



ISSN: 2456-0057

IJPNE 2024; 9(2): 163-166

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Received: 13-07-2024

Accepted: 17-08-2023

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## Riding the waves: The impact of mood swings on female athletes' sports performance

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### Abstract

Athletes' moods might fluctuate due to many physiological, psychological, and external factors that affect their overall well-being and performance. Hormonal variations associated with the menstrual cycle, rigorous training schedules, poor nutrition, sleep disruptions, psychological stress, and obstacles connected to injuries are common causes. A comprehensive strategy, including cycle tracking, balanced diet, optimal training loads, mental health assistance, and sufficient sleep, is needed to manage these mood swings. Furthermore, tactics like cultivating a supportive atmosphere, practicing mindfulness, and using cognitive behavioural approaches are essential. Female athletes can improve their emotional stability, performance, and long-term mental health by addressing these aspects holistically.

**Keywords:** Menstrual cycle, rigorous training, nutrition, stress

### Introduction

Women started playing modern sports at the beginning of the 20th century, and in 1900 they participated in their first Olympics. The official approval of women's participation in the Games took place in 1908 in London, and Title IX was a major change that levelled the playing field for all competitors. Female athletes nevertheless confront particular difficulties in spite of these advancements, such as those pertaining to menstruation health. Premenstrual syndrome (PMS) is a major issue that is frequently disregarded, although it can have a considerable negative influence on both physical and psychological functioning.

Mood swings are sudden, dramatic shifts in mood. You know just how quickly your mood may change if you've ever gone from feeling upbeat to gloomy, depressed, or angry. The phenomena known as "mood swing" is frequently employed to characterise abrupt and drastic changes in feelings.

Mood swings are frequently compared to a "roller coaster" of emotions, ranging from contentment and happiness to impatience, rage, and even sadness (Balbuena L, *et al.* 2016) [3]. Sport-related mood state is well known to be impacted by psychophysiological reactions (Soylu *et al.*, 2021) [9] and influenced by a number of factors, including training modality (Selmi *et al.*, 2017) [8], training load (Beykzade *et al.*, 2011) [4], competitive performance (Filaire *et al.*, 2001; Casanova *et al.*, 2016) [7, 5], and athletes' motivation and focus during training (Aydi *et al.*, 2022) [2].

Mood swings can cause energy, motivation, and focus to fluctuate, which makes it challenging for athletes to perform consistently. Training performance and competition outcomes may be impacted by this diversity. It can be difficult to modify exercise intensity according to mood and energy levels. Recovery and growth might be hampered by overtraining during low-energy times or by missing training sessions because of emotional strain. Mood swings can exacerbate negative emotions such as irritation, anxiety, or self-doubt, which can affect an athlete's mental toughness and self-assurance. This may result in burnout or less enjoyment from sports.

Particular difficulties arise from hormonal changes related to the menstrual cycle, birth control, or illnesses such polycystic ovarian syndrome (PCOS). These variations can lead to difficult-to-predict or control mood disorders that call for focused attention and customised tactics. It may be challenging to talk about mood swings and other issues because of stigma or a lack of understanding among teammates, coaches, and even athletes. Athletes may feel alone or unsupported as a result.

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Mood swings and the pressure to constantly deliver excellent work can lead to a vicious cycle. If mood swings have a detrimental impact on an athlete's performance, they may feel anxious or guilty, which exacerbates emotional suffering. During times of injury, when feelings of frustration, loneliness, and anxiety are already elevated, mood swings can exacerbate. The athlete's general mental health may suffer as a result, and rehabilitation may be slowed. Disordered eating is more common among female athletes and can contribute to or result from mood swings. When emotions are unstable, it can be challenging to ensure proper nourishment, which can result in a vicious cycle of low energy availability and mood swings.

It might be difficult for coaches and athletes to include menstrual cycle tracking into training routines because they do not have the resources or expertise to make the required changes. This may result in lost chances to enhance productivity or effectively control mood swings. If unchecked, persistent mood swings can result in long-term stress, mental health problems like anxiety or depression, and even early career burnout. Taking action against mood fluctuations is essential to preserving long-term health and performance.

These difficulties emphasise the value of a thorough and customised strategy involving cooperation between athletes, coaches, dietitians, and mental health specialists to manage mood swings in female athletes.

Everyone experiences mood swings for a variety of causes. There may be no apparent reason for them at times, or they may be related to particular contextual elements. These mood fluctuations can become problematic and indicate a more serious issue, such as a mental health disorder, when they become severe or regular.

The amount of sleep a female athlete gets has a significant impact on both her mental and physical health. Sleep actually improves athletic performance and protects against sports-related injuries, as a multitude of studies have shown (Dwivedi S, Boduch A, Gao B, *et al.*, 2019) [6].

According to the literature during periods, the body gets replenished and it has an impact on an athlete's performance. When you get your period, your levels of progesterone and oestrogen are at their lowest. In essence, your body is in an energetic and hormonally balanced state throughout this period.

### Common causes of mood swings in female athletes

While mood swings are common and should not be ignored, if they seem to be occurring more often than not, or if they are severe enough to interfere with everyday activities such as relationships and work, there may be an underlying medical disease that needs to be treated (Angst & Dobler-Mikola, 1984) [1].

Our mood is influenced by internal changes that occur throughout our life, but we also react to external events, so it's not simply internal factors that define our mood.

Our emotions can also be impacted by outside events that occur in our lives and surroundings, such as elevated stress levels at work, school, or home.

Your ability to recognise the contributing variables to your mood swings will improve as you gain knowledge about them. The first step towards effectively managing your mood fluctuations is identifying the cause of them.

Athletes' mood swings can be caused by a variety of internal, environmental, and physiological variables. These are a few typical reasons:

- a) **Changes in hormone levels menstrual cycle**  
Mood swings, irritation, and weariness can result from variations in oestrogen and progesterone levels during the menstrual cycle.
- b) **PMS, or premenstrual syndrome, is**  
Mood swings, anxiety, and irritability in the days preceding menstruation are symptoms of PMS.
- c) **Birth control**  
By changing the body's natural hormone levels, hormonal contraceptives can also have an effect on mood.

### Stress on the body and mind

- a) **Intense training:** Excessive physical effort, particularly in the absence of sufficient recuperation, can cause exhaustion, burnout, and mood swings.
- b) **Overtraining syndrome:** This illness is brought on by inadequate recuperation time in between sessions and manifests as mood swings, chronic weariness, and irritation.
- c) **Competition stress:** Anxiety and mood swings might result from managing expectations, feeling under pressure to perform, and fearing failure.

### Energy availability and nutrition

- a) **Malnutrition or poor diet:** Low energy availability, in particular, can have a negative effect on mental health. Mood swings may be exacerbated by dietary deficiencies, such as those in iron, magnesium, or omega-3 fatty acids.
- b) **Eating disorders:** Eating disorders are prevalent in certain sports and can cause emotional and physical instability.

### Sleep interruptions

- a) **Lack of sleep:** Not getting enough sleep or getting poor quality sleep can have a big effect on mood, making people more irritable and unstable emotionally.
- b) **Timetable for travel and competition:** Frequent travel can cause sleep disturbances and emotional fluctuations, particularly when travelling across time zones.

### Psychological elements

- a) **Achievement anxiety:** Stress and mood swings can be caused by worries about one's appearance, athletic ability, and self-worth.
- b) **Anxiety and depression:** Mental health problems, which can cause mood fluctuations, can affect athletes just like anybody else.

### Social and environmental factors

- a) **Team dynamics:** Relationship troubles, coaching concerns, and internal conflicts can all have an impact on how people feel.
- b) **Social pressure and expectations:** Emotional tension can result from peer, coach, or societal pressure.

### Injuries and recovery

- a) **Stress from injuries:** Managing injuries, recuperation, and time away from sports can be emotionally taxing and lead to mood fluctuations.
- b) **Post-injury anxiety:** Stress related to returning to sports or fear of getting hurt again may also play a role.

### Mood swing management in female athletes

Female athletes must use a combination of support networks, psychological techniques, and lifestyle changes to manage

their mood swings. Here are a few successful strategies:

## 1. Track and control hormonal changes

### a) Monitor your menstrual cycle

Being aware of how hormone fluctuations affect mood enables you to arrange your training and competition more effectively. Journals or apps can be helpful for monitoring symptoms.

### b) Dietary habits and nutritional supplements

Some minerals, such as magnesium and vitamin B6, can help reduce the symptoms associated with being pregnant. Whole foods and omega-3 fatty acids are abundant in a diet that promotes overall emotional stability.

### c) Speak with medical professionals

Seeking advice from a physician on hormonal therapy or contraceptives can be helpful for athletes experiencing severe problems.

## 2. Optimize training load and recovery

### a) Training periodization

Training cycles should be carefully planned with intense intervals interspersed with sufficient rest to avoid overtraining and burnout.

### b) Rest and sleep

For both physical and emotional healing, getting seven to nine hours of good sleep every night and including rest days into the training regimen are essential.

### c) Active recovery

Stress-reduction and relaxation techniques such as yoga, stretching, and low-intensity workouts might be beneficial.

## 3. Mental health and stress management

### a) Meditation and mindfulness

Techniques like mindfulness exercises, deep breathing, and meditation can support athletes in maintaining focus and managing stress.

### b) Cognitive Behavioural Therapy (CBT)

CBT methods are useful in recognising and modifying the unfavourable thought processes that underlie mood fluctuations.

### c) Journaling

Understanding triggers and managing emotions can be aided by recording ideas and tracking mood swings in a journal.

## 4. Balanced nutrition

### a) Preserve energy balance

It's crucial to make sure you're getting enough calories based on how much you're burning. Disturbances in energy availability can cause emotional as well as physical problems.

### b) Regular, balanced meals

Eating meals with a good ratio of proteins, carbohydrates, and healthy fats helps to maintain blood sugar levels, which in turn helps to maintain mood stability.

### c) Hydration

Being dehydrated can affect one's attitude and physical abilities. All throughout the day, athletes should maintain proper hydration.

## 5. Build a support network

### a) Open communication

Encourage athletes to be upfront and honest about their

struggles with coaches, teammates, and family members in order to foster a supportive environment.

**Professional Counselling:** Having access to counsellors or sports psychologists who have experience dealing with athletes can be very helpful in addressing emotional and mental health issues.

## 6. Injury and pain management

### a) Physical therapy

Handling injuries and recovering from them properly can help lessen the anxiety and annoyance that come with being unable to function

### b) Gradual return to play

After an injury, gradually resuming training and competition can help reduce the anxiety that can come with returning to sports.

## 7. Mindset and goal setting

### a) Establish achievable short- and long-term goals

Having realistic goals can help you stay focused and handle the emotional highs and lows of training and competition.

### b) Positive self-talk

Encourage athletes to have a positive inner conversation to assist them change their perspective in difficult situations.

## 8. Lifestyle balance

### a) Time for relaxation

Including interests outside of sports, social interactions, and hobbies helps keep emotional equilibrium.

### b) Social support

Fostering relationships with uplifting friends, family members, and peers can act as a constructive way to release tension.

## 9. Modifiable exercise throughout the menstrual cycle

**Cycle sensitive training:** Modifying the type and intensity of exercise during the various stages of the menstrual cycle can minimise mood swings and enhance performance.

## 10. Regular check INS and monitoring

### a) Frequent check-ins and mood and wellness logs

In order to see trends and modify their regimens appropriately, athletes can monitor their energy levels, moods, and sleep quality.

### b) Regular assessments

It is important for coaches and support personnel to periodically assess the mental and emotional health of athletes, taking early action when mood disorders appear.

These techniques can help female athletes better manage their mood swings, which will improve their overall wellbeing and performance consistency.

Female athletes' mood swings are frequently caused by a complicated interaction between hormonal fluctuations, training demands, psychological stress, and lifestyle choices. Effective management requires an understanding of the common causes, which include variations in the menstrual cycle, overtraining, inadequate diet, and mental health issues. Athletes can improve their general well-being and emotional regulation by putting specific tactics like individualised training regimens, dietary support, mental health interventions, and lifestyle modifications into practice. By addressing these issues, female athletes' long-term health and more sustained sporting success are assured. Moreover, improved mental stability also boosts athletic performance.

## Conclusion

Managing mood swings in female athletes requires a multifaceted approach that addresses physiological, psychological, and social factors. Understanding hormonal fluctuations, stress management, and proper nutrition is essential for maintaining mental health. Coaches, athletes, and health professionals must collaborate to create tailored strategies, including tracking menstrual cycles and optimizing training loads. Prioritizing sleep, nutrition, and a strong support network can help mitigate mood disturbances and enhance performance. By fostering an environment that encourages open communication and mental well-being, athletes can navigate the complexities of their emotional health, ultimately ensuring sustained athletic success and personal fulfillment.

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