

Sociophysiological Factors Affecting Peak Performance in Sport

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Abstract

Sport is as old as Man. It has been with Mankind since creation. Sport is part of life because every skill requires for executing sports are endowed in Human being. Athlete's, physical attributes vary greatly. Sporting activity vary in terms of strength, stamina, endurance skill and abilities. Glycogen intake, fat intake, fast-twitch, slow-twitch, muscle fibres, aerobic, anaerobic energy all these enhance performance. All these require eating the right food at the right time for athletes to attain peak performance because it helps build and fuel muscles. Carbohydrate and fat helps fuel performance, while protein helps build muscle. Insufficient water in the body can decrease the effectiveness of workouts and cause cramping during competition. Sport devices help athletes stay hydrated during games, matches, races and restore depleted glycogen, sodium, potassium and other electrolytes.

Peak performance in sport is a state whereby the athlete performs at the maximum of their ability. This peak performance can be achieved by subjective feelings of confidence, effortless and total concentration on the skill. Peak performance in sports psychology entails mental skills, training focuses upon core traits such as concentration, anxiety control, goal setting, motivation, self confidence, imagery, and relaxation technique. When athletes develop positive ways of responding to the challenge during competition, it facilitates peak performance.

Sporting activities is an essential element in education curricula and it helps youth and adolescents to become active and responsible adults in life. Sports provide youth with necessary skills to cope with daily challenges. Faruk (2006) states that, sports activity helps to develop biochemical efficiency in human beings and remove excess biochemical energy from body. Adeogun and Banjo (2011) Opine that, Sports have health implication on the participants which includes improving aesthetic values and prevents physical depression as a result of stress and excess food consumption. Sports activity always help to remove emotional disturbance thereby helps the participants to look happy, friendly, kind and active in daily activities.

Some factors that influence sports performance can be improved while some cannot. Among those influencing factors that can improve sports performance are: Body proportions, strength, flexibility, endurance and skills training.

Body Proportions: This is uncontrollable factor because of genetics control, this factor and in turn the body proportion has implication on sport performance. Height and weight are vital factor in body composition. Bone structure is another factor in body proportion, Nixon (2008) stress that nervous frame help the body to carry so much muscles that develop through strength training, flexibility and develop good participation. No matter your practice and skills, your body proportions are the first limiting or influencing factor to sport performance. Always choose a sport suitable to your body proportions. Tall person may likely be suitable for basketball or volley ball.

Skills training: Quinn (2011) states that, skill training is the best way to improve and maintain peak performance. No matter your proficiency in the sport, you can never be great unless you engage in skills performance. Learning from a skill Coach is the best way to successful peak performance. Improve motor skill. Proper body position, starting and stopping the event, learning, coordination, rhythm and body stabilization are skills that can be learned to attain peak performance. Athletes need 5-6 days practice in a week, performing repetitive drills to improve their skill. Constant practice brings perfection.

Strength training: This is another way of improving sport performance. It helps to prevent injury to muscles, tendons, bones and ligament. Strength training helps to absorb the forces in sports and prevent injury. The muscles surrounding the joint keep the joint in proper alignment and also absorb the shock forces from impact. Martins (2012) stress that, Strength training allows sport Men and women to hold a skill position better, longer and allow repetitive movement with optimal body positioning. Strength training brings about physical strength and defensive skills among the participants. Likewise, it helps to improve speed, jumping, height and length which are most useful in sport participation, so every athlete who intends to achieve peak performance in sport should take strength training serious.

Flexibility: Flexibility is the range of movement around the joint and this can be improved in different ways; by performing dynamic stretching, static stretching, and active stretching. Massage can also improve flexibility. Improved flexibility prevents injury around the muscles because it will help the stretch to the maximum length and at the proper rate. Thereby in helping the athletes to improve the performance during sport competition, stretching the tight muscles will allow for optimum length tension relationship in the joint. Joint alignment and soft tissues extension will reduce injury as well as helping to attain peak performance. So every athlete should work seriously on proper flexibility.

Endurance: Adequate endurance is usually attained by repetitive movement performed by the skill practice in the chosen sports. To improve endurance level among the athletes above their normal skill practice, a proper conditioning programme should be formulated and performed. Athletes should perform endurance training programme and closely mimic the actions of the sport they are training for.

Supine sleep: Cratty (2000) states that supine sleep involves sleeping on one's back. This supine sleep worsens sport performance and causes exacerbation of numerous health problems.

Other disturbing risk factors in sport performance are mouth-breeding during sleep, daytime and even during physical exercise. It should be noted that a person should not perform exercise when body oxygen is slow and when the person suffers from chronic diseases. Other lifestyle risk factors in sport according to David (2011) are: Focal infections such as cavities in teeth, dead tonsils, root canals or dead teeth, athletes' feet and intestinal parasite or worms and psychological stress such as anger, revenge, greed, envy, jealousy, laziness and strong emotions may all have adverse effect on sport performance. Excess or addicted to smoking, drugs, gambling, too much alcohol, caffeine and sexual intercourse may all affect peak performance. Moderate alcohol consumption provides health benefit while excess alcohol consumption reduces sport performance. There are strong correlation between excessive alcohol consumption and lack of strength, power, aerobic performance and motor skills. Larger (2002) stress that, Alcohol affects vital organs in the body including central nervous system as well as cardiovascular system. John (2009) also states that, alcohol reduces muscles energy. Alcohol increase dehydration during athletes' performance and slow down reaction time. Alcohol decreases strength and speed fatigues, so alcohol should be avoided at least 48hours before athletes' events.

Body and Performance: Factors such as body composition, gender, genetic make-up and age influence peak performance. Ageing loses muscular strength as well as affecting the weight training and heavy object should be avoided at this period. Likewise, Women may not stay hydrated since fluid and electrolytes can enhance sport performance. At least drink 16ounces of water 2hours before sport performance. And 4 to 8 ounces of water during practice to keep body hydrated and performing at the best level.

Athletes should replenish the body with fluids and food within 1-2 hours after practice and competition to enhance subsequent performance. Balance diet with protein and carbohydrate will help muscles recover between practices. Adequate diet reduces the risk of muscles fatigue. Also adequate protein in the body helps athletes to recover quickly from injury.

Performance enhance supplement includes energy drinks, stimulants, vitamins, minerals and anabolic steroids. Protein supplements are important source of enhancing sport performance. Illegal stimulants such as methamphetamine may cause surge in sport performance and it may increase the risk of heart diseases.

Calcium, vitamin D and iron intake are crucial means of enhancing sport performance and overall health. Also, taking multivitamin plus iron is vital in sport performance. Androsterediol and Androstenedrone enhance muscle strength but it may hinder growth in

athlete height. It may as well lead to health problem such as heart and other vital organs in the body. The prolonged use may worsen the health condition (Larger, 2002).

Active lifestyle, routine exercise and balance diet are the best way to stay healthy in sport performance. Adequate diet helps athletes to finish the race and inadequate diet may bring tiredness easily and inability to complete the competition well. The amount of food required for sport performance depends on type of sport, amount of training and amount of time spent on activity.

Carbohydrates are needed to provide energy during exercise or competition and stores in muscles and liver. Complex carbohydrates are found in food like whole grain, breads and rice. Carbohydrate provides energy, fiber, vitamins and minerals. These foods are low in fat. Simple sugar such as soft drinks, jams, jellies and candy provides lot of calories but don't provide vitamins, minerals and other nutrients. Half of athletes calories should come from carbohydrate food before exercise especially exercise involving more than 1 hour. It may be glass of juice, a cup of Yoghurt or an English muffin with jelly. Larger (2002) opines that, Carbohydrate is highly important during exercises and to meet up the required carbohydrate for sport performance; 5-10 ounces of sport drink (every 15-20 minutes) 2-3 handfuls of pretzels. John (2009) recommends that, after exercise athlete should eat granule carbohydrate food to rebuild the stored energy in the muscles. 30 minutes after exercise, eat granule bar, small badges with jelly, sweetened cereal or drink 12-16 ounces of energy drink or fruit punch.

Protein often called building blocks of the body consists of combination of structures called amino acid that combined in various ways to make muscles, bone, tendons, skin, hair and other tissues serve as nutrients transportation and enzymes production. Protein can be from animal like meat, fish and egg. Protein may be from vegetables, fruits and nuts. Athletes need protein to repair and build up muscles and repair worn out tissues during exercise. Protein sustains performance when athletes lack adequate carbohydrate.

Fat is the athlete's main fuel source during long duration, low moderate intensity exercise and during endurance sport performance like marathon and ultra events. Although carbohydrate is the major athletes' fuel or source of energy, fat is needed to access the stored carbohydrate (glycogen).

Solid pre-game meal: On match day, eat breakfast, lunch and couple of snacks during the day, stogie with bean meats, vegetable and carbohydrates like bread, pasta and fruit. The most important meal of the day is pre-game meal. It is what the body will draw from during the match. It is important to note that, pre-game meal should be eaten 2-3 hours before the match.

Since ball games requires a lot of quick movement and burst of strength over a long period of time, it is necessary to provide your body with good amount of carbohydrates such as fruits, veggies, whole grain bread, cereals, pasta and low fat dairy. Supplement with protein source such as lean meats, chicken, fish, nonfat cheeses, turkey, and egg whites. The recommended ratio is 50-65% carbohydrates, 10-25% protein and less than 30% healthy fats like nuts, wet butters, fish oils, avocados, soy and vegetable oil based salad should be taken.

The ideal sport nutrition is to anticipate your need for the foreseeable future and to provide your body with the correct nutrient to respond to the demands required for the game. The energy stores should correspond with expected energy to go on with the game. The energy stores should correspond with expected energy to go on with the game. The energy stores should correspond with expected energy to go on with the game. Everyone is different and therefore has different nutritional needs. So study competition. Everyone is different and therefore has different nutritional needs. So study competition. Everyone is different and therefore has different nutritional needs. So study competition. Did your body and its response to food you eat. The following questions will help you: Did you feel good at the beginning of the game and then have energy crash later. Did you eat too early and feel hungry during the game. Does eating during match gives you stomach cramp? Learn to adjust your food intake accordingly and find out suitable food combination that works for you. David (2011) noted the following basic tips for sustaining energy during game; Solid pre-game meal, Food intake during , match or tournament, Post game meal, and Stay hydrated.

Cardiovascular System: Athletes need different levels of cardiovascular capacity, stamina and recovery. Capacity refers to the amount of exercise the heart and lungs can handle at one time. The more capacity the athlete have, the more intensity he can extent in peak performance. Stamina or endurance is the ability to work longer. For instance, A sprinter needs more cardio capacity than a marathoner who needs more endurance. The ability to recover from repeated, high intensity activity is important for athletes such as tennis, basket ball, and soccer or volleyball players. Slower, longer training helps build stamina during the off season, while high intensity intervals improve recovery during the pre-season and during real season.

Energy Systems: Ability to create and use energy is a major factor to attain peak performance. When athletes build aerobics endurance, such athletes can use slow-twitch muscle fibre, burn fat and move muscle for longer periods efficiently. Improving anaerobic conditioning with interval training means being able to work at high speeds for short period, using more glycogen and fast twitch muscle fibres. Anaerobic conditioning also helps to restore depleted glycogen to muscles faster and remove anaerobic waste.

Musculature: Your muscle provide strength, explosive and reactive power and endurance. The more muscle strength you have, the more power you can generate in movements such as in game like; golf, tennis, baseball swing or football tackle. Explosive power helps athletes to create powerful movement in sport such as starting a foot race or getting off the line at the start of a football play. Reactive power helps athlete to coordinate muscle movement such as the game of basketball, tennis serve or volleyball spike. The more endurance training exercise you do, the longer you can play at a high level. Athletes should work on strength during the off season and explosives and reactive power during the season.

Footwork: During competition footwork help the best player to attain peak performance. The ability to move quickly, ability to maintain balance in all directions is the major key to attain peak performance. Footwork helps athletes to get to the position to execute the skill like stroke, shooting, hitting, or blocking. It is the reason why athletes during training use drills for speed, balance, agility and quickness.

Conclusion

The peak performance in sport is determined by product of difference factors such as body proportion, strength, flexibility, endurance, skill training, good nutrition and cardiovascular system. Athletes should study the particular factor necessary to improve upon that will lead to peak performance in sporting activity during competition.

Recommendations

In order to enhance peak performance in sport, the following recommendations are made: Athlete should engage in skill training. Training through skill coaching is the best way to successful peak performance. Improved motor skill, proper body position, starting and stopping the event, coordination, rhythm and endurance are skills that can improve skill performance.

Athlete should avoid disturbing factors in sport performance such as focal infections, athlete feet, intestinal parasites, worms and psychological stress.

Adequate sport nutrition should be encouraged. Carbohydrate and fat are the main fuel source during long duration exercise like marathon race. Performance nutrients should be encouraged. Illegal stimulants, alcohol and tobacco smoking should be avoided.

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