

Emotions, Mental Health and Sport Performance

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Abstract: Performance in sports has always been the most important thing that athletes and coaches value, but they usually ignore the impact of individual factor. This research focused on studying how emotions and mental health impact athletes' performance. This study reviewed past research on emotions and mental health and their relationship with performance. Emotion includes positive and negative emotions, and they are integrated within an individual. How athletes perceive emotions will affect their performance, and learning to regulate emotions is an essential lesson to learn for athletes. Negative emotion is negatively correlated with sport performance. Positive emotion has no straightforward correlation with performance, but it can enhance well-being and further improve performance. Mental health problems have been one of the main concerns among athletes, especially for competitive and elite athletes. Mental illness is usually caused by abuse, maltreatment, stigmatization, etc., and can cause athletes to perform poorly and cause serious issues such as anxiety and suicide. Repeating tasks can cause mental fatigue. Fatigue reduces cognitive perception and further affects sport performance. Because of athletes' unique identities, it is important for coaches to pay more attention to athletes' mental state and help to prevent mental illness and maintain stable emotions.

1 INTRODUCTION

Performance is a primary focus for coaches and athletes striving to improve throughout their careers. However, they often overlook the underlying factors that influence sport performance and the potential consequences of neglecting them. Emotion and mental health are two of the most crucial factors influencing athletes' performance. This research focused on how emotions and mental health could impact athletes' performance, and what coaches and psychologists can do to help athletes to maintain physical and mental health and improve sport performance. This study researched past studies and analyzed the data and results.

Researchers and psychologists have been studying and defining emotion, but emotions are too heterogeneous to have a specific definition. Emotion involves physiological responses and can be expressed through body language and facial expression, and it also enhances movement in muscles and viscera (McCarthy, 2011). Past research showed that positive and negative emotions had a low significant correlation with sport performance, but they can affect an individual's well-being, which is closely connected with sport performance (Peris-Delcampo et al., 2024).

Mental health is an individual's overall health and well-being, and it is complex and related to people's performance throughout life. Poor mental health can lead to mental and physical illness and cause anxiety, stress, mental disorders, etc. (Slingerland et al., 2019). Athletes might develop mental illness due to injury, retirement, stress, abuse, maltreatment, and stigmatization, and it usually takes a long period for athletes to recover. Besides, athletes live and practice under unique circumstances, and it is less likely for them to reach out to psychologists or therapists, which makes it harder to prevent and recover from mental illness (Prior et al., 2024).

2 LITERATURE REVIEW

2.1 Impact of Emotion on Performance in Sports

Several studies have been conducted to study the relationship between sports performance and emotions in different areas and aspects, including positive emotion, emotion regulation, personal and social identities, motivation, perfectionism, well-being, etc. (McCarthy, 2011, Peris-Delcampo et al., 2024, Campo et al., 2018, Jekauc et al., 2021, Stoeber

2011, Wagstaff, 2014). Jekauc, Fritsch, and Latinjak's research aimed to study the effect of emotions in competitive sports, which are sports with high-level performance that the athlete's performance is likely to be more affected by emotions. It was stated that in past emotional research, problems were raised due to the unclear use of words, such as mood and emotions. They suggested that separating the core effect from full-fledged emotions was essential to better understanding emotion. The core effect is a 2-dimensional valuation of something pleasant or unpleasant, activated or not. It is the heart of emotion, which initiates and develops emotion. The effect of full-fledged emotion is slower compared to the core effect, and it does not create emotion. Instead, it helps individuals to learn the lessons from emotions and situations by redirecting their attention. However, full-fledged emotion can cause individuals to receive more unpleasant emotions when elaborating deeply on the situation. There is evidence showing that arousal and performance have a U-shaped relationship, and arousal can affect the perception of emotion. On the other hand, somatic anxiety and sport performance also have a U-shaped relationship according to the multidimensional anxiety theory (Yerkes & Dodson, 1908). Besides, Cognitive anxiety has a negative correlation with performance. From past studies, they have developed a cycle of emotion with six components that are interconnected: triggering processes, physiological reactions, action tendencies, expressive behaviours, subjective experience, and higher cognitive processes. They studied each of the components' effects on sport performance and found out that the relationship between emotion and performance is complex and reciprocal. The performance and outcome could trigger the process of emotion, and emotions could also affect the athlete's performance (Jekauc et al., 2021).

From the evidence given, they concluded that focusing on earlier possible triggering components could establish stronger emotional stability. However, the affective processes are extremely dependent on the variety of sports. Some sports require a high level of force and aggression, such as football, boxing, and rugby. Some other sports require a high level of concentration, such as golf and darts. Therefore, it more depended on the athletes' physical or mental needs in a specific sport, and it would be the sports psychologist's job to choose the best plan for athletes. Another key component is emotion regulation, which can play a significant role in performance, especially since sports seasons last a long period. Therefore, introducing emotion

regulation and the emotion cycle to the field of sport is essential, not only to increase the athlete's performance but also to prevent any emergency problems throughout their career (Jekauc et al., 2021).

One of the most common topics researched is positive emotion. A study conducted a systemic review of the relationships between positive emotion, well-being, and sports performance using PRISMA (Preferred Reporting Items for Systematic Reviews). The researchers collected studies between 2000 and 2023 from Web of Science and PsycINFO databases. They found that positive emotion did not exist by itself and is integrated with negative emotions, and other positive factors played a role in sports performance, such as well-being (Peris-Delcampo et al., 2024). This data is limited since it was collected only from two databases, and the keywords selected were not specific enough. Well-being includes many aspects, such as optimism and positive mood, and that affects and biases the results.

Psychologists are consistently shifting their focus from how to solve negative emotions to how to increase positive emotions. McCarthy conducted his research on positive emotion in sport performance, and he stated that positive emotions have not been studied in the sports field, and it has a significant potential to improve athlete's performance (McCarthy, 2011). As mentioned earlier, the competitiveness of sports will dramatically increase the athlete's emotion, and that is one of the reasons why an athlete's performance in practice is sometimes better than in an actual game. In other words, athletes develop competitive anxiety when it comes to competition. Later studies discovered that emotion only has a short-term effect, and it acts with other performance components, such as motivation. Evidence showed that negative emotions usually lead athletes in their performance, that they are either motivated to perform better or give up. However, there are more positive emotions at athletes' peak performance. Negative emotions can cause stress, but the right amount of somatic stress can motivate athletes. Positive emotions can broaden attention and increase flexibility and efficiency. Therefore, both negative and positive emotions do not exist alone, rather, they work together and can result in performance improvement. Other evidence also shows a significant positive correlation between the passion or enjoyment of the sport and the duration and participation in the sport. They also concluded that positive emotion catalyzes sport performance (McCarthy, 2011).

Social factors play an important role in the relationship between emotion and performance.

Campo and others conducted a study on social identity in the context of team sports, and they collected six semi-professional elite volleyball athletes. The participants watched the recorded game and were asked to complete a self-report survey afterward. The survey includes four aspects: pleasant emotion, unpleasant emotion, individual emotion, and emotion as a team. The experimenter also asked three elite volleyball coaches to watch the recorded match and evaluate each player's performance. Then, the experimenter used the Social Identity Approach (SIA) to measure the athletes' personal and social identities. The result shows that athletes with higher social identities will perform better within the team. However, athletes will experience more than one identity during the competition, personal or social. Data shows that there is no correlation between social identity and emotion, but personal identity can be a predictor of negative emotions. In other words, there is a significant negative correlation between group cooperation and negative emotions (Campo et al., 2018). For the limitation of the study, there are many alternative explanations in this experiment, such as age and gender. There were only a few participants studied, and they were all males. There might be other confounding variables that might affect the athletes' performance, including academics, mood, etc.

There are more studies conducted on other interesting aspects, such as perfectionism and emotion regulation. In Stoeber's study, he stated that perfectionism is negatively correlated with sports performance due to evidence given that athletes cannot perform at their peak performance every time. However, perfectionism strivings can enhance improvement in sports performance, confidence, and positive emotions (Stoeber, 2011).

Emotion regulation is also one of the topics that has been studied repeatedly. Wagstaff conducted an experiment studying how emotion regulation can affect sports performance, including suppression, self-control, etc. Results show that athletes' performance decreases when they are suppressed, including less maximum heart rate, slower speed, more exertion, etc. (Wagstaff, 2014). A strong and stable emotion is fundamental for athletes to perform better.

2.2 Impact of Mental Health on Performance in Sports

Mental health has become one of the main concerns in sports, and evidence has shown that more issues of mental health are rising among athletes across cultures and nations. It is essential for athletes to be

healthy both physically and mentally, especially for high-performance sports and elite athletes (Slingerland et al., 2019, Prior, 2024, Schinke et al., 2021, Donohue et al., 2018, Russell et al., 2019). Mental illness in sports could be caused for many reasons, including relationships between teammates and coaches, loneliness, unsafe and unhealthy environments, stress with age and physical health, injury, etc. However, it is hard to detect mental illness in athletes due to the evidence that athletes are less likely to ask for help (Schinke et al., 2021).

In Schinke and others' research, they focused on the impact of an unsafe environment on athletes' mental health. Athlete treatment is essential and most effective in avoiding or solving mental issues, including safeguarding, sports policies, etc. (Schinke et al., 2021). However, there were several media showed that many athletes and coaches had been maltreated. Due to the difference between cultures and nations, maltreatments are inevitable. Even though the national sports systems were trying to develop ways to protect athletes, the solutions were not sufficient. Schinke and others studied how to deal with mental health in high-performance athletes and environments, focusing on safety. The authors invited international experts from four continents to solve the cultural differences issue and share their knowledge and work. The researchers and experts studied teenagers and adults separately due to significant physical and mental differences caused by development. It showed that there were more issues with maltreatment among teenagers and adults, and it was affecting and reducing their mental health and performance (Schinke et al., 2021).

Schinke suggested using occupational health and safety (OHS) to help solve the issues of performance due to mental problems. The OHS focuses on the relationship between the workplace and the employee's well-being and safety. It aims to enhance hazard prevention and health promotion to create a safe environment for the athletes, coaches, Olympic employees, etc. The researchers stated that athletes who felt safe psychically and psychologically would be more concentrated on self-development and goals. Evidence shows that individuals experience less stress within a safe and healthy environment, which leads to better performance (Schinke et al., 2021). One of the main reasons for mistreatment was that the leaders lacked management ability. It could cause miscommunication, inadaptability, poor relationships, untrustworthiness, etc., and therefore, the employees lack responsibility for their jobs, which leads to an unsafe environment for athletes and coaches. One of the most effective solutions was

comprehensive safety training to increase employees' awareness of possible dangers. Preventing injury could also help the prevention of developing mental illness. It is much more important to prioritize the prevention of mental illness in athletes than to focus solely on addressing it after it has already developed (Schinke et al., 2021).

In Canada, many athletes stood out and bravely shared their experiences with mental illness, including depression, anxiety, suicide, etc. Around 20% of Canadian athletes experience mental illness annually, which is about 1.4 million athletes, which has made the Canadian Centre for Mental Health and Sport (CCMHS) pay more attention to addressing mental health. The CCMHS developed a Participatory Action Research approach (PAR) to try to solve mental illness for competitive athletes. One of the main approaches was to build a common language between sports and mental health communities. A common language helps to communicate and exchange values, and it could be used to reduce stigmatization, which was one of the main causes of mental illness in athletes (Slingerland et al., 2019).

Athletes experience unique stresses due to the environment they live in, but only a few mental health interventions were developed for athletes. The Optimum Performance Program in Sports (TOPPS) was developed based on Positive Psychology and Family Behaviour Therapy (FBT), it aimed to reduce substance use and mental health issues in youth and adults. It tended to help to optimize individuals' cognitive and behavioural skills to increase performance in sports and life and maintain mental wellness by minimizing social stigma. Donohue and others conducted their research comparing the TOPPS and counselling services as usual (SAU) using a controlled clinical trial methodology. There were some requirements when selecting participants: they had to be participating in sports, not receiving any psychotherapy services actively, and able to stay through the 8-month experiment, etc. Seventy-four participants were qualified, with an average of 21 years old, but 11 participants dropped out during the experiment. Around half of the participants were female, almost half of the participants were Caucasian (41%), and most of the participants were single. The participants were randomly assigned to the TOPPS (n=38) or SAU (n=36), and the data were measured at the beginning, 4 months after treatment, and 8 months after treatment. Performance was measured with digital audio recordings by experts and coaches. In the overall scores, participants who received the TOPPS had significantly larger scores

than those who received SAU. The experimenters also had interviews with each participant at different measures of time. Participants in the SAU had neutral or negative feedback when measured at the 4 months, but they improved after 8 months, and most feedback was neutral or positive. Participants in the TOPPS all had positive feedback and reported overall better mental health and performance in competition and training. TOPPS also tended to decrease substance use for athletes (Donohue et al., 2018).

Due to the several requirements for participants, only around 100 athletes were qualified, and the long duration of the experiment caused a high dropout rate. Besides, the skill level among athletes was not equal, which could cause alternative explanations (Donohue et al., 2018).

Another mental health problem that could affect sport performance is mental fatigue. Russell and others conducted a literature review on past research on mental fatigue and sport performance within a team. Fatigue could be caused both physically and mentally, and it could cause a decrease in the maximum performance potential and reduce cognitive perception. Evidence shows that different sports might have different degrees of fatigue. Therefore, different tasks should be applied depending on the variety of sports. Managing mental fatigue could significantly increase athletes' performance, especially in elite sports, where the outcome could be affected by very small decisions (Russell et al., 2019).

A study conducted by Prior and others researched the relationship between mental health and performance from a unique perspective. They invited 11 performance directors and had semi-structured interviews with them to discuss the mental health of elite athletes and how they have managed these issues. Performance directors mainly focus on directing athletes to increase their performance physically, such as fixing movement or body structure. Due to the specialty of athletes' identity, they are more likely to experience mental health disorders from injury, stressors from performing and coaches, retirement, etc. Poor environments such as maltreatment, abuse, negative media and social environment all tend to increase the possibility of mental illness. The researchers concluded with two aspects for the performance directors to understand these problems: 1) the understanding of mental health and 2) experiences with managing and supporting mental health and illness (Prior et al., 2024).

The experimenter used purposive sampling and found 11 performance directors, present or retired, including one female and ten males, from 37 to 62

years old, with an average of 47 years. Their experiences vary from 4 to 24 years, with an average of 10 years. Ten performance directors were from the United Kingdom, and one was from Denmark. There were 11 kinds of sports involved: three were based on team sports, and eight were with individual sports. The interview was developed with open-ended questions. Sample questions include: what does mental health mean to you? What role did you play between athletes and mental health? What is your suggestion on the future of mental health in sports? etc.(Prior et al., 2024).

The results showed that performance directors lacked an understanding of mental health, which did not pay enough attention to mental health and led to mental illness. The researchers concluded that the performance directors should pay more attention to environmental and cultural factors. Creating a safe and comfortable environment for athletes could enhance communication, and athletes would be more willing to seek help. Coaches and employees should be more sensitive to athletes' mental health since recovering from mental illness will take much longer than developing it(Prior et al., 2024).

Since almost all of the performance directors were from the UK, there should be more research conducted in the future based on different cultural backgrounds. Only one performance director was female, which reflected the lack of balance in the field of performance directing.

Mental health problems have been rising and have become one of the main concerns among athletes and coaches. It is essential for athletes to stay healthy mentally and physically, and coaches also need to pay more attention to prevent mental illness among teenagers.

3 DISCUSSION

The relationship between sport performance, emotion, and mental health is a dynamic and multifaceted area of study, and understanding this relationship is essential for athletes and coaches to improve their performance.

Emotions play an essential role in determining performance, especially in elite and competitive sports. Positive emotions can enhance well-being and improve athletes' performance, but positive emotions do not exist alone. Positive emotion is integrated with negative emotion, and competition will amplify the athlete's emotions. Athletes can develop competition anxiety during a match if they are unable to manage their emotions, but it only has a short-term effect, and

it is usually connected with other performance components such as motivation. It is important for athletes to perceive their own emotions correctly and mindful since positive and negative emotions have totally different impacts on performances. Emotion regulation is extremely important for athletes.

The effects of emotion depend on the variety of sports. Different sports require different skills, including teamwork, strength, concentration, etc., and the process can enhance different emotions of athletes. Therefore, coaches play an important role in creating plans that best fit the athletes to maximize performance and bring out their potential. Another common misunderstanding in sport performance is perfectionism. Perfectionism is negatively correlated with sport performance since it is impossible for athletes to perform at their peak state every time, and it can lead to stress and anxiety. Even though it does motivate athletes to perform better, it can also lead to fatigue in the long run.

Mental health is the foundation of sustained sport performance. Athletes are usually under high pressure, and in a unique environment, they are less likely to detect mental illness and reach out for help. Mental illness can be caused by various aspects, including injury, poor relationships, loneliness, etc., and can lead to poor performance. Failure to provide a safe and healthy environment has caused untrustworthiness, miscommunication, etc., reduced athletes' performance dramatically, and caused stress, anxiety, and even suicide. Many poor sports policies and systems have caused maltreatment for both youth and adult athletes, which causes stigmatization and is extremely harmful to their mental health. It was suggested to build a common language between athletes, coaches, audiences, etc., to reduce stigmatization. The understanding between them helps to enhance communication and support and further can build a strong base for performance and mental health. Other negativities such as abuse, negative media and social environment all tend to increase the possibility of mental illness, and most coaches and performance directors ignore these factors in practice. Especially when teenagers are still developing both mentally and physically, they are more sensitive to outside forces and more easily develop mental illness.

Another problem among elite athletes is mental fatigue. The high-pressure and high-intensity training takes most of the time, and the repeated tasks can cause lower arousal and reduce cognitive perception. Athletes might perceive knowledge while in the fatigue state and bring the fatigue to the competition,

which was at the minimum performance, and it is hard to replace what they have learned.

As the field of psychology is consistently developing, there is a specific sport psychology field for athletes and coaches. It is essential for sports teams to introduce sport psychologist to the team to help athletes manage emotional and mental states, motivate athletes, and improve athletes' performance. Besides, it is extremely important to prevent mental illness for athletes before it is developed since it is hard and takes a long period to treat mental illness.

4 CONCLUSION

The relationship between sport performance, emotion, and mental health underscores the importance of addressing psychological and emotional factors in sports. Positive and negative emotions are interconnected, and both affect athletes' performance. Emotion regulation is essential for athletes to manage their emotions well, which helps them maintain good relationships and positive attitudes and focus on performing well. It is also important to prevent mental illness for athletes and strengthen the foundation of mental health. Coaches and staff members need to work together to create a safe and healthy environment for athletes to live and practice in and protect athletes from abuse and maltreatment. Sports psychologists are essential for sports teams, especially athletes, to motivate them, help with stress and anxiety, and prevent mental illness. Performance in sports does not just depend on athletes' physical appearance and strength; it is also important for athletes to have adaptive emotion regulation strategies and a healthy mindset.

To improve performance, athletes need to establish a strong emotional base, the ability to regulate emotions, and increase knowledge of mental health and wellness. Coaches and staff members need to create a safe and healthy environment for athletes and protect them from outside forces that might harm athletes physically or mentally. Sport psychologists are also becoming essential for sports teams to motivate athletes, prevent mental disorders or illness, and increase overall well-being and performance.

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