

Course Name: Sports Psychology

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Lessons from the field Learning Sport Science- an integrated approach to learning Sport Psychology

Hello everyone, welcome to the session on you know how learning sports science can also help us learn sports psychology in a better manner. In this particular session, in this session 3, the outline is to integrate sports science and sports psychology and what are the skill sets to becoming a sports psychologist. To become a sports psychologist, it is important to learn the sport and we also need to learn the language of the sport, we need to understand the rules, the regulations of the game, the history behind the sport because then we will be able to understand the sport better and we will also be able to understand the psychology better of the athletes and we can help them accordingly. And you know like sometimes you may see that some of the athletes may be extremely aggressive and also sometimes you can also notice that you know some of the athletes are winning medals. Coming back to the example on aggression, sometimes we do not know why they are aggressive. Is it because the time is running out and they really want to win? Is it because you know there is lack of support and coordination in the team that is actually causing aggression? So, when we understand the game and also understand the team and understand what situation may be causing certain reaction, we will be able to be more present and also support the athletes better.

You might have seen that a number of athletes and individuals performing exceptionally well at the highest level. What you actually do not see is that you know they have apart from the individual, the parent and you know the coaching team, there is a sports science team which is working to help the athletes with their highest performance. So, you know sports science for that matter sometimes we also you know some people have a degree with a masters in sport and exercise sciences. So, you know sports mainly people work with the athlete population for maximizing the health and performance of the athletes, whereas with exercise science it is more to deal with you know the general population.

So, when we are talking about sports sciences, we are talking about athletes and the focus is on maximizing performance, it is on optimizing health and also the focus is on

minimizing injuries. At the very beginning of my career, I was extremely fortunate to actually work with a sports science team and that really helped me look at sport from a very different perspective and that is something that we are going to be doing today. We are going to understand and see how you know in order to understand and work for the psychology of the athlete, how learning every sports science discipline is also important because you cannot really predict and say that yeah this is a particular reason because of which the athlete has not really performed. When you actually understand the whole of the sports sciences, you will be able to support the athlete better. So, what we are going to do today is you know we are going to have experts in various disciplines of sports sciences who are going to be talking about why it is important to learn their particular discipline and how you know sports psychology can be integrated with their respective sports science field.

So, let us just try and understand this, right. This is how an athlete actually looks with the sports science support system. In the middle you can see that there is an athlete and he is supported with a number of sports science discipline. He is supported with respect to his health and also management of injuries by the sports medicine team. He is supported with respect to what he needs to eat, what kind of diet is going to help with him with respect to getting the highest performance from the sports nutrition team and how he can actually optimize his mental health and well-being from the sports psychology.

You know what kind of strength and fitness and conditioning activities required from the strength and conditioning you know expert and then you have the coaching staff and the parent. You know when an athlete is supported from all these perspective, he somewhere holistically gets all forms of support in order to go out there and achieve his maximum performance. Now, let us look at the next slide. This may feel like a lot of pressure on the coaching staff and parents without the sports science team. So, you have an athlete who has got the parent and the coaching staff and without the sports science team somewhere you know the high performance may not happen to the extent it could have happened.

You might have also noticed right like with a number of like sometimes you may actually when you are observing an athlete you may actually notice and think that you know what this athlete is running so fast. But when we actually do a scientific analysis of the athletes run, we may feel that you know he is not up you know his running is not up to the mark. What may seem normal to the regular eyes may not be reflecting the same in the scientific way and that is the reason why science is actually important in order to integrate it to the field of sports. Right now we are going to have Dr. Pralay Majumdar who is the Senior Advisor Sports Education Centre of Excellence in Sport Science and Analysis from the Indian Institute of Technology, Madras, Chennai who is going to be talking to us about the importance of sports science and he is also going to be talking to us about you know

how psychology and sports science is important.

Hello sir. Hi Priyanka. Sir, my first question to you is what is the importance of sports science? Well Priyanka as I always used to reiterate that you know whenever we used to see an international competition we often ask ourselves that how the human body moves so uniquely. I mean barring there are different problems, different challenges. So the people who are on the job around the clock, those people are designated as sports science professional and they have graduated themselves in the area of sports sciences and day in and day out they are with the athlete for improving their skill, improving their mental aspect which is very, very, very important and I always feel that these people, those people who are working with the athlete around the clock, they should be credited for that.

Right, absolutely sir. So now could you also tell us the importance of sports physiology? You know what happens in the field, what is sports physiology as a science like? Well we have different verticals in sports sciences. One of the vertical is sports exercise physiology where we used to evaluate the physiological limit of the athletes, that what is his maximum limit in terms of aerobic potential, anaerobic power, then the transition from aerobic to anaerobic that can be the peak lactate, the threshold of aerobic to anaerobic transition. So these are the meaningful destination for planning the training schedule. The people are working on that but apart from exercise physiology there are many aspects of sports sciences.

One of them is the movement science or kinesiology biomechanics which deals with different aspects of human movement in terms of force, acceleration, power. Then these particular domain is very specific for improving the performance aspect of the athlete in terms of physical component, I mean physics part of that. There are nutrition which is immensely important now in the present days because it is what the athletes need to take, what they should avoid. So all this comes together. What is important again is, you know, Priyanka, is that the injury.

When you are out of your playing ground then the athletes mental frame, possibly you understand that working with hockey for so many years. So one's challenge how to quickly get back physically to the ground but how to solve their mental focus to the games and how you can handle the coping strategy during the day off which is very important part. Yeah, yeah, absolutely. I think sir you mentioned a lot of importance. You have brought in the importance of sports science plus all the other sports science disciplines like nutrition, biomechanics, sports physiology and also spoken about the importance of sports psychology as well.

I think words of understanding from Dr. Majumdar was fantastic for all of us. Moving

forward I am going to focus on, you know, what is sport and exercise medicine. You know, initially when I started working in the field of sports psychology I would always think that, you know, I had this misconception that sport and exercise medicine specialists are only working on the injury, management of the injury with respect to the athletes. But the more I started understanding the medical team and what they are aiming at I realized that, you know, they are actually helping the athletes have optimum health, you know, health, well-being so that their performance becomes, you know, to the highest level.

And of course, working on preventing the injuries and also supporting them with the injuries is also an important role that the sport and medicine specialists perform. And the sport and exercise medicine team in itself is so huge. You have the doctor, you have the physiotherapist, you know, you have their own team, you know, which is so vast and wide in order to support the athletes. Let us look at what sport and exercise medicine is defined as. It is a management of medical problems of exercising individuals at all ages and all levels of participation.

It is the pathophysiology, biomechanics and optimization of human performance and the use of exercise as a therapeutic modality in the treatment and prevention of disease. The promotion of health and prevention of disease of injury at a population level. So, in my experience there is a great integration of sports and exercise medicine and sport psychology. You know, there have been times in my private practice where, you know, the medicine experts, if at all an athlete reaches out to them and says that you know what I am not able to sleep well. You know, they are doing an initial assessment to identify if there are any stresses which are involved in the athlete's life which, you know, could be at the mental level.

And they definitely tell the athlete that rather than prescribing medicines straight away to you, it is so important for you to go and consult the psychologist, you know. And at the same time sometimes if they feel that, you know, if the athlete has been complaining greatly in the injury rehabilitation process, you know, the pain has been extremely high. The athlete has been speaking about certain psychosomatic symptoms, you know, even when the injury has been healing. They do refer the athletes out for the psychologist to see them. And at the same time sometimes if the athlete has just, you know, had a surgery, they also recommend them to see a psychologist.

So what we are going to do right now is we are going to have Dr. Col Anup Krishnan who is a sports medical doctor and he is going to give us his insights on, you know, the sports medical discipline and how sports medicine and sports psychology is integrated.

Good morning ladies and gentlemen. I am Col Dr. Anup Krishnan. I am a sports physician and I have been involved in the treatment, management and prevention of injuries in

athletes, sports persons of all levels for the past 15 years. Whenever I get an athlete who is injured or whenever I talk about injury prevention to an athlete, I always make it a point to involve the sports psychologist in my sports rehabilitation team. Sports psychologists play a very important role in handling the psychological aspects of injury management and injury rehabilitation. Whenever we start with the rehabilitation process of an athlete, we try and get the athlete to start sessions with the sports psychologist. Whenever an athlete is injured, there is a lot of apprehension in his mind regarding whether he will get better, whether he will be able to get back to his previous level of fitness, whether he will be able to continue playing sports, whether the team which is working on him is adequate and can do the job.

So all these issues plus the issues of depression and low motivation and low morale, all these issues are handled very well by having a sports psychologist on your team. They conduct one-on-one sessions with the athletes, they conduct team sessions with the athletes and the team and play a very important role in helping us bring the athlete back to full fitness and in return to sport. So I would like to take this opportunity to thank all the sports psychologists who have been part of my team and have been part of my journey in bringing athletes back to sport and back to game after injuries and have helped several athletes return to play at full fitness or even in certain cases more fitness than what they were prior to injury. So thank you and I hope that this type of sports psychologists increase and multiply over time. Thank you and Jai Hind.

So the next field is sport biomechanics. So sport biomechanics is the study of movement of living things using the science of mechanics. Sport biomechanics is the study of body's movement during sporting activities using the principles of mechanics. I think I learnt a lot as a psychologist even from the biomechanist because so many times what would happen is the athletes may actually say that they are feeling very confident, but when a lot of biomechanical analysis was done the feedback from the body revealed that they were probably nervous or they were feeling certain other emotions which they were not able to communicate. So that for me was a very insightful learning from the field of biomechanics.

So how the mind and body can be actually integrated. Even certain things that we actually feel and sense as individuals can have a huge impact on our performance. And another thing is of course performance analysis, it has become a new discipline in itself that is also part of biomechanics and I think I learnt a lot working with people in the field because there are so many times what happens is you get so much data with respect to who is passing the ball to whom and is there a correlation between the kind of relationship that is shared by people in terms of who passes the ball to whom. It gives us an indication of the trust level within the team in terms of these statistical reports which are actually generated. And apart from this with biomechanics I feel that you know sometimes the coaches also can give right kind of feedback to the athletes in terms of what would they have to perform,

how do they actually have to perform and what kind of feedback could actually be sufficient and helpful for the athletes to a very large extent.

And there are a number of teams also who take decisions based on you know the statistical analysis and decide that you know which of the goalkeeper needs to play a role with respect to the penalty shootouts. So that way I think it is extremely interesting to see the combination of biomechanics and of course, with respect to injury rehabilitation I think again you know there is an integration of all the sport disciplines to work together for the benefit of the athlete. So now let us listen to Dr. Shubham Badhyal.

So he is a biomechanics expert. He has worked in the field of clinical and sport biomechanics and he has also worked with athletes at all the levels. So let us listen to him and understand what sport biomechanics is and how it can be integrated with the field of sport psychology.

Hello everyone. I am Dr. Shubham Badhyal and I have been working in human movement analysis for over 10 years. I have had the privilege to work with a diverse group of sports scientists working with athletes at different level of their careers. Sports sciences help athletes to achieve their peak performance, injury prevention and rehabilitation after an injury. Today I would like to talk about the role of sports psychology and its importance in an athlete's journey from a biomechanical perspective. Imagine a world where athletes not only optimize their physical movement but also harness the power of their mind to unlock their full potential. Sports psychology and sports biomechanics work hand in hand to help athletes to achieve these goals.

Sports biomechanics help to optimize physical movement and technique for better efficiency and effectiveness. However, by incorporating sports psychology athletes can enhance their performance by fine tuning their skills on focus, confidence and motivation. Sports biomechanics provide objective data of an athlete's performance whereas sports psychology offer tools to help interpret the feedback constructively. This helps both athletes and coaches to implement the changes suggested by biomechanical analysis. In terms of injury prevention with a better understanding of both physical and mental aspects athletes can reduce the risk of injury and recover faster and more effectively.

Sports psychology also equip athletes with mental toughness and resilience needed to perform optimally under stressful conditions. This mental strength complement the physical preparation provided through biomechanical analysis. Addressing physical and mental aspects set stage for a sustained success for an athlete's journey. Therefore, integrating sports psychology and biomechanics can have a powerful impact on an athlete's performance, well-being and long-term success. Thank you.

So, next we have sport and exercise physiology. You have already listened to Dr. Majumdar previously and you know exercise physiology is the study of how the body responds and adapts to physical stress. It is also sport physiology is the application of exercise physiology principles to guide training and enhance sport performance. So, in my experience what I have noticed is if the athletes are feeling tension or there is some sort of stress that also has a huge impact on the way they go out there and perform in the physiological analysis also.

Now sport nutrition, I think we all know you know eating right is extremely important for the athletes and that is something you know sport nutrition is extremely work towards you know the sport nutrition is also very different from the regular nutrition because athletes require different levels of nutrients than the non-athletes. And sport nutrition is the study and implementation of a diet plan that is designed to increase the athletic performance. So, basically the right kind of food and the right amount of fluids and nutrients are required in order to maximize the performance and also with respect to the recovery part of it. And I think psychology and nutrition you know always work hand in hand because what you eat also has a huge impact on the mental health of the athletes. You know some of the athletes who actually have complained of you know having lack of mental energy and focus.

So, you know but then the more analysis revealed that it was because of having certain nutrition deficiency, this particular athlete had iron deficiency because of which he was not really able to focus you know to a very large extent and he would get tired very easily. And that was something which was very interesting and also sometimes in my personal experience what I have noticed is sometimes athletes you know especially in weight category sport they may go on a crash diet especially during the competitions and not eating the right kind of food has a huge impact on their mental health to a large extent. And that is where I think psychology, nutrition you know really work hand in hand and also sometimes athletes may be battling eating disorders, they may be purging, they are you know what they eat or maybe over training. So, basically giving them the right guidance becomes important and that is where you know psychology, nutrition and all the sport science disciplines come together to support the athletes. So, now we have Miss Geeta who is a sport nutrition expert and she has worked with a number of high performing athletes and she will be talking to us on you know the role of nutrition and also how it can be integrated with the field of sport psychology.

Hello, this is Geeta. I am a practicing sports digestion and post-graduate diploma from the International Women's Community. How can sports psychologists collaborate with sports nutritionist? By just taking care of the nutrition for an athlete from training to tournament, in many ways we add value to not just the health and performance but also

the mental abilities which is nothing but the well-being. And actually on a competition day, who is a ball of nerves can actually uphold his status by taking care of certain nutrients be it magnesium or omega 3 to even addressing certain nutritional deficiencies such as B12 or iron and even vitamin D. So, for him to keep calm from consuming say even a green tea or a matcha tea to even how he responds to the caffeine can change the view.

So, I urge for all sports nutritionists or the psychologists to collaborate for these outcomes to help an athlete to not only be healthy but also to enhance his performance.

So, we also have next sports strength and conditioning. We have Mr. Deckline who is a very well-known expert in the field of working with athletes. He has worked with a number of high performing athletes.

He will be talking to us you know very soon. Before that in my personal experience what I have seen is I used to see this one particular group of athletes. What I felt was of course, their physical strength was not up to the optimum and also mentally I felt that they have so much capability and potential. When they actually worked hand in hand with respect to improving the strength and conditioning and also with respect to their mental focus, I felt that they reached another level. The physical strength started giving them a different level of confidence and helped them perform at a different level especially in competitions. And at the same time you know with strength and conditioning experts we psychologists work especially with respect to injury recovery and maximizing performance.

Sometimes athletes are scared to come back to the sport. So, we really give them that kind of support which is actually required working together. So, now let us listen to Mr. Deckline who is a sport strength and conditioning expert and he has worked with a number of high performing athletes. So, I think getting his insights is going to be extremely useful for us right now.

Hi there, my name is Deckline Leitao and I am a strength and conditioning specialist. And in this sort of small video I would like to bring up this point about why psychology is so important even in strength and conditioning. Well, the first thing is that you know as a strength and conditioning coach though we work with bodies right we want to make the body stronger, we want to make sure that the body does not get the small niggles and minor injuries that they go through. Though that is our main role it is important for us to also work on the mind and how do we do that is obviously we have to be positive. Now, when we are training we are preparing say an athlete to get ready for a competition.

Obviously, we also do not know how the results are going to be. Are they going to win? Are they going to lose? We do not know. But belief and hope is so, so important and this applies across sports whether you are into something which is about fighting or whether

you are playing a sport like tennis or badminton or anything. When the person gets in there obviously it is all about belief. So, in our small kind of way by which where we work in the gym or maybe on the courts or maybe on the ground we still have to be positive and use elements of psychology to make sure that our conditioning and our programming still produces the desired results.

Now, obviously when a trained psychologist comes into play it makes it even more specific. They know exactly what the person should be thinking at certain times. You know the arousal state there is so much more to the mind than just sort of thinking that I am going to win. And that is where a trained psychologist comes in. And I am sure this course that I am going to do will give you a lot of insight into that.

I would also be doing it so that I can also learn quite a bit about how the mind works. But yeah, for us whether you are in strength and conditioning, whether you are a physiotherapist or whether you are a nutritionist I think in all sports and across all spheres the mind does play a huge role. And it is important that we understand how the mind works. And in our small sort of way even in the gym we tend to be positive with people and if we could know more like what this course will teach it will only help us get better. So, I am sure this course will be a good one and for me and for all those who are going to do this as well good luck to everyone, thanks.

Alright. So, I think in the first section we have discussed about what are the different sports sciences and basically we have discussed about the role in the sport performance of athletes. Right now what we are going to do is as sports psychologists there are certain skill sets which are actually required by sports psychologists. So, let us look at what are those skill sets which are actually required by sports psychologists and if you are interested to pursue what can you do about it. So, what is the educational criteria? In this section we are going to look at what is the educational criteria, where can you actually work and you know what are the things that you can learn in order to get into the field of sports psychology. So, what can you study to become a sports psychologist in India? The minimum educational criteria is a master's degree in psychology to work as a sports psychologist in India.

And yeah is there an MSc or PGD sports psychology course in India? Yes, there are master's programs which are available, master's that is master's level that program is available for sports psychology in India. Some of the places which are actually offering them are National Sport University Manipur, Central University Rajasthan, Guru Nanak Dev University Amritsar, Tamil Nadu Physical Education and Sport University. There could be many other places you could definitely you know look it up on the internet and find the places for yourself. And some of the colleges and universities which are offering

a PGD sports psychology courses are you know NSNIS Patiala and Jain University you have Sport Management Research Institute, SportsNext Educational Institute. And you know there are many other places so probably you could take a look at them and Google them for yourself.

And to become a sports psychologist you have to be an athlete. This is one of the questions which we get asked very frequently. And I would say that you know it does help to come from a background in sport, but it is not a mandatory criteria. You know for you to be a sports psychologist I think understanding the sport is important, understanding the level and the competition at which the athletes compete is also extremely important. Having said that you know I think learning the sport if you are passionate about taking sport psychology learn the sport and also play the sport. You know even though you have not really played the sport I think playing the sport, starting to play the sport becomes extremely useful for you.

So basically you can work with central government organizations, state government organizations they are actually recruiting sports psychologists to work with their you know academies and with their respective organizations so you could work with them. Otherwise you have sports teams, academies, club, leagues you know you could work for them. And you can also work as faculty for colleges and universities. And you know as sports psychologist you can also be a private consultant for training high performance sport teams as well as corporate teams. And you know at the same time as we are talking about the organization we have a quote here from Amit Gadkari and you know he is a founder and director at Nudge Sports Private Limited.

And he speaks about how you know Nudge Sports is playing an important role in the mental conditioning of the athletes and is trying to make it as a part of their daily training program. What we need to understand is that one, there are sports psychology organizations also which are supporting a number of academies and also supporting different organization providing sports psychology support. And at the same time you know as sports psychologists when we are working for some organizations like this it is so important for us to understand what is their mission and vision and what is the main objective that they are trying to actually focus on and then probably support them accordingly. You know and two things which are very important one is the organization that you are going to support understand their mission and vision if their you know focus is the mental health and development of the athletes then you have to provide the training accordingly so that you meet that mission and vision for that organization. And if you are consulting for a respective company it is also important for you to understand their mission and vision so that you can provide the support accordingly.

And I think one of the key takeaways from this particular message is the fact that we give a lot of importance to physical performance, but at the same time we really have to focus on providing as much as you know psychological support to athletes on a very regular basis and make it as a part of their training program. And what are the skill sets which are actually required by sports psychologists to excel? One is of course, your counseling and training skills you know the academic qualification that you come with being very thorough with the assessments working on yourself because so many times we work with athletes you know our own triggers can actually you know create a hindrance in helping the athletes. So it is important for you to understand what are your personal issues and work on them, very important. Taking supervision from experienced sports psychologists is also important you know and I go for supervision even now.

And the last thing is I think learning the sport. I think in this particular session we have spoken about two important things. One is how it is important to learn the sport science and how it is important for us to develop our own skills especially if you want to pursue sports psychology in future. With this particular you know insight and input I would like to end the session. Thank you so much.