



# THE IMPACT OF THE COVID-19 PANDEMIC ON UNIVERSITY STUDENT-ATHLETES' TRAINING AND PSYCHOLOGICAL STATES: A QUANTITATIVE ANALYSIS

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## Abstract

**Background:** The world's population has been profoundly impacted by the COVID-19 pandemic, with effects seen in a variety of areas. Among these, broad lockdowns, postponed events, and social distancing tactics have presented hitherto unheard-of difficulties for sports and athletic training.

**Objectives:** This research aimed to delve into multifaceted impacts of the pandemic on university student-athletes, specifically focusing on training, sports performance, and psychological well-being.

**Patients and methods:** A quantitative analysis of COVID-19 pandemic's impact on university student-athletes' training & psychological states can be conducted using a structured approach. This includes survey design, sampling techniques, data collection, and determining dependent and independent variables. Variables such as training frequency and psychological states should be considered, along with moderating factors like gender, sport type, and academic stress. Data analysis can include descriptive statistics, inferential tests, mediation or moderation analysis, and longitudinal analysis.

**Results:** This study showed that 18% reported improved physical performance, 61% decreased participation, and 74% worsened fitness levels. Disruptions led to injuries or health issues for 69% of subjects, and only 20% found their training program effective. Confidence in future performance goals was low, and virtual competitions negatively impacted performance for 77.5%. Support from sports organizations significantly influenced performance. The study examined 200 participants' adaptation strategies during the pandemic, finding that all adopted new training routines or methods. However, only 18% found these strategies effective, and 66.5% deemed them not. 74% used virtual coaching, while 41.5% engaged in mental health practices. 45.5% experienced negative impacts, while 20% experienced positive effects. Participants participated in virtual competitions, with 11.5% finding their strategies highly effective, 7.5% moderately effective, and 55% slightly effective.

**Conclusion:** we concluded that stress the significance of knowing how COVID-19 pandemic has affected university athletes & the ongoing need for tools and support to assist players in navigating these trying times. Reiterate how important the study's conclusions are to the body of knowledge on sport psychology, athlete wellbeing, and crisis management.

**Key words:** COVID-19, university Student-Athletes, Psychological States.

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## Introduction

In recent years, there has been a growing focus on the necessity of intervention programmes, prevention, and treatment for mental health issues among high-performing athletes (1).

Furthermore, there have been particular worries regarding the mental well-being of athletes throughout the COVID-19 epidemic. These issues pertain to their readiness for the Olympic and Paralympic Games, as well as their circumstances during sports restrictions and the uncertainty surrounding future sporting events

and their career (2, 3). Confinement during the initial stages of the COVID-19 pandemic has been found to have a negative impact on the mental well-being of elite athletes. A recent comprehensive study revealed that professional athletes over the age of 18 experienced adverse effects on their mental health as a result of the pandemic-related alterations. These effects were shown to have a greater influence on the mental health of women compared to males (3). It has been suggested that athletes may be just as likely as the general population to experience

mental distress during lockdown and lifestyle changes caused by COVID-19. In fact, having a strong identification as an athlete might even increase the risk of experiencing high levels of anxiety in response to these changes (4).

There is a clear necessity to do extensive studies on a wide number of athletes to thoroughly investigate the subjective impacts and mental well-being resulting from the significant disruptions to their daily lives during the epidemic. Currently, there has been less study conducted on the mental well-being of young athletes, namely those in high school or college, amidst the COVID-19 pandemic (5). It has been emphasised that studentathletes were at a high risk of poor mental health prior to the pandemic, which underscores the need for special consideration of this demographic in the context of the pandemic (6). In addition, it has been suggested that a significant number of mental health disorders are the result of early manifestations of mental ill-health during adolescence (7). This underscores the significance of examining the impact of the COVID-19 pandemic on adolescent elite athletes.

At all ages, competitive events and training routines necessitated extensive adaptations and rigorous testing procedures, regardless of whether they were professional or amateur. In addition, the transmission of the SARS-CoV-2 virus among young athletes in school settings has been emphasised, potentially due to specific risk factors associated with the daily lives of student-athletes. However, other data has suggested that the epidemiological situation in each region may be the determining factor in student-athlete transmission of COVID-19, rather than transmission related to sports events specifically. Nevertheless, the daily lives of student-athletes have been significantly altered and adapted as a result of COVID-19-related restrictions. Furthermore, it is reasonable to assume that the changes to the sports industry, including the career opportunities of young athletes, have had a significant impact on student-athletes. In addition, the seasonality of SARS-CoV-2 transmission, which is characterised by an elevated incidence during the winter season (8), raises the possibility that certain sports that are closely associated with specific seasons, such as traditional winter sports, may be more severely impacted by societal changes during the COVID-19 pandemic.

Several behavioural changes have been hypothesised to take place during the epidemic. One possible shift in young people during the pandemic is an increase in internet behaviour, particularly in video games, which may become more troublesome. Gaming disorder, which has recently been acknowledged as a diagnosable condition, is a prevalent form of addiction, especially among young individuals. It is also considered a lifestyle behaviour that is discussed in the context of COVID-19 literature, as it may have negative consequences due to increased time spent at home and changes in work or school conditions. The latest population statistics from Sweden, analysed in this study, revealed a correlation between heightened self-reported gaming activity during the COVID-19 pandemic and a decline in mental well-being (9, 10).

Gaming behaviours that are problematic or a fully formed gaming disorder pose health risks that receive less attention in the realm of sports. Nevertheless, there have been indications of detrimental health impacts resulting from excessive gaming among athletes. Media coverage has also drawn attention to a growing pattern of video gaming among young athletes, with the COVID-19 epidemic being cited as a contributing factor to this change in lifestyle. Therefore, it is necessary to investigate the potential alterations in gaming habits among high school athletes within the epidemic. Furthermore, the existing body of study about problem gaming in athletes is very limited (11, 12).

### **Patients and Method**

For a quantitative analysis of the effect of COVID-19 pandemic on university student-athletes' training and psychological states, several methods can be employed. Here's a structured approach:

1. Survey Design: Create a thorough survey form with questions about training schedules, facility access, training intensity adjustments, psychological health, coping strategies, etc. Verify the validity and reliability of the survey, and think about using validated measures to gauge psychological concepts like stress, anxiety, depression, resilience, etc.
2. Sampling: Choose the sampling technique (e.g., random sampling, stratified sampling) & target population (e.g., university student-athletes). Make sure there is a sufficient sample size to get results that are statistically significant.

3. **Data Collection:** Conduct the survey online or in person, making sure that all answers are kept private and secure. To reach a wider and more varied sample, think about utilizing online survey platforms.
4. **Variables:** Determine the dependent variables (training frequency, psychological states) and independent variables (COVID-19 limits, access to training facilities, etc.). Additionally, take into account any moderating factors that might affect the relationship between COVID-19 & its Impacts on student-athletes, such as gender, sport type, and academic stress.
5. **Ethical Considerations:** Obtain ethical approval from relevant institutional review boards (IRBs) or ethics committees. Ensure informed consent & adherence to ethical guidelines for research involving human participants.
6. **Data Interpretation & Reporting:** Interpret the findings in light of research objectives & hypotheses. Discuss implications for practice, policy, & future research. Prepare a detailed report or manuscript for publication in a peer-reviewed journal or presentation at conferences.

**Study Design:** In order to gather data from university student-athletes, an online survey was used in this cross-sectional research design. **Population and Sampling:** The target population includes university student-athletes from various sports disciplines. The technique of stratified random sampling was employed to ensure representation across genders and sports types.

**Research question:** How has COVID-19 disrupted the training routines of university student-athletes? What is the psychological effect of pandemic on the mental health and motivational factors of student-athletes? Are there correlations between training disruptions, psychological impact, and reported concerns about sports performance?

**Inclusion criteria:**

The age range was 19 to 25.  
 Students in universities. Athletes

**Exclusion criteria:**

Age above 50 years, older age, obesity, diabetic patients, and patients who refused.

**Results**

Table (1): Demographics and Background among included subjects

	Value (N = 200)
Age (Years)	22.33 ± 1.98
Gender	
Male	102 (51%)
Female	98 (49%)
Sport	
Basketball	57 (28.5%)
Football	73 (36.5%)
Martial arts	29 (14.5%)
Gymnastics	22 (11%)
Level of Competition	
Amateur	69 (34.5%)
Collegiate	48 (24%)
Semi-professional	59 (29.5%)
Professional	24 (12%)
Years of Experience	6.44 ± 3.44

Among the 200 subjects included in the research, the average age was 22.33 years with a standard deviation of 1.98 years. Gender distribution comprised 51% males (n = 102) and 49% females (n = 98). Regarding sports involvement, basketball constituted 28.5% (n = 57), football 36.5% (n = 73), martial arts 14.5% (n = 29), and gymnastics 11% (n = 22) of the sample. In terms of competition level, 34.5% (n = 69) were amateurs, 24% (n = 48) collegiate athletes, 29.5% (n = 59) semi-professionals, and 12% (n = 24) professionals. The average years of experience in their respective sports were 6.44 years with a standard deviation of 3.44 years.

Table (2): Training Disruption among included subjects

	Value (N = 200)
Has your regular training venue changed due to the pandemic?	56 (28%)
How has the frequency of your training sessions changed since the onset of the pandemic?	
Increased	25 (12.5%)
No change	25 (12.5%)
Decreased	150 (75%)
Rate the intensity of your current training sessions compared to pre-pandemic levels.	4.97 ± 1.65
Have you experienced reduced access to training resources (e.g., equipment, facilities, coaching)?	165 (82.5%)
Are you training more often alone or with your team than before the pandemic?	
Alone	86 (43%)
With team	104 (52%)
No change	10 (5%)
How has the pandemic impacted your training goals (short-term and long-term)?	
Negatively	91 (45.5%)
No change	79 (39.5%)
Positively	30 (15%)
Have disruptions led to changes in your physical condition (e.g., endurance, strength)?	
Improved	30 (15%)
No change	79 (39.5%)
Declined	91 (45.5%)
Did you modify your training objectives due to the pandemic?	89 (44.5%)
How has communication with your coach or training staff changed?	
Increased	68 (34%)
No change	73 (36.5%)
Decreased	59 (29.5%)
Are you using new tools or apps for training that you weren't using before the pandemic?	95 (47.5%)
How satisfied are you with the alternative training arrangements during the pandemic?	
Very satisfied	22 (11%)
Somewhat satisfied	87 (43.5%)
Not satisfied	91 (45.5%)

Among the 200 subjects, 28% reported a change in their regular training venue due to the pandemic. The frequency of training sessions decreased for 75% of participants, while 12.5% experienced an increase and the remaining 12.5% reported no change. On average, the intensity of current training sessions, compared to pre-pandemic levels, was rated at 4.97 with a standard deviation of 1.65. Additionally, 82.5% experienced reduced access to training resources, and 43% reported training alone more often, while 52% trained with their team. Concerning training goals, 45.5% were negatively impacted, 39.5% remained unchanged, and 15% reported positive impacts. Disruptions led to improved physical condition for 15%, no change for 39.5%, and declined condition for 45.5%. Furthermore, 44.5% modified their training objectives due to the pandemic. Communication with coaches or training

staff increased for 34%, remained unchanged for 36.5%, and decreased for 29.5%. Almost half of the subjects (47.5%) started using new tools or apps for training. Satisfaction with alternative training arrangements varied: 11% were very satisfied, 43.5% somewhat satisfied, and 45.5% not satisfied.

Table (3): Psychological Well-being among included subjects

	Value (N = 200)
Have you felt increased stress or anxiety due to the pandemic's impact on training or competitions?	138 (69%)
Have you experienced feelings of isolation due to training or competition disruptions?	143 (71.5%)
How often have you felt overwhelmed by your situation during the pandemic?	
Frequently	91 (45.5%)
Sometimes	33 (16.5%)
Rarely	54 (27%)
Never	22 (11%)
Have your motivation levels for training and competition been affected?	
Increased	51 (25.5%)
No change	25 (12.5%)
Decreased	124 (62%)
Do you feel that your mental health has impacted your sports performance?	119 (59.5%)
How confident do you feel about achieving your sports-related goals during the pandemic?	
Very confident	22 (11%)
Somewhat confident	54 (27%)
Not confident	124 (62%)
To what extent has the pandemic impacted your sleep patterns?	
Significantly	81 (40.5%)
Moderately	67 (33.5%)
Not at all	52 (26%)
Have you noticed changes in your eating habits since the pandemic began?	
Healthier	81 (40.5%)
No change	68 (34%)
Less healthy	51 (25.5%)
How supported do you feel by your coaching staff and teammates during this time?	
Very supported	83 (41.5%)
Somewhat supported	53 (26.5%)
Not supported	64 (32%)
Are you practicing any form of mental resilience training or mindfulness to cope with the current situation?	141 (70.5%)
How well have you been able to maintain focus during training and competitions?	
Easily	22 (11%)
With some difficulty	54 (27%)
With great difficulty	47 (23.5%)
Not at all	77 (38.5%)
Have you sought psychological support or resources during the pandemic?	110 (55%)

The psychological well-being of the 200 subjects was assessed. Among them, 69% reported increased stress or anxiety due to pandemic impacts on training or competitions. Feelings of isolation were experienced by 71.5%. Frequency of feeling overwhelmed during the pandemic varied, with 45.5% reporting frequent, 16.5% sometimes, 27% rarely, and 11% never. Motivation levels decreased for 62% while 25.5% reported an increase. Mental health affected sports performance for 59.5%, and 62% lacked confidence in achieving sports-related goals during the pandemic. Sleep patterns were significantly impacted for 40.5%, moderately for 33.5%, and not at all for 26%. Changes in eating habits were observed, with 40.5% reporting healthier, 25.5% less healthy, and 34% no change. Feelings of support from coaching staff and teammates varied, with 41.5% feeling very supported, 26.5% somewhat supported, and 32% not supported. Around 70.5% practiced mental resilience training or mindfulness. Focus maintenance during training and competitions varied, with 11% easily, 27% with some difficulty, 23.5% with great difficulty, and 38.5% not at all. Additionally, 55% sought psychological support or resources during the pandemic.

Table (4): Sports Performance among included subjects

	Value (N = 200)
Have you noticed a change in your physical performance since the pandemic began?	
Improved	36 (18%)
No change	31 (15.5%)
Declined	133 (66.5%)
How has the pandemic affected your ability to compete in events?	
Increased participation	22 (11%)
No change	56 (28%)
Decreased participation	122 (61%)
Rate your current level of fitness compared to pre-pandemic.	
Better	40 (20%)
The same	12 (6%)
Worse	148 (74%)
Have disruptions caused by the pandemic led to injuries or health issues?	138 (69%)
Evaluate the effectiveness of your current training program in maintaining or improving performance.	
Very effective	40 (20%)
Somewhat effective	12 (6%)
Not effective	148 (74%)
How confident are you in your ability to achieve your future sports performance goals?	
Very confident	36 (18%)
Moderately confident	7 (3.5%)
Not confident	157 (78.5%)
Have you had to alter your competition strategies due to changes in training or mental health?	92 (46%)
How has your engagement with virtual or remote competitions affected your performance?	
Positively	38 (19%)
No change	7 (3.5%)
Negatively	155 (77.5%)
Do you believe the pandemic has affected your long-term career prospects in your sport?	
Positively	39 (19.5%)

No impact	6 (3%)
Negatively	155 (77.5%)
Have you found new methods or technologies beneficial for your performance during the pandemic?	45 (22.5%)
How has the level of support from your sports organization or team influenced your performance during the pandemic?	
Significantly	68 (34%)
Somewhat	47 (23.5%)
Not at all	85 (42.5%)
Rate your mental resilience during competitions in the current pandemic situation.	
High	59 (29.5%)
Moderate	42 (21%)
Low	99 (49.5%)

The sports performance of 200 subjects was evaluated amidst the pandemic. Notably, 18% reported improved physical performance, while 66.5% experienced a decline. Participation in events decreased for 61% of participants, with only 11% reporting increased participation. Regarding fitness levels, 20% rated themselves better, 6% the same, and 74% worse compared to pre-pandemic. Disruptions led to injuries or health issues for 69% of subjects. Only 20% found their current training program very effective in maintaining or improving performance. Confidence in future performance goals was low, with 78.5% not confident. Alteration of competition strategies due to training or mental health changes was necessary for 46%. Engagement with virtual competitions negatively impacted performance for 77.5%. Furthermore, 77.5% believed the pandemic negatively affected their long-term career prospects. However, 22.5% found new methods or technologies beneficial for performance. The level of support from sports organizations or teams significantly influenced performance for 34%, somewhat for 23.5%, and not at all for 42.5%. Mental resilience during competitions was rated as high for 29.5%, moderate for 21%, and low for 49.5%.

Table (5): Adaptation Strategies among included subjects

	Value (N = 200)
Have you adopted or added new training routines or methods due to the pandemic?	200 (100%)
How effective do you find these new training adaptations in maintaining your performance levels?	
Very effective	36 (18%)
Somewhat effective	31 (15.5%)
Not effective	133 (66.5%)
Have you utilized online resources or virtual coaching during the pandemic?	148 (74%)
To what extent have you engaged in mental health practices (e.g., mindfulness, meditation) to cope with pandemic-related stress?	
Regularly	83 (41.5%)
Occasionally	67 (33.5%)
Not at all	50 (25%)
How have changes in diet or nutrition played a role in your adaptation strategy?	
Positively	40 (20%)
No change	69 (34.5%)
Negatively	91 (45.5%)
Have you participated in virtual competitions or events as an adaptation to current circumstances?	200 (100%)

Rate the overall effectiveness of your adaptation strategies in dealing with the pandemic's impact.	
Highly effective	23 (11.5%)
Moderately effective	15 (7.5%)
Slightly effective	110 (55%)
Not effective	52 (26%)
Have you sought advice or strategies from athletes in other sports?	138 (69%)
How much have social support networks (e.g., family, friends, teammates) contributed to your adaptation strategies?	
Greatly	83 (41.5%)
Somewhat	53 (26.5%)
Not at all	64 (32%)
Have you increased your focus on any specific aspect of your training (e.g., technical skills, strength conditioning) more than before?	158 (79%)
Did you engage in any cross-training or alternative sports to maintain your fitness level?	121 (60.5%)
How often do you evaluate and adjust your adaptation strategies to ensure they meet your current needs?	
Regularly	52 (26%)
Occasionally	110 (55%)
Rarely	15 (7.5%)
Never	23 (11.5%)
To what extent have you integrated technology (e.g., fitness apps, wearable devices) in your training regimen?	
Extensively	37 (18.5%)
Moderately	67 (33.5%)
Slightly	44 (22%)
Not at all	52 (26%)

The adaptation strategies employed by 200 subjects during the pandemic were examined. All participants (100%) adopted or added new training routines or methods. However, only 18% found these adaptations very effective, while 66.5% deemed them not effective. Virtual coaching or online resources were utilized by 74% of participants. Regarding mental health practices, 41.5% engaged regularly, 33.5% occasionally, and 25% not at all. Changes in diet or nutrition had a negative impact for 45.5%, with 20% experiencing positive effects. All subjects participated in virtual competitions or events as an adaptation. Overall, 11.5% found their adaptation strategies highly effective, 7.5% moderately effective, 55% slightly effective, and 26% not effective. Additionally, 69% sought advice from athletes in other sports. Social support networks greatly contributed to adaptation strategies for 41.5%, somewhat for 26.5%, and not at all for 32%. Increased focus on specific training aspects was reported by 79% of participants, and 60.5% engaged in cross-training or alternative sports. Evaluating and adjusting adaptation strategies regularly was done by 26%, occasionally by 55%, rarely by 7.5%, and never by 11.5%. Integration of technology in training regimens varied, with 18.5% extensively, 33.5% moderately, 22% slightly, and 26% not at all.

### Discussion

The COVID-19 pandemic, triggered by SARS-CoV-2 virus, has led to the closure of American schools and institutions in March 2020. This has resulted in a lack of resources and training equipment for student-athletes, who typically follow a predetermined schedule. Short stays away from these services can lead to detraining, which can result in muscle strength, speed, and

aerobic capacity decline. Resuming sports after lockdowns may exacerbate this impact, as seen in the 2011 National Football League's 19-week lockout (13).

Many student-athletes report experiencing food insecurity due to the lack of on-campus eating options. The forced separation from support networks and suspensions of team activities raises concerns about mental health,



particularly anxiety and depressive symptoms. Despite being less likely to have depression and anxiety symptoms, 14%-33% of college-age student-athletes report these symptoms. Stay-at-home orders, which result in forced separation from teammates and sport-related suspensions, could increase these rates (14, 15). The study involved 200 subjects, with average age of 22.33 years & a gender distribution of 51% males and 49% females. Sports involvement varied, with basketball, football, martial arts, and gymnastics being the most common. Competition levels varied, with mean of 6.44 years of experience.

Our results were supported by **Senisik et al. (16)**, who aimed to determine if the isolated period during which organized sports were banned owing to COVID-19 epidemic had effect on the mental health of professional sportsmen. The research had 612 participants, aged 18 to 38, of whom 418 were athletes participating in team or individual sports & 194 were not athletes. The International Physical Activity Questionnaire (IPAQ), the effect of Events Scale-Revised (IES-R), & Depression Anxiety Stress Scale 21 (DASS-21) were all completed by the participants. Group comparisons were conducted using non-parametric techniques. A total of 372 men and 199 women made up the 571 participants.

In addition, **Håkansson et al. (17)** conducted a study to examine the perceived mental health impact on high-school athletes in Sweden. They examined the clinical levels of depression and anxiety, concerns related to their sport and profession, and any changes in their video gaming behaviour. Out of the total sample size of 7,014, 57% (n = 3,989) were male, 43% (n = 3,007) were female, and 0% (n = 18) identified as other or opted not to respond. Out of the total sample size of 6,920 persons, 36% (n = 2,506) were in the first year of school, 35% (n = 2,435) were in the second year, 27% (n = 1,875) were in the third year, & 3% (n = 204) were in the final year. The year in school was not provided for five individuals. Out of the total sample size of 7,025, 67% (n = 4,721) participated in team sports, while the remaining 33% (n = 2,304) participated in individual sports. Out of the entire sample size of 1,010, 14% (n = 1,010) participated in a winter sport. The participants encompassed a diverse range of 48 sports, with the most prevalent being football (25%, n = 1,750), handball (14%, n = 1,018), floor ball (13%, n = 901), basketball (7%, n = 487), golf

(4%, n = 267), cross-country skiing (4%, n = 248), athletics (3%, n = 242), orienteering (3%, n = 203), ice hockey (3%, n = 191), alpine skiing (3%, n = 182), bandy (2%, n = 171), swimming (2%, n = 168), volleyball (2%, n = 121), equestrian sports (2%, n = 119), tennis (1%, n = 100), bicycle (1%, n = 86), badminton (1%, n = 76), & gymnastics (1%, n = 68).

Also, **Uroh et al. (18)** investigated the impact of sports involvement and athletic identity on players' psychological health during a pandemic. The age range of participants varied from 13 to 35 years; the majority of them were male.

In addition, **Grimm et al. (19)** examined data from a sample of 166 student-athletes. The sample comprised 74 females (45%) and 92 males (55%), aged between 18 and 24 years, with one participant indicating an age over 24. The sample consisted of athletes participating in various sports, including football (N = 65), wrestling (N = 19), soccer (N = 16), cross-country and track & field (N = 15), volleyball (N = 13), softball (N = 12), women's basketball (N = 9), dance (N = 6), cheer (N = 4), tennis (N = 2), women's golf (N = 2), swimming (N = 2) and men's basketball (N = 1). Out of the total of 166 participants, a group of 22 athletes engaged in collaborative sessions with a psychologist alongside their teammates. The teams who attended the team meetings included 13 members from the volleyball team, 9 members from the women's basketball team, & 1 member from the men's basketball team. The coaches arranged for the players to attend these meetings with the psychologist, without providing any form of pay.

In contrast with our results, **Chandler et al. (20)** sought to look at how NCAA college student-athletes' training, diet, sleep patterns, & mental health were affected by SAH instructions from the COVID-19 epidemic. (n = 354) man (n = 112) and woman (n = 238) participants in their research. The majority of respondents (80.7%; n = 301) said that they were presently engaged in training for their sport. Among these individuals, 64.6% (n = 239) stated that they were following a specific training programme. The majority of respondents stated that they acquired the training programme from their strength and conditioning coach at school, while some mentioned creating it independently or receiving it from their sport coach. When queried about their possession of suitable

training equipment to execute their programme, 38.7% (n = 137) of all participants affirmed their ability to carry out their plan as instructed without any alterations, while 15.0% (n = 53) reported their inability to execute the assigned training plan, even with modifications.

The pandemic has led to a significant change in training venues, frequency, and intensity among 200 participants. 82.5% experienced reduced access to resources, and 43% trained alone more often. Training goals were negatively impacted, and communication with coaches or staff increased. Nearly half of the subjects started using new tools or apps for training. Satisfaction with alternative arrangements varied, with 11% very satisfied, 43.5% somewhat satisfied, and 45.5% not satisfied.

The study assessed 200 subjects' psychological well-being, finding 69% experiencing increased stress, anxiety, isolation, and overwhelming feelings during the pandemic. Motivation levels decreased, sports performance was affected, and sleep patterns were significantly impacted. Eating habits changed, and support from coaching staff and teammates varied. Around 70% practiced mental resilience training or mindfulness, and focus maintenance varied. 55% sought psychological support or resources during the pandemic.

Our outcomes were in accordance with those of **Chandler et al. (20)**, who reported that psychological distress was observed among patients exposed to COVID-19.

Also, **Gilbertson et al. (21)** who sought to ascertain how the COVID-19 epidemic affected student-athletes. Participants (n = 238) were Division III student-athletes, aged 18 to 24. Student-athletes received email with link to a Qualtrics® survey consisting of forty-three questions. Prior to and during the pandemic, the poll inquired about collegiate experience, health, well-being, training linked to sports, & physical fitness. They showed that 94 percent of student-athletes said that COVID-19 made their time in college less enjoyable. The percentage of student-athletes who thought COVID-19 had a detrimental effect on their health & wellbeing was around 52 and 59%, respectively. Approximately 79% of student-athletes said that the epidemic caused them to cut down on their sport-related training. More than 50% of the participants thought that the

epidemic had affected their strength, endurance, and physical fitness.

Upon returning to school and their sport, student-athletes could need extra mental health help; yet, according to **Cox et al. (22)**, 25.7 percent of college student-athletes claimed they were unsure of where or how to get mental health support at their institution. Additionally, according to 44% of student-athletes, their sports departments did not provide them with any mental health education.

The association among sleep patterns and self-esteem, anxiety, and depression makes poor sleep quality a significant problem **(23)**.

An up-to-date assessment of mental health among student athletes emphasised the need of employing validated assessments to evaluate mental disorders, such as depression and anxiety. Additionally, it highlighted the need to further investigate the effects of COVID on mental well-being **(24)**.

This study showed that 18% reported improved physical performance, 61% decreased participation, and 74% worsened fitness levels. Disruptions led to injuries or health issues for 69% of subjects, and only 20% found their training program effective. Confidence in future performance goals was low, and virtual competitions negatively impacted performance for 77.5%. Support from sports organizations significantly influenced performance. We found that 18% reported improved physical performance, 61% decreased participation, and 74% worsened fitness levels. Disruptions led to injuries or health issues for 69% of subjects, and only 20% found their training program effective. Confidence in future performance goals was low, and virtual competitions negatively impacted performance for 77.5%. Support from sports organizations significantly influenced performance.

The findings of our study align with those of **Gilbertson et al. (21)**, who provided evidence that approximately ninety-four percent of student-athletes acknowledged that COVID-19 had a negative impact on their college experience. Approximately 52 percent & 59 percent of student-athletes had the belief that COVID-19 had an adverse effect on their physical and mental well-being, respectively. Approximately 79 percent of student-athletes indicated a reduction in their sport-specific training during the epidemic. More over fifty percent of the subjects reported a decline in

their physical fitness, endurance, and strength throughout the epidemic.

**Kass, Morrison (25)** determined that youth athletes are at a heightened risk of experiencing adverse mental health consequences as a result of the postponement of sports events caused by the COVID-19 pandemic. They have less emotional resilience and depend on the protective advantages of sports. In order to alleviate these effects, sports organisations should enhance the availability of training materials for home use, promote social interactions, and safeguard athletes' sense of identity. Research indicates that elite athletes in the transitional age group who possess a greater level of trait mindfulness tend to have lower levels of anxiety and sadness during periods of pandemic shutdowns.

The study examined 200 participants' adaptation strategies during the pandemic, finding that all adopted new training routines or methods. However, only 18% found these strategies effective, and 66.5% deemed them not. 74% used virtual coaching, while 41.5% engaged in mental health practices. 45.5% experienced negative impacts, while 20% experienced positive effects. Participants participated in virtual competitions, with 11.5% finding their strategies highly effective, 7.5% moderately effective, and 55% slightly effective.

The findings of our study align with those of **Gilbertson et al. (21)**, who determined that the COVID-19 pandemic had negative effects on Division III collegiate student-athletes, leading to a decline in their college experience and overall health and well-being.

Although some recent studies (**26, 27**) have been done on the psychological well-being of athletes throughout coronavirus epidemic, most of these investigations were carried out in the United States and Europe. More study is necessary to completely understand the experiences of athletes from other countries, particularly Nigeria and Africa. It is unclear how athletic identity and involvement in sports affect athletes' mental health, especially in the setting of pandemics.

**Håkansson et al. (17)** revealed that high school athletes frequently experience psychological anguish and self-reported anxiety over sports during the COVID-19 epidemic. The influence on mental health was less significant in winter sports, but more pronounced in athletes participating in team sports, where subjective

mental health implications were shown to be more prevalent compared to prior studies with predominantly older top athletes. Female high school athletes had a greater prevalence of mental health consequences, including clinical levels of sadness and anxiety, compared to their male counterparts. Additionally, senior high school athletes experienced higher levels of these mental health issues. During the COVID-19 pandemic, there was a noticeable rise in gaming activity, particularly among male individuals and team sports participants.

The stakeholders of the Swedish top sport high school system have expressed concerns over a rise in mental health issues among the student-athletes under investigation. Academics have contended that addressing the mental health concerns in professional sports necessitates the establishment of norms & a framework to effectively address these demands (**28**)

**Taheri et al. (29)** who concluded that After two years of the pandemic, it was seen that top athletes had a higher likelihood of having better mental health profiles compared to sub-elite athletes. However, interestingly, they had inferior nutrition quality.

**Bazett-Jones et al. (30)** implemented comparable methodologies to evaluate the mental health of young athletes prior to and during COVID-19 lockdowns. Six months prior to the COVID-19 pandemic and during the lockdowns, they conducted surveys of adolescent long-distance runners regarding their mental and physical health. When contrasted with their pre-COVID responses, juvenile runners exhibited a diminished motivation to run during lockdowns and a variety of motivations for running, such as stress relief. Runners also reported a decrease in the enjoyment of running, an increase in anxiety symptoms, and a low quality of food ingested in comparison to their pre-COVID responses.

**Pons et al. (31)** conducted an investigation during Spain's initial COVID-19 lockdown, involving 544 adolescent Spanish athletes. The research team found that these athletes experienced significantly increased symptoms of anxiety, depression, and social dysfunction in relation to their dual careers (balancing sports, studies, & social life) and their overall health (both mental and physical). These findings were based on assessments from the Holistic Monitoring Questionnaire & General Health Questionnaire.

## Conclusion

We concluded that stress the significance of knowing how COVID-19 pandemic has affected university athletes & the ongoing need for tools and support to assist players in navigating these trying times. Reiterate how important the study's conclusions are to the body of knowledge on sport psychology, athlete wellbeing, and crisis management.

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