

# Impact of COVID-19 Detraining on the Mental Health of Athletes

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## **ABSTRACT**

The COVID-19 pandemic has negatively affected various domains, including the field of sports leagues & athletic activities across the globe. The postponement or cancellation of outdoor sports and athletic activities has given rise to detraining effects in sportspersons. Present study analyzes detraining effects on mental health of athletes. A cross-sectional study was conducted using survey questionnaire, where questions were adapted from Impact of Events Scale-Revised (IES-R) & Positive and Negative Affect Schedule (PANAS-SF) questionnaires as a reference source to assess the study. Questions were presented in a differential format were participants answered regarding “before” and “during” confinement conditions. Hence, crisis oriented questions paved a way in deducing the results for the study. The findings of this study reflected that the pandemic, lockdown measures & tedium replacing their usual dynamic lifestyles caused stress, anxiety, social isolation, and psychological distress in athletes – indicating influence of physical activity & training levels on mood, emotional intelligence & resilience. Training components were modified under isolation conditions by reducing training volume, intensity & frequency of training. It is worth noting that the mental health of an athlete is directly proportional to physical health & any disproportion can affect the performance in sports to a great extent.

## **Keywords:**

Athlete  
Detraining  
Pandemic  
Stress  
Health

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## **I. Introduction**

The coronavirus disease (COVID-19) pandemic has been devastating in all senses, particularly psychologically. Sports represent the core activity of an athlete’s weekly routine and their life. Home confinement, a result of COVID-19 restrictions has caused “detraining” – the partial or complete loss of training-induced adaptations, in response to an insufficient training stimulus impairing an athletic person’s performance. Physical activity (PA) is known to aid psychological well-being. Detraining is one of the biggest negative consequences of the current “stay at home” confinement – disrupting the psychological well-being of athletes’ during the COVID-19 pandemic. Disrupted training leading to detraining effects, reduced physical activity in general, separation from their respective teams or sports communities, reduced interaction with coaches or trainers had negative psychological effect on athletes. The present study analyzes psychological effects on athletes as a result of relative detraining during COVID-19 restriction.

## **II. Literature Review**

Exercise was positively associated with consumption of a balanced diet. Stress and quality of life were, directly and inversely, associated with the food consumption during confinement period. Poorer mood states possibly led to unhealthy dietary habits, which can themselves, be linked to negative mood levels. Additionally, limited access to fresh food could negatively affect overall physical and mental health. The negative changes in the majority of eating behaviors could be attributed to eating out of anxiety or boredom, a dip in motivation to participate in PA or maintain healthy eating or an increase in mood-driven eating. Exercise has led to healthier nutritional choices, mediating the effects of mood states, & it might represent a key measure in uncommon situations, such as home-confinement.

### III. Method

#### 3.1. Participants

A cross-sectional study was conducted using questionnaire. The survey was open for athletes aged 18 -30 years.

#### 3.2. Materials

Questions were adapted from Impact of Events Scale-Revised (IES-R) & Positive and Negative Affect Schedule (PANAS-SF) questionnaires as a reference source to assess the effect of COVID-19 detraining on mental health of athletes. The questionnaire included questions on mood, current training pattern, multidimensional lifestyle behaviors such as physical activity, need of psychosocial support & mental well-being. Questions were presented in a differential format, to be answered directly in sequence regarding “before” and “during” confinement conditions. Therefore, a collection of validated and crisis oriented brief questions were included.

#### 3.3. Procedure

During the informed consent process, survey participants were assured all data would be used only for research purposes. Participants were not asked to provide their names or contact information. Additionally, participants were able to stop study participation and leave the questionnaire at any stage before the submission process, where the responses were saved only by clicking on the provided “submit” button. By completing the survey, participants acknowledged their voluntary consent to participate in this anonymous study. Participants were requested to be honest in their response.

### IV. Results

The COVID-19 pandemic and relative quarantine caused the suspension of sports activity at every level. Together, isolation and sporting inactivity has led undesirable psychological pressure on the athletes. Changes in the training regime with significant reduction in training components has led to fitness detraining as indicated in figure 1, 2 & 3 below. 52.9 % athletes were negatively affected by sport inactivity periods due to low levels of interaction between the different participants in competition (coaches, players, coaching staff, opponents, etc.).The detraining triggered by cancellation and suspending competitions has provoked considerable sadness, frustration, stress, anxiety, and grief in athletes accounting for 47.1%. Drastic cessation of training due to lack of equipment or insufficient space to exercise entailed a decrease in the athlete’s neuromuscular adaptations (52.9% ) of the training process achieved before the isolation period; as a result of which 41.2% athletes feels that it would be difficult to be around teammates after the restrictions are lifted. These could be the main precursor factors for stress, anxiety, performance pressure, or irritability. 47.1 % athletes showed an increase in sleep hours & 41.2 % reported decrease in sleep quality; which could be associated with changes in lifestyle caused by mobility restrictions & COVID-19 confinement stress. 82.4 % reported increased usage of technology, social media & phone during night in this major upheaval in life. The higher prevalence of anxiety and stress-related disorders are purely pandemic related, such as frequent hand washing – a consequence of fear that oneself or a loved one might contract the virus, and generalized uncertainty about the future. To support resilience, 52.9 % athletes started practicing yoga, meditation/breathing exercise or other relaxation techniques during lockdown as a part of coping mechanism. In particular, religion and spirituality had helped athletes with a sense of meaning during the COVID-19 pandemic. Figure 4. explains the psychological stressors during confinement among athletes.

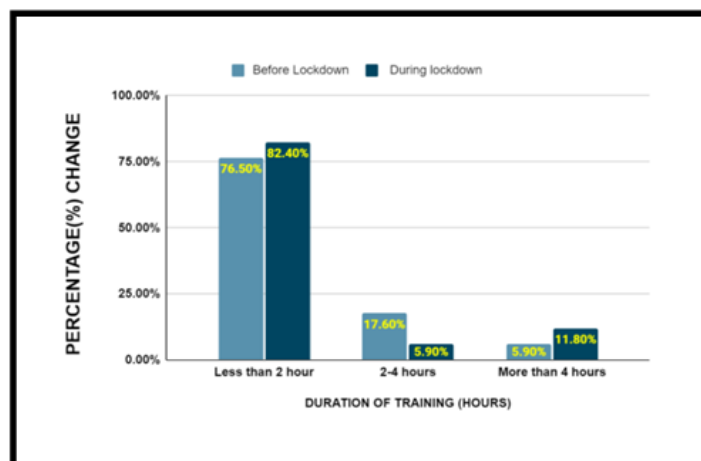


Figure 1. Change in duration of training

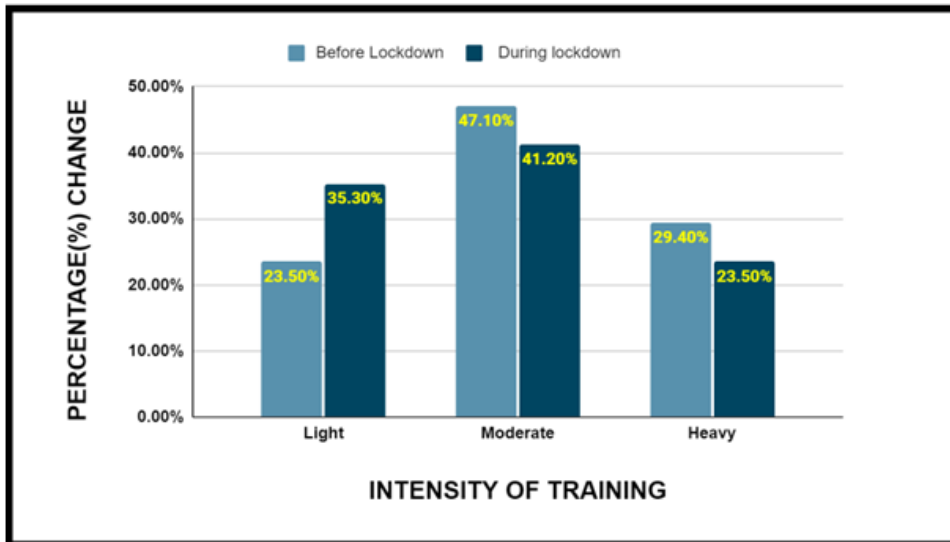


Figure 2. Change in intensity of training

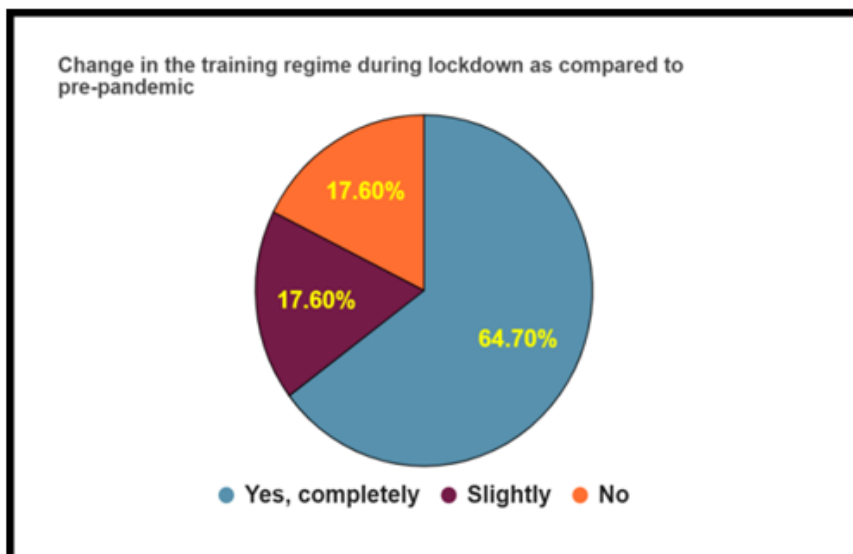


Figure 3. Change in the training regime

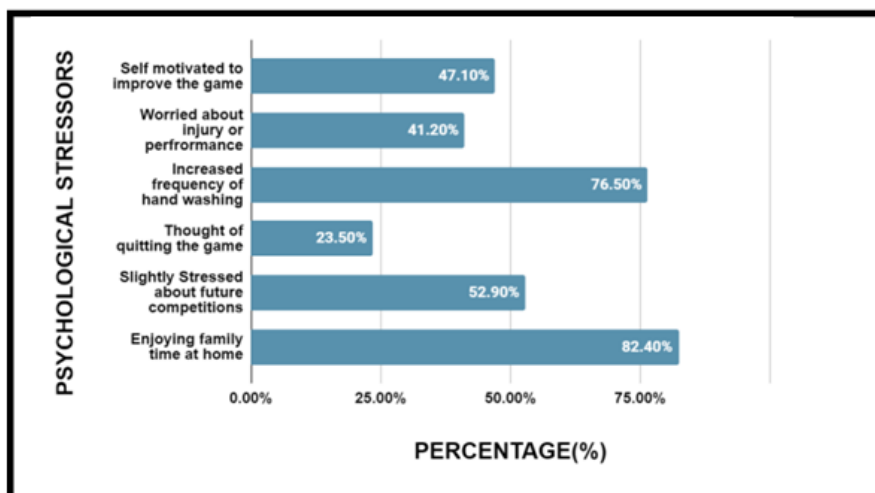


Figure 4. Psychological stressors during confinement

## V. Discussion

### I. *Sleep Hygiene and Well-being of Athletes*

According to a recent study, athletes score fewer points and got fewer rebounds the day after late-night activity on social media, to which numerous studies supported in concluding that partial and/or total sleep deprivation impaired cognitive and physical performance among athletes. In addition, psychomotor and cognitive performances were the most affected by sleep deprivation among athletes. It has been reported that sleep deprivation can lead to disturbances in the person's psychological state (for example, increased anxiety, depressed mood, anger, tension, frustration, and irritability) and that any deterioration of this psychological well-being is also likely to affect the performance of the athlete. However, it has been revealed that adequate sleep, both in quantity and quality, is often viewed as a restorative process that influences the homeostatic regulation of the autonomic, neuroendocrine, and immune systems and is generally associated with better physical performances.

### II. *Resilience & Athletes' Confinement*

The act of quarantining itself adds a facet to mental health deterioration. For example, anxiety and depression prevalence almost doubled in people who had to quarantine or whose friends and family had to quarantine compared with people who did not. To cultivate healthy coping strategies and resilience were major challenges during the pandemic, suggesting that exploring strategies to improve psychological well-being during lockdown is the need of the hour. Another relevant psychological area for the athlete's performance is emotional intelligence (IE) – dynamic capacity to solve problems derived from the emotions of oneself and others is linked with resilience. Powerful mental tools like meditation and autogenic training are useful for stress and anxiety management. Social interactions appear crucial to warrant psychological well-being and resilience, in the sports environment. Interactive relationships – serving as a buffer function, could support individual resilience during the COVID-19 lockdown

### III. *Physical Activity & Mental Health.*

Various studies show that athletes who exercised daily show less somatization, enhanced mood & less distress than those individuals who do not exercise. Maintaining regular PA and positive reappraisal are associated with less distress and better sleep quality. Negative emotions improve with PA, especially at 2500 METs/week. Alleviation of depression & better well-being is observed with PA. Moreover, PA of adequate intensity and quantity releases psychological tension and increases mental stability. Detrimental effects are associated with lack of PA, specifically greater anxiety, depression, stress & low quality sleep. Physical exercise positively influences mood and the athletes' well-being; even those who are in a non-specific training, recovering from injury, or in off-season period indicating exercise as the most common coping strategy during the COVID-19 lockdown.

### IV. *Practical solutions for Athletes during confinement*

- i. Setting clear training objectives through simple training tools and resources.
- ii. Getting in touch with the 'player support network' by the experts (coach, doctor, psychologist, nutritionist, etc.) through the use of technology (phone calls, video calls, email, etc.) to guarantee suitable physical and psychological levels for the return to competition;
- iii. Design an individualized home fitness training programme according to available space and equipment resources - tailored according to the athlete's characteristics and current needs.
- iv. Daily monitoring of the one's own well-being, physical state, recovery capacity and psychological state.
- v. Inculcating key mental skills such positive attitude, self-motivation, mental imagery, self-talk during these testing times.
- vi. Invigorating and improving their fitness with basic exercise regimens like core exercises, aerobics, resistance exercises, yoga, and meditation etc.
- vii. Practicing mental and motor imagery as this activates certain areas of brain associated with actual training, even in the absence of the physical stimulus – powerful tool in preventing detraining effects as well as in rehabilitation.
- viii. Forced isolation can be taken as a time for introspection on the past mistakes, analyse the present opportunities, and reset priorities for a bright future
- ix. Cognitive Behavioral Therapy (CBT), supportive therapy, and meditation-based yoga - widely available & accessible tools will help in reducing symptoms of depression, anxiety & aid to cope and reduce sedentary behavior.

## VI. Conclusion

Athletes' lives are disrupted during the COVID-19 pandemic by causing physical deconditioning & major psychological impact of athletes' confinement. Quarantine duration, fears of infection, frustration, boredom, inadequate training & supplies, modified lifestyle are the most important 'stressors' leading to

negative mental effects. This current “stay at home” confinement is an opportunity for both a complete physiological and mental reset as well as for the athlete’s integral development. Athletes must incorporate some type of endurance exercise into their daily routine to avoid the effects of detraining during the forced quarantine. By following a balanced, healthy lifestyle, exercise, nutrition, rhythm of life, and getting enough sleep, athletes can get through this upheaval smoothly. A well-planned restart of the training phase and “return to play” strategy is the need of the hour, all around the world, to overcome the risks involved for athletes. Although majority of athletes reported being in a relaxed, long periods of re-training and psychological counseling would be required to reverse the effects of detraining caused due to the ongoing pandemic crisis. On the other hand, the coaches will have to encourage and guarantee precautionary and preventive measures for their athletes with shorter training sessions, regular rest periods. By accepting the new behavioral rules, coaches would be “a point of reference” for their athletes who are involving them in these new behaviors. This condition will mitigate maladaptive coping and depression for lost time and lost athletic opportunities. Ultimately, everything is based and depends on the level of consciousness of the athlete himself.

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