This theory states that there is an optimal level of arousal (which will differ from sport to sport and athlete to athlete). Performance levels will be at their highest at the optimal point of arousal. If arousal is too low or too high performance will be lower.

Catastrophe Theory: This theory differs from the inverted U hypothesis by linking arousal and anxiety. If the athlete is experiencing high levels of cognitive state anxiety as arousal rises towards the athlete's threshold, the athlete experiences a dramatic drop in performance. This theory does also rely on the need for both arousal and cognitive anxiety to achieve optimal performance.

Zone of Optimal Functioning (ZOF) (Hanin): The relationship of stress, anxiety and arousal all impact upon motivation and the improvement of performance up to a point. However optimal performance has many other variables that impact upon arousal and the individual: Personality, Task and Stage of learning. Unlike the inverted U hypothesis ZOF states that individuals perform optimally at different arousal levels depending upon the above factors, therefore not all athletes optimal performance is at the top of the inverted U.

Effects of arousal on sporting performance

If the performer perceives arousal levels to be positive it will have a positive impact on performance (getting in the zone). However if the changes are viewed as negative it will increase both somatic and cognitive state anxiety. Choking occurs in high-pressure situations and this heightened state cause extreme nervous and performance catastrophe.

Controlling stress, arousal and anxiety

Progressive muscular relaxation is a technique used to remove tension in the muscles. This technique allows the athlete to contract relaxation and tension within the muscles. It also

combines the control of breathing helping with the symptoms of somatic state anxiety. There are many different types of this biofeedback control.

Imagery allows athletes to increase/decrease arousal/ anxiety levels by visualising aspects of previous positive performances. If psyching up is required the athlete focuses on performances that required high levels of energy and feelings of heightened arousal. If anxiety and stress need to be reduced the athlete focuses on the feelings of well-being and positivity.

Self-talk focuses on the performer convincing themselves that they are good enough to perform and play well, most sportspersons will have used it e.g. 'Come On you can do it!'

Self-confidence

Sports psychologists, coaches and athletes work hard to build up confidence in the sportsperson. The techniques already discussed with aid and support the athlete's self-confidence. It is important to develop a feeling of worth and success and focus on successful performances.

Anxiety

Anxiety is a negative emotional state with feelings of worry, nervousness, and apprehension associated with activation or arousal of the body. This is a negative emotional state associated with stress, feelings of worry, nervousness and apprehension. The causes of anxiety are largely the same as those associated with stress. There are two main types of anxiety:

- Trait anxiety – this is the personality core, and consistent worry/behaviour regardless of situation
- State anxiety – this is changeable and varies depending upon the situation. It is a temporary mood state and it comprises of two types:
 - Cognitive state anxiety – amount of worry
 - Somatic state anxiety – is the physiological changes due to perception

Recognizing Symptoms of Arousal and State Anxiety • Cold, clammy hands • Constant need to urinate • Profuse sweating • Negative self-talk • Dazed look in eyes • Feeling ill • Headache • Cotton (dry) mouth • Constant sickness • Difficulty sleeping • Increased muscle tension • Butterflies in stomach • Inability to concentrate • Consistently better performance in nonevaluative situations

Measuring Arousal and Anxiety • Physiological signs (heart rate, respiration, skin conductance, biochemistry) • Global and multidimensional self-report scales (e.g., CSAI-2, SCAT, SAS)

Sources of Stress and Anxiety • Situational sources – Event importance – Uncertainty • Personal sources – Trait anxiety – Self-esteem – Social physique anxiety

Effects of anxiety on sporting performance

When an athlete experiences worry and negative thoughts (cognitive state anxiety) it causes decision making to become poor and concentration levels to drop, increasing the number of errors. This can be monitored by the increase in somatic state anxiety responses, which include an increase in heart rate, sweating and blood pressure. Some of these symptoms of anxiety are beneficial to sporting performance, but if the athlete perceives them as happening because they are unable to meet the demands of the activity they further increase cognitive state anxiety. Anxiety can be a learned behaviour, and generally is thought of as an internal state usually produced by external stimuli; and not necessarily leading to any particular behaviour. Different levels of anxiety result in many different forms of behaviour. Anxiety can be used as a motivational emotion when sports participants need to be aware of a threat or danger of losing a race or game. If managed correctly, anxiety can heighten awareness and keep the athlete “ready” for the game. Another athlete that does not cope well with the level of anxiety prior to competing, may “freeze up”; become distracted, and not cope under pressure. Anxiety levels need to be controlled in sport: not eliminated. Competitive anxiety is a state of anxiety, stress and arousal that can occur when athletes are taking part in sports. This can negatively affect their performance

Stress

This is a stimulus resulting in a positive or negative response to a specific situation. It produces both physiological and psychological symptoms. Stress is a substantial imbalance between physical and psychological demands placed on an individual and his or her response capability under conditions in which failure to meet demands has important consequences.

Stress can therefore be explained as two forms:

- Eustress – this is positive and gives a feeling of fulfilment and arousal. It can increase focus, attention and skill level. Some athletes actively seek and need stressful situations.
- Distress - this is a negative form of stress and in extreme cases causes anxiety and apprehension. It tends to be detrimental to sporting performance.

Stress response - This is the way in which we cope with stress. Seyle developed a model called the **General Adaptation Syndrome** to explain this:

- **Alarm Reaction** - Fight or flight causing an adrenaline rush, rise in heart rate and increase in blood sugar level, ready for activity

- **Resistance** - The body adapts to manage the stressful situation until it is overcome or passes
- **Exhaustion** - The body can only cope with this state for a certain period (may be very short-term, or may be months or years, dependent on situation). If the stressful situation is not rectified the body begins to fail to cope

Effects of stress on performance

Depending upon the athlete's level of ability, level of competition or personality stress can have a big impact on performance. If the athlete perceives the demand as a challenge (Eustress) or as a threat (Distress) the result will be an increase in motivation and performance compared with an increase in worry and a reduction in performance respectively.

Causes of stress

Athletes will respond differently in the same situation, here are some of the main causes of stress: Internal – illness, sleep, Type A personality; External – environment, other people, occupational.

AROUSAL REGULATION

Arousal is an energized state of readiness to perform. Too little or too much arousal can hinder your performance. The secret is to be able to learn various strategies to be able to cope with pressure situations. This will allow you to be “dialed in” to your optimal arousal zone for successful performance. Arousal regulation is assessed at Backbone Builder to help athletes achieve an optimal level of performance, and manage competitive performance anxiety level.

Increases in too much arousal can be caused by: • A challenging/competitive situation in which you are expected to perform successfully • A lack of self-confidence, being worried, fear of failure • Simply being watched or judged by others

- Over-arousal: uncontrolled high breathing and high heart rate. If not controlled, over-arousal can lead to athletic choking; with focusing difficulty.
- Under-arousal: uncontrolled mind wandering, decreased anticipated performance enthusiasm. If not recognized and adjusted, your timing, tempo, and rhythm can be critically off.
- Moderately lower level of arousal control: helps players calm their mind; so focused attention is on the task at hand. Quarterbacks throwing passes, softball/baseball pitchers and field goal kickers likely perform ideally at a moderately low level of arousal.

- Medium arousal regulation: Basketball, boxing, golf and running normally do well at this level.
- A quite high arousal level: Football tackling – blocking performances, and runners running long distances.

Arousal is the level of physical and psychological activation, on a scale from deep sleep to intense excitement. Moderating arousal levels can help to control stress and anxiety. Arousal levels affect performance negatively and positively. Inverted U model shows the relationship between performance and arousal. This model is specific to the individual, and specific to the task, so the inverted U is not always symmetrical. Ideal performance state or 'the zone'. Arousal affects performance due to: Muscle tension and coordination difficulties with excessive arousal. 400m runners record faster times when told to run at 95% than they do when told to run at 110%. Attention and concentration narrows with increased arousal.

SELF-CONFIDENCE

Confidence can often be one of the key differentiating psychological factors between successful and unsuccessful performance. Individuals who are successful in any walk of life have many traits that stand out, and without question one of the main ones is confidence. It is the same in the sporting world and it is no coincidence that those who are successful in sport, have a great confidence in their own ability. In terms of sport, confidence comes from being properly prepared. When athletes feel confident, they are more readily able to turn sporting potential into superior performance. Conversely, when they feel unsure of themselves, the slightest setback or smallest hurdle can have an inordinate effect on their performance.

Confidence is a player's belief in their ability to perform well in any situation, practice or game. Confidence is derived from a baseline assessment of past performances, training, and preparation. As competency or skill mastery grows, your confidence becomes proportionately stronger. In order for players to develop high levels of confidence, they must have a clear understanding of the factors that boost and undermine their confidence, such as high expectations.

Self-confidence is commonly defined as the sureness of feeling that you are equal to the task at hand. This sureness is characterised by absolute belief in ability. You may well know someone whose self-belief has this unshakeable quality, whose ego resists even the biggest setbacks. In such people, confidence is as resilient as a squash ball: the harder the blow, the quicker they bounce back. Nonetheless, although confidence is a desirable characteristic,

arrogance – or a sureness of feeling not well founded in one’s ability – is undesirable. If self-confidence is perhaps the ‘guardian angel of sports performers’ then arrogance is their nemesis.

Confidence is related to personality and those who exude self-confidence across a range of contexts, say at work, socially and in their sport, are said to be high in trait confidence. However, confidence can also be very specific – to a particular situation or with reference to a set of circumstances – in which case it is known as state confidence or self-efficacy.

THEORETICAL APPROACHES TO SPORT CONFIDENCE

There are two main theoretical approaches to sport confidence; one is Robin Vealey’s model of sport confidence and the other is Albert Bandura’s self-efficacy theory.

THE SIX SOURCES OF SELF-CONFIDENCE

The confidence an individual feels during a particular activity or situation is generally derived from one or more of the following six elements: 1. Performance accomplishments are the strongest contributor to sport confidence. When you perform any skill successfully, you will generate confidence and be willing to attempt something slightly more difficult. 2. Being involved with the success of others can also significantly bolster your confidence, especially if you believe that the performer you are involved with (eg a team-mate) closely matches your own qualities or abilities. 3. Verbal persuasion is a means of attempting to change the attitudes and behaviour of those around us, and this includes changing their self-confidence. In sport, coaches often try to boost confidence by convincing athletes that the challenge ahead is within their capabilities. 4. Imagery experiences have to do with athletes recreating multi-sensory images of successful performance in their mind. Through creating such mental representations, mastery of a particular task or set of circumstances is far more likely. 5. Physiological states can reduce feelings of confidence through phenomena such as muscular tension, palpitations and butterflies in the stomach. The bodily sensations associated with competition need to be perceived as being facilitative to performance and this can be achieved through the application of appropriate stress management interventions such as the ‘five breath technique’ and ‘thought-stopping’ and 6. Emotional states is the final source of self-confidence and relates to how you control the emotions associated with competition, such as excitement and anxiety.

GOAL SETTING

A goal is simply something you are trying to accomplish; it is the object or aim of an action. Although goals can function at an unconscious

level, the process of goal setting represents the deliberate establishment and refinement of goals and the evaluation of goal progress. The concept of goals and the practice of goal setting are well known and established within settings where performance enhancement is the objective. It is important to understand goals because they have such a broad function in terms of affecting the thoughts and behaviors of those to whom participation, productivity, and performance are important.

In the broader field of performance psychology where the objective is to enhance productivity in its varying forms, the effectiveness of goal setting as a strategy has consistently been verified across tasks, groups, methods for setting goals, and performance indicators. Although it was assumed that the positive effects of goals would be replicated within sport and exercise settings, research in sport has failed to illustrate unequivocally that goals function as effectively in this domain.

Goal setting is a mental training technique that can be used to increase an individual's commitment towards achieving a personal goal and this can be separated into short, medium and long term goals.

Types of Goals

The definition of *goals* as an aim of action serves to portray goals as the drivers (or cognitive regulators) behind goal-directed behavior. Consequently, within the multilayered domain of sport, where the nature and level of engagement varies so much, these underlying drivers of behavior can take many different forms.

The sport psychology literature consistently distinguishes between three broad goal types: outcome goals, performance goals, and process goals. *Outcome goals* describe intentions relative to the performance of others involved in the activity. The key delineator of these to other goal types is the notion of social comparison. The objective of winning represents the predominant outcome goal; however, the objective of placing in a race, reaching a final, or simply beating a teammate in an individual race, also represent examples of outcome goals. Unlike outcome goals, *performance goals* are based on *levels* of personal achievement and are entirely self-referenced (subjective). Typical performance goals are to run a race in a certain

time, to jump a certain distance, to lift a specific weight, or to do a number of repetitions in a training situation—perhaps within a certain time; they refer to products of performance. These goals are normally based on numeric criteria (e.g., to jump one meter and sixty five centimeters) and refer to a predetermined subjective performance standard. *Process goals* are similarly self-referenced but are distinguished from performance goals because their focus is on the process of performing rather than a product of performance. The variation in process goals is subsequently far broader than that of outcome and performance goals.

Why Are Goals Effective?

Goal setting is widely regarded as the most popular basic sport psychology technique and is an integral part of any mental training program designed to maximize athletic potential. It is arguably the bedrock of athlete and coach education from a psychological perspective and supports or underpins many other strategies, such as confidence building and enhancing motivation.

In reviewing the literature on goal setting in sport, one is left with two inescapable conclusions: First, goals work; and second, the mechanisms behind their effectiveness are neither well understood nor particularly well documented. The latter has, on occasion, been attributed to early research into goal setting having limited theoretical grounding.

The advantage of goal setting is that it helps boost performance levels by achieving targets. Goal setting helps to **focus attention** and it is critical to **maintain and enhance motivation**. Goal setting gives direction both in the short term and the long term and you can see success as you achieve your short term goals. This increases your **confidence** as you are being success and achieving. So if you don't set goals you must start today. However goal setting must be implemented correctly.

How does Goal Setting Work?

1. Goals direct attention to tasks at hand and highlights what needs to be completed. It allows you to implement strategies to develop specific elements of the business that need to be utilise to complete the goal.
2. Goals mobilise your efforts. You will put your efforts into moving towards the goal as you are provided with the incentive of completing the goal.
3. Goals prolong your persistence because you are rewarded with incentives as you achieve your goals. People who set goals stick at tasks for longer as they are achieving smaller goals that combined form larger goals.

4. Goals foster the development of new learning strategies. In order to achieve the goals you may need to develop new strategies to complete the task at hand.

CONCENTRATION

Within sports, coaches and athletes often use the words concentration, attention and focus interchangeably. To effectively utilize these tools, it may be helpful to define each term. Vernacchia (2003) defined concentration simply as “the ability to perform with a clear and present focus” (p. 144). What then is focus? Focus has been defined as the central point of one's attention. Attention is simply what an individual is observing. When put together, an individual who is concentrating is said to have their attention focused clearly and presently on the task at hand. Once an athlete has developed the skills necessary for competition, their ability to control one's attention in order to concentrate on the demands of the task is essential to consistently executing these skills.

In sport psychology, concentration refers to focusing on sensory or mental events coupled with mental effort. It therefore relates primarily to the selective attention dimension in which individuals are able to selectively process some sources of information while ignoring others.

Attention can be either internal or external and broad or narrow. When athletes are focused inward (i.e. thoughts, emotions, physical sensations), they are said to have an internal focus. Athletes who are focused on the environment outside of themselves (i.e. weather conditions), are using an external focus. In terms of width, a broad focus is when athletes are paying attention to many things at once (e.g. examining an opponent's alignment), whereas focusing on a specific point (e.g. the spot on the ball where a kicker wants to hit it) is considered narrow. Attention is the ability of an athlete to keep on task. It is often also called focus or concentration. Attention involves focusing mental effort on relevant environmental cues, and maintaining that attention. In sport settings people like to use the term concentration.

The most popular model of attention in sport was developed by Robert Nideffer (Theory of Attentional and Personal Style; 1976 a, b). Nideffer proposed two dimensions of attention: Direction (external to internal) and Width (broad to narrow).

During competitions, athletes are often called upon to shift across these dimensions in order to meet the required attentional demands of the situation. The overlapping nature of these dimensions leads to four types of attentional control: Assessing (Broad-External), Analyzing (Broad-Internal), Acting (Narrow-External) and Preparing (Narrow-Internal).

External and internal cues provide the athlete with needed information for an optimal performance. In any situation, a huge number of cues are available to the athlete. Some of them

are highly relevant, others are irrelevant and can damage performance. For example, during a tennis match the position of an opponent is probably very important to attend to, whereas angry comments provided by the same opponent are irrelevant. If the player starts to think about the unproductive emotions of her opponent, she will have proportionally less attention available for processing of the game situation. Concentration on irrelevant cues should result in a decrease in the quality of her performance. As arousal increases, the athlete's attention begins to narrow. A good example of attentional narrowing is cue utilization. When the athlete is in her optimal performance zone, she is able to concentrate on relevant cues and ignore the irrelevant ones. Thus, at some optimal point, attentional narrowing gates out all of the irrelevant cues and allows the relevant cues to remain in focus. If arousal increases still further, attention continues to narrow and relevant cues are gated out, causing a decrease in performance. However, under conditions of low arousal, the attentional focus is very broad and the athlete picks up both relevant and irrelevant cues.

Measurement

Researchers have used a range of psychophysiological tools, as well as self-report measures, to infer attentional states. These include heart rate measurement, electroencephalography (EEG), functional magnetic resonance imaging (fMRI), and ratings of the extent of focus on a particular information source in experimental paradigms. In addition, dual-task paradigms have been used to measure performers' awareness of task-relevant and extraneous information, most notably in the study of choking.

Self-report measures include the Test of Attentional and Interpersonal Style (TAIS), which was devised by Robert Nideffer to assess a range of personality measures, a subset of which were linked to his proposed two-dimensional model of attention. This model distinguishes between direction of attention (external, internal) and breadth of attention (broad, narrow) creating four combinations. The scale contains groups of items to measure positive attributes of attention (effective integration and effective narrowing) and items to measure negative attributes (overloading and underinclusion). Other scales that are more specifically focused include the Self-Consciousness Scale, which measures individual propensity for attending to the self, and the Reinvestment Scale (and its movement-specific and decision-specific versions), which measures the tendency to exert conscious control over movements or the decision making process.

At any given point during a performance, athletes are faced with a number of potential distractors. Just as one's focus can be both internal and external, so too are distractors (Australian Sports Commission, 2008). • External distractors could be visual or auditory, and may include other competitors, spectators, and media. • Internal distractors may include negative self-talk, fatigue, and emotional arousal. A change in one's thoughts and emotions can lead to physiological changes as well (Nideffer & Sagal, 2006). Coaches and competitors often refer to this process as Choking. Although many individuals may have different definitions of choking, it is most often associated with a rapid deterioration in performance during an important competitive situation. The choking process involves physiological and psychological changes that may affect performance (Nideffer & Sagal, 2006). For example, an athlete who is competing in an important game may develop increased muscle tension and increased anxiety, which causes an overly narrow focus and inability to identify relevant environmental cues. Effectively helping athletes to manage their thoughts and emotions may allow them to regain attentional control.

Exercises for Improving Concentration and Attentional Control

Athletes recognize that maintaining concentration is critical to performing their best, yet figuring out what to focus on and maintaining the correct attentional focus during performance is not easy. There are, however, exercises that may be helpful in improving one's ability to concentrate during competition (Performance Services Division, 2008): • Focus on controllables vs. uncontrollables - make two lists. One list should be the controllables, which are those factors athletes can do something about, such as a response to a mistake or a bad play. The other list should be the uncontrollables, which are the elements of performance athletes cannot do anything about, such as the crowd's response to the athlete's mistake. • Simulation training – place the athlete in “real life” scenarios during practice in order to simulate possible distractions and additional areas of focus that could occur during a competition. • Distraction drills – identify distractors and deliberate attempts to shift one's attention away from the areas of required focus in order to practice shifting back to relevant cues during a performance. • Concentration cues – develop a list of positive, focused cues (e.g. self-talk, visual reminders) to quickly shift one's attention to appropriate points throughout a performance.

Several tools that are used in sport to improve athlete's attention and concentration skills:

Thought-Stopping and Thought-Centering:

There are two techniques that athletes must be aware of for keeping their focus on track; '*thought-stopping*' - generating positive thoughts to stop negative thoughts taking over, and

also ‘*thought-centering*’ - shifting the attention to set aside negative thoughts. The athlete must be able to identify their dysfunctional negative thoughts and feelings by considering two things: ‘is it helpful to think like this?’ and ‘will these thoughts help me to achieve my objective?’. When the answer is no, the thoughts need *stopping* and *centering*.

- *Positive Affirmations*: create a written list of positive thoughts which energise you and boost the mood. Reading through this list can then become part of the athlete's routine, and when needed these affirmations can be recalled mentally to replace negative thoughts
- *Breathing techniques*: breathing has been long associated with calming the mind. A common technique is to breath in deeply and exhale slowly, imagining the exhale removing negativity
- *Focusing on your own center of gravity*: to help avoid thinking of external stimuli which cause distraction
- *Centering the attention on a relevant external cue*: provides a strong focus and gives the mind a stimulus to serve as a distraction from the athletes own negative thoughts. An example in weightlifting would be: focusing your sight only on the bar when you walk towards it, tightening your wrist wraps or chalking your hands

Other techniques for improving concentration and attention:

Practice simulation: the idea here is to simulate competition variables during training sessions as much as possible. The more similar the conditions the better as the athlete will learn to cope with and ignore external stimuli.

Using keywords: the coach and athlete can come up with verbal cues that cater to the athletes individual preferences. These can be used to reinforce attention, motivation and confidence.

Visual control: this requires the athlete to pick a physical location to focus on, which does not represent any stimuli that impair their performance.

Technique mastering: as previously mentioned, the more the athlete masters their physical skills the more they will be able to pay attention to other stimuli. They can then focus more on what the scenario requires, rather than how to perform the necessary movements

Focusing on the present: being able to remain in the moment is paramount for athletic performance. Focusing on the past can be very distracting, for example looking back over something that has just happened in the game (missing a goal), instead of where to go now (the next shot on goal)

Audiovisual samples: watching videos of competitions can allow the athlete to see what elements they find distracting. Once the athlete and coach are aware of these they can work to re-focus on other stimuli

FEEDBACK, REINFORCEMENT AND INTRINSIC MOTIVATION

Feedback tells performers how well they performed or are performing. It can focus on knowledge of results or knowledge of performance and can be intrinsic or extrinsic, positive or negative. The coach-athlete relationship is probably the most important relationship in sport. The knowledge possessed by the coach can be classed as the “tools” needed for the athlete to achieve success. How this knowledge is transferred to the athlete can determine the level of success. Feedback is without doubt one of the most effective methods in passing on this knowledge. All athletes crave feedback, this is where they can make the necessary changes to improve their performance. Feedback and communication in general are critical components to coaching. Feedback allows coaches to tell athletes how they are performing in relation to their expectations. Coaches can then instruct and teach their athletes how to reach these expectations and perform better. Feedback can provide extra incentives for athletes due to its positive influence on competence satisfaction and autonomous motivation.

The type of feedback and the way that it is conveyed to the athletes is also quite important. For example, “angry” coaches who attempt to get their message across in an irritated manner may be causing more harm than good. Researchers and sport psychologists have found that athletes respond poorly to negative feedback. The length of the message of feedback has an effect on performance – Researchers believe that giving specific, short and positive feedback is more likely to boost performance positively.

Coaches are not the only instrument of feedback, the environment is also critical. The coach is often the one setting up this environment. Creating and using activities, drills, and games that are intrinsic in nature is important. Good learning experiences can give feedback. Many activities tell the athlete if they are meeting expectations without the use of excessive praise or berating. These activities require the athlete to think, involve their teammates, and desire feedback. The environment is important in that failure is not desirable but that it is safe to strive for success.

TYPES OF FEEDBACK

Feedback, or response-produced feedback, consists of all the information an individual receives as a result of a practice trial of a motor skill, classically divided into two parts—

intrinsic and *extrinsic*. Intrinsic feedback is all of the information one receives *naturally*, such as vision, audition, and proprioception.

Extrinsic feedback is information provided over and above intrinsic feedback, often by a teacher, coach, or experimenter. In the laboratory, tasks or procedures are used such that the learner typically cannot detect how well one has met the task goal, and then extrinsic feedback is manipulated to assess its effects on learning. Using this method, *augmented feedback* has been considered a key variable in the learning process, without which learning does not occur at all. It operates to guide the learner to the correct movement pattern. The learner uses this information to correct errors on subsequent trials, until the desired skill level is achieved. Researchers distinguish between two types of augmented feedback: (1) *knowledge of results* (KR), provided after a trial about the movement outcome in relation to its goal, and (2) *knowledge of performance* (KP), provided during or after the movement about the nature of the movement pattern. Even though KR and KP may, on occasion, have somewhat different functions in the learning process, both seem to follow the same principles in the way they affect skill learning. Therefore, here we refer to them both as *feedback*.

There are various different types of feedback in sport and they tend to come in pairs.

CONTINUOUS AND TERMINAL FEEDBACK

Feedback received **during** a skill or performance is called **continuous feedback**. Feedback received **after** the completion of the skill or performance is called **terminal feedback**.

INTRINSIC AND EXTRINSIC FEEDBACK

Intrinsic feedback is the physical feel of the movement as it is being performed. It is what is felt by the performer as they execute a skill or performance.

Extrinsic feedback is provided by external sources, during or after a performance. It can come from teachers, coaches, team-mates and also includes things that the performer can hear or see.

KNOWLEDGE OF RESULTS AND KNOWLEDGE OF PERFORMANCE

Knowledge of results (or KR) focuses on the end of the performance, or the result or outcome of the movement. For example, the performer's score, time or position at the end will show the result of their efforts.

Knowledge of performance (or KP) focuses on how well the athlete performed and the quality and pattern of the movement.

POSITIVE AND NEGATIVE FEEDBACK

Positive feedback is usually given by the teacher or coach when the player is praised following a successful outcome. Novices benefit a great deal from positive feedback.

Negative feedback is received when the movement is incorrect or unsuccessful. Negative feedback is most effective with elite performers.

REINFORCEMENT

The effective use of positive reinforcement creates better learning and skill development situations for athletes, helps lower athlete anxiety and increase athlete confidence, and makes athletes more likely to return for the next season. And coaches that use reinforcement effectively get higher athlete satisfaction ratings compared to coaches who don't.

What is Reinforcement?

Reinforcement comes from behaviorism, a branch of psychology that studies how animals and human beings respond to different reinforcers from their environment. The pioneering work was done by B. F. Skinner, who developed the theory of operant conditioning. This theory was developed primarily with studies of animals, but many of the principles have been adapted by the field of applied behavior analysis. Operant conditioning follows a specific process. An athlete performs a behavior and the coach chooses how to respond to that behavior. If the goal is to increase the frequency of that behavior, the coach should provide reinforcement. Reinforcement can be positive or negative (more about the difference later). If the goal is to decrease that behavior, the response should be punishment. However, extensive research has shown the limitations and problems of using punishment (it creates a short-term fix but creates long-term distress). The goal for a coach should be to use reinforcement to increase desirable behaviors and to drastically limit the amount of punishment, ideally never using it at all.

Positive reinforcement helps develop mastery in skill and mastery in performance. Athletes are always looking for feedback on how they perform. They work with coaches to learn the best in technique and get guidance on what they should be doing and get feedback about their progress.

Reinforcement is the use of rewards and punishments that increase or decrease the likelihood of a similar response occurring in the future.

- ***Positive reinforcement*** is a reward for performing the behavior correctly. It should come soon after the behavior is performed. It is usually in the form of a quick vocal praise (“nice pass”), a clap, or a supportive gesture (like a head nod or fist-pump).
- ***Negative reinforcement*** follows a correct performance, but involves removing something undesirable to reinforce the desired behavior. A simple example is taking away a difficult conditioning workout if players perform well on some behavior, like paying attention during a tactical drill, or vocally encouraging their teammates).

- ***Punishment*** happens in response to an incorrect or undesirable behavior, and involves the presentation of something unpleasant (like making the player run or do push-ups). Punishment is usually psychological, like ridicule or embarrassment, and it often trends towards abuse.

Coaches should strive to use only reinforcement – mostly the positive kind – to shape player behaviors. This was made plainly obvious to me a few months ago when I started using clicker training with my dog. It’s all about capturing good behaviors (being patient enough for my dog to perform the ideal behavior), then immediately rewarding her (click, then treat). That is classic positive reinforcement. A dog is not intelligent enough to understand negative reinforcement, and punishment just creates emotional distress.

Choose effective reinforcement

The best way to eliminate mistakes is not through punishment but rather to strengthen the correct or desired behaviors. Positive reinforcement focuses on how your athlete improves rather than screws up. Within positive reinforcement, mistakes are information that is necessary to improve performance. Besides being able to understand why positive reinforcement effectively works it’s also important to choose effective reinforcements for your athletes. Not all reinforcements are going to have the same effect on everyone. So you need to know your athletes and what is most beneficial for them. Positive reinforcement can take many shapes such as:

- **Social:** praise, smile, pat on the back, etc.
- **Activity:** ask athlete to teach a class or skill, use your athlete’s form as a good example, etc.
- **Special outings:** take your athlete somewhere else special to work out, bring in a special guest coach or athlete to workout with, etc.

Schedule reinforcements effectively

So when is the best time to give positive reinforcement, how often, and how consistently should it be given? The sooner after a response a reinforcement is given, the more powerful it will effect the behavior. Initially, rewards should be continuous. Example: when beginning to coach someone, it’s initially important to continue to reward form, reps, sets, motivation, etc. It not only strengthens the desired response, but it also provides frequent feedback and support for someone who is in the beginning stages of something new.

Once a behavior or skill has been mastered, reinforcement can be reduced to intermittent. Research has shown that behaviors reinforced on intermittent schedules persist much longer in the absence of reinforcement than do those continuously reinforced.

Intermittent reinforcement increases the likelihood a behavior will persist and be more consistent.

Reward appropriate behaviors

You cannot reward someone every time they do something right so you have to decide on the most important behaviors to reward and focus on those. It is very important to reinforce effort more than results. The one thing athletes have complete control over is their effort. Depending on the environment and the circumstances, they have limited control over the outcome.

- Reward small improvements to shape and allow an athlete to get closer and closer to the desired behavior. This helps spark motivation and provides direction.
- Reward performance and effort-example: if an athlete is doing better Tuesday than she was on Monday although she hasn't quite reached her goals, it's important to reward based on an individual previous level of performance as the standard for success.
- Reward emotion and social skills-people who demonstrate good sportsmanship, responsibility, judgment and other signs of self control and cooperation should be recognized and reinforced.

Focus on progressive behavior

To really win, you have to get everyone to go beyond their capabilities. They must feel great about themselves. They must feel that their coaches have total confidence in their abilities and feel that their weaknesses are small and their strengths are much larger and much greater.

Positive reinforcement strengthens desired behaviors and promotes the development of a positive motivation for success as opposed to the effect of negative reinforcement which can spark the fear of failure. Reinforcement and performance feedback require coaches to identify specific behaviors that are important to the individual's success, choose appropriate positive reinforcement for those behaviors, and give them out accordingly.

INTRINSIC MOTIVATION

Motivation is an internal energy force that determines all aspects of our behaviour; it also impacts on how we think, feel and interact with others. In sport, high motivation is widely accepted as an essential prerequisite in getting athletes to fulfil their potential. However, given its inherently abstract nature, it is a force that is often difficult to exploit fully.

Intrinsic motivation comes from within an individual and involves the individuals interest and enjoyment of the task. Some individuals are motivated by challenges, such as

becoming competent at the task or skill. Intrinsically motivated athletes participate in sport for internal reasons, particularly pure enjoyment and satisfaction, and intrinsically motivated athletes typically concentrate on skill improvement and growth.

Intrinsic motivations are driven firmly to the fundamental desire to learn and develop new skills. The need to be in control of one's behavior, the need to feel efficient and develop meaningful relations with others are some of the psychological factors underlying intrinsic motivation. Such motivation encourages athletes to push themselves harder to become the best in their sports, even if it is while training.

HOW INTRINSIC MOTIVATION WORKS?

Intrinsic motivation is closely linked to the fundamental desire to learn and develop new skills. The psychological factors that are the underlying drivers of intrinsic motivation include the need to be in control of one's behavior, the need to feel proficient in one's tasks, and the need to develop meaningful relationships with others. In the case that these fundamental needs are satisfied, high levels of intrinsic motivation drive athletes to participate in sports. Also, intrinsic motivation encourages athletes to develop skills and improve performance in their chosen sport.

Experts believe that to develop the skills required to become a professional athlete, a high degree of intrinsic motivation is needed. Intrinsic motivation pushes athletes to train harder, to create good habits whether practicing their sport as part of a team or during individual training sessions and to never give up on their dream to become the best in their sport.

Behaviors Related to Intrinsic Motivation

- Better task-relevant focus
- Fewer changes (ups and downs) in motivation
- Less distraction
- Less stress when mistakes are made
- Increased confidence and self-efficacy
- Greater satisfaction

INTRINSIC MOTIVATION AFFECTS PERFORMANCE

Athletes that participate in sports predominantly due to internal factors such as enjoyment and satisfaction from playing the game focus on skill development and growth. There are several ways in which this transitions into improved performance in the sport. First, this leads to a better focus regarding performance, and in preparation and training. Also, intrinsic motivation provides a consistent dedication to hone their ability to perform at a high

level. Furthermore, there is less likelihood of having external factors distract them from training and preparation. Intrinsic motivation increases confidence in an athlete's ability to complete tasks associated with their sport successfully. Lastly, intrinsic motivation provides greater satisfaction in participating in sports. Greater satisfaction has the secondary benefits of serving to motivate teammates.

Intrinsic motivation acts as a cyclical advantage in developing one's prowess in sports. When an athlete experiences success in their sport, they increase their intrinsic motivation. This creates greater motivation to improve performance. Improved performance results from factors causing more significant interest in developing skills. This creates a feedback loop in which an athlete becomes more determined and eager to develop further skills in their sport. Acquiring skills increased the likelihood of further positive feedback.

Intrinsic motivation refers to athletic behavior that is driven by internal or personally meaningful rewards (opportunities to explore, learn, and actualize potential). Intrinsically motivated athletes participate in sport for reasons such as: the enjoyment of playing their sport, the challenge of competition and reaching new personal levels, skill improvement, exploration of potential, etc. Intrinsically motivated athletes typically concentrate on skill improvement and their growth as athletes.