# Cross-Sectional Research on the Factors Influencing the Mental Health of Basketball Players

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#### **Abstract**

The objective of this study was to fill the existing knowledge void and assess the effects of functional training, sports psychology, and team-building activities on the psychological well-being of basketball players. This study focuses on the mental health of players in Iraq, as there is limited existing literature on this topic. In addition, the study focused on the population of basketball players in Iraq, with a sample size of 200 Iraqi basketball players. Data was collected using random sampling, specifically from a five-point Likert scale questionnaire. The data collected for this research was analysed using R Packages in RStudio. A study revealed that functional training, sports psychology, and team building have a significant and positive effect on the mental well-being of basketball players in Iraq. This study filled the gaps in the existing literature by making a valuable theoretical contribution. The research findings are highly reliable for informing practical policymaking and implementation strategies aimed at improving the mental health of basketball players in Iraq.

Keywords: Mental Health, Basketball Players, Functional Training, Sports Psychology, Team Building.

#### Introduction

The improvement in basketball players' abilities in Iraq is apparent from their growing interest in the game (Sultan, 2023). The basketball community is growing as players gain access to various resources to enhance the sport in the country. The affiliation of basketball players with various clubs also altered the game's dynamics in Iraq (Munshed, 2023). Regrettably, the mental well-being of these players receives insufficient consideration. However, the mental wellbeing of players is crucial in every game. This mental health intervention aims to enhance the players' performance. If the players lack mental strength, their performance will be affected. Therefore, it is imperative to prioritise the dependability of mental health and the cultivation of positive attitudes towards mental well-being in players (Al Saadawi & MunjalSwenet, 2021). However, basketball players in Iraq lag their counterparts in developed nations. Academic discourse revolves around the enhancement of mental well-being among basketball players in Iraq.

There have been notable shifts in the dynamics of basketball players in Iraq throughout the years. For optimal performance, it is crucial that players maintain a diligent and committed work ethic. When players are motivated, they are more likely to achieve consistent performance (Mohammed Saeed, Salih, & Abdulkareem, 2023). Nevertheless, the challenges faced by basketball players become crucial when they lack the necessary resources to perform optimally. Developing mental health in basketball is crucial for enhancing players' performance (Lima et al., 2022). Highly competitive basketball teams receive ample resources and specialised training to enhance their performance. This training is necessary to enhance their performance in the game. The training of basketball players, both physically and mentally, offers them a path towards a more productive approach (Tranaeus et al., 2022). Developing mentally strong players is crucial for enhancing learning performance through a strategic approach. Nevertheless, the sports boards in Iraq have yet to establish comprehensive policies aimed at enhancing the mental well-being of basketball players.

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Prior research has identified various factors that contribute to enhancing the mental well-being of players. In a recent study by Fang et al. (2022), it was found that individuals who exhibit emotional intensity while performing a task may experience improvements in their mental well-being. In a recent study by Oftadeh-Moghadam and Gorczynski (2022), it was found that basketball players need to execute their strategies efficiently to perform well. Highly motivated players can maintain effective performance over an extended period of time, according to a study by Shrom, Cumming and Fenton (2022). In a recent study, Sun et al. (2022) highlighted the positive impact of basketball players' successful performances on their mental health and ability to attain strategic goals. In their study, Lima and Rice (2022) found that the physical training of players plays a crucial role in enhancing their mental well-being. However, despite being significant, these factors do not have a predictive capacity for improving students' mental well-being, according to a study by Weber et al. (2022). Thus, previous studies have presented contradictory findings.

The objective of this study was to fill the existing knowledge void and assess the effects of functional training, sports psychology, and team-building activities on the psychological well-being of basketball players. This study was conducted in Iraq due to the limited existing literature on the mental health of athletes in this context. In addition, the study focused on the population of basketball players in Iraq. A sample of 200 Iraqi basketball players was collected for analysis. Data was collected using random sampling, specifically from a five-point Likert scale questionnaire. The data collected for this research was analysed using R Packages in RStudio. A study revealed that the implementation of functional training, sports psychology, and team-building exercises has a notable and beneficial effect on the mental well-being of basketball players in Iraq. This study made a significant theoretical contribution to the existing literature by addressing the gaps identified. The research findings are highly reliable for informing practical policymaking and implementation strategies aimed at improving the mental health of basketball players in Iraq.

## **Review of Literature**

Effective player training is crucial for optimal game performance. This training is beneficial for individuals' regular exercise regimen, promoting their mental well-being (Hind et al., 2022). In addition to mental well-being, the functional training of players also aims to improve their physical health. When players are motivated and given clear instructions from the sports board, it fosters a positive

mindset that enhances their performance in the game (DeFreese et al., 2022). This performance is crucial for enhancing their mental well-being and cognitive acuity. The players' level of engagement during the match greatly impacts their overall performance and serves as a catalyst for improvement. The sports managers are tasked with providing the necessary resources to the players to maximise their performance (Kim et al., 2022). One possible approach to enhancing the mental well-being of players is by developing a strategic plan. The training of players for physical and mental health is closely interconnected. Improving the players' physical health also contributes to enhancing their mental well-being (Kim, 2022). The interaction between physical and psychological health is crucial for optimising player performance.

Therefore, it is imperative for the team management to provide comprehensive training to the players through a variety of activities to significantly enhance their performance. This performance could potentially lead to more productive and reliable outcomes. From a strategic standpoint, when players are deeply motivated and engaged in their functional training activities, they increase their chances of achieving better performance (Yan, Kim, & Choi, 2022). This factor also has an impact on the player's mental well-being, which plays a crucial role in their performance in any game (Ouertatani et al., 2022). Thus, it is crucial for the management to design effective training programmes that address both the physical and mental aspects of the players' development. Therefore, it would be beneficial to enhance the mental well-being of the players. **Hypothesis 1:** Functional training has an impact on players' mental health.

Considering the well-being of players, including their mental health, is crucial, as it has been shown to significantly impact their performance (Davila-Torres et al., 2021). When players are strongly motivated, they demonstrate active performance, which is crucial for achieving optimal results. The game performance of players is crucial for their mental well-being as it directly correlates with their training and overall effectiveness. Positive-negative psychology plays a crucial role in shaping the players' performance (Kuettel, Durand-Bush, & Larsen, 2021). When players lack psychological strength, their performance is ineffective, which hinders their productivity. In contrast, when players possess strong psychological fortitude, they strive for a captivating and dependable performance (Kerr et al., 2021). Efficient strategies are crucial for enhancing player performance and achieving desired results. Managers have a duty to enhance the mental health of their players (Oftadeh-Moghadam & Gorczynski, 2021).

Improving performance in a more critical manner can be essential for motivating individuals psychologically and enhancing their effectiveness. The relationship between players and team managers should be characterised by a strong and professional demeanour, with a focus on maintaining a suitable mindset for effective work (Russell et al., 2020). A sustainable approach to working productively would contribute to the players' consistent performance. Enhancing the players' mental well-being can lead to improvements in their strategic approach (Nicholls et al., 2020). Enhancing the mental well-being of players can be achieved through the provision of suitable resources and fostering strong relationships with managers and fellow players. Therefore, enhancing the players' productive performance is of utmost importance, as it directly impacts their game performance (Roberts et al., 2020). In addition, the players' negative psychology hinders their performance as they lack the necessary emotional intensity for optimal productivity.

**Hypothesis 2:** Sports psychology has an impact on players' mental health.

Effective performance in any game relies on the interdependence of teams (Plessow et al., 2020). Performance is enhanced when the players are connected and provided with a dependable chance to collaborate. However, if players lack motivation to enhance their performance, achieving better results in the game becomes challenging (Prien et al., 2020). Hence, it is imperative for team management to foster robust interpersonal connections among the players to effectively work towards the shared objective. It is crucial to enhance the performance of any sports team by developing the influential role of its players. Players with diverse skill sets strive for improved performance to enhance their mental well-being (Mackała et al., 2020). In the same vein, a crucial connection exists among players, as their motivation and collaborative efforts towards shared objectives directly enhance their performance. In contrast, when players lack motivation, their performance suffers as they lack a strong connection with their teammates (Kola-Palmer et al., 2019). Thus, the compromised performance of the players would hinder their ability to achieve a productive outcome. From a strategic standpoint, players would be incentivized to enhance their performance (Gervis, Pickford, & Hau, 2019). Developing strong relationships with other players within the team would be beneficial for them. By adopting this approach, the entire team can establish strong connections and enhance their performance (Nower et al., 2018). Thus, it is essential for team management to formulate strategic policies for fostering team cohesion, enabling players to enhance their psychological well-being through support from their managers and teammates. Seeking proper guidance and management can greatly enhance a player's performance.

**Hypothesis 3:** Team building has an impact on players' mental health.

# Methodology

The data for this research was collected using instruments that were adapted from previous studies. Researchers and academics thoroughly examined the instruments to determine their suitability for data collection. The purpose of these instruments was to gather data and quantify the relationship between the variables. The results of hypothesis testing were derived from these instruments. The study has utilised the scale items for functional training from the research conducted by Branco et al. (2021). The validity of this scale was established through reliable coefficients and face validity. Additionally, the study has utilised the scale items for sports psychology from the research conducted by Andrew, Grobbelaar and Potgieter (2007), which was deemed valid based on reliability and face validity coefficients. Further, the study has utilised the scale items for team building from the research conducted by Senécal, Loughead and Bloom (2008). The validity of this scale was confirmed through reliable coefficients and face validity. The study used the Nicholls et al. (2020) mental health scale items, and reliable coefficients and face validity showed that they were valid. The scale items were written in English and incorporated into a questionnaire for data collection in this research study. In addition to these scale items, the study's objective was also included to be shared with the respondents.

The data for this study was collected from basketball players in Iraq, focusing on their mental health. The participants were asked to provide the necessary data for this research study. The basketball players were subjected to physical targeting to gather the data. Data was collected from various registered institutions through random visits to identify basketball players. The research utilised a random sampling approach due to the shared characteristics of the study population. Thus, a survey-based approach was chosen to collect the data. The study aimed to assess the relationship between variables using quantitative analysis. Respondents were asked to complete a questionnaire designed on a rating scale. Out of the 250 questionnaires surveyed, data was collected on 200 responses. Data for this research was collected from the male population, as females were hesitant to participate. The data for this research was measured using R programming in RStudio. The software was utilised for data analysis and to arrive at the findings. We considered the findings of various statistical analyses, including descriptive results, factor loadings, reliability, factor variances, and coefficient regression.

# **Data Analysis and Findings**

The research utilised descriptive statistics to assess the reliability of the data for subsequent analysis. To achieve this objective, the missing values in the dataset were identified. The missing values were identified and addressed to ensure that the data was complete for

the data for this research. In addition, the data's normality was assessed by examining the skewness and kurtosis values against a predetermined threshold. The parameters were utilised to assess the normality of the data distribution. Royston (1992) states that the skewness and kurtosis findings are deemed acceptable if all values fall within the -2 and +2 thresholds. The normality of the data achieved is further emphasised by the skewness and kurtosis findings presented in Table 1. Thus, the data was deemed suitable for further analysis.

subsequent analysis. No missing values were detected in

Table 1

Descriptive Statistics

	Missin -	Ctd Daviation	Clrower og -	Std. Error of	Vuutosi-	Std. Error of Kurtosis	
	Missing	Std. Deviation	Skewness	Skewness	Kurtosis		
FT1	0	1.551	0.107	0.172	-0.641	0.342	
FT2	0	1.773	0.446	0.172	-0.599	0.342	
FT3	0	1.840	0.306	0.172	-0.784	0.342	
FT4	0	1.889	0.408	0.172	-0.796	0.342	
FT5	0	1.713	0.290	0.172	-0.532	0.342	
MH1	0	1.810	0.228	0.172	-0.784	0.342	
MH2	0	1.804	0.078	0.172	-1.002	0.342	
MH3	0	1.867	0.213	0.172	-0.831	0.342	
MH4	0	1.809	0.325	0.172	-0.690	0.342	
MH5	0	1.915	0.376	0.172	-0.755	0.342	
SP1	0	1.870	0.384	0.172	-0.723	0.342	
SP2	0	1.843	0.361	0.172	-0.644	0.342	
SP3	0	1.894	0.303	0.172	-0.823	0.342	
SP4	0	1.793	0.468	0.172	-0.511	0.342	
SP5	0	1.897	0.199	0.172	-0.965	0.342	
SP6	0	1.761	0.321	0.172	-0.586	0.342	
TB1	0	1.786	0.253	0.172	-0.696	0.342	
TB2	0	1.512	0.613	0.172	-0.155	0.342	
TB3	0	1.558	0.853	0.172	0.262	0.342	
TB4	0	1.505	0.907	0.172	0.578	0.342	

The factor loadings were utilised to assess the reliability of the constructs employed in this study. The reliability of the data was assessed by examining the individual items. The constructs' reliability was assessed using factor loadings, determined by a p-value of less than 0.05. The factor loadings reported in Table 2 confirmed that none of the items exceeded the recommended threshold. According to Shevlin and Miles (1998), the p-values for each item were all less than 0.01. Therefore, the individual items were able to achieve a high level of reliability. The results are presented in Table 2.

This study also assessed the reliability of the entire construct. The reliability of the items within a single construct was tested to determine their internal consistency. Reliability coefficients, such as Cronbach's alpha, were tested during the initial stage to assess their findings. The reliability was assessed using the recommended threshold of Cronbach alpha > 0.70 (Tavakol & Dennick, 2011). Nevertheless, the reliability findings presented in Table 3 validate that Cronbach's alpha for each construct reached a minimum value of 0.981. Therefore, the data utilised for this research was deemed reliable, demonstrating internal consistency suitable for subsequent analysis.

**Table 2**Factor Loadings

							95% Confidence Interval	
Latent	Indicator		Estimate	Std. Error	z-value	p	Lower	Upper
FT	FT1	lambda_1_1	1.000	0.000			1.000	1.000
	FT2	lambda_1_2	1.155	0.060	19.250	< .001	1.037	1.272
	FT3	lambda_1_3	1.199	0.062	19.261	< .001	1.077	1.321
	FT4	lambda_1_4	1.219	0.065	18.854	< .001	1.092	1.346
	FT5	lambda_1_5	1.105	0.059	18.812	< .001	0.989	1.220
MH	MH1	lambda_2_1	1.000	0.000			1.000	1.000
	MH2	lambda_2_2	0.984	0.052	19.091	< .001	0.883	1.085
	MH3	lambda_2_3	1.016	0.053	19.027	< .001	0.912	1.121
	MH4	lambda_2_4	1.004	0.050	19.942	< .001	0.905	1.103
SP	SP1	lambda_3_1	1.000	0.000			1.000	1.000
	SP2	lambda_3_2	0.948	0.051	18.574	< .001	0.848	1.048
	SP3	lambda_3_3	0.997	0.051	19.685	< .001	0.898	1.097
	SP4	lambda_3_4	0.927	0.049	18.826	< .001	0.831	1.024
	SP5	lambda_3_5	1.021	0.049	20.826	< .001	0.925	1.117
TB	TB1	lambda_4_1	1.000	0.000			1.000	1.000
	TB2	lambda_4_2	1.002	0.096	10.488	< .001	0.815	1.190
	TB3	lambda_4_3	1.157	0.100	11.538	< .001	0.960	1.353
	TB4	lambda_4_4	1.097	0.096	11.384	<.001	0.908	1.286

**Table 3**Frequentist Scale Reliability Statistics

Estimate	Cronbach's a
Point estimate	0.981
95% CI lower bound	0.977
95% CI upper bound	0.985

In addition, the study determined the factor variances to assess the differences in data for each construct.

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Nevertheless, the variance was determined by checking the significance threshold with a p-value of less than 0.05. The measurements of each construct were analysed, and the data indicates that the research successfully captured the variance. In addition, the study revealed that the p-values for each construct were all below 0.001. Therefore, the results of this study have provided significant findings regarding factor variance. The factor variances are presented in Table 4.

Factor Variances

					95% Confidence Interval		
Variable	Estimate	Std. Error	z-value	p	Lower	Upper	
FT	1.880	0.235	7.995	< .001	1.419	2.340	
MH	1.120	0.131	8.549	< .001	2.041	3.082	
SP	2.826	0.344	8.226	< .001	2.153	3.499	
TB	1.487	0.277	5.368	< .001	0.944	2.029	

Ultimately, the regression coefficients were analysed to assess the influence of the predictor variables on the outcome variable. The predictor variables consisted of the independent variables, while the outcome variable was considered the dependent variable. According to hypothesis 1, the study's findings show a significant impact of functional training on players' mental health (.001). In

addition, the study revealed a significant impact of sports psychology on the mental health of players (<.001), with hypothesis 2 being confirmed. In addition, hypothesis 3 was examined, and the study revealed a noteworthy correlation between team building and players' mental health (.001). The regression coefficients are presented in Table 5.

**Table 5**Regression Coefficients

						95% Confidence Interval	
Predictor	Outcome	Estimate	Std. Error	z-value	p	Lower	Upper
FT	MH	0.816	0.255	3.626	< .001	0.498	1.731
SP	MH	0.806	0.234	3.440	< .001	0.347	1.266
TB	MH	0.104	0.018	5.777	< .001	0.535	1.243

# **Discussion and Conclusion**

The empirical findings for all three hypotheses were analysed to determine the significance of the paths. The regression coefficients were used to analyse the nature of the relationship. The results of Hypothesis 1 support the notion that functional training has a significant influence on the mental well-being of players. This study provided empirical evidence to support the relationship and compared the findings of previous studies to understand the nature of this relationship. Shrom et al. (2022) emphasises the importance of functional training for players to maximise their performance in the game. This training is advantageous for individuals looking to enhance their mental well-being as part of their regular exercise routine. Ensuring the players' physical well-being is a key focus of the functional training they are undergoing, along with their mental health. Players enhance their performance in the game through inspiration and clear instructions provided by the sports board. DeFreese et al. (2022) found that these factors play a significant role in the players' overall performance. To enhance their mental wellbeing and cognitive abilities, it is crucial for individuals to engage in this activity. To ensure a productive outcome during the match, it is crucial for players to maintain a proactive attitude throughout the game. Ouertatani et al. (2022) suggest that this presents potential avenues for enhancing their performance. The sports managers are responsible for ensuring that the players are aware of the potential risks involved to achieve positive results.

Adopting this approach would be a positive move towards developing a strategic plan to enhance the psychological well-being of athletes. Hind et al. (2022) suggest a strong connection between athletes' physical and emotional well-being and the training they undergo for their sports. Players must prioritise their mental health, as it is closely linked to their physical well-being. The correlation between physical and psychological health offers players a strategic approach to enhance their performance. To enhance the players' performance, it is imperative for the team management to offer them comprehensive training that encompasses a diverse range of exercises. Based on the findings of Plessow et al. (2020), this performance may

indicate progress towards achieving consistent and reliable outcomes. From a strategic standpoint, when players are highly motivated and fully engaged in their functional training tasks, they increase their chances of performing well. As per Sun et al. (2022), this factor significantly impacts the player's psychological well-being, a vital and dependable element in their performance across all gaming scenarios. The players exhibit a range of mental capacities, some strong and others poor. However, it is imperative for the management to implement effective training programmes to enhance the players' training and mental well-being. Thus, it would be advisable to enhance the mental well-being of the players.

The findings of Hypothesis 2 indicate that sports psychology has a significant influence on the mental wellbeing of players. This study provided empirical evidence for the relationship and compared the results with previous research to better understand the nature of the relationship. The mental health of athletes is crucial to their development and overall performance, as Oftadeh-Moghadam and Gorczynski (2022) highlight. When players are highly motivated, they perform their duties actively, which is crucial for achieving optimal results. The mental well-being of players is closely tied to their performance in the game. This is because their training enables them to deliver an effective performance. Yan et al. (2022) argue that positive-negative psychology is crucial for players to enhance their performance. The players' psychological weakness hinders their ability to perform efficiently, preventing them from achieving the desired productive outcome. In a study conducted by Kim et al. (2022), it was found that athletes who possess psychological strength are motivated deliver performances that are both captivating and dependable. To achieve successful results, it is crucial to implement strategic approaches that aim to enhance player performance. Managers have the responsibility of improving the mental well-being of their players, which is part of their role. Russell et al. (2020) emphasises the need to improve performance to enhance psychological motivation and achieve success. The relationship between players and managers in a team should be characterised by a sense of discipline, and both parties should maintain a

professional mindset while on duty. To enhance the players' reliable performance, it is crucial for them to consistently maintain an effective approach to their work. Lima and Rice (2022) suggest that addressing the mental health of players can lead to an improvement in their strategic playing style. Improving the mental well-being of players can be achieved by providing them with the necessary resources and fostering positive relationships with management and fellow players. Fang et al. (2022) emphasises the importance of improving players' productive performance to enhance their effectiveness during gameplay. In addition, the players' lack of emotional investment in their creative endeavours leads to poor performance due to negative psychology. Consequently, the outcomes achieved are subpar.

The results of Hypothesis 3 indicate that team building has an influence on the mental well-being of players. This study provided empirical evidence for the relationship and compared the results with previous research to better understand the nature of this relationship. As per the study conducted by Lima et al. (2022), interdependence among team members in a game plays a crucial role in enabling players to achieve optimal performance. Players can enhance their performance by fostering relationships and ensuring regular collaborative opportunities. If players lack motivation to improve their performance, it will hinder their ability to excel in the game they are playing. Kim (2022) suggests that team management should focus on fostering strong relationships among players to ensure effective collaboration towards a common goal. To enhance the overall performance of a sports team, it is crucial to consider the significant roles played by the players during the development process. The players aim to enhance their mental well-being by striving for higher performance and utilising a diverse range of skills.

Roberts et al. (2020) highlight the importance of player interaction in improving performance. They emphasise that high motivation and collaborative efforts towards mutual goals are key factors in achieving success in the game. However, when players lack motivation, their ability to perform effectively is compromised due to a lack of cohesion with their teammates. This lack of strong connection with the other players is a contributing factor. Weber et al. (2022) suggest that the performance of the players could be adversely affected, thereby increasing the difficulty of achieving a productive outcome. Players would be motivated to improve their performance based on the strategic implications involved. By employing this approach, they can develop robust relationships with their teammates. As per the findings of Lima et al. (2022), fostering robust relationships within the team is a positive

move that can enhance overall performance. Tranaeus et al. (2022) argue that team management should develop strategic policies to facilitate team building. These policies would help players enhance their mental well-being through the support of their managers and teammates. It is crucial for the player to contact the relevant management to enhance their performance, which would prove advantageous for the athlete.

# **Implications and Future Directions**

The findings of this study have made a valuable contribution to the existing literature. The empirical findings provide support for the results of this study. This research establishes a significant contribution to the existing literature by examining the relationship between functional training and the mental health of basketball players. In the past, there has been a lack of focus on this relationship, leading to inconsistent findings in previous studies. Furthermore, this research has made a valuable contribution to the existing literature by establishing the connection between sports psychology and the mental well-being of basketball players. However, prior research has not considered this correlation, leading to inconsistent results. This study contributes to the existing body of research by highlighting the importance of functional training in relation to the mental well-being of basketball players. This research has successfully established the relationship between team building and the mental health of basketball players, making a valuable contribution to the existing literature. In addition, previous studies have not thoroughly examined this relationship and have yielded inconsistent results. This study has made a valuable contribution to the existing literature by addressing gaps in our understanding.

Sports policymakers in Iraq must adhere to the recommendations outlined in this study. First and foremost, they are essential for enhancing the functional training of the players, thereby promoting their mental well-being. Ensuring the optimal mental well-being of basketball players is crucial for their overall performance on the court. Hence, it is imperative to implement effective policies and allocate adequate resources to enhance the mental well-being of players. In addition, the study suggests that incorporating sports psychology is crucial for the overall mental well-being of players. It is crucial to ensure that individuals are properly motivated and trained in a manner that promotes their psychological growth and facilitates the attainment of their goals. The study emphasised the importance of team building for basketball players to significantly enhance their mental well-being. Hence, adopting a strategic approach to carefully developing goals would be a viable way to enhance the overall health of basketball players. Therefore, the findings of this study would be suitable for informing policy decisions and shaping mental health objectives, ultimately enhancing the performance of basketball players. By prioritising their mental well-being, their performance can be greatly improved.

This study yielded important results regarding the psychological well-being of basketball players by identifying a significant predictor for it. Nevertheless, there are a few constraints to this study. It is important to note that the sample for this study consists solely of male basketball players, which limits the generalizability of the

findings to female players' mental health. Hence, it is imperative for researchers to gather data from female basketball players to analyse it from a female perspective. This approach would aid in the generalisation of the findings in the study. Secondly, this study has focused solely on the predictor variables that have a significant impact on players' mental health. Nevertheless, there may be additional internal factors that could impact the players' mental well-being. Hence, further research is necessary to assess the influence of internal factors on the psychological well-being of basketball players. This phenomenon has been overlooked in previous studies, but further research on it would greatly enhance our understanding and contribute to the existing knowledge.

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