বাংলাদেশ ক্রীড়া শিক্ষা প্রতিষ্ঠান

ক্রীড়ায় শ্রেষ্ঠত্ব

Excellence in Sports

BKSP JOURNAL OF SPORTS SCIENCE

Volume 19 Number 06 December 2021

BANGLADESH KRIRA SHIKKHA PROTISHTHAN (BKSP)

ZIRANI, SAVAR, DHAKA.

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EDITORIAL BOARD

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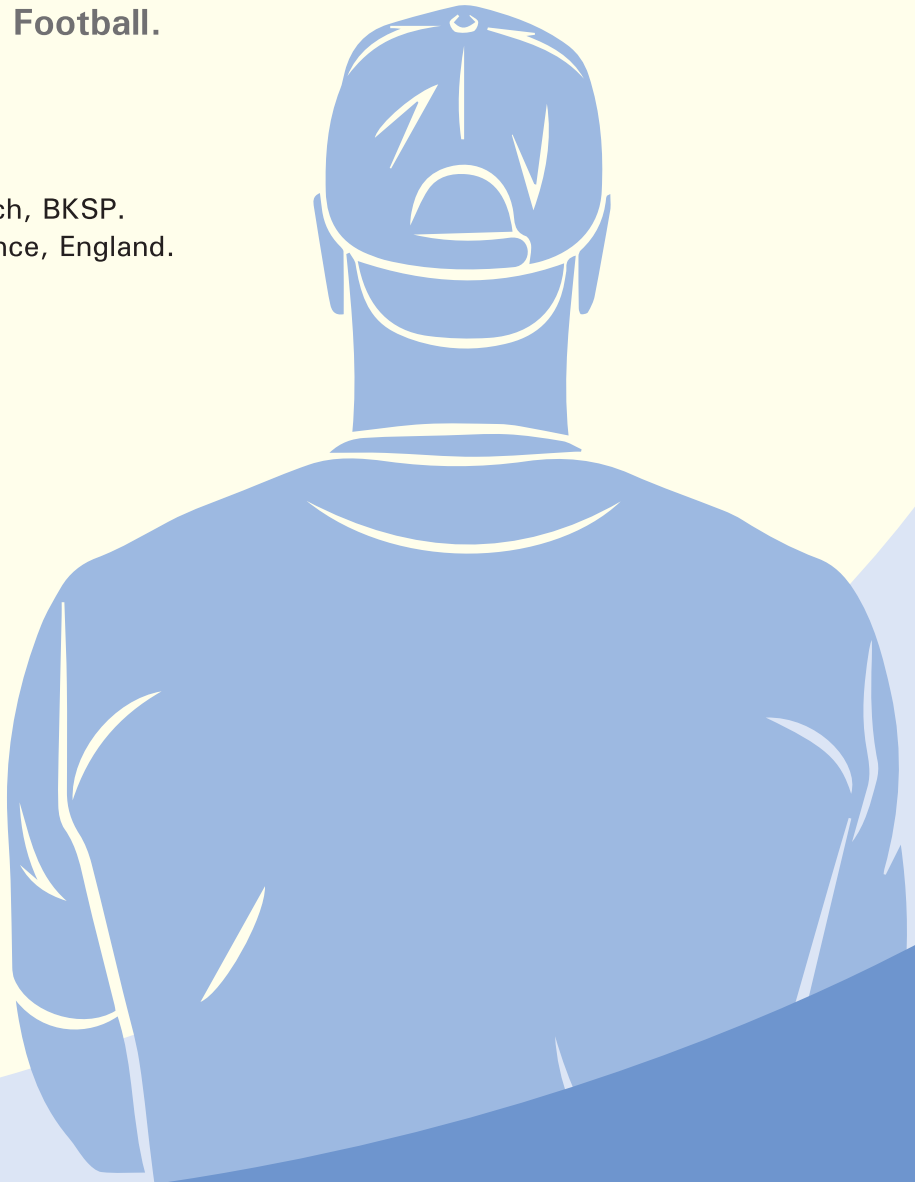
The Coaching Comfort Zone

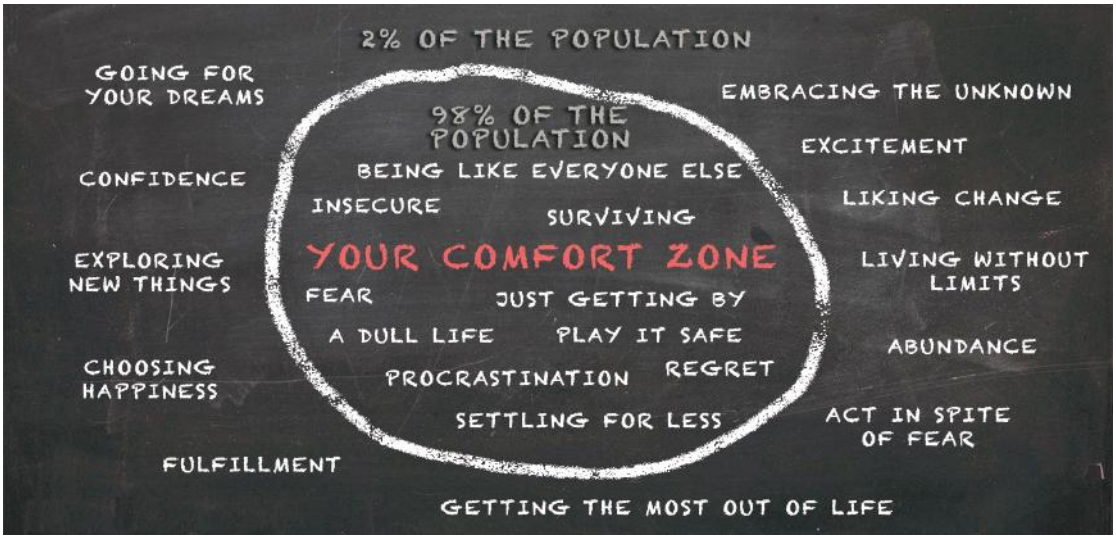
This article is taken from my book Coaching Youth Football.

Ray Power
Football Coach, BKSP.
UEFA A Licence, England.



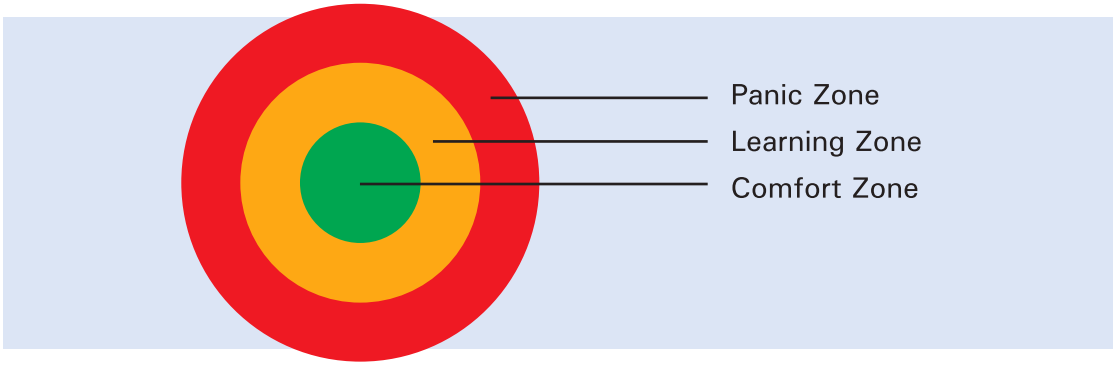
Comfort and Learning

Most of us are probably familiar with the 2% Mindset graphic below. It is generally used as a motivational 'hit', encouraging people to get the most out of life. The concept is that, unlike 98% of the population, you should live outside your comfort zone "living without limits" and "going for your dreams".



The 2% Mindset

As I surfed through several books and articles about becoming better, a familiar term kept staring back at me – comfort zone. Psychologically, the comfort zone is a state in which we feel in control, experience low levels of anxiety, and can exist without challenge. We are safe in there – blocking out any threats, whether they exist or not. Risk-taking is unnecessary. The threat of the unknown is not in the equation.



Senninger's The Learning Zone Model

The ‘unknown’ however is a great place to learn, but it resides outside of your comfort zone. In 2000, German learning expert, Tom Senninger designed a simple model around The Learning Zone (above). When we nudge ourselves from the comfort zone into the learning zone, we put ourselves in a place where we can grow and develop – it gives us challenges and experiences that we can bank, and which helps us improve. Psychologist Lev Vygotsky called this The Zone of Proximal Development – it is where the magic happens.

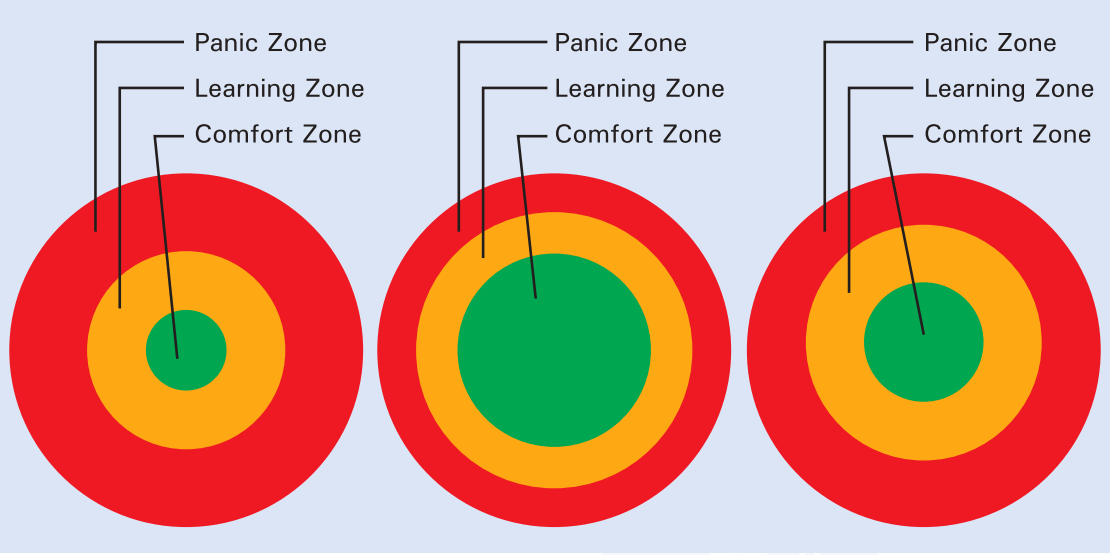
However, beyond the Learning Zone is The Panic Zone. This is where we have pushed our level of challenge too far, causing a heightened level of anxiety and fear. Learning in this zone is impossible – our brain becomes more concerned with our survival than with developing and extending our capabilities.

> ***“In the brain, the greater the challenge, the greater the changes– up to appoint”,***
>
> – Anders Ericsson and Robert Pool *Peak – Secrets from the New Science of Expertise.*

Shape Shifters

Although the model above is neat and well-shaped, the reality, however, is that we all contain several different comfort zones, depending on the situation we are in. The one you may have professionally, may be different than your social relationships for example. While you may be able to talk-the-talk amongst high-level boardroom CEOs, you may have trouble when meeting new people.

In addition, all people will have different size zones, again, depending on the situation they are faced with. Try to convince someone who is afraid of ying to board a plane, although you feel there’s nothing to it. No sooner may he reject your idea of a commercial ight before asking you to join him in a thrill-seeking mountain climb, that incites panic with you. If you force yourself or others beyond their boundaries prematurely, it can result in negative consequences. This is worth remembering when working with players, fellow coaches, mentors and mentees.



Every individual's limit for each zone will be different, and will also differ situationally

Our Coaching Comfort Zone

It is important firstly to point out that the comfort zone we are going to focus on from here is one that relates exclusively to our coaching, not our everyday life. I am not arrogant enough or qualified enough to lecture an agoraphobic, for example, on why they should leave the fortitude of their house, or why a grief-stricken person should just jump out of bed.

Everyday life will however affect your coaching comfort zone. Although the comfort zone is much slandered, it is important as it gives us – all of us – somewhere safe, reliable and predictable to return to. We all need it.

We read a lot about how the family life, social life and school life of players affects their sport playing, but it will affect the coach's approach to coaching too. If you feel there are issues 'bigger' that need addressing before challenging your coaching needs, please do so. In the meantime, let's look at comfort, learning and panic in a coaching context.

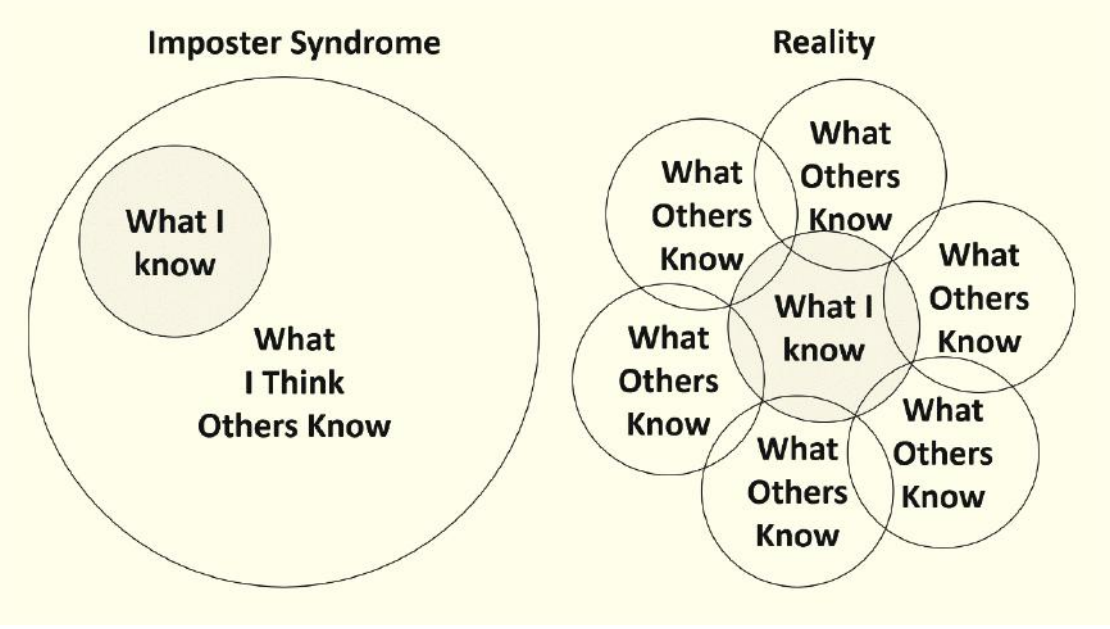
Coaching in The Learning Zone

Avoidance of new things, new ideas, outside in uences or challenges are normal strategies that come with those who are 'trapped' in their comfort zone. As a coach, your comfort zone is a very noticeable place. It is probably a place where sessions you know and are good at are repeated. They are conducted, as much as

possible, beyond the watching eyes of spectators or fellow coaches. Anything or anyone that challenges you gets pushed away or sidelined.

All coaches expect that they should know everything. Being comfortable with what you do not know is a highly tuned skill. Sports coaching can be a hard place to be. Many coaches are territorial and are quick to judge and criticize – and struggle to take criticism themselves. If you don't want criticism, you don't take risks, you stay in the shadows and confine yourself to your comfort zone.

In 1978, Pauline Clance and Suzanne Imes, two female psychologists coined the phase 'Imposter Syndrome'. It referred initially to women in high powered positions, but who doubted their ability. Since then, the theory has been extended into many other fields. The infographic below highlights this nicely.



The term was coined in 1978 by clinical psychologists Pauline R., mainly focusing on high performing women

Remember, some of the top coaches in world football (for example) are regularly openly criticized by those who know a mere fraction about their job or have only a tiny portion of their ability. I have seen Guardiola nicknamed 'Fraudiola', Mourinho criticized for his tactics and Bielsa for having great ideas but no trophies to show for it. They handle it, secure in the knowledge that they are doing the right thing.

The challenge of leaving your comfort zone is a positive thing in the long-term, although short-term it may cause us some stress or discomfort. What is crucial to

know however, is that being vulnerable (in a safe way!) and entering the Learning Zone can help you improve your performance.

Simple ways to tiptoe from Comfort to Learning Zone

Because all coaches will have different sized zones and different boundaries, it is almost impossible to list suggestions that will completely meet the needs of all coaches. This is one of those times where I encourage you to find your lightbulb moment. I have suggested some below, but this list is arguably endless. A great start would be to take one of these ideas, explore it – and, crucially – action it!

- Get a mentor who gives you feedback, or seek feedback from a fellow coach or colleague
- Video / audio record yourself – and watch / listen back
- Do a session with an age group much older or much younger than the team you would normally coach
- Do a session, or part of a session with a team playing at a higher level than what you are used to
- Do a session with a group that has a challenging make up to what you are used to – a different gender or socio-economic composition
- Instead of isolating you and your team, coach within plain view
- Share your session plan on social media – treat feedback, even the critical ones, as a way of learning
- Ask a more experienced coach to take a session so you can learn from it
- List any ideas that capture your imagination – and test drive them
- If one of your players or fellow coaches suggests something new (and meaningful!), go with it
- Take the plunge and enrol on that coaching course that intimidates you

Chances are that if you take some short-term, slightly uncomfortable risks like these, you will likely walk away from the experience feeling positive about yourself, more confident to adapt and will be able to bank some learning. In short, you will be better. This is significant – it is all about the learning. With enough practice you will expand your coaching comfort zone. What was once daunting is now something you can do contentedly.

If you take action and feel like you have failed, that is ok too. We can use that as motivation to improve too.

> ***I don't want to hear that someone can't "handle pressure." Everyone can handle pressure. Most people choose not to because it's easier to stay safe in the comfort zone. But if you want to be successful, to have that place in the sun, then you have to leave the shade. It's not easy to leave the shade; it's cool and comfortable, compared to the hot discomfort of the sun. But you can't be relentless if you can't take discomfort, and you can't be unstoppable if you only deal with pressure when you have no choice.***
>
> – Tim S. Grover – *Relentless*

Marginal Gains

Between 2003 and 2014 Sir David Brailsford was the Performance Director at British Cycling. In Athens 2004, Team GB won just four Olympic medals across road and track cycling. Since then however, they won a combined 38 medals at the three games from 2008 to 2016. In 2009 Team Sky, a road cycling team, was launched, again with Brailsford at the helm, with the aim of winning the Tour de France by 2014. At this point no Brit had ever won the prestigious road race. Three years ahead of schedule, Bradley Wiggins became the first ever Briton to win it, starting a streak where British cyclists won five of the six races between 2012 and 2017. Something had changed – but what?

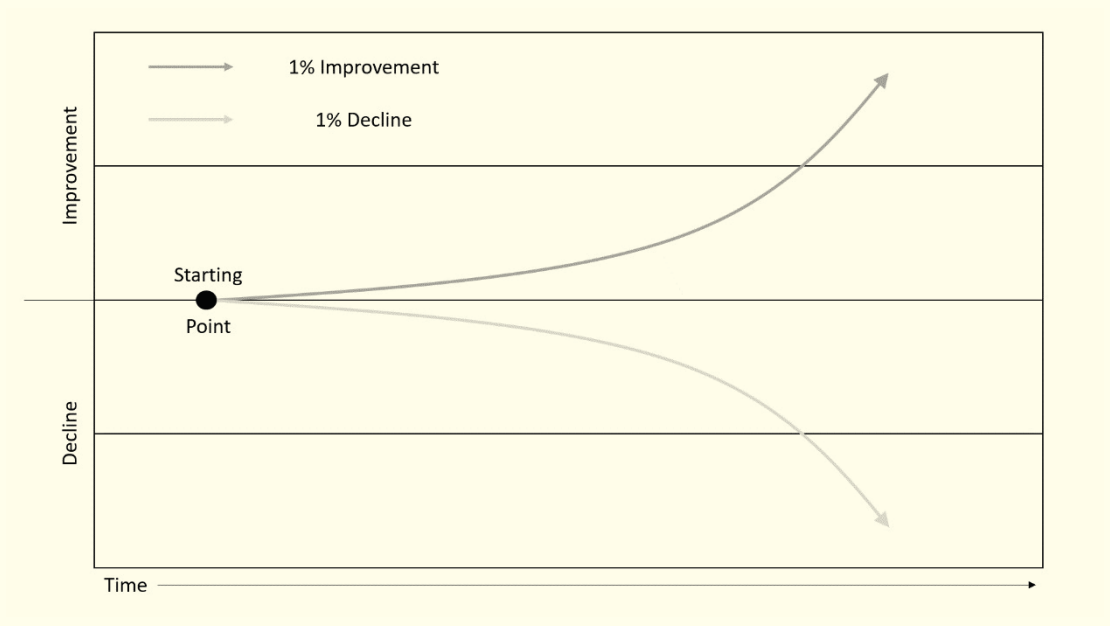
It was during Brailsford's time at British Cycling, and his subsequent role with Team Sky, that the term 'marginal gains' became popularized in sport. The culture of the organizations changed from looking at the bigger, overall picture, to focusing on the small details. The details that someone else had missed and that could give your team the overall advantage over the other.

> ***The whole principle came from the idea that if you broke down everything you could think of that goes into riding a bike, and then improve it by 1 percent, you will get a significant increase when you put them all together.***
>
> – David Brailsford

Not only did Brailsford oversee the development of a wind tunnel to isolate and test various bike designs under different weather conditions, Team Sky also ensured that all cyclists slept on the same mattress each night when travelling, that hotel rooms were hoovered immediately before their arrival and ensured that the clothes detergent used was skin-friendly, enjoying marginal gains in sleep quality, the prevention of infection and body comfort respectively. All before any of the riders even looked at a bike, ate a meal or donned their cycling clothes.

Brailsford was the first to admit that each gain was very, very small, but accumulatively, they led to a significant upturn in overall performance. It is breaking big goals down into smaller, more manageable ones. It is not only these 1% gains themselves that are a success, it leads to what Matthew Syed called a "deeper understanding", not just of the bigger picture, but of its smaller components. So, while British Cycling went in search of each improvement, they gave themselves a more profound knowledge of their entire professional operation.

Other examples from sport, again highlighted by Syed, include the Mercedes Formula 1 motor racing team. In Black Box Thinking, Paddy Lowe, the Technical Leader at Mercedes, highlighted how they now (2015) record 16,000 channels of data, versus the eight that they did when he first arrived in 2013. Pitstops for example can be measured in ways that drill down to how far off angle the mechanic has entered the gun to remove a wheel nut – we are talking absolute fractions of a second. But when aggregated and improved with the rest of the tiny data, these miniscule improvements add up to significant overall advantages.



1% improvements vary only slightly on day 1, but in time, these aggregate to a much bigger difference

I am a firm believer that a coach is a learner first. They must always be pushing to learn more, understand more, question themselves more. At BKSP there are hundreds of coaches that you will see every day. All of them will have knowledge and experience for you to learn from. This is the best part of working in a COACHING TEAM – you are surrounded by experts. Use them to leave your comfort zone and find you coaching marginal gains.

Assessment of Depression among Different Sportspersons of BKSP

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Abstract

The purpose of the study was to carry out an assessment of depression of 267 players of BKSP in Archery (N = 34), Athletics (N = 38), Hockey (N = 57), Basketball (N = 36) , Cricket (N = 75) and Football (N = 37). To conduct this study, quantitative research model in the form of a retrospective type of survey design was used . The patient health questionnaire; Nine (PHQ = 9) questionnaires used for assessing depression level. Based on percentage analysis it was observed that 192 sportspersons are normal, mild 64 and moderate 11out of 267 players of different sports . Small sample size, purposive sampling, and subjective reporting of the participants were the major limitations of the study. Yet, the findings of the present study can help to step for reduce the bad effects of the negative phenomena in different sports.

Introduction

Depression is a common and serious medical illness that negatively affects how we feel, the way we think and how we act. Fortunately, it is also treatable. Depression causes feeling of sadness and/or a loss of interest in activities we once enjoyed. It can lead to a variety of emotional and physical problems and can decrease our ability to function at work and at home.

Moreover, depression often comes with symptoms of anxiety. These problems can become chronic or recurrent and lead to substantial impairments in an individual's ability to take care of his or her everyday responsibilities. At its worst, depression can lead to suicide. Almost 1 million lives are lost yearly due to suicide, which translates to 3000 suicide deaths every day. For every person who completes a suicide, 20 or mare may attempt to end his or her life (WHO, 2012). World Health Organization. World suicide prevention Day2012. http//www.who.int/Media centre/events/annual/ World suicide prevention Day/en/ Accessed 25.3.2019

Depression symptoms can vary from mild to severe and can include.

- Feeling sad and having a depressed mood.
- Loss of interest or pleasure in activities once enjoyed.
- Changes in appetite – weight loss or gain unrelated to dieting
- Trouble sleeping or too much of sleeping.
- Loss of energy or increased fatigue

- Increased in purposeless physical activity (e.g. inability to sit still, pacing, handwriting) or slowed movements or speech (these actions must be severe enough to be observable by others)
- Feeling worthless or guilty.
- Difficulty in thinking concentration or making decision
- Thoughts of death or suicide.

Symptoms must last at least two weeks and must represent a change in your previous level of functioning for a diagnosis of depression.

Also, medical conditions (e.g., thyroid problems, a brain tumour or vitamin deficiency) can mimic symptoms of depression, so it is important to rule out general medical causes .

Depression affects an estimated one in 15 adults (6.7%) in any given year. And one in six people (16.6%) will experience depression at some time in their life. Depression can occur at any time, but on average, first appears during the late teens to mid 20s. Women are more likely than men to experience depression. Some studies show that one-third of women will experience a major depressive episode in their lifetime. There is a high degree of heritability (approximately 40%) when first- degree relatives (Parents/children/siblings) have depression.

Depression can affect anyone- even a person who appears to live in relatively ideal circumstances (American Psychiatric association (APA), 2013.

Athletes and active individuals are not immune from mental illness. In fact, depression and anxiety disorders may occur in athletes at least as commonly as the general population. Sometimes, sport serves as a tool to help an athlete cope with symptoms of mental illness, but sometimes the pressures of the sport may cause or contribute to anxiety and depression. The same genetic and environmental risk factors for the general population also apply to athletes. Risk factors specific to athletes include:

Injury, Competitive failure, Retirement from sport, Overtraining, Concussion

Symptoms of depression and anxiety also include:

Sadness, Loss of interest, Changes in sleep, Changes in appetitive, Impaired concentration, Loss of self-esteem, Risk-taking behaviour, Excessive worry or fear

Athletes or coaches may notice a worsening in athletics performance as well. Depression can also be associated with thoughts of self-harm or suicide.

Anyone experiencing thoughts of self-harm or suicide should immediately seek help. The first step to treating anxiety and depression is recognizing the problem. An experienced sports medicine physician may work with mental health professionals (General psychologist/sports psychologist/ psychiatrist) to develop the best treatment plan for an athlete. The physician may recommend therapy and/or medications with a focus on minimizing impact on sport performance.

Sports medicine providers often screen athletes for mental health disorders during their pre- participation examination. An athlete presenting with any of the signs above should undergo a more in-depth evaluation for depression and /or anxiety.

A decision about continuing or returning to exercise/sport should be made with a doctor. The vast majority of athletes are able to continue their current level of participation. However, if the sport itself is contributing to symptoms, the risks and benefits of continued participation must be considered.

Results

Mental Health Condition in Respective all the Sports person with bars.

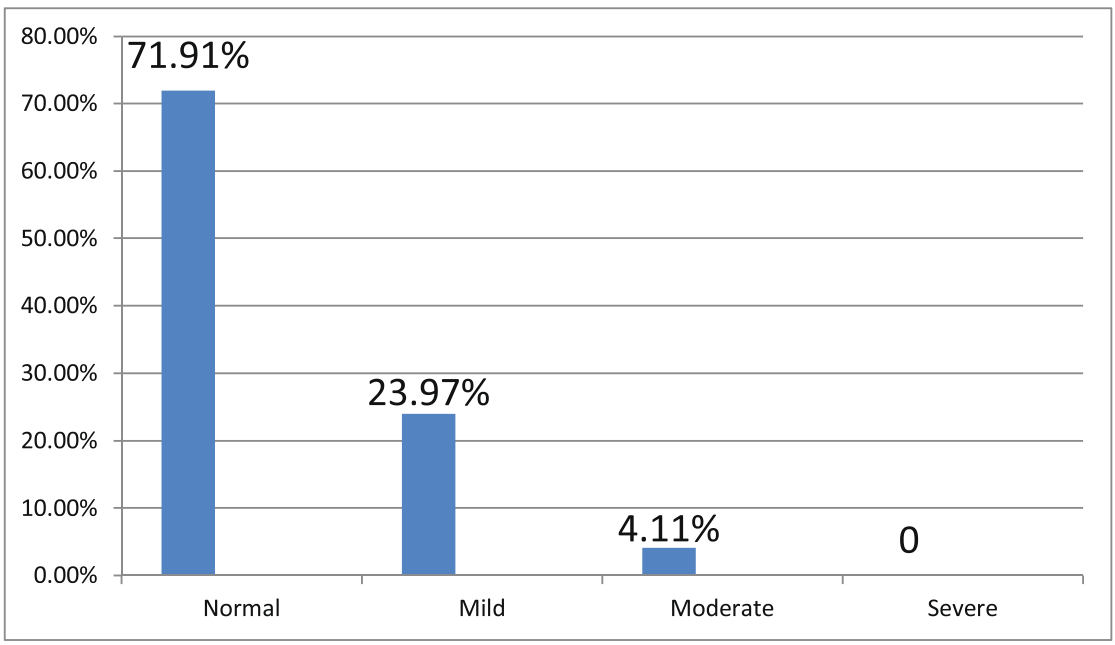

Figure: 1- Mental health condition in respect to all the sports person with bars.

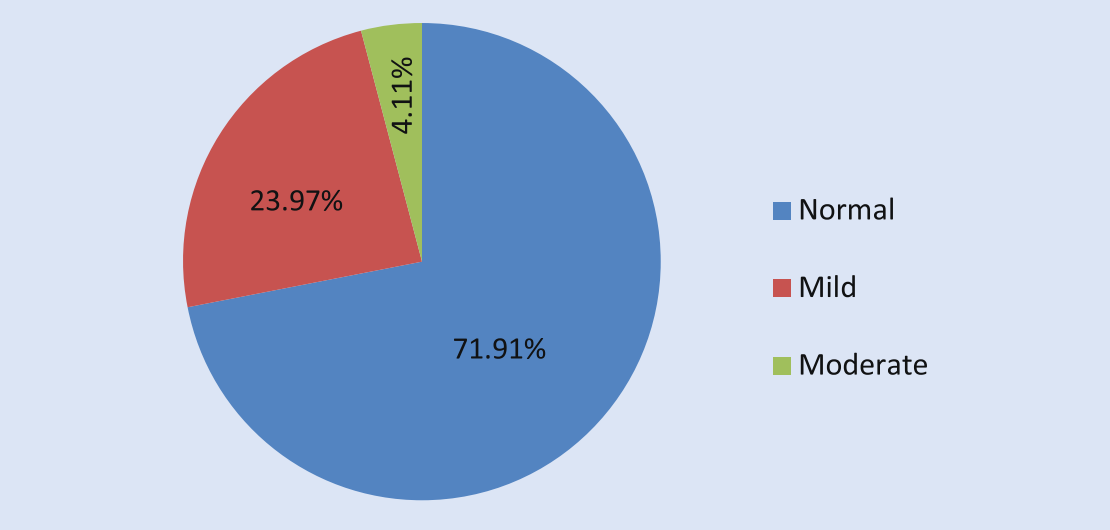

Figure: 2- Mental health condition in respect to all the sports person with Pie.

Table 1

Mental health condition in respect to different sports

Mental health condition in Archery

Level of Depression	Number	Percentage
Normal	32	94.16%
Mild	02	5.88%
Moderate	0	O
Severe	0	0

Mental health condition in Athletics

Level of Depression	Number	Percentage
Normal	23	60.53%
Mild	14	36.84%
Moderate	01	2.63%
Severe	0	0

Mental health condition in Basketball

Level of Depression	Number	Percentage
Normal	29	80.56%
Mild	2	5.56%
Moderate	5	13.87%
Severe	0	0

Mental health condition in Cricket

Level of Depression	Number	Percentage
Normal	43	57.33%
Mild	28	37.33%
Moderate	4	5.33%
Severe	0	0

Mental health condition in Hockey

Level of Depression	Number	Percentage
Normal	38	66.67%
Mild	18	31.58%
Moderate	01	2.6%
Severe	0	0

Mental health condition in Football

Level of Depression	Number	Percentage
Normal	27	72.97
Mild	10	2.70
Moderate	0	0
Severe	0	0

Mental health condition in respect to all the sports person

Level of Depression	Number	Percentage
Normal	192	71.91
Mild	64	23.97
Moderate	11	4.11
Severe	0	00
Total	267	00

The above table reveals that the mental health condition was very much satisfactory. It was 71.91 almost 72% was normal. Mild almost 24%, moderate 4.11% and severe depression was not found.

Materials and Method

Two hundred and sixty seven sports persons belonging to Archery (N = 34), Athletics (N = 38), Hockey (N = 57), Basketball (N = 36) , Cricket (N = 75) and Football (N = 37) were selected as subjects for the study. To conduct this study quantitative research model in the form of a retrospective type of survey design was used. The study was conducted in the Laboratory of BKSP. To found depression level among sportspersons with different sports were used PHQ-9 scale. In this scale there is nine items questionnaire for assessing depressive symptoms and their severity (Kroenke & Spitzer, 2001). It has been validated for us with people (Steenbergen-Weijenburg & Vroege, 2010). Each of the nine items corresponds with a diagnostic and statistical manual of mental disorders (DSM-5) criterion for depression (APA, 2013). (The scores for each item are summed to generate a total score (range: 0-27) . Depression level is depending on total score of PHQ-9 scale. Interpretation of score is None – minimal (O-5), mild (6-10), Moderate (11-16), and Severe 16 above.

Discussion

In the present survey, the majority of the sports persons have been observed to be not having any depression. The level of depression of different sport discipline sportspersons like mild, moderate is observed to be much less. Understandably, the sportspersons joining BKSP, premier sport institute in the country, should be high in the diving force, that guide the sportsperson into achieving excellence. This result could be due to the fact that all the subjects study in the same institution

and follow the same programme in respect of academic as well as sports training. They also reside in the hostel and perhaps enjoy the satisfying personal relationship as well as share each other's emotion and take decisions themselves as and when the need arises.

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Effects of Sporting on Body Mass Index (BMI) and Cardio Vascular Endurance Among the Students of Sports-Related and General School in Post-covid Phenomenon: An Observational Study

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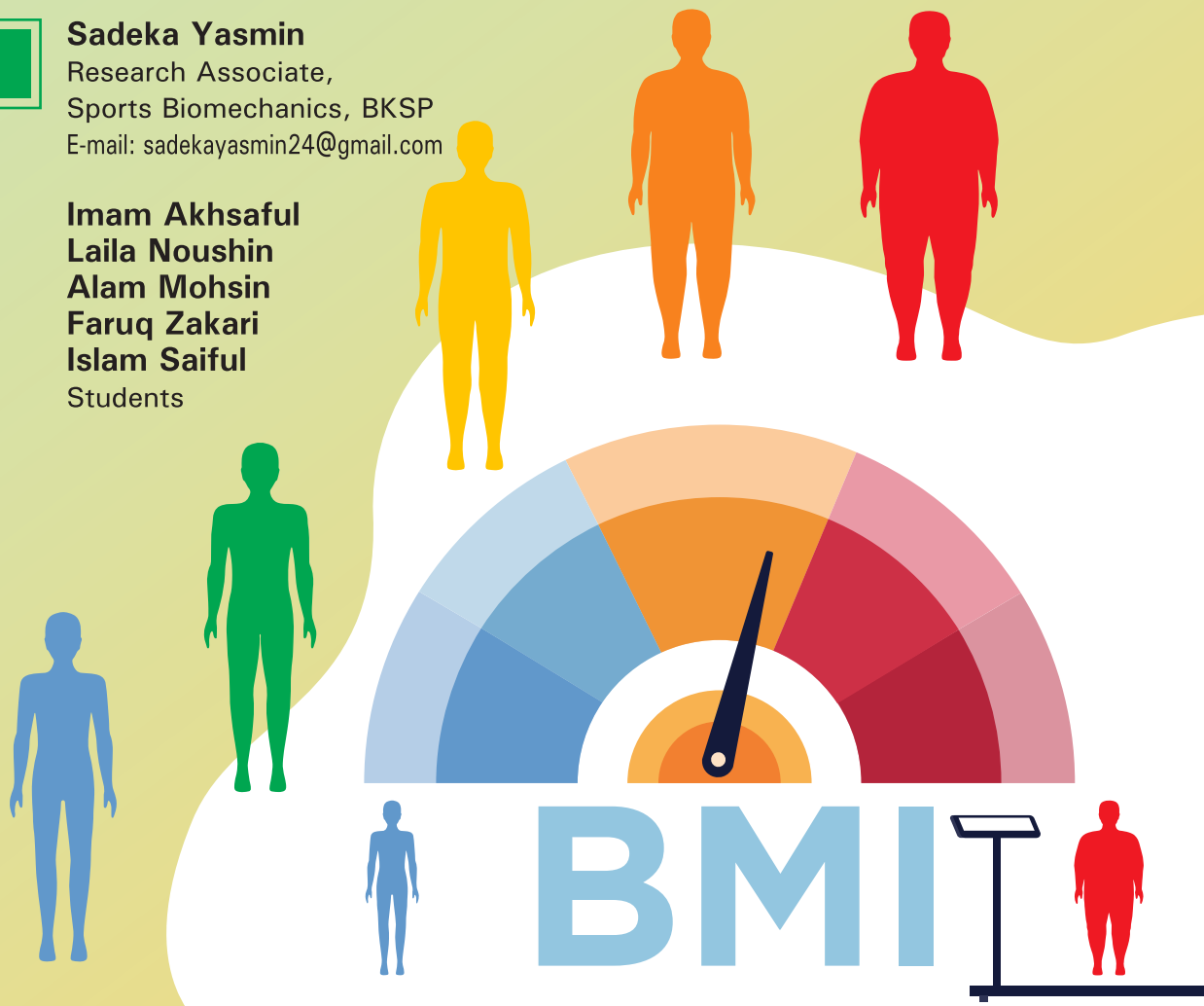


ABSTRACT

This study is designed to evaluate which group of schoolchildren are more prone to higher Body Mass Index (BMI) & PEI level in Post-COVID Phenomenon. To check correlation between (BMI) and Physical Efficiency Index (PEI). To check the necessity of sporting in adolescent stage. To check the efficacy of sports training in building up and maintain cardiovascular endurance. There are 20 samples (n = 10) were selected from 250 students and divided in to Group-A Sports related school (BKSP school) and Group-B Non-Sports related school (Mohanogar Public School, Zerani, Savar) rendering to inclusion and exclusion criteria. BMI percentiles method and Physical Fitness Index are used as tools to testing parameters. The data have collected by double blinded assessor. Descriptive statistics were used for data analysis which focused through table and column chart. The age between the groups is significantly differ each other $p < .05$ (The t-value is 2.40401. The p-value is .027202). Where BMI doesn't significantly differ, here in observation of data Non-Sporting school student are comparatively lower age but BMI is same so that means, though their BMI level in healthy category but they are relatively fatty. On the other hand, cardiac endurance level; PEI is significantly difference in both group. $P < .05$. Sporting school student has higher PEI level compare to Non-Sporting school student (The t-value is 2.06536. The p-value is .026798). Non-Sporting school students are more serious about academic education which is more tendency in current post-covid phenomenon whereas Sporting school student are focused on both health as well as physical fitness and academic education, hence future health state of low PEI group will be more prone to sedentary life. Though female students of Sporting school have higher PEI level than Non-Sporting female student but both the groups are in poor and very poor category, so they need regular checkup and necessary measure (Interval running method may use) to fit them. The study strongly recommended that, all the Non-Sporting school should arrange competition game at least once a week.

Key word: PEI, BMI, post-covid phenomenon.

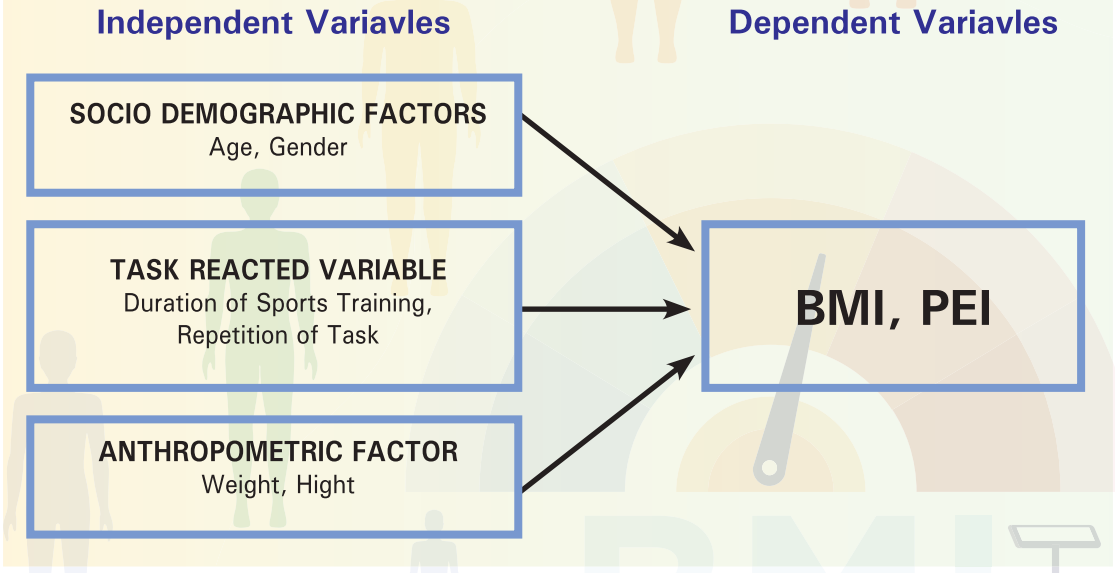
INTRODUCTION:

Childhood obesity is a leading factor among the several factors of adulthood health problem like Diabetes Mellitus (Type-2), Heart disease, Cerebrovascular accident,

Polycystic Ovarian Syndrome Even Infertility. Physical activity in school program during assembly and annual sports are not sufficient for the schoolchildren. In the context of heath experience, Body Mass Index of both rural and urban schoolchildren of Bangladesh 5.6% & 10.6% respectively which is considered as health alarming issue1. As an under developed country the BMI level of children and other health condition doesn't check regularly. Weekly based school sports program beneficial for the youngster with disabilities2 as well as the normal children. Physical fitness level of an individual depends on the amount of oxygen which can be transported by the body to working muscles and the efficiency of muscles to use that oxygen. Physical fitness level of an individual depends on the amount of oxygen which can be transported by the body to working muscles and the efficiency of muscles to use that oxygen. Nevertheless, as per our knowledge, there is no comparative study on cardiovascular efficiency of Sports related school's student and Non-Sports related School's student of Bangladesh. Hence, the present study was conducted to evaluate Physical Fitness Index (PFI) correlation with BMI in relation to their physical anthropometry. There are several tools to evaluate cardiac endurance, Harvard Step Test is reaected very much reliable measure in PEI evaluation17. To find out Physical Fitness Index among the school children the method of Harvard Step Test has been recommended by American Alliance for Health, Physical Education, Recreation and Dance (AAPHERD). (Safrit MJ 1986)

Methodology:

The study was a quantitative research model in the form of observational type survey. 20 samples (n = 10) were selected from 250 students and divided in to



Group-A Sports related school (BKSP school) and Group-B Non-Sports related school (Mohanogar Public School, Zerani, Savar) rendering to inclusion and exclusion criteria. Both girls and boys are randomly (Choudhuri D, 2002) included according to age between 12-18 years with their willingness to the study and divided in to two groups, both group contain 5 males and 5 female students. The healthy students those who are intentionally taken for heavy weight lifting category are excluded from the study. A mixed type of questionnaire was used to exclusion of sample. A weight machine, steel tap and 20 & 18 inches high bench is used for assessing BMI and PEI.

1. It is a multi-centered study where students with any known respiratory, neuromuscular, cardiac or endocrine disorder & intentionally taken for weight lifting game were not included in the study. Weight and height of student were assessed by different blinded assessors. The height in inches, body weight in pound were recorded as physical anthropometry. Body Mass Index was calculated by using the formul (Body Mass Index (BMI) for Teens - Nemours Kidshealth)

$$\textbf{BMI} = \frac{\text{Weight in Pound (lbs)}}{\text{Height in (Inches)}^2} \text{X 703 (Conversion factor)}$$

Cardiovascular endurance is assessed by Harvard Step Test, where 20 inches high bench is used for male and 18 inches high bench is used for female. The subjects step up in the manner of 'up up down down'. 30 steps in one-minute for 5 munities by male and 24 steps per minutes for 3 munities by female student. The data have collected by double blinded assessor.

PEI data is calculated by using the formula (Lee J F, Pope Z and Gao Z, 2018)

$$\textbf{PEI} = \frac{\text{Duration of exercise in seconds x 100}}{\text{2 X Sum of pulse counts in recovery } (\sum \text{i} + \text{ii} + \text{iii})}$$

for female student put 5.612 instead of 2. The mean and standard deviation of mean (SD) of various parameters between groups were calculated and their significance were tested by using unpaired 't' test.

Result:

Table: 1 shows the anthropometrical characteristics of the school going children of sporting (BKSP) & non sporting (Mohanogar Public) school. Results depict that, the age between the group is significantly differ each other, $p < .05$ (The t-value is 2.40401.

The p-value is .027202). where BMI doesn't significantly differ, here in observation of data non sporting school children are comparatively lower age but BMI is same that means, though their BMI level in healthy category but they are relatively fatty. On the other hand, endurance level; PEI is significantly different in Sporting (BKSP) School student as compared to Non-Sporting (Mohanogar Public) school student, $P<.05$. (The t-value is 2.06536. The p-value is .026798) are shown in **Table**: 2. In this study also observed that PEI of both the female group is significantly lower, but in comparing Sporting school's female students PEI are higher than Non-Sporting school's female students similarly male students of Sporting school's PEI level are higher than Non-Sporting school's male students are shown in Fig. 1 & 2.

Characteristics	Sporting school (BKSP)	Non-sporting school (Mohanogar Public school)	p-value
1. Age	16.372 ±1.048 (±6.40%)	14.651 ±0.933 (±6.37%)	.027202; $p<.05$
2. Height	64.252 ±2.404 (±3.74%)	61.23 ±2.193 (±3.58%)	.085403; $p>.05$
3. Weight	117.72 ±12.016 (±10.21%)	105.22 ±14.42 (±13.70%)	.208251; $p>.05$
4. BMI	19.93 ±1.104 (±5.54%)	19.64 ±2.274 (±11.58%)	.412301; $p>.05$
5. PEI	64.864 ±25.138 (±38.75%)	31.61 ±19.078 (±60.35%)	.026798; $p<.05$

Table: 1. Anthropometrical parameters in Sporting (BKSP) & Non-Sporting (Mohanogar Public) school Student.

Characteristics	Sporting school (BKSP)	Non-sporting school (Mohanogar Public school)	p-value
1. PEI of female	28.172 ±3.346 (±11.88%)	7.396 ±0.624 (±8.44%)	.00001; $p<.05$
2. PEI of Male	101.556 ±15.699 (±15.46%)	55.824 ±22.61 (±40.50%)	.011591, $p<.05$

Table: 2. Difference of PEI between female-female and male-male of Sporting (BKSP) & Non-Sporting (Mohanogar Public) school Student.

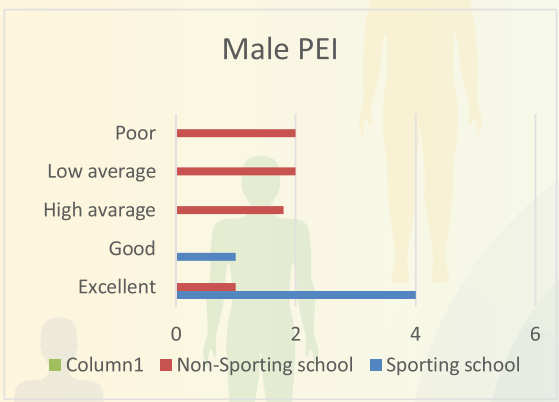


Fig. 1. Frequency distribution of Sporting (BKSP) & Non-Sporting (Mohanogar Public) school Male student in various fitness categories according to their

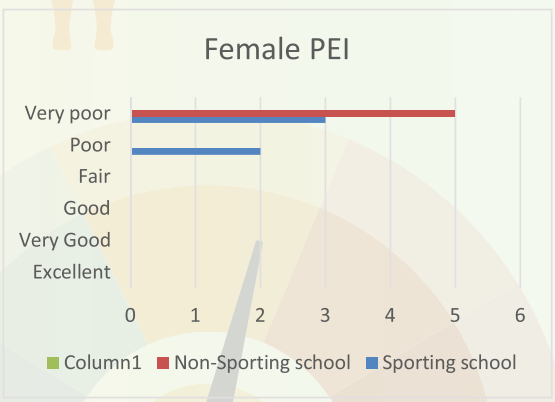


Fig. 2. Frequency distribution of Sporting (BKSP) & Non-Sporting (Mohanogar Public) school Female student in various fitness categories according to their PFI.

PFI. Excellent >90; Good 80-90; High Average 65-79; Low Average 55-64 and Poor<55.

Excellent >72-100; Very Good 62-71; Good 51-61; Fair 41-50 and Poor 31-40; Very Poor 0-30.

Discussion:

Consequences of our study displayed that the student of Sporting group school have a higher physical fitness that of Non-Sporting school. This may be due to less physical activity and sedentary life style in Non-Sporting school. It is known that a regular proper maintained nutrition, physical and sports training protocol is strictly maintained in BKSP schools, while there was no such regular routine co-curricular activity in Non-Sporting schools. Studies have shown that children who engage in regular endurance training have better physical fitness than children who are more sedentary. Our study has also revealed that students of two schools are in two extreme groups of classification of physical fitness index. About 90% of Sporting school children are in excellent category (Male), while about 90% of Non-Sporting school's children (Male) are in either Low average or Poor category which are shown in Fig-1. On the other hand, student of Sporting school about 40% Female in Poor and 60% Female in very poor category, while about 100% of Non-Sporting school's female students are very Poor category are shown in Fig. 2. The poor physical fitness of the female student inboth school maybe due to lack of regular cardiovascular fitness test & poor physical composition (in Sporting school) improper nutritional status, lack of physical activity & family unwillingness, severe addiction to social media in Non-Sporting school student. This is supported by our observation that the students of non-sporting school have poor physical anthropometry along with female student of Sporting school. Moreover, students of Sporting (BKSP) School receive a uniform balanced diet and take part in regular physical exercise.

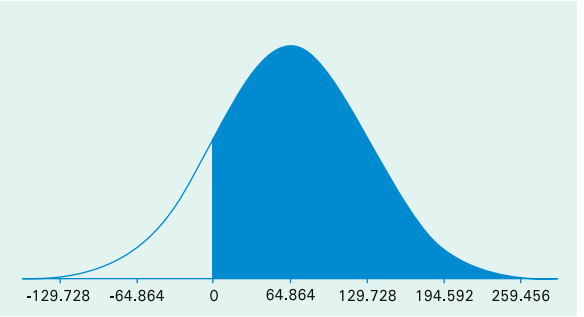


Fig: 3. Normal distribution of PEI of Group-A

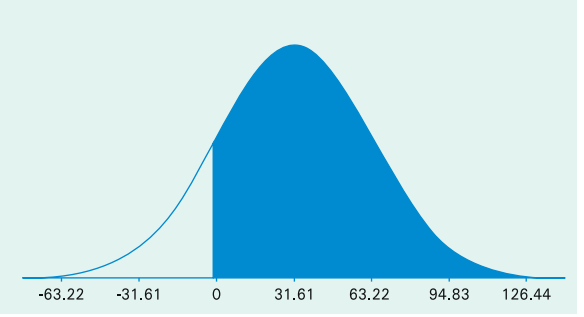


Fig: 4. Normal distribution of PEI of Group-B

Regular physical exercise is necessary along with regular fitness test especially Cardiovascular Endurance test for proper growth of fitness of an individual as it increases plasma somatotropin level (J Sch, Health 1990); which is essential for proper growth of individual (J Appl Physio 1994). In order to have uniform physical fitness among school students, it is advisable to formulate a regular physical and sports training schedule, so that they can achieve better strength and endurance.

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Measurement of Target Heart Rate Zone: Procedure and Importance

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Abstract

Heart rate is the speed of the heart beat measured by the number of contraction of the heart per minute. Normal heart rate is 72 beats per minute. A normal resting heart rate for adults ranges from 60 to 90 beats per minute. To measure target heart rate zone in sports is very important for a player. Following target heart rate at which cardio exercise are to be done. A way to get an approximate value is this formula 220 -Age of player x% of intensity. A higher heart rate is a good thing that leads to greater fitness. Sustains a workout at this pace improves cardio vascular endurance. Monitoring players heart during exercise allows to know how the player's heart is actually recovering instead of giving a recovery time.

Introduction

The target heart rate zone is a term used to define a heart rate at which cardio exercise are to be done.

Target heart rate is the minimum number of heart beats in a given amount of time in order to reach the level of exertion necessary for cardio vascular fitness, specific to a players age, gender and intensity of training. (Tommy Boone 2016.)

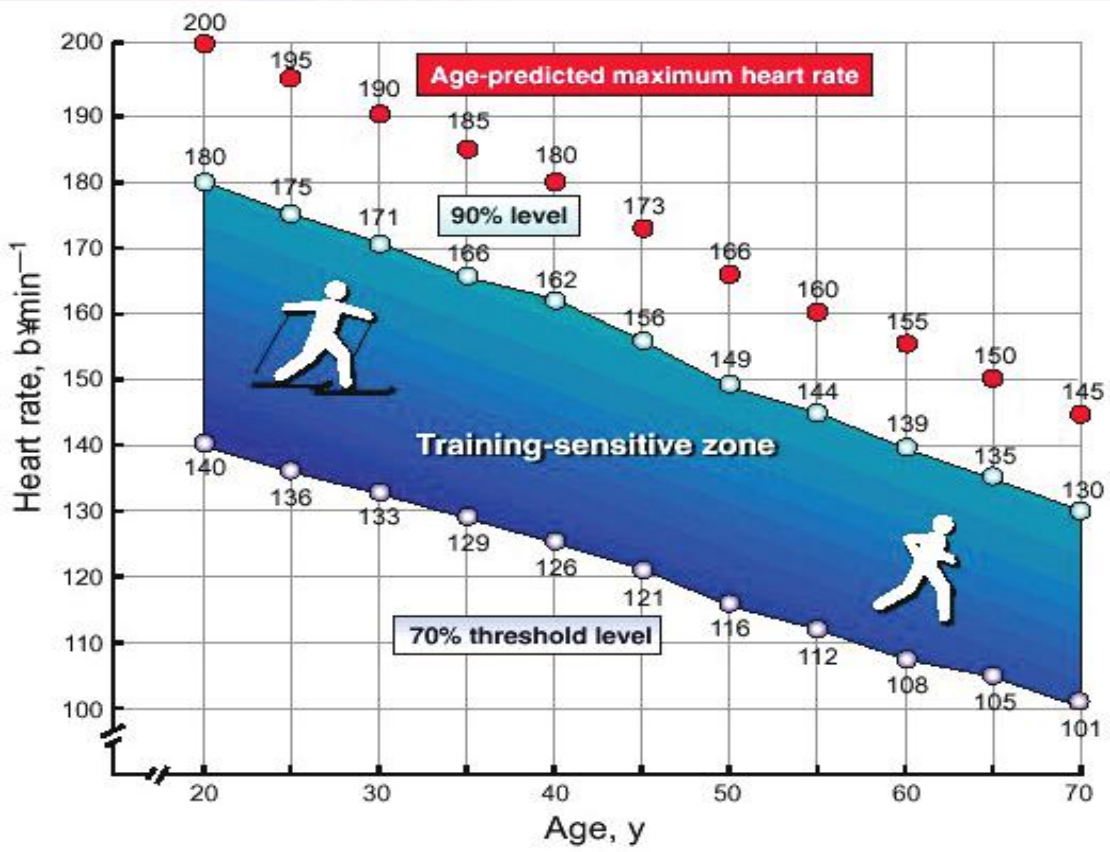
Exercise regularly at a target heart rate ensures that there is minimum undue stress on the heart and maximum benefit from exercise in their target heart zone, which are calculated as a percentage casually between 50 and 85% of players maximum safe heart rate. Exercising below 50% may not help players meet the goals of fitness and exercising beyond 85% may cause problems such as sore muscles or even heart attack. (Lippicott & willions wilking, 1991)

The American Heart Association recommends exercising with a target heart rate of 50 to 75 percent of maximum heart rate for beginners and for moderately intense exercise. Players can exercise at 70 to 85 percent of players maximum activity.

Training Sensitive zone

Maximum heart rate for a specific activity can usually be determined immediately after all out exercise in the form of work. This level of exercise, however, requires considerable motivation and certainly is not advisable for adults without medical clearance or those predisposed to coronary heart disease. Maximum heart rate is established as 220 minus the players age with multiplication given intensity with values being independent of race or gender in children and adults.

Target training zone in aerobic training programs of different ages formula of target heart rate zone calculation.



Source: Exercise Physiology (Willam D. Mc Ardle 1991.)

Formula of target heart rate zone:

A good quick way to get an approximate value is this formula 220-Age of player into x% of intensity (Willam D. Mc Ardle 1991.)

Example: Players age 20 yrs
Intensity = 80%
Target heart rate = 220-(20x0.8)
= 220-16 =204bpm

Several formula will identify a target training heart rate Exact determination of maximal heart rate involves exercising an individual at a maximal level and monitoring the heart rate using electrocardiogram (ECG). This is difficult process outside a laboratory, however an approximate estimate of maximal heart rate for

both males and females in the population is that maximal heart rate is thought to be about 220 beats per minute. Maximal heart rate is related to age as age increases maximal heart rate decreases. Thus relatively simple estimation of maximal heart rate (HR) would be maximal heart rate HR = 220-Age if an athlete is working at 70% intensity of works. The target heart rate can be calculated by Another multiplying = 0.7x (220-Age)

Process of counting heart beats per minute

To figure out how many times sports person's heart is beating in a minute, placing two fingers at the back of corner of player's ower jaw and then slide down an inch or so until feeling pulse through the carotid arty in neck counting number of beats in 10

Another commonly used formula that takes into account current level of fitness is the kurvonen equation maximal HR - resting heart rate.

Tools/Instruments that are used to measure target heart rate

1. Heart rate monitor
2. Smart watch
3. Pulse Oxiometer
4. Treadmill

Five heart rate zones

There are five different heart rate zones (1-5) and training plan should include workout in all five zones. The HR zones chart shows the level of intensity and percentage of maximum heart rate in each one. (Willam D. Mc Ardle 1991.)

Zone	Intensity	Percentage of HR max
Zone-1	Very light	50-60%
Zone-2	Light	60-70%
Zone-3	Moderate	70-80%
Zone-4	Hard	80-90%
Zone-5	Maximum	90-100%

Heart Rate zone calculator (Willam D. Mc Ardle 1991.)

Maximum heart rate 200bpm

Zone-1	100 - 120 bpm
Zone-2	120 – 140 bpm
Zone-3	140 – 160 bpm
Zone-4	160 – 180 bpm
Zone-5	180 – 200 bpm

How long should keep target heart rate

It depends upon player's level of fitness and goals. The American heart Association in conjunction with the American college of sports medicine recommends a minimum of 30 minutes of moderate aerobic activity five days per weak or at least 20 minutes of vigorous activity 3 days per week. (Willam D. Mc Ardle 1991)

Importance to measure target heart rate

A higher heart rate is a good parameter that leads to greater fittness. During exercise heart rate should be count and target should be estimated. To be sure player's getting the most from players workout yet staying at a level that's safe for sports persons player should monitor how hard player's heart is working.

Exercising regularly at a target heart rate ensures that there is minimum undue stress on the heart and maximum benifit from the exercise and improves cardio respiratory endurance . Exercising at the right level of intensity will help player's avoid burning out or wasting time. (Tommy Boone 2016)

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RELATIONSHIP BETWEEN KINEMATIC VARIABLES OF PREDELIVERY STRIDE AND DELIVERY STRIDE IN PACE BOWLING

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Abstract

To assess the relationship among ankle joint angle, Shoulder Alignment, pelvic alignment, counter rotation and pelvic shoulder separation angle at back foot contact and delivery stride of pace bowling in cricket. Five University level pace bowlers (aged 23.09 ± 2.8; height 1.64 ± 6.4 mts) of Visva Bharati University were filmed in an outdoor field in a full length (20.12m) cricket pitch with a full length runway by (2-D) motion analysis system. Sunco video camera in a field setting operated at a frame rate of 50 Hz and 120 fps was in the transverse plane at a height of 12 meters and parallel to the longitudinal Axis and an another camera was positioned perpendicular to the sagittal plane and parallel to the bi-lateral axis. For the acquisition of kinematical data Kinovea – 8.24 was used. The Pearson Product Moment Method was calculated through IBM-SPSS 20. The level of significance was at 0.05. Ankle Joint Angle positively correlated with Minimum Shoulder Alignment (most side-on) and Pelvic Shoulder Separation Angle at Back Foot Contact. Bowlers experiences greater Ankle Joint Angle which tends to indirectly increase the Minimum Shoulder Alignment (most side-on) and Pelvic Shoulder Separation Angle at Back Foot Contact. In spite of Minimum Shoulder Alignment (most side-on) and Pelvic Shoulder Separation Angle, none of the above kinematic variables correlated with Ankle Joint Angle may be due to the greater acceleration of their upper body.

KEYWORDS: Separation angle, Shoulder Alignment, Delivery Stride, Pace Bowling

Introduction:

The main intention of fast bowlers is to get more wickets with the help of their pace. And due to that fact they just forget to maintain the proper alignment of their body. Previous work of Ranson et al, 2008 has clearly shown the importance and injuries of lower back due to wrong alignment of the body. Very less amount of studies concentrating on the correlation of their lower limb movements with various kinematic variables. So purpose of this study was to establish the correlation of kinematic variables like Shoulder Alignment (S.A), Pelvic Alignment (P.A) at Back Foot Contact & Front Foot Contact, Shoulder Alignment (most side-on action), Shoulder Counter Rotation (SCR) and Pelvic Shoulder Separation Angle (PSSA) with the Ankle Joint Angle (AJA) of Pace Bowlers in Cricket.

Methodology:

Subjects

Five University level pace bowlers (aged 23.09 ± 2.8; height 1.64 ± 6.4 mts) of Visva Bharati University were filmed in an outdoor field in a full length (20.12m) cricket pitch with a full length runway.

Collection of data

14 markers were attached to all pace bowlers for calculating various kinematic variables. Kinematic data were acquired by the Sunco video camera in a field setting operated at a frame rate of 50 Hz and 120 fps. The positioning of first camera was in the transverse plane at a height of 12 meters and parallel to the longitudinal Axis. And another camera was positioned perpendicular to the sagittal plane and parallel to the bi-lateral axis.

For the acquisition of kinematical data, subjects Shoulder Alignment, Pelvic Alignment & ankle joint angle was analyzed in Kinovea – 8.24.

Data Reduction

For each bowler, the three trials that had the minimum marker loss and scored highly on the accuracy target by landing on a good line and length were selected for analysis.

Calculation of Shoulder Alignment (S.A)

Shoulder Alignment was determined by projecting the 2D alignment of the left and right shoulder joint centres onto a horizontal plane (1800 = side-on, 2700 = shoulder aligned with the bowling crease). (Ranson et al., 2008).

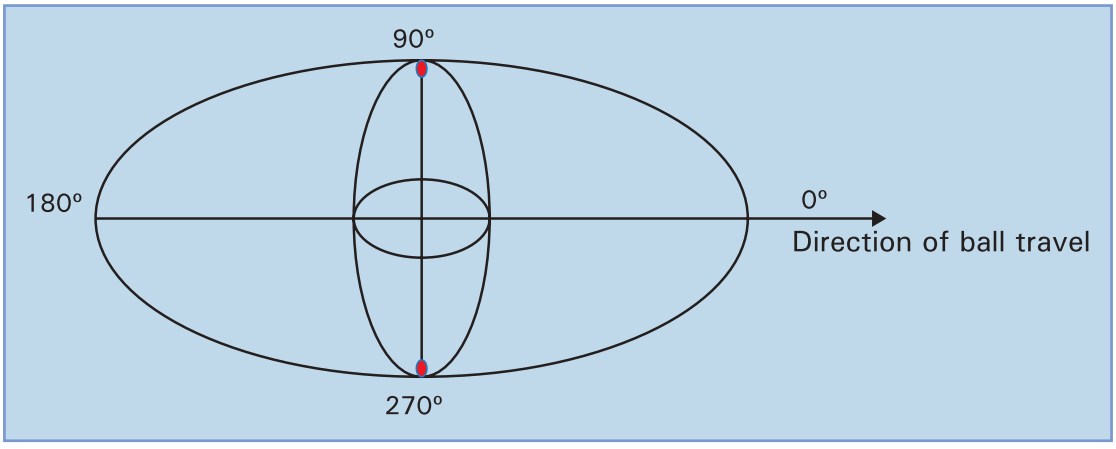

Figure: 1 The Orientation of Shoulder Alignment from Transverse Plane

Calculation of Pelvic Alignment (P.A)

Pelvic Alignment was determined by projecting the x-axis of the pelvic reference frame onto a horizontal plane with the help of overhead camera (1800 = side-on, 2700 = pelvic aligned with the bowling crease). (Ranson et al., 2008).

Calculation of Pelvic to Shoulder Separation Angle (PSSA)

Pelvic to Shoulder Separation Angle was defined as the Shoulder Alignment angle minus the pelvic alignment angle (Ranson et al., 2008).

PSSA = S .A – P.A

Calculation of Shoulder Counter Rotation

Shoulder Counter Rotation was defined as the change in the Shoulder Alignment at back foot contact to the most side – on Shoulder Alignment during the delivery stride (minimum shoulder angle). (Glazier et al., 2000).

SCR = Minimum (most side on) Shoulder Alignment – Shoulder Alignment at Back Foot Contact.

Statistical Analysis

In IBM SPSS (SPSS Inc., Release 20.0) Descriptive Statistics(Mean, SD) and Spearman Rank Difference coefficient of correlation were calculated. The classification values of Spearman Rank Difference coefficient of correlation was taken from Kansal, K. (2008).

Results and Discussion of Findings

The mean value of Ankle Joint Angle, Shoulder Alignment, Pelvic Alignment during Back Foot Contact (BFC), Minimum Shoulder Alignment (most side-on), Shoulder Alignment, Pelvic Alignment during Front Foot Contact (FFC), Shoulder Counter Rotation and Pelvic Shoulder Separation Angle were 329.80, 258.20, 260.20, 226.80, 244.20, 237.40, 42.20, 2.00 respectively and Standard Deviation of Ankle Joint Angle, Shoulder Alignment, Pelvic Alignment during Back Foot Contact, Minimum Shoulder Alignment (most side-on), Shoulder Alignment, Pelvic Alignment during Front Foot Contact(FFC), Shoulder Counter Rotation and Pelvic Shoulder Separation Angle were 4.71, 7.62, 7.29, 19.00, 23.73, 11.84, 13.55, 6.12 respectively. Correlation between kinematic variables of Ankle Joint Angle and Shoulder Alignment, Pelvic Alignment during Back Foot Contact & Front Foot Contact, Minimum Shoulder Alignment, SCR and PSSA elucidated in Table 1.

Table- 1.

Group means (±SD) and Correlation between kinematic variables of Ankle Joint Angle and S.A, P.A during Back Foot Contact & Front Foot Contact, Minimum S.A, SCR and PSSA.

Kinematic variables	Mean (Degree)	Std. Deviation	Correlation with Ankle Joint Angle
Ankle Joint Angle	329.80	4.71	
S.A at BFC	258.20	7.62	-.48
P.A at BFC	260.20	7.29	-.43
S.A(most side-on)	226.80	19.00	**.008***
S.A at FFC	244.20	23.73	-.67
P.A at FFC	237.40	11.84	-.77
SCR	42.20	13.55	-.45
PSSA at BFC	2.00	6.12	**.087***

Significance Level 0.05

(Abbreviations: S.A: Shoulder Alignment; P.A: Pelvic Alignment; BFC: Back Foot Contact; FFC: Front Foot Impact; SCR: Shoulder Counter Rotation; PSSA: Pelvic to Shoulder Separation Angle)

The statistical analysis data clearly indicates that only two kinematic variables Minimum Shoulder Alignment (most side-on) and Pelvic Shoulder Separation Angle at Back Foot Contact were positively correlated with Ankle Joint Angle. As table 1 indicate negative correlation between Ankle Joint Angle (A.J.A) and Shoulder Alignment, Pelvic Alignment during Back Foot Contact & Front Foot Contact, Shoulder Counter Rotation. Fewer studies expounded the correlation between Ankle Joint Angle and Shoulder Alignment, Pelvic Alignment during Back Foot Contact & Front Foot Contact, Minimum Shoulder Alignment, Shoulder Counter Rotation (SCR) and Pelvic Shoulder Separation Angle (PSSA). Shoulder Alignment at Back Foot Contact has been strongly correlated with Shoulder Counter Rotation (Ranson, Burnett, King , Patel, & O'Sullivan, 2008) (Glazier, Paradisis, & Cooper, 2000) (Worthington, 2010). When bowlers landing with more front –on alignment, they counter- rotate their shoulders more than those who have more closed shoulder orientation during Back Foot Contact (Worthington, 2010). Through the general alignment of the bowling sequence following a linear path, there is a less

likely chance of injury due to the reduction on the rotation of the upper and lower body in different directions (Ferdinands, R, 2008; Raza Suhel, 2016). That's why due to change in Ankle Joint Angle the Minimum Shoulder Alignment (most side-on) and Pelvic Shoulder Separation Angle at Back Foot Contact were positively correlated.

Other studies have investigated that some time due to the inertia of upper body and trunk causing more pressure on the spine then which tends to increase various sorts of injuries to the pace bowlers (Ranson C.A et al., 2008).

Conclusion:

Based on the results and limitations of the study it was concluded that bowlers experiences greater Ankle Joint Angle which tends to indirectly increase the Minimum Shoulder Alignment (most side-on) $<210^{\circ}$ and Pelvic Shoulder Separation Angle (PSSA) $<30^{\circ}$ at back foot contact which seems that back foot, shoulder and pelvic were in a same alignment which may reduce the chances of lumber injuries.

In spite of Minimum Shoulder Alignment (most side-on) and Pelvic Shoulder Separation Angle, none of the above kinematic variables correlated with Ankle Joint Angle may be due to the greater acceleration of their upper body.

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BKSP Admission Test 2021

Leg Strength Assessment of Candidates of Basketball, Cricket, Football, Hockey and Volleyball Department (12-14 years)

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Abstract

The purpose of this study was to carry out leg strength assessment of 337 players of BKSP admission test 2021. In this admission test 266 boys and 71 girls were selected from different districts of Bangladesh by Team event for attending a root level program in 2021 at BKSP. The duration of this camp was 5 days. The ages of the subject were between 12 to 14 years. To conduct this study is **quantitative** research model in the form of deformities based on percentage analysis. It was observed that Boys 44% subject were excellent, 28% were above average, 11% were average, 11% were below average, 6% were poor and Girls 37% subject were excellent, 30% were above average, 28% were average, 1% were below average and 4% were poor.

Key Words: Standing Broad Jump scale, Explosive Strength,

INTRODUCTION

In order to enhance sports performance, one has to spend a considerable amount of time in developing different components of physical and motor fitness (Uppal, 2001). The physical and motor fitness of a sports person is the sum total of several motor abilities namely strength, speed, endurance, exibility, agility and coordination. These motor abilities and their complex forms (e.g. Strength endurance, speed endurance, explosive strength etc.) are the basic prerequisites for human motor actions.

Different Sports require different components (Tandon et al 2001). General fitness of components namely strength, speed, endurance, exibility and agility and each of these components has an important role to play and contribute to the total fitness of a sportsperson.

In their research studies Shaker (1981), Ellena (1960), Dahl (1977), Atkinson (1973), Lamba (1980), Mishra (1983) and Amusa and Onyewadume (1987) have observed that performance in different games and sports generally in uenced by the level of fitness of a sportsperson.

Khan and Rahman (2003) tested BKSP basketball players in selected motor fitness components and prepared a profile. They observed that the basketball players had a very good status of respect for speed, entrance, agility and exibility. With regard to explosive strength of legs and arms they needed to undertake more training loads to improve.

Uppal and Chib (2001), while working with Volleyball players concluded that explosive strength of the leg and agility were important motor components for predicting performance in the game.

Li and Mohammad (2002) in their study observed that shoulder exibility arms and Shoulder girdle strength, legs explosive strength and exibility are important prerequisites for good performance in swimming.

In the light it of the above, it is important for a coach to evaluate the status of his sports person in respect of physical and motor fitness components and then develop an effective plan of training keeping in mind specific requirements of a sport.

The Standing long jump, also called the Broad Jump, is a **common and easy to administer test of explosive leg power**. Purpose: to measure the explosive power of the legs. Equipment required: tape measurement to measure distance jumped, non-slip oor for takeoff, and soft landing area preferred.

The broad jump is primarily used to measure a player's short-area quickness and burst. Players jump from a standing position, and they must land balanced. Players cannot move forward or backward after landing. It's a **measurement of lower-body balance and strength.**

The purpose of the broad jump is **to measure the explosive power of ones legs.** The further an athlete can jump, the more explosions he or she has. While the jump seems easy to perform, this is not an easy exercise since an athlete must jump from a still and standing position.

The standing long jump, also known as the standing broad jump, is an athletics event. It was an Olympic event until 1912. It is one of three standing variants of track and field jumping events, which also include the standing high jump and standing triple jump.

Materials and Methods

266 boys and 71 girls were selected from different districts of Bangladesh by Team event for attending a root level admission test program in 2021 at BKSP. The duration of this camp was 5 days. The age of the subject was 12 to 14 years.

As soon as they reported at the institute their status in respect of strengths were assessed using the **Standing broad jump Scale.**

The performance of the subject was graded with the help of age wise norms available at the institute. With the help of the score in test item, an individual profile was prepared for each subject. The qualitative assessment of performance of subject was done as per the following criteria;

Norms (Boys)

Age	Excellent	Above Average	Average	Below Average	Poor
14	2.15m→	2.11m-1.95m	1.95m-1.85m	1.84m-1.68m	←1.68m
15	2.26m→	1.26m-2.11m	2.10m-1.98m	1.97m-1.85m	←1.85m
16	2.36m→	2.36m-2.21m	2.20m-2.11m	2.10m-1.98m	←1.98m
16→	2.44m→	2.44m-2.29m	2.28m-2.16m	2.15m-1.98m	←1.98m

Norms (Girls)

Age	Excellent	Above Average	Average	Below Average	Poor
14	1.91m→	1.91m-1.73m	1.72m-1.60m	1.59m-1.47m	←1.47m
15	1.85m→	1.84m-1.73m	1.72m-1.60m	1.59m-1.56m	←1.50m
16	1.83m→	1.83m-1.68m	1.67m-1.58m	1.57m-1.45m	←1.45m
16→	1.91m→	1.91m-1.78m	1.77m-1.63m	1.62m-1.50m	←1.50m

RESULTS

The data in respect of each sport is presented in the following Tables.

Table 1

Leg Strength of Basketball Participants Boys (N = 30)

Type of Grading	Number	Percentage
Excellent	18	60%
Above Average	03	10%
Average	04	13%
Below Average	03	10%
Poor	02	7%

Table 2

Leg Strength of Cricket Participants, Boys (N = 160)

Type of Grading	Number	Percentage
Excellent	55	34%
Above Average	49	31%
Average	18	11%
Below Average	24	15%
Poor	14	9%

Table 3

Leg Strength of Cricket Participants, Girls (N = 28)

Type of Grading	Number	Percentage
Excellent	11	39%
Above Average	11	39%
Average	05	18%
Below Average	00	00%
Poor	01	4%

Table 4

Leg Strength of Hockey Participants, Boys (N = 52)

Type of Grading	Number	Percentage
Excellent	20	39%
Above Average	22	42%
Average	08	15%
Below Average	02	4%
Poor	00	00%

Table 5

Leg Strength of Hockey Participants, Girls (N = 17)

Type of Grading	Number	Percentage
Excellent	08	47%
Above Average	04	24%
Average	05	29%
Below Average	00	00%
Poor	00	00%

Table 6

Leg Strength of Football Participants, Girls (N = 26)

Type of Grading	Number	Percentage
Excellent	07	27%
Above Average	06	23%
Average	10	38%
Below Average	01	4%
Poor	02	8%

Table 8

Leg Strength of Volleyball Participants (N = 24)

Type of Grading	Number	Percentage
Excellent	23	96%
Above Average	01	4%
Average	00	0%
Below Average	00	0%
Poor	00	0%

Before the administration of tests for Collection of data, the subjects were familiarized with tests and testing procedures. They are also allowed to have practice so as to enable them to give their best performance when the test is finally administered. Even though no motivational techniques were employed in the project, yet the subjects were urged to put in their maximum effort while appearing the tests.

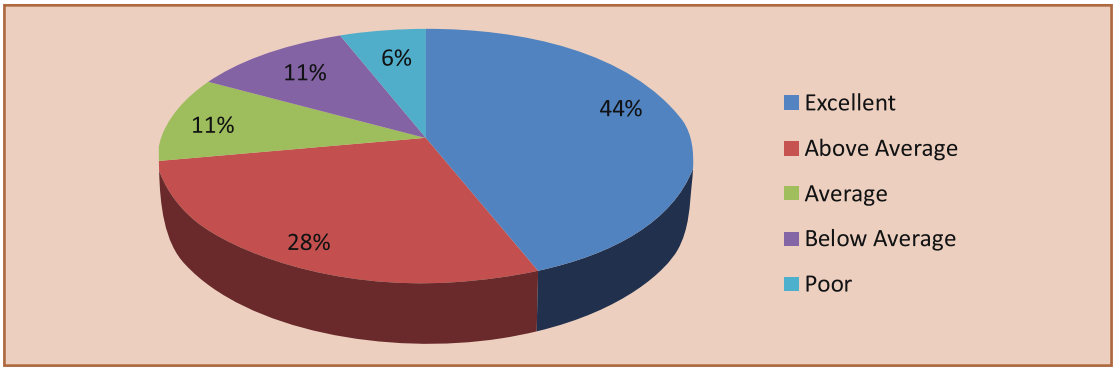
The subjects were tested in all the selected motor fitness components following the appropriate testing procedures. The author took help of the BKSP coaches for Collection of data and prior to testing; all the helpers were made familiar with the correct way of testing.

In order to ensure uniform conditions for all the subjects, the tests were administered in the morning session. The duration of the tests were adjusted in in such a way so that fatigue might not set in. Sufficient time was provided in between the tests to enable the subjects to put in their best. The subject appeared all their tests in their proper sports kit.

Table 9

Percentage of Leg Strength, Boys (N = 266)

Type of Grading	Number	Percentage
Excellent	116	44%
Above Average	75	28%
Average	30	11%
Below Average	29	11%
Poor	16	6%

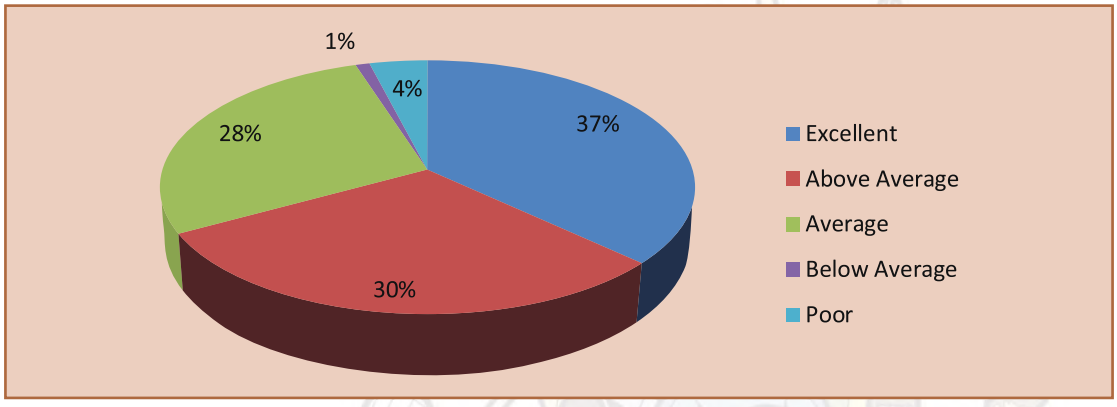


Figure–1: Percentage of Leg Strength (Boys)

Table 10

Percentage of Leg Strength, Girls (N = 71)

Type of Grading	Number	Percentage
Excellent	28	37%
Above Average	21	30%
Average	20	28%
Below Average	01	1%
Poor	03	4%



Figure–2: Percentage of Leg Strength (Girls)

The above table reveals that the percentage of excellent among the subjects is the highest Boy's 44% and girls 37%. In respect of the above average, average, below average and poor, the percentage is (B) 28% & (G) 30%, (B) 11% & (G) 28%, (B) 11% & (G) 1 %,(B) 6% &4% respectively.

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ANALYSIS OF BANGLADESH ELITE BOXERS CHARACTERISTIC AND PERSONALITY

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ABSTRACT

The study was conducted on "Analysis of Bangladesh Elite Boxers Characteristic and Personality". The limitations of the present study were as follows:

i. Only seventeen (17) National level boxing players from National camp were selected as sample for this study.

ii. Questionnaire was used to collect information regarding personality profile.

The collected data were analysed using appropriate statistical procedure. At first the answers were converted in the numerical score and value of 16 personality factors were calculated subsequently. This value were converted in 10 score. Mean was calculated for measuring central tendency and standard deviation was calculated as the measure of variability. Percentile was calculated from collected data represent various aspects of socio-economic status of subject.

Formulas used for calculation of different statistical parameters were:

The formula used for calculating mean-

Mean (M) $= (\Sigma X/N)$

Where, M denotes the mean, X denotes the individual score and N denotes the number of scores. The formula for calculating Standard Deviation –

SD (σ) $= \sqrt{(X-M)^2/N}$

Where σ denotes the standard deviation, $(X-M)^2$ denote the total of square of the deviation and N denotes the number of scores.

Tests were measured throw SPSS software

Key word : National boxers, Cattell's 16 personality factors, SPSS software

INTRODUCTION

Nowadays, everyone in their daily lives experience some form of stress and inevitably tries to utilize a unique way to response. Stress represents a normal, necessary and unavoidable life phenomenon that can generate temporary discomfort, as well as long-term consequences. Scientific information confirms the idea that personality trait is an important factor in identifying, responding and approaching stress events. Personality trait is considered as preparation for thinking or acting in a similar style in response to a variety of different stimuli or situations. Studies have shown that

some personality traits can predict stress level. Maladaptive personality trait (e.g., neuroticism) is related with increased exposure to stressful life events and likely to make individuals susceptible in experiencing negative emotion and frustration, while, adaptive personality traits (e.g., high extraversion and conscientiousness) were less affected by daily stresses (Horn, J. (2001). Raymond Bernard Cattell (1905-1998).

Personality trait could also predict coping styles and influence the coping style we choose. Coping is a regulatory process that can reduce the negative feelings resulting from stressful events. Coping is like the changing of thoughts and actions to manage the external and/or internal demands for a stressful event. Indeed, coping is a dynamic process that fluctuates over time in response to changing demands and appraisals of the situation. Three main coping styles are problem-focused coping, emotion-focused coping, and avoidant coping. Problem-focused coping (e.g., problem engagement and positive re-interpretation and growth) involves altering or managing the problem that causes the stress and is highly action-focused. Emotion-focused coping styles are quite varied, but they all diminish the negative emotions associated with stressor, thus those coping are action-orientated. Adaptive forms of emotion-focused coping are seeking support and accepting responsibility. The third main coping style is avoidant. Avoidant coping can be described as cognitive, and behavioral efforts directed toward minimizing, denying or ignoring dealing with a stressful situation. Although some researchers are placed avoidant coping and emotion-focused coping in a group, the styles are conceptually distinct. Avoidant coping is focused on ignoring a stressor and is, therefore, passive.

Despite the controversy surrounding some of these personality tests, there has been a dramatic increase in the use of personality tests over the past ten years or so. The single most frequently given reason for increases in testing is the need to have a selection process which can withstand legal challenges. Increased test use can therefore be seen in part as a defensive strategy, adopted in response to regulation and legislation. Another factor is the ease with which these tests can now be delivered online.It is important to remember that low, average, and high scores on a personality trait questionnaire are neither intrinsically good nor bad. A particular level on any trait will probably be neutral or irrelevant for most activities, helpful for accomplishing some things, and detrimental for accomplishing others. As with any personality test, scores and descriptions can only approximate your actual personality. Whilst all of this may be true, in the real world your test results will have a significant influence on your chances of being rejected. The following is an example 16-factor personality profile (Conn, S. R., & Rieke, M. L. (1994).

METHODOLOGY

In this chapter a detail procedure followed for the collection of data for the study and analysis of data have been described. The subject, criteria measure, instruments and tools used for collecting data and procedure for analysis of data have also been included.

A total only seventeen (17) National level boxing players from National camp were randomly selected as sample for this study. Most of them were active players of Bangladesh boxing team. For assessing personality factor Bengali version of cattle 16 personality factors were used. It was measured by assessing 16 personality factor proposed by cattle. There were 105 questions. The questionnaires which were developed and standardized by Professor SK Boss & A.K.Chatterjee department of applied psychology, Kolkata University, India (Chatteijee, A.K. (1986).

PROCEDURE OF ANALYSING DATA

The collected data were analysed using appropriate statistical procedure. At first the answers were converted in the numerical score and value of 16 personality factors were calculated subsequently. This value were converted to 10 score. Mean was calculated for measuring central tendency and standard deviation was calculated as the measure of variability. Percentile was calculated from collected data represent various aspects of socio-economic status of subject.

Formulas used for calculation of different statistical parameters were:

The formula used for calculating mean-

Mean (M) = (ΣX/N)

Where, M denotes the mean, X denotes the individual score and N denotes the number of scores. The formula for calculating Standard Deviation –

SD (σ) = $\sqrt{(X-M)^2/N}$

Where σ denotes the standard deviation, $(X-M)^2$ denote the total of square of the deviation and N denotes the number of scores.

Tests were measured throw SPSS software

PRESENTATION OF DATA AND ANALYSIS

In the present study, the subjects were Bangladesh National level boxers. The descriptive statistics of the subjects for different personality profile factors have been presented in table-1

Table-1.

Descriptive Statistics of 16 personality factors of the subjects

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
A	17	4.00	10.00	5.8824	1.90008	3.610
B	17	2.00	7.00	4.4706	1.50489	2.265
C	17	4.00	8.00	5.9412	1.19742	1.434
E	17	3.00	9.00	6.2941	1.64942	2.721
F	17	4.00	8.00	6.3529	1.49755	2.243
G	17	5.00	10.00	7.7059	1.57181	2.471
H	17	1.00	7.00	3.4118	1.69775	2.882
I	17	2.00	9.00	6.1176	1.83311	3.360
L	17	2.00	8.00	6.0000	1.54110	2.375
M	17	1.00	9.00	6.8824	1.83311	3.360
N	17	1.00	9.00	5.6471	2.37016	5.618
O	17	3.00	9.00	5.4118	1.62245	2.632
Q1	17	3.00	8.00	5.9412	1.88648	3.559
Q2	17	3.00	10.00	6.7059	2.08461	4.346
Q3	17	4.00	10.00	7.1765	2.15741	4.654
Q4	17	2.00	9.00	6.0000	1.90394	3.625

Warmth	A	5.9
Reasoning	B	4.5
Emotional Stability	C	5.9
Dominance	E	6.3

Liveliness	F	6.4
Rule-Consciousness	G	7.7
Social Boldness	H	3.4
Sensitivity	I	6.1
Vigilance	L	6
Abstractedness	M	6.9
Privateness	N	5.6
Apprehension	O	5.4
Openness to Change	Q1	5.9
Self-Reliance	Q2	6.7
Perfectionism	Q3	7.2
Tension	Q4	6

It is seen from the table-1 values that the mean personality factors were within normal range for factors A, B, C, E, F, I, L, M, N, O, Q1, Q2 & Q4. So it was understood that the national level boxers were of normal personality trait in warmth (A), reasoning emotional stability (C), dominance (E), liveliness (F), sensitivity (I), vigilance (L), abstractedness (M), privateness (N), openness to change (Q1), self-reliance (Q2) and tension (Q4). They were found to be in lower average level in factor "H". So it was understood that they were shy, threat, sensitive and hesitant in respect of social boldness. On the other hand, it was also seen that they were in the high range section in personality factor "G" and "Q3". It was understood that Bangladesh national level boxers were dutiful, rule bound, moralistic, conscientious in respect of rule consciousness. They were also found to be organized, self-disciplined and perfectionist.

The personality profile of Bangladesh national level boxers have been shown in fig-1.

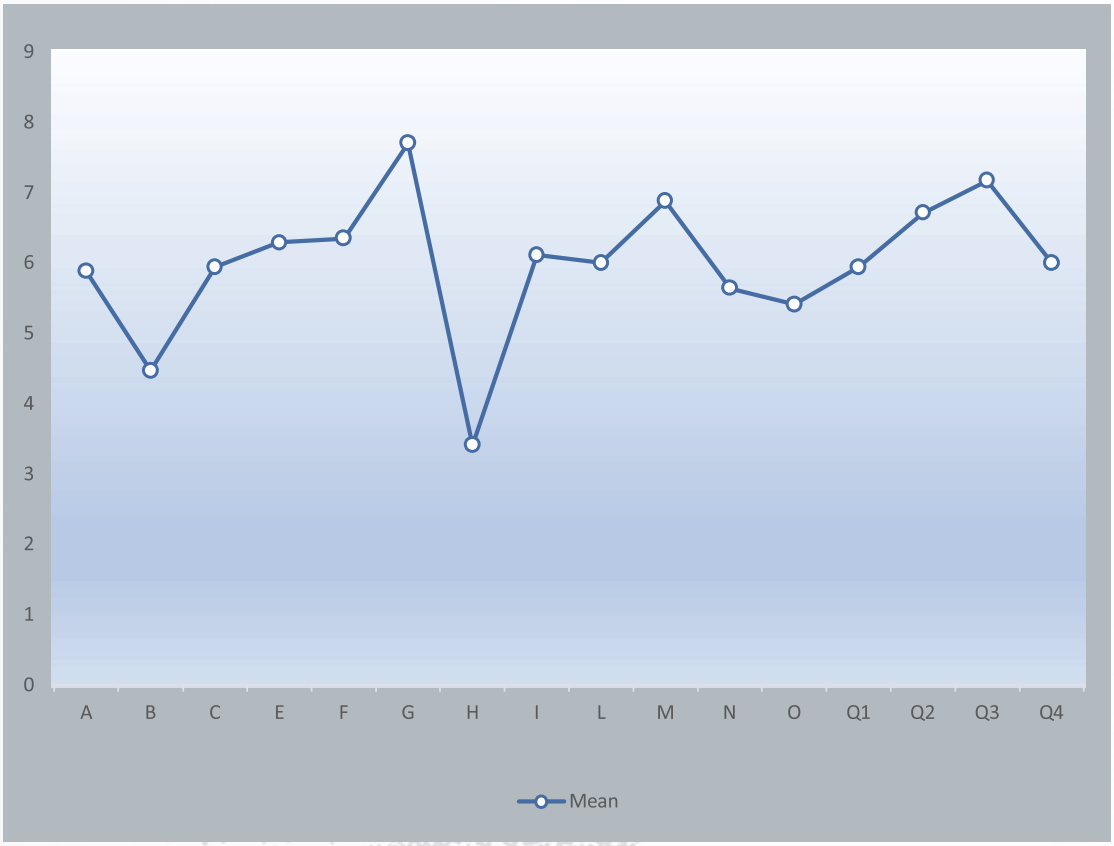

Fig-1: Personality profile of Bangladesh National boxers.

RESULT

On the basis of analysis of data following results were obtained.

i. The national level boxers were of normal personality trait in warmth (A), reasoning (B) emotional stability (C), dominance (D), liveliness (E), sensitivity (I), vigilance (L), abstractedness (M), privateness (N), Apprehension (O) openness to change (Q1), self-reliance (Q2) and tension (Q4).

ii. They were found to be in lower average level in factor "H". So it was understood that they were shy, threat, sensitive and hesitant in respect of social boldness.

iii. On the other hand, it was also seen that they were in the high range section in personality factor "G" and "Q3". It was understood that Bangladesh national level boxers were dutiful, rule bound, moralistic, conscientious in respect of rule consciousness. They were also found to be organized, self-disciplined perfectionist.

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COMPARISON AND RELATIONSHIP OF DIFFERENT PSYCHOLOGICAL SKILLS OF SWIMMERS AND SHOOTERS IN BKSP

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ABSTRACT

The purpose of the present study was to find out Mental Status of Shooting and Swimming Sportspersons of BKSP. The subjects of the study were 40 sportspersons out of 20 from Shooting and 20 from Swimming. The age ranges of the subjects were 14 to 20 years and they are all regular students of BKSP. Anxiety Control, Concentration, Confidence, Mental Preparation and Motivation were selected as Psychological Variable for measuring the Mental Fitness Status. Psychological Skill Inventory for Sport (PST) prepared by Mahoney, Gabiel, Perking (1987) was used to assess the psychological skills of sportspersons to different sports. Mean, Standard Deviation and Independent t- test were used to analysis the data, and level of significance was set at 0.05. Significant differences were not found between Shooting and Swimming Sportspersons of BKSP.

Key word: Psychological Variable, Anxiety Control, Concentration, Confidence, Mental Preparation, Motivation and Team Emphasis.

INTRODUCTION

Psychological skills training (PST) is an individually designed combination of methods selected to attain psychological skills (Gill, 2000). Psychological skills training ; skills are the psychological qualities attributes that need to be developed (i.e., Confidence, concentration), much of the early research utilizing prescriptive PST programs use single PST methods and examined that effect on performance. The PST program will focus on optimizing performance by improving self efficacy and emotional control to improve these psychological skills, the athlete will complete sessions using goal setting, imagery and relaxation.

The program consists of three main phases; Educational phases developing the understanding and importance of PST and how it can affect performance. Acquisition phase-athletes earn how to use PST methods and how best to implement them. Practice phase devote time and effort to PST and complete training in both competition and practice.

PST programs establish a scientific basis for the effective development of Psychological skills. According to the coaches and athletes the core sports psychological topics to be included in PST program relaxation training, Self-confidence imagery; team-cohesion, concentration attention training and self- talk strategies **(Gould, Tammen, Murphy, and May).**

Motivation:

Motivation is one of the important factors in training which influences the outcome of the competition. Motivation is an abstract concept and a very complex behaviour that cannot be observed as such motivation can be defined as the process that gives a behavior to its energy and direction. It also can be defined as the direction and intensity of one`s effort. The direction of effort refers to whether an individual approaches or is attracted or interested to certain situations. That means, choosing a goal. Intensity of Sports means how much effort a person gives in a particular situation to accomplish the behaviour. Intensity is concerned with how activated and energized the person is e.g. how much effort is being made to reach a certain goal. Another important dimension of motivation is the persistence. Persistence indicates how long the individual will continue or make an effort to achieve the goal. Therefore motivation can be different as the direction, intensity and persistence in the behaviour of an individual (Duffy 1950).

Intrinsic motivation:

Intrinsic motivations are motivation forces that come from the inside of the athlete. They do something extra-ordinary; because it makes them feel good or they develop a sense of pride after reaching a goal. In relation to participation in sports, intrinsic motivation can be derived from the enjoyment and satisfaction from playing physical activity itself.

Extrinsic motivation:

Extrinsic motivation comes from outside, such as money or rewards (trophies and medals). It may be defined as forces that come from outside of the motivated individual, which encourage or influence that person to perform better result. Because the person either is rewarded for doing so or is threatened with punishment for not doing so.

Extrinsic motivations comes from external resources (such as coach, Federation, team officials etc.)

A person's motivation may be both intrinsic and extrinsic at the same time. Athletic participation in sports however occurs like just opposite to each other at any competitive moment. That made a performer may be both intrinsically and extrinsically motivated to any competitive situation. Intrinsic and Extrinsic motivation alone is the cause of excellent performance, but the extrinsic motivating may help in motivation them for continuous successful performance.

Self confidence

Self confidence emerges from one`s perceived ability to do thing. Given a choice to do a task by choosing one from equality difficult items, the person is likely to select the one he thinks he is more confident of doing so. **Bandura's (1977)** Self- efficacy theory predicts that increases in self efficacy produced by various treatment modalities lead to both behavior change and anxiety reduction. He proposed that self- efficacy cognitions have motivational effects.

Bandura (1979) started: Expectations of personal mastery affects both initiation and persistence of copying behavior. The strength of people's convictions in their own efforts effectiveness is likely to affect whether they will even try to cope with given situations.

Concentration:

Concentration is the ability to focus one's attention on the task at hand and thereby not disturbed or affected by irrelevant external and internal stimulus (Schmid, 1986). Pre- performance concentration is most required in "closed" skills since they are performed in relatively constant and standard environments. Open skills on the other hand present varied stimuli and demand difficult response patterns from the performer.

Anxiety:

The term anxiety has been used to describe both a healthy, normal condition, as well as Psychological one. Anxiety is an emotional reaction that is often irrational conditions to that may be unknown to others. Moreover, the intensity of the anxiety reaction is often disproportionately greater than the magnitude of objectivity measured danger. Thus anxiety usually involves mediating process processes (thoughts) that result in feeling that are not parallel to some measurable danger**(Spielberger 1973).**

Type of anxiety:

Two types of anxiety are as follows:

Trait anxiety: Trait anxiety is the term employed to suggest a relatively stable tendency in people in evidence a measurable level of anxiety that most it is not all facts of their lives. Trait anxiety is a relatively stable ongoing feeling.

State anxiety: The most recent term state anxiety, which has found its way into the theoretical literature as well as into test purporting to evaluate anxiety,

suggests that people report situational specific. State anxiety is likely to be short-term and episodic.

Anxiety and performance

Affect of anxiety on performance are enumerated below:-

1. Competitive sports for children may not necessarily constitute a negative experience

2. Boys participating in Ice Hockey were more extrovert, have go- lucky and more venturesome than those who did not participate.

3. Overly aggressive youngster comes from the families who reject the child and vice versa.

4. Intense competition is directed toward a single opponent for a period of time, may have marked effect on Children's tendencies is too aggressive.

Mental fitness as well as physical and technical aspects develops the attention of athletes. Factors such as motivation, will power, concentration, anxiety and determination have a decisive influence on developing profile for elite athletes (Wielinga et al., 2011). Stoeber et al. (2009) in their study stated that perfectionist personal standards develop the goals setting and also help athletes to achieve their best possible performance. Driska et al. (2012) state that both the coach and the swimmer are trained to develop mental toughness in order to improve or maintaining performance.

Mental practices are almost as effective as true physical practice and doing both is more effective than either alone (Friel et al., 2013). Kleanthous (2013) state that it is impossible to be successful in any sport without the correct mental attitude. Mental preparation has long been thought of as an important aspect of physical performance, especially in tasks requiring muscular strength (Biddle, 1985).

METHODOLOGY

Selection of the subject

The subjects of the study were 40 sportspersons out of 20 from shooting and 20 from swimming department of BKSP. The age range of the subjects was between 14 to 20 years and they all are regular students of BKSP.

Selection of the question

Psychological skill inventory for sports (PST) prepared by **Mahoney Gabiel, Perking (1987)** was used to assess the psychological skills of sports persons belonging to different Sports. The inventory has total 40 statements. These statements were unevenly spread over the six psychological skills i.e. Anxiety control, concentration, self-confidence, mental preparation, motivation and Team emphasis. Statements for different skills of the subject's responds using a five point on ordinal scale. Scoring for PST inventory is followed as the table below.

Positive statements	Response	Negative statement
4	Strongly agree	0
3	Agree	1
2	Not aware	2
1	Dies agree	3
0	Strongly not agree	4

The higher the score is for each psychological skill the better is the level of these skills. The exception can only team emphasis. Personal performance may be stronger than team performance.

Administration of the the questionnaire

The purpose of the study was clearly explained to them. So that, there was no confusion among the sports person regarding the effort which they had put for success to competition. Psychological skill inventory was distributed to the shooting and swimming students of BKSP separately at their training venue. The direction were given to the subjects and they were provided sufficient time to complete the questionnaire before collecting the questionnaire was cheeked has been field properly by all the sports persons.

FINDINGS

The data collected with the help of questionnaire is presented in the following table:

Table-1

"t" table for the data on Anxiety control

Group	Size	Mean	Mean Difference	SD	't' ratio
Shooting	20	18.65	1.95	4.02	0.06
Swimming	20	16.70		6.40	

*Not significant at .05 level t. 05(36) = 1.68

Analysis of data in the above table clearly indicates that difference of anxiety control between the sportsperson is statistically not significant at .05 levels. The t-ratio-0.06 is less than the table value of 1.68 required for the difference to be significant.

Table-2

"t" table for the data on concentration

Group	Size	Mean	Mean Difference	SD	't' ratio
Shooting	20	13.55	1.20	3.62	0.07
Swimming	20	12.35		3.62	

* Not significant at .05 level t. 05(36) = 1.68

The above table clearly shows that the difference in the psychological characteristics on concentration between the shooting and swimming players is statistically not significant at .05 levels. The t-ratio-0.07 is less than the table value of 1.68 required for the difference to be significant

Table-3

"t" table for the data on confidence

Group	Size	Mean	Mean Difference	SD	't' ratio
Shooting	20	23.65	3.05	6.21	0.08
Swimming	20	20.6		4.90	

* Not significant at .05 level t. 05(36) = 1.68

The above table clearly shows that the difference in the psychological characteristics on confidence among the shooting and swimming players is statistically not significant at .05 levels. The t-ratio-0.08 is less than the table value of 1.68 required for the difference to be significant.

Table-4

"t" table for the data on Mental preparation

Group	Size	Mean	Mean Difference	SD	't' ratio
Shooting	20	13.3	0.2	3.08	0.01
Swimming	20	13.1		3.92	

* Not significant at .05 level t. 05(36) = 1.68

The above table clearly shows that the difference in the psychological characteristics on mental preparation between the shooting and swimming players is statistically not significant at .05 levels. The t-ratio-0.01 is less than the table value of 1.68 required for the difference to be significant

Table-5

"t" table for the data on Motivation

Group	Size	Mean	Mean Difference	SD	't' ratio
Shooting	20	19.35	0.2	2.91	0.03
Swimming	20	18.6		3.50	

* Not significant at .05 level t. 05(36) = 1.68

The above table clearly shows that the difference in the psychological characteristics on motivation between the shooting and swimming players is statistically not significant at .05 levels. The t-ratio-0.03 is less than the table value of 1.68 required for the difference to be significant.

Table-6

"t" table for the data on Team Emphasis

Group	Size	Mean	Mean Difference	SD	't' ratio
Shooting	20	18.50	0.05	2.74	-0.03
Swimming	20	18.55		2.35	

* Not significant at .05 level t. 05(36) = 1.68

The above table clearly shows that the difference in the psychological characteristics on Team emphasis between the shooting and swimming players is statistically not significant at .05 levels. The t-ratio-0.03 is less than the table value of 1.68 required for the difference to be significant

DISCUSSION

The result indicates that there is no statistically significant difference between shooting and swimming teams selected psychological variables namely anxiety control, concentrations, self-confidence, mental preparation, motivation and team emphasis. Both two groups, which are selected for the study, are individual sports in respect of performance. The result clearly shows that players of shooting have high scores in most of the psychological skills than those of swimming team because shooting is more related to the mental aspects. In any sports a player's success or failure result from a combination of physical and mental abilities. Coaches should concentrate on both types of training for enhancement of performance.

Recommendations

On the basis of the conclusion the following recommendation may be drown.

i) It is recommended that the in uence of psychological skill training on performance may be studied for the whole competitive season.

ii) It is recommended that the effectiveness of PST programmed on the individual and team sports may be investigated.

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