

## Psychological mood patterns among Jordanian handball players

Patrones psicológicos del estado de ánimo entre los jugadores jordanos de balonmano

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**Abstract.** The purpose of this study was to identify the prevailing mood patterns amongst handball players in Jordan. Therefore, this descriptive study was conducted on a sample consisting of (76) male handball players participating in the 2022/2023 Jordanian Handball League championship. The list of mood patterns for athletes was used as a data collection tool along with the following three statistical methods: Arithmetic mean, Standard deviations, and Two-Way ANOVA. The study results showed that the personal flexibility pattern emerged in first place with a high level and an arithmetic average of (2.3728). The cease operations pattern emerged second with a high level and an arithmetic average of (2.2556). The excitement operations pattern emerged third with a high level and an arithmetic average of (2.2257). Results relatively exhibited that there were no statistically significant differences in the level of mood patterns according to the variable of experience and player position amongst handball players. The researchers suggested a number of recommendations including, raising the awareness of handball players on psychological importance; in addition to mood preparation prior to the competitions. It is advised that players take courses and educational workshops that can be offered to athletes to enhance their psychological and physical performance. Especially courses in regard to the excitement operations pattern, which obtained the lowest order among the three mood patterns.

**Keywords:** Mood, Mood Patterns, Handball players, Mental health, physical performance, psychological state.

**Resumen.** El propósito de este estudio fue identificar los patrones de estado de ánimo predominantes entre los jugadores de balonmano en Jordania. Por lo tanto, este estudio descriptivo se realizó sobre una muestra compuesta por (76) jugadores masculinos de balonmano que participaban en el campeonato de la Liga Jordana de Balonmano 2022/2023. La lista de patrones de estado de ánimo de los atletas se utilizó como herramienta de recopilación de datos junto con los siguientes tres métodos estadísticos: media aritmética, desviaciones estándar y ANOVA de dos vías. Los resultados del estudio mostraron que el patrón de flexibilidad personal emergió en primer lugar con un nivel alto y un promedio aritmético de (2.3728). El patrón de cese de operaciones emergió en segundo lugar con un nivel alto y un promedio aritmético de (2.2556). El patrón de operaciones de excitación emergió en tercer lugar con un nivel alto y un promedio aritmético de (2.2257). Los resultados mostraron que no hubo diferencias estadísticamente significativas en el nivel de los patrones de estado de ánimo según la variable de experiencia y posición del jugador entre los jugadores de balonmano. Los investigadores sugirieron una serie de recomendaciones, entre ellas, aumentar la concienciación de los jugadores de balonmano sobre la importancia psicológica; además de la preparación del estado de ánimo previo a las competiciones. Se aconseja que los jugadores tomen cursos de psicología centrados en mejorar el estado de ánimo. Especialmente los cursos sobre el patrón de operaciones de excitación, que obtuvo el orden más bajo entre los tres patrones de estado de ánimo.

**Palabras clave:** Estado de ánimo, patrones de humor, jugadores de balonmano, salud mental, rendimiento físico, estado psicológico.

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## Introduction

Sports psychology primarily considers factors that influence sports, athletic performance, exercise, and physical activity (Weinberg & Gould, 2023a), (Alkasasbeh & Amawi, 2023). By reflecting on these factors, athletes can use psychology to enhance their athletic performance and mental well-being (Birrer et al., 2012). Consequently, sports trainers, such as coaches, have begun to pay great attention to the various psychological aspects of sports training and competitions (Murphy, 2009a). The psychological factor has become an important attribute because it examines the features and psychological characteristics of the personality (MacNamara et al., 2010). These characteristics form the self-basis of sports activity and significantly affect the physical, skill, and schematic aspects (Orosz & Mezo, 2015) (M. H. Allawi & Radwan, 2000). The player's mood is considered one of the most

important psychological conditions that positively or negatively affect the player and may be overlooked by the coaches despite its importance (Lane et al., 2004; Moll & Davies, 2021). The mood can be used to discover the player's emotional state which changes at different times in the season and during competitions (Quartioli et al., 2018). The speed of the players' preparedness for such competitions and changes in the different responses could be a sign of the need to intervene in the affairs of the players (Murphy, 2009b). Different responses were intended to follow the players throughout the sports in the given season from the preparation period to the competition until the transitional period (Pyne, 1996). This may provide the coaches with information to prevent poor performance which leads to loss or even occupational burnout of the players (Salih, 2017).

Athletes are affected both negatively and positively by their psychological state and mood (McCarthy, 2011), A good

mood can enhance a player's creativity and brilliance on the field, while a negative mood can diminish these abilities (Brandt et al., 2017a; Sharaf, 2015). This indicates that mood is a clear indicator of the behavioral pattern's individuals adopt according to their psychological state (Hess et al., 2006). Mood patterns play an important and prominent role in an individual's personality (Olson, 2006). As Ratib (2005) indicates, personality is the sum of the mental, physical, and social traits formed within an individual (Yunus et al., 2018). Therefore, each of these traits distinguishes one individual from another.

Every sport has its own requirements and distinctive features, and success in any sport requires certain qualities and characteristics (Kozina et al., 2015). As a result, a player who lacks positive personal traits will not be able to achieve the highest levels of performance, regardless of their physical and skill abilities (Abdullah et al., 2016). This is because a player's performance is directly affected by these traits (Al-Zayni, 2011).

A happy mood increases self-esteem, self-respect, and participation in various activities effectively whether as an observer or participant (Baumeister et al., 2003). On the contrary, people who feel sad or are not in a very positive mood don't prefer to participate in various activities (Wood et al., 2009). Therefore, the most suitable time for training is once a player is positive because the thinking and behaving are according to the mood (Hanin, n.d.). The transition from one mood to another causes a noticeable change in thinking and behavior (Lazarus, 1991). There are many sports activities that require the athlete to distinguish certain temperamental characteristics so that they can achieve the highest levels of athleticism (Sharaf, 2015).

Further, indicates that mood is the pattern of behavioral characteristics or human reactions (Schreiner et al., 2021). The mood expresses the emotional nature of the individual and the psychological structure in human relationships or interactions with the environment (Colman, 2015). The level of athleticism can be greatly affected by the mood pattern or the pattern of the nervous system. Considering that there are many sports activities that require the player to distinguish certain temperamental characteristics to achieve the highest levels in sports (M. H. Allawi, 1998).

The player's psychological state during the competition is a helping factor to develop collective performance mentally, physically, and in terms of planning and skill (Hardy et al., 2018). Sports psychology is considered to have a great influence in determining the superiority between competitors upon the convergence of the technical, physical, and tactical levels of the participating teams (Hardy et al., 2018). The mood of the handball player is the most important factor to distinguish the player's interactions with teammates, the public, and competitors (Reigal et al., 2020). Also, it may enhance the player's success on the field if the player is stable

and balanced. On the contrary, it is not successful if the player is not in an optimistic and pleasant mood (Norlander & Archer, 2002).

The coach's recognition in acknowledging the mood patterns of the players and their reactions in different situations is imperatively extensive (Khanin, 2000). In the process, sports require certain mood characteristics to improve the level of motor performance (Neiss, 1988).

Handball is a competitive team sport that is characterized by tackling and friction with the opponent, especially in the case of defense (Wurm et al., 2020). The handball national federation regulations allow players to engage in physical contact (using the body to reserve the opponent, using bent arms in physical contact with the opponent), rather within ethical engagements and without endangering the opponent (Wurm et al., 2020). Such friction may generate many emotions such as recklessness, which may lead to a penalty of suspension or exclusion (Wurm et al., 2020). This also affects the player's personal level of performance and the team during the competition. The mood is a set of characteristics that separates an individual's emotions from others with different processing rates (Clark et al., 2018). The emotions may affect the person quickly, slowly, deeply, or leave no response (Clark et al., 2018).

The researchers of this study assert that individuals' traits play significant roles in shaping reactions within competitive sports, with mood emerging as a prominent trait (Weinberg & Gould, 2023b). Given this assertion, understanding mood patterns among athletes becomes crucial for coaches to identify players' strengths, weaknesses, and evaluate their performance effectively.

Despite extensive research on mood patterns among athletes in various sports contexts (fatimah hussain, 2015; Jaber, 2013; Salih, 2017; Sharaf, 2015) (Bibi et al., 2020; Brandt et al., 2017b; Harris et al., 2017; Ladiun et al., 2021; Terry & Parsons-Smith, 2021; Turgut et al., 2020), no studies have specifically examined mood patterns among handball players in the Kingdom of Jordan. Additionally, a review of records from Jordanian clubs and the Jordanian Handball Federation yielded no information on mood patterns among handball players in the country. This knowledge gap underscores the need for a preliminary study to explore mood patterns among handball players in Jordan and their associations with variables such as achievement levels, motivation, aggressive behavior, and psychological stress. Understanding these relationships is crucial for developing tailored psychological interventions and enhancing the overall performance and well-being of handball players in Jordan. So, this study aims to identify the predominant mood patterns among handball players in Jordan. Additionally, it seeks to investigate how these mood patterns vary based on study variables such as players' experience levels and positions within the team.

## Materials and Methods

### Study Design

This study focused exclusively on athletes from the Jordanian Handball League, conducting data collection and analysis in the 2022/2023 Jordanian Handball League championship. The research was carried out across multiple venues including the Sports Palace Hall, Prince Mohammed Hall, Princess Sumaya Hall, and Al-Hassan City Hall. This diverse venue selection provided a robust framework for investigating various aspects of handball performance and competition.

### Research Approach

A descriptive approach was chosen as the most suitable method for this study, aligning with its objectives. The total population under study consisted of male handball players participating in the 2022/2023 Jordanian Handball League championship. According to the Jordan Handball Federation, the total number of eligible players was 112.

### Sampling and Consent

The study sample was selected randomly from the pool of handball players involved in the 2022/2023 Jordanian Handball League championship. Prior consent was obtained from all participants for their voluntary involvement in the research. The final sample size included 76 male handball players. It was clearly communicated that data collection was solely for scientific research purposes.

### Participants

This study targeted male handball players participating in the 2022/2023 Jordanian Handball League championship. According to the Jordan Handball Federation, the total population consisted of 112 individuals. From this population, a random sample of 76 players was selected to participate in the research. All selected participants gave prior consent for their voluntary involvement in the study.

Table 1.  
The Description of the study sample members.

		Frequency	Percent
Position	Back	40	52.6
	Front	27	35.5
	Goalkeeper	9	11.8
	Total	76	100.0
Experience	less than 10	45	59.2
	10 and above	31	40.8
	Total	76	100.0

## Methodology

### List of Mood Patterns

The list of athletes' mood patterns was developed based on the design by (M. Allawi, 1998) and utilized in the studies of (M. Allawi, 1998; Jaber, 2013; Sharaf, 2015). This study tool consists of 30 items distributed across three main dimensions:

1. Strength of Excitement Operations: This dimension

includes items related to the level of psychological excitement and rapid neural responses, measuring the athlete's ability to engage with situations actively and quickly. The relevant items are 1, 4, 7, 10, 13, 16, 19, 22, 25, and 28.

2. Strength of Cease Operations: This dimension assesses the athlete's ability to exercise self-control and manage reactions, focusing on the inhibition of emotional responses. The associated items are 2, 5, 8, 11, 14, 17, 20, 23, 26, and 29.

3. Personal Flexibility (Dynamics of Neural Processes): This dimension addresses personal flexibility and adaptability to various pressures and situations during athletic competitions, encompassing items 3, 6, 9, 12, 15, 18, 21, 24, 27, and 30.

These three dimensions are essential for understanding the impact of mood patterns on athletic performance and psychological adaptability. By analyzing them, coaches can evaluate players' responses and provide the necessary psychological support to enhance performance and ensure readiness for competitions.

### Scale

### Correction

### Method

The results indicated in three levels are: 1) Strongly Agree, 2) Moderately Agree, and 3) Slightly Agree. "Strongly Agree" is estimated by three degrees, "Moderately Agree" by two, and "Slightly Agree" by one in the positive items. The psychometric properties of the study tool were verified as follows:

### Validity Verification

The scale was applied to the study sample. The table below shows the correlations between each item and its dependent pattern.

Table 2.  
Correlation between Mood Patterns and Total Degree

	Total Strength of Excitement	Strength of Cease	Personal Flexibility
Total	0.650**	0.893**	0.771**
Sig. (2-tailed)	<0.001	<0.001	<0.001
N	76	76	76

The results of Table No. (2) indicate a correlation between each of the three patterns and the total degree, which signifies the validity of the scale.

### Reliability

The reliability of the scale was verified using Cronbach's alpha. The table 3 below presents the reliability statistics.

Table 3.  
Cronbach's Alpha Value of the Study Tool in Its Final Form

Reliability Statistics	Number of Items
0.750	20

The results indicate that the value of Cronbach's alpha in its final form is 0.750, which is an appropriate value to meet the reliability condition. Thus, the study tool in its final form consists of 20 items.

### Statistical analysis

Several statistical methods were employed to analyze the data in this research study. These methods include the Arithmetic mean for measuring the average of the data, Standard deviations to estimate the variability of the data around the mean, Pearson correlation coefficient to assess the relationship between independent variables, Cronbach alpha coefficient to measure the reliability of the tests used, and finally Two-Way ANOVA to test the research hypotheses and estimate the effects of multiple variables on the dependent variable.

### Results

The study aimed to identify the prevailing mood patterns among handball players in Jordan and examine differences in these patterns based on variables such as experience and player position. The findings indicated that the pattern of personal flexibility ranked highest among the mood patterns observed. Following this, the cease operations pattern placed second, with the excitement operations pattern coming in third. Importantly, the study concluded that there were no statistically significant differences in the levels of mood patterns across different experience levels or player positions among handball players in Jordan.

1- Table No. (3) shows the arithmetic mean and standard deviation of the prevailing mood patterns among handball players in Jordan. It answered the first aim of the study which searched for the prevailing mood patterns of handball players in Jordan. It was found that the level of mood patterns in the total degree came with a high level and an arithmetic mean of (2.2257). According to the order of patterns, the personal flexibility pattern came in the first place with a high level. The arithmetic means of (2.3728) the cease operations pattern came second with a high level. An arithmetic mean of (2.2556) and the excitement operations pattern came third with a high level and an arithmetic mean of (2.2257).

Table 4.

Arithmetic mean and standard deviation of the prevailing mood patterns among handball players in Jordan.

Descriptive Statistics					
Variables (mood)	N	Mean	Std. Deviation	Rank	level
Personal Flexibility	76	2.3728	.45450	1	high
The strength of the cease operations	76	2.2556	.37349	2	high
The strength of the excitement operations	76	2.0695	.34086	3	high
Total	76	2.2257	.29365		

The second objective was to determine if there were statistically significant differences in mood patterns among handball players in Jordan based on study variables (experience and playing position), using arithmetic means and standard deviations. The table 4 presented the arithmetic means and standard deviations of mood patterns among

handball players in Jordan, categorized by study variables (experience and playing position) .

Table 5.

The arithmetic mean and standard deviation of the prevailing mood patterns among handball players in Jordan according to the study variables (experience, playing position).

variable	categories	N	Mean	Std. Deviation
position	back	40	2.2200	0.26646
	front	27	2.2463	0.32223
	goalkeeper	9	2.1889	0.34891
	Total	76	2.2257	0.29365
experience	less than 10	45	2.2044	0.28620
	10 and above	31	2.2565	0.30625
	Total	76	2.2257	0.29365

Table 6.

Two-way analysis of variance to reveal the statistical differences in the level of mood patterns among handball players in Jordan according to the study variables (experience, play position).

Tests of Between-Subjects Effects					
Dependent Variable: Total					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.063a	3	.021	.238	.870
Intercept	245.341	1	245.341	2758.324	<.001
position	.014	2	.007	.077	.926
experience	.038	1	.038	.432	.513
Error	6.404	72	.089		
Total	382.938	76			
Corrected Total	6.467	75			

a. R Squared = .010 (Adjusted R Squared = -.031)

Table No. (5) indicates that there are no differences in the level of mood patterns among handball players in Jordan, according to the study of variables (experience, playing position).

### Discussion

The paper aimed to identify the prevailing mood patterns among handball players in Jordan and examine differences in these patterns based on variables such as player position and experience. The findings indicated that the pattern of personal flexibility ranked highest among the mood patterns observed. Following this, the cease operations pattern placed second, with the excitement operations pattern coming in third. Importantly, the study concluded that there were no statistically significant differences in the levels of mood patterns across different experience levels or player positions among handball players in Jordan.

The researchers discuss the high mood patterns among the handball players; whereas these players exposed to a regular training that improves the mood level among players and disposes negative mood characteristics such as emotions and quick excitement, as many studies emphasizes that Physical activity influences mood in adolescents' everyday life (Koch et al., 2020). Also, people who regularly practice combat sports had better mental health compared to non-practitioners (Da Silva Duarte et al., 2022) . In addition, individuals in

the regular exercise group had enhanced emotional impulse control, heightened positive emotions, improved communication skills, more empathy, and greater self-improvement in comparison to those in the non-exercise group (Kim et al., 2023). It is also that Participation in physical activity affects the development of mood characteristics and personalities among the players thus, it exhibits a balanced individual in different situations, as the champions were characterized by a low level of neuroticism and a high level of extraversion, openness to experience, agreeableness, and conscientiousness (Piepiora & Piepiora, 2021).

The results show that the pattern of personal flexibility is approached in the first place at a high level, during various competitions, handball players are exposed to numerous conditions, Association with a number of coaches and players, whether within the same team or different teams and fans, forms flexibility in the personality to comply with others, as the role of sport in psychological flexibility and its high levels, physical exercise has certain help in forming mental resilience and positive emotions (Xia et al., 2020), in addition there is a positive associations between consistent physical activity, engagement in competitive sports, and increased psychological resilience among athletes (Kim et al., 2023). To reach resilience is based on individual characteristics and interactions with the environment (Bicalho et al., 2020). As the coaches' and the settings has an influence on personal and athletic development and on increasing the athlete's resilience (Ortega & Montero, 2021) .since the dynamics of the resilience process can occur when the internal factors of the individual and also external factors such as the environment and the social relations experienced by the athletes interact, producing favorable responses even in the stressful situations of the modality (Pires et al., 2019). also, team resilience during competition can be characterized by a collective resilient attitude and strong and shared leadership, whilst avoiding breakdowns in communication, failing leadership, and the inability to adapt flexibly (Kegelaers et al., 2020). Additionally, to the strong leadership the federation players have, the researchers attribute this result to the training environment that surrounds the player, as both personal (e.g., motivation) and environmental (e.g., social support) resilient qualities can positively influence athletes' challenge appraisals, coping strategies, and metacognitive learning strategies in response to adversity (Fletcher & Sarkar, 2012). it was striking that the sportspeople had a higher level of resilience than non-athletes, and that there was a negative relationship between this construct and the level of stress or anxiety and sports injuries, and positive relationship with level of commitment, in addition to the existence of personal characteristics (intrinsic motivation, frustration tolerance, self-efficacy) that make them more vulnerable to its appearance and exacerbation(Ortega & Montero, 2021) . Also, cohesion affects athlete engagement, through the mediating effects of psychological collectivism,

the mediating effects of mental toughness, the serial multiple mediating of psychological collectivism and mental toughness (Gu & Xue, 2022) .

The results also show that the cease operations pattern comes in second place and at a high level, the researchers attribute this to the ability of handball players to be patient and control their emotions during the competition. Handball players have the ability to cope with adversity, coachability, concentration, goal setting and mental preparation, and being free from worries (Ayça et al., 2020), as handball sport requires physical contact to prevent the opposing team to control the ball and score a goal, and this type of defense is permissible within the sport's behavior, Assuming that the level of physical contact develops negative behavior as a result of a penalty, then suspension or exclusion will be concluded and the team will not be able to complete the match. Therefore, handball game requires players characterized by perseverance and can control their emotions, however, that resilience plays an immense role in coping, overcoming and positively adapting to situations of stress and recovery of elite athletes (Jaiyeoba et al., 2023) . developing the psychological ability of controlling stress prevents the appearance of anxiety states, allowing athletes to maintain high self-confidence and good attention concentration capacity during competitions (Campos et al., 2017). note that (Arroyo Del Bosque et al., 2020) indicated that mood fluctuates depending on the outcome of the match.

Although the cease of operation patterns took the second place and in a high level, the excitement operational patterns ranked in the third place in a high level also, on the account of handball players' exposure to several circumstances, especially during the competitions. As the environment of a match was stressful for the athletes (Nikolovski et al., 2023); This makes the players to get excited quickly, due to the presence of the fans and other cases that occur in most handball matches. Most teams in the national league have equivalent levels of mastery and the matches commonly end in the last seconds which determines the winner. Therefore, during this period, a process of emotions and excitement occurs, either to maintain or modify the result. Under different circumstances such as referees' decisions, stopping, excluding, or calculating the seven meters throws, the players' emotions as a result of protesting may escalate, cases as mentioned cause the players to reach a level of excitement which may generate aggression, subsequently this may influence the performance, if the sports anxiety increases, the sports performance of the player will decrease and vice versa (Bukhari et al., 2021). According to the variable of experiences and the playing positions, the results assured that there are no statistically significant differences in the level of mood patterns. Regarding the playing position, this result is opposite to the results of other studies, such as (Jakšić et al., 2022) study, as this paper suggested that a statistically significant differences were observed

between wings and center backs and wings and goalkeepers in the seven factors of mental skills (imagery ability, mental preparation, self-confidence, anxiety and worry management, concentration ability, relaxation ability, and motivation). And regarding the experience, the result is contrary to what was stated in other studies, they showed that the athletes who trained for over three years felt better after the intervention on Psychological Resilience concerning good feelings, self-efficacy, self-adjustment, and physical fitness recovery than before the intervention (Lu & Xu, 2023). In addition to (Kuşuk Kiliç, 2020) study, despite of the low significant correlation between the experience and psychological resilience but it was positive. The researches explain the result as all players, with diverse experiences and positions, are subjected to a specific training programs and these programs develop abilities in the skills and physical aspects. Albeit, there is no training program to develop and work on mood aspects. Including, the differences in years of experience or playing positions. In addition, there is a lack of specialists in sports psychology who are responsible for preparing players for the psychological aspects related to mood patterns, the coach support was positively related to individual resilience (Llanos-Muñoz et al., 2023). Also, scientific evidence highlights that sport psychology interventions adopted by professionals are crucial for making a difference in athlete performance (Schinke et al., 2022). In addition to a high percentage of handball players in Jordan appear to discourse handball as a hobby and not as a professionalism. Therefore, the psychological aspect does not affect the players, whereas professional players showed a significantly lower depression and trait anxiety levels than amateur athletes (Vaccaro et al., 2021). Also (Serrano-Nortes et al., 2021) emphasized that there are no differences in resilience according to the variables analyzed such as years of sports practice and experience in competition.

Not to mention that there was no significant external contact for the Jordanian handball players, neither at the clubs or national levels nor in the foreign leagues. In turn, this approach did not allow any differences according to the variables. Thus, the experience factor and the player position depend on the lack of external participation and this is an influential factor in the mood patterns; as their preparation is similar despite the difference in position and experience, also Players in local competitions may compete at multi positions for example, the player might be placed on a striking position and then at the wing or the center positions. The player's position and experience will not have an effect on the mood patterns. Although many studies confirm the competitions role in mood modification, however, some individuals who took part in competitive activities had a significant improvement in their ability to regulate their emotional impulses, showed a greater understanding and management of positive emotions, exhibited improved communication abilities, displayed heightened empathetic capacities, and experienced enhanced

personal growth compared to those who did not participate (Kim et al., 2023).

### Limitations of the Study

Despite the significant findings of this study, it is important to highlight some limitations that may affect the interpretation of the results. First, a questionnaire was used as a data collection tool, which may expose the results to inaccuracy or bias. For instance, respondents rely on their ability to recall feelings and behavioral patterns, which may lead to distorted answers. Additionally, the use of self-assessment questionnaires may be limited in accurately measuring psychological dimensions, as noted in (da Silva Duarte, 2023) study that addressed similar issues. Therefore, caution should be exercised when interpreting the results and conclusions of this study, especially regarding the psychological measurements associated with mood levels and psychological flexibility among handball players.

### Conclusion

In conclusion, this study aimed to identify the prevailing mood patterns among Jordanian handball players, employing a descriptive approach with a sample of 76 male participants from the 2022/2023 Jordanian Handball League championship. The findings revealed that the pattern of personal flexibility ranked highest, indicating a strong adaptability and ability to respond to varying circumstances among players. Following closely, the cease operations pattern demonstrated players' capacity for emotional control during competitive scenarios, essential for maintaining composure in high-pressure situations. Conversely, the excitement operations pattern, though present, indicated a tendency for quick arousal, influenced by the dynamic nature of handball competitions. The study also found no statistically significant differences in mood patterns based on players' experience levels or positions within the team. This suggests a uniformity in psychological preparation across the sample, possibly due to the lack of specialized psychological training tailored to mood management in sports. Moreover, the absence of extensive international exposure for Jordanian handball players limits variations in experience and playing positions, further contributing to the uniformity in observed mood patterns. Recommendations include enhancing players' awareness of psychological aspects and implementing mood regulation strategies as part of their training regimen. Addressing these aspects could potentially improve overall performance and well-being among Jordanian handball players, fostering a more resilient and adaptable competitive environment. This study contributes valuable insights into the psychological dynamics of handball players in Jordan, highlighting areas for further research and development in sports psychology and player preparation.

## Recommendations

Drawing from the insights of this study, the following recommendations are proposed:

1. **Enhancing Psychological Awareness:** Implement initiatives to increase awareness among Jordanian handball players about the significance of mood management in competitive settings. This can be achieved through workshops, seminars, and educational sessions focusing on the psychological aspects of performance enhancement.

2. **Integration of Psychological Training:** Introduce mandatory psychological training courses tailored specifically to address mood regulation techniques. Emphasis should be placed on improving skills related to the excitement operations pattern, which emerged as an area needing development among players.

3. **Exploration of Gender Differences:** Conduct further research to explore and compare mood patterns among female handball players in Jordan. This comparative study would provide valuable insights into potential gender-specific approaches to psychological preparation and performance optimization.

4. **Development of Sports Psychology Expertise:** Invest in the training and development of sports psychologists specializing in mood management and mental resilience for athletes. These specialists can play a crucial role in supporting players in coping with competitive pressures and optimizing their psychological readiness.

5. **Enhancement of International Exposure:** Encourage opportunities for Jordanian handball players to gain exposure through participation in international competitions, clubs, and leagues. This exposure can expose players to diverse competitive environments, potentially enriching their experience and broadening their adaptability in managing mood patterns.

These recommendations aim to foster a holistic approach to psychological preparation among Jordanian handball players, ultimately contributing to their overall performance, well-being, and competitiveness in both national and international arenas.

## Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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This study did not receive any funding.

## Data Availability

The dataset presented in the study is available on request

from the corresponding author during submission or after its publication. The data are not publicly available due to privacy concerns and institutional policies regarding information.

## Authors' Contribution

1. Study concept and design: WK and MS
2. Acquisition of data: SA and EA
3. Analysis and interpretation of data: EA and MK
4. Drafting of the manuscript: WK
5. made the Critical revision of the manuscript for important intellectual content: SA, WK
6. made the Statistical analysis: MK
7. Administrative, technical, and material support: MK

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