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INFLUENCE OF TRAINING, INJURIES, AND MENTAL TOUGHNESS AMONG VOLLEYBALL ATHLETES

***Jan Steven C.Bolwa, Joemary Q. Dulay, Gideon P. Montes, Custodio B. Parcia III Michelle C. Alumno, EdD, Jomard L. Calamba, MM**

College of Teacher Education and Liberal Arts, Baguio Central University, Baguio City, Philippines.

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***Corresponding Author: Jan Steven C.Bolwa**
College of Teacher Education and Liberal Arts, Baguio Central University, Baguio City, Philippines.

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ABSTRACT

This study explored the perceived influence of training, injury recovery, and mental toughness on the performance of university-level volleyball athletes. A quantitative research design was employed, utilizing the survey method to gather data from 23 varsity volleyball athletes. The instrument assessed the athletes' perceptions across three key areas: the effectiveness of their training programs, their experiences with injuries and recovery, and the influence of mental toughness on their performance. Findings revealed that athletes perceived their training as having a moderate influential on performance. While they showed strong confidence in the training's ability to prepare them for competition, they expressed a need for more high-intensity, performance-specific coaching strategies. Injuries and recovery also received a moderate influential rating, with athletes demonstrating good awareness of injury prevention practices, but voicing concerns regarding the frequency of injuries and the lack of sufficient medical support. Mental toughness was rated as moderately influential with high recognition of mental preparation strategies, though athletes identified difficulty in recovering emotionally from losses or setbacks. Based on the results, the study concludes that although current training, injury management, and mental conditioning practices are effective to a degree, they fall short of fully maximizing athletic potential. The study recommends that training programs be revised to incorporate more high-intensity, skill-specific drills, medical support systems be improved, and mental resilience strategies be formally integrated into athlete development programs to optimize volleyball performance outcomes.

***KEYWORDS*:** Volleyball performance, training influence, injury recovery, mental toughness, athlete development, quantitative research.

INTRODUCTION

Some volleyball athletes start to have second thoughts about continuing in the sport because it can be very challenging both physically and mentally. They often experience injuries such as ankle sprains, knee pain, shoulder strains, or finger injuries that can be painful and take a long time to heal. These injuries not only affect their performance but also cause fear or doubt about returning to play. At the same time, being an athlete requires strong mental toughness. They need to stay focused during games, handle pressure, learn from mistakes, and stay motivated even when things get difficult. Balancing school, training, competitions, and recovery can be very stressful, especially without proper support from coaches, teammates, or family. When these challenges build up and athletes feel like they're not improving or being supported, they may begin to lose confidence and think about quitting. Even if they love the sport, the pressure and pain can make them question if it's still worth it.

To begin with, previous research has established strong connections between training load, injury risks, and psychological resilience. For instance, (Smith et al. 2021) reported that over 60% of volleyball players sustain at least one major injury per season, with ankle and knee injuries being the most common. Similarly, (Jones and Patel 2022) highlighted that repetitive jumping and sudden lateral movements put excessive strain on the lower body, increasing injury risks. Moreover, injury prevention strategies such as proper warm-ups and strength training were identified as key components in reducing these risks. Likewise, (Anderson, et al. 2022) emphasized that teams adhering to structured training schedules had lower injury rates compared to those with unregulated workloads. In addition, injury recovery and mental toughness are also closely linked. Specifically, (Williams et al. 2023) found that athletes with higher psychological resilience recovered more quickly and returned to play with greater confidence. Furthermore, (Brown and Lee 2021) demonstrated that psychological conditioning programs helped players perform better under pressure and reduced stress levels. Additionally, (Arcangel, 2023) emphasized that student-athletes may get distracted throughout their performances, ultimately limiting their ability to attain victory in competitive events.

In the Philippines, volleyball has gained significant popularity, leading to more research on athlete performance, injuries, and mental toughness. (Dela Cruz et al. 2021) investigated

common injuries among collegiate volleyball players, identifying shoulder and knee problems as the most prevalent due to frequent spiking, blocking, and diving. (Bautista and Ramos 2022) focused on rehabilitation programs, concluding that proper recovery plans significantly improve an athlete's ability to return to peak performance. Similarly, (Santos and Reyes 2023) revealed that mindfulness and visualization techniques enhanced athletes' composure during matches. (Villanueva et al. 2020) supported this by finding that psychological training helped players stay focused and reduce performance-related anxiety. (Garcia et al. 2023) highlighted the importance of neuromuscular training in reducing shoulder injuries, particularly among elite volleyball players. Coaching strategies also contribute to injury prevention and mental resilience. (Padilla et al. 2021) observed that teams implementing structured warm-up and cooldown routines experienced fewer injuries. (Cruz and Mendoza 2023) emphasized that mentorship from experienced players and coaches plays a significant role in developing mental toughness, making athletes more prepared for competitive challenges. Furthermore, (Ang D., and Delariarte C. 2023) emphasized the impact of their rehabilitation adherence determines whether they can be able to successfully return to play or experience re-injury. These studies emphasize the need for a balanced approach to physical preparation and mental resilience to maintain peak performance.

Several studies have explored the influence of training, injuries, and mental toughness among volleyball athletes in the Philippines. A study by (Arcangel 2022) examined the relationship between self-efficacy and mental toughness among Philippine national athletes, highlighting the importance of these psychological traits in coping with training demands and injuries. Similarly, research by (Fajardo 2022) investigated psychological factors such as motivation, social support, self-efficacy, and mental toughness that facilitate sports injury rehabilitation adherence among Filipino injured athletes, providing insights applicable to volleyball players recovering from injuries. Another study discussed the role of mental toughness in maintaining high performance and coping with injuries among female volleyball players, emphasizing its significance in adapting to demanding training programs. A systematic review examined the challenges volleyball players face due to intensive training schedules, highlighting the importance of managing training loads to prevent injuries and maintain mental well-being. Research by (Arcangel,2022) explored the relationship between mental toughness and the motivational environment among volleyball players, providing insights into how these factors influence performance and response to training stressors. Another study analyzed how mental toughness and self-confidence affect volleyball players'

performance, particularly in handling the pressures of training and competition. Research by (Cayubit et al. 2020) provided valuable insights into the mental toughness of elite university athletes in the Philippines, including those participating in volleyball. An article discussed how injuries affect athletes' mental health and emphasized the role of mental toughness in recovery, relevant to volleyball players dealing with injuries. A study focused on the mental toughness levels of volleyball players, analyzing how this trait influences their performance and ability to handle training-related stress. Lastly, research evaluated the effectiveness of psychological skills training programs in enhancing mental toughness and performance among athletes, including volleyball players.

Research on volleyball injuries and mental toughness in Baguio and nearby areas continues to expand. (Rivera et al. 2022) at Baguio Central University analyzed the effects of altitude training on volleyball players, noting that while endurance levels improved, joint stress increased, leading to a higher risk of overuse injuries. (Castro and Lim 2023) at the University of the Cordilleras examined training workloads, revealing that excessive training without proper rest leads to increased injury rates and psychological fatigue. (Mendoza and Cruz 2021) explored mental conditioning techniques, highlighting that goal-setting and self-talk exercises contributed to improved confidence and faster recovery from injuries.

Despite these findings, there remain several research gaps that warrant further exploration. First and foremost, while existing studies examine injury prevention, rehabilitation programs, and mental toughness development, limited research assesses the integrated influence of these factors on an athlete’s overall performance. Additionally, the long-term effects of workload management and neuromuscular training on sustained performance and mental resilience require further investigation. Furthermore, region-specific studies, such as those in the Philippines, provide valuable insights into altitude training and injury risks; however, there is a lack of comparative data from different geographical and cultural contexts.

Moreover, much of the existing literature focuses on elite and collegiate athletes, leaving a gap in understanding how training, injuries, and mental toughness affect amateur or grassroots-level players. Additionally, psychological conditioning techniques, such as mindfulness and self-talk, have been shown to reduce performance anxiety and enhance recovery; however, research on how to effectively integrate these strategies into regular training regimens remains scarce.

Lastly, this study aims to address these gaps by providing a holistic understanding of the influence of training, injuries, and mental toughness among volleyball athletes. Ultimately, findings will benefit athletes, coaches, and sports organizations by offering evidence-based strategies for injury prevention, psychological conditioning, and training optimization. Overall, this research seeks to contribute valuable knowledge to sports science, promoting the development of well-rounded and resilient volleyball players at various levels of competition.

The study benefits the following: School Administration helps in developing better training programs, improving athlete performance, and addressing injury prevention strategies. Teachers provide insights into how physical and mental stress affects student-athletes, enabling them to support their academic and athletic balance. Students raise awareness about training influence, injury risks, and mental toughness, helping them improve performance and well-being. Other Researchers serve as a reference for future studies on sports science, mental resilience, and injury prevention among athletes.

Theoretical and Conceptual Framework

The theoretical framework of this study is grounded in various psychological and sports science theories that explain the relationship between training, injuries, and mental toughness among volleyball athletes. To begin with, several theories can help explain the influence of training, injuries, and mental toughness among volleyball athletes.

Periodization Theory

Bompa and Haff (2009) emphasize the importance of periodization, a systematic approach to training that involves structured variations in intensity and volume over time. Their research suggests that by strategically altering these factors, athletes can achieve peak performance while reducing the likelihood of overtraining and injury. This concept is particularly relevant in the context of volleyball, where players require a balance of strength, endurance, agility, and explosive power. Given the sport's high demands, improper training loads or lack of recovery can lead to fatigue, burnout, or injury. By implementing periodized training plans, coaches and athletes can optimize physical conditioning, enhance skill acquisition, and ensure sustainable performance throughout a season or competition cycle.

The Stress-Injury Model

Andersen and Williams (1988) propose a stress-injury model, highlighting the psychological link between stress, coping mechanisms, and injury risk. Athletes experiencing high anxiety

or poor stress management are more prone to injury due to physiological responses like muscle tension and impaired focus, which can hinder coordination and decision-making. In volleyball, where quick reflexes and precision are crucial, stress-related distractions increase the likelihood of mistakes and injuries. Effective coping strategies, such as mindfulness and relaxation techniques, can help athletes manage stress, enhance performance, and reduce injury susceptibility.

Influence of Training among Volleyball Athletes

Training is essential in enhancing volleyball players' athletic performance, including their strength, endurance, and agility. Several studies have examined its impact like Ericsson, Krampe, and Tesch-Romer (1993) emphasized the importance of deliberate practice in sports, stating that structured training significantly improves volleyball athletes' skills, reaction time, and overall performance. Their findings suggest that consistent and intentional training leads to better game performance and reduced skill-related errors. Reeser, Verhagen, Briner, Askeland, and Bahr (2006) investigated how plyometric training impacts volleyball players' jumping ability. Their study found that plyometric exercises significantly enhance explosive power, which is crucial for spiking and blocking in volleyball. Markovic and Mikulic (2010) studied the effect of jump training on volleyball athletes, concluding that training programs focusing on lower-body strength improve vertical jump height, reaction speed, and endurance, all of which are critical for competitive volleyball performance. Borràs, Balius, Drobnic, and Galilea (2011) examined the impact of strength training on volleyball players and found that a combination of resistance training and sport-specific drills improves muscle strength, endurance, and injury prevention. Silva, Andrade, Moura, and Reis (2020) analyzed the effect of workload management in volleyball, showing that athletes who follow well-structured training schedules experience fewer injuries and improved recovery times, allowing them to sustain peak performance throughout the season.

Influence of Injuries among Volleyball Athletes

Volleyball is associated with several types of injuries, which can affect an athlete's career and performance. Bahr and Bahr (1997) conducted a study on common volleyball injuries and found that ankle sprains are the most frequent injury in volleyball, often resulting in significant downtime and affecting player performance. Junge and Dvorak (2004) reviewed the psychological effects of sports injuries, revealing that injured athletes experience increased stress, anxiety, and fear of re-injury, which can impact their confidence and

gameplay. Gabbett and Domrow (2007) explored how training loads affect injury rates in volleyball players. Their study concluded that excessive training without adequate rest increases the risk of overuse injuries, particularly in the shoulders and knees. Charlton, Pacey, Lloyd, and Drew (2017) examined the relationship between injury and rehabilitation, emphasizing that proper rehabilitation programs significantly reduce recovery time and improve an athlete's return-to-play readiness. Grooms, Kiefer, Riley, Ellis, Thomas, and Bay (2022) investigated concussion and cognitive impairment in volleyball players, demonstrating that head injuries can lead to long-term mental health issues, affecting concentration and decision-making abilities on the court.

Influence of Mental Toughness on Volleyball Athletes

Mental toughness plays a critical role in an athlete's ability to overcome challenges, recover from injuries, and perform under pressure. Clough, Earle, and Sewell (2002) introduced the 4Cs Model of Mental Toughness (Challenge, Control, Commitment, and Confidence), showing that volleyball players with high mental toughness cope better with training stress, injuries, and competitive pressure. Gucciardi, Gordon, and Dimmock (2009) examined mental resilience in volleyball athletes, concluding that players with strong psychological conditioning tend to recover faster from injuries and maintain a higher level of performance. Jones, Hanton, and Connaughton (2010) investigated the effects of psychological training on volleyball athletes, finding that visualization techniques, mindfulness, and goal-setting significantly improve focus and reduce performance anxiety. Mahoney, Gucciardi, Ntoumanis, and Mallett (2014) analyzed the impact of mental toughness on injury recovery, stating that athletes with a positive mindset heal faster and return to play with greater confidence. Sheard (2020) studied mental toughness in elite volleyball players and found that those who undergo psychological skills training programs perform better under high-pressure situations and show lower stress levels during competitions.

METHODOLOGY

This chapter outlines the methodology of the study, including the research design, locale and population, instruments, procedures, data analysis, and ethical considerations. The study employed a quantitative descriptive research design to examine the influence of training, injuries, and mental toughness among 23 first- to fourth-year volleyball athletes of Baguio Central University during the Second Semester of AY 2024–2025, without manipulating variables. Data were gathered through a researcher-made, Research Director–validated Likert

scale questionnaire covering demographics, training intensity, injury experience, and mental toughness, administered after securing approvals from university authorities and informed consent from respondents. Simple random sampling was applied to ensure unbiased participation. Data analysis utilized descriptive statistics and weighted mean computations based on a four-point Likert scale to determine levels of influence. Reliability and validity were addressed through instrument validation, while ethical safeguards—including voluntary participation, confidentiality, and compliance with the Data Privacy Act of 2012 re strictly observed throughout the research process.

RESULTS AND DISCUSSION

Perceived level of influence obtained by volleyball athletes in relation to their training and performance

The table 1 shows the overall weighted mean (WM) of 3.02 indicates that volleyball athletes perceive a moderate influence (MI) of their training on performance. This suggests that while training is generally seen as beneficial, there may still be room for enhancement in intensity, structure, or focus areas. The Highest Ranked Indicator (Rank 1) was Items 8 (I believe my training effectively prepares me for competitive matches) and 10 (My training program balances skill development, conditioning, and recovery effectively) are both tied at the top with a WM of 3.26 and a qualitative description of High Influence (HI). This reflects athletes' confidence in their training's overall effectiveness and balance, particularly in preparing them competitively. This aligns with the Self-Determination Theory (Deci & Ryan, 2000; Prabowo, 2024) explains that training which fosters competence and autonomy boosts motivation and confidence.

Lowest Ranked Indicator (Rank 8) was Item 3 (My coach encourages me to train at high level like Speed, Agility, Vertical Jump and Explosive training) received the lowest WM of 2.56, still categorized as Moderate Influence (MI). This suggests a potential area for improvement where athletes feel less push or emphasis from coaches in high-intensity, performance-specific training areas. This corresponds with Transformational Leadership Theory (Vella, Oades, & Crowe, 2019) in sports underscores that when coaches fail to emphasize challenging, performance-specific training, athletes may experience decreased motivation and engagement. This aligns with the conclusion that a lack of coach emphasis on high-intensity training can be a key area for improvement. The results of this study align with the findings of Silva et al. (2020),

Table 1. The perceived level of influence obtained by volleyball athletes in relation to their training and performance.

Indicator	HI (4)	MI (3)	SI (2)	LI (1)	Total	WM	DE	R
1. I find my training sessions physically demanding.	20	42	4	2	68	2.95	MI	**6**
2. I feel exhausted after most training sessions.	12	33	16	1	62	2.69	MI	**7**
3. I am encourage by my coach to train at high level like Speed, Agility, Vertical Jump and Explosive training.	28	9	18	4	59	2.56	MI	**8**
4. I spend many hours practicing each week	24	30	14	0	68	2.95	MI	**6**
5. I consistently follow a structured training routine designed by my coach.	36	24	8	2	70	3.04	MI	**5**
6. I improve my strength, endurance, and flexibility by the training program.	44	24	4	2	74	3.21	MI	**2**
7. I have experienced noticeable improvements in my stamina and strength due to my training.	36	30	6	1	73	3.17	MI	**3**
8. I believe my training effectively prepares me for competitive matches.	40	27	8	0	75	3.26	HI	**1**
9. I believe the quality of my training sessions directly affects my game performance.	36	30	5	1	72	3.13	MI	**4**
10. I believe my training program balances skill development, conditioning, and recovery effectively.	44	21	10	0	75	3.26	HI	**1**
AWM						**3.02**		

Legends:

Scale	Statistical Limit	Descriptive Equivalent	Symbol
4	3.26 - 4.00	High Influence	HI
3	2.51 - 3.25	Moderate Influence	MI
2	1.76 - 2.50	Slightly Influence	SI
1	1 - 1.75	Least Influence	LI

who showed that structured training programs greatly contribute to the development of strength, endurance, and skill-specific performance among athletes. This matches the responses from our volleyball athletes, who generally agreed that their training programs had a positive influence on their preparation and performance.

Moreover, Rivera, Bautista, and Lim (2022) emphasized that athletes who undergo monitored workload training where physical strain is properly adjusted and achieve better long-term results without compromising their health. This reflects our findings, where most athletes rated their training influence as moderate to high, suggesting that while training loads are beneficial, there is always a need for continuous adjustment and personalized programs to maximize gains and minimize risks.

Based on the findings, the hypothesis stating that "the perceived level of influence of training on the performance among the volleyball athletes is slightly influential" is accepted. The overall weighted mean of 3.02 indicates a moderate influence of training on athletes' performance, suggesting that while training is beneficial, it may lack the necessary intensity or focus to fully maximize athletic potential. This is further supported by the lowest-rated item, which highlights a lack of emphasis on high-performance training areas such as speed, agility, vertical jump, and explosiveness. These aspects are crucial in competitive volleyball, and their under representation in the training program aligns with the hypothesis. Therefore, the results validate the notion that the current training provided to athletes may not be sufficient in terms of frequency, intensity, and overall quality.

Perceived level of influence obtained by volleyball athletes in relation to their training and performance

This section discuss the perceived level of influence obtained by volleyball athletes in relation to their training and performance. The table 2 shows the overall weighted mean (WM) of 2.89 indicates that volleyball athletes perceive a moderate influence (MI) regarding the

effects of injuries and recovery on their training and performance. This suggests that while there are

Table 2. The perceived level of influence obtained by volleyball athletes in relation to their injuries and performance.

Indicator	HI	MI	SI	LI	Total	WM	DE	R
1. I experience muscle soreness after training.	24	39	6	1	70	3.04	MI	**2**
2. I have experienced sports-related injuries during my volleyball career.	24	21	16	2	63	2.74	MI	**7**
3. I miss training sessions because of my injuries.	28	27	6	4	65	2.83	MI	**5**
4. I take proper recovery measures after getting injured.	28	33	8	1	70	3.04	MI	**2**
5. I am encouraged to report discomfort or pain during training sessions.	24	24	14	2	64	2.78	MI	**6**
6. I recover from routines such as stretching and cool-down that are emphasized in my training program.	36	18	10	3	67	2.91	MI	**4**
7. I have sustained injuries that significantly affected my performance.	16	33	14	1	64	2.78	MI	**6**
8. I have the team that provides adequate medical support when injuries occur.	20	30	10	3	63	2.74	MI	**7**
9. I am aware of proper injury prevention techniques during games and practices.	28	36	8	0	72	3.13	MI	**1**
I actively follow recommended rehabilitation programs to recover	24	33	10	1	68	2.96	MI	**3**

from injuries.								
Total						2.89		

Legend

Scale	Statistical Limit	Descriptive Equivalent	Symbol
4	3.26 - 4.00	High Influence	HI
3	2.51 - 3.25	Moderate Influence	MI
2	1.76 - 2.50	Slightly Influence	SI
1	1 - 1.75	Least Influence	LI

Established practices and awareness of recovery strategies, there is still room for improvement in injury prevention and management.

The highest-ranked indicator is Item 9 (I am aware of proper injury prevention techniques during games and practices), with a WM of 3.13. This highlights that athletes are generally knowledgeable about how to prevent injuries, which is essential for maintaining consistent performance and avoiding training disruptions. This coordinates with The Health Belief Model (McKay et al., 2020) applied in sports contexts suggests that athletes' awareness and knowledge about injury risks directly influence their preventive behaviors.

On the other hand, the lowest-ranked indicators are Item 2, (I have experienced sports-related injuries during my volleyball career) and Item 8 (My team provides adequate medical support when injuries occur), both with a WM of 2.74. These results point to two key concerns: the persistence of injuries among athletes and the perceived inadequacy of medical support from their teams. Such findings emphasize the need for better institutional support systems and more proactive measures to ensure that athletes are well-cared for when injuries arise. This result coordinates with the Social Support Theory emphasizes the importance of strong support systems in injury recovery. A study by Yang et al. (2020) found that athletes who perceived greater social and medical support had better recovery outcomes and psychological resilience. These frameworks underscore the need for improved institutional support to ensure athlete well-being and effective injury management.

The findings of this research regarding injuries are supported by Grooms et al. (2022), who stated that injuries, especially those related to overuse and stress, have a noticeable impact on both the physical and mental readiness of athletes. Our respondents reflected this reality by acknowledging the moderate effect of injuries on their development and training consistency. Similarly, Charlton, Pacey, Lloyd, and Drew (2017) emphasized that injuries in sports like

volleyball are inevitable, but proper recovery programs and medical support can greatly reduce the long-term impact, which matches our data where athletes showed moderate agreement to receiving support and following rehabilitation routines.

In addition, Castro and Lim (2023) found that psychological fatigue and fear of re-injury often accompany physical injuries among volleyball players, affecting their performance and confidence. Our study's moderate ratings regarding injury impact support this observation, pointing to the importance of emphasizing not only physical recovery but also mental resilience during the rehabilitation process. The hypothesis stating that "the perceived level of influence of the injuries on the performance of the volleyball athletes is slightly influential" is negated based on the results. The overall weighted mean of 2.89 falls within the interpretation of Moderate Influence (MI), indicating that injuries and recovery have a noticeable, though not minimal, influence on training and performance. The highest-ranked item (WM = 3.13) further reinforces this by showing that athletes are well-informed about injury prevention techniques. Even the lowest-ranked items still show moderate perceptions of influence, particularly concerning injury experiences and medical support. These findings demonstrate that while there are areas for improvement, especially in institutional support with the perceived influence is not low, and thus, the hypothesis is not supported by the data.

Perceived Level of Mental Toughness Among Volleyball Athletes

This section, discussed the current level of mental toughness among volleyball athletes, and how does it affect their ability to cope with challenges in training and competition. The table 3 shows the overall weighted mean for the mental toughness indicators among volleyball athletes is 3.07, which falls under the interpretation of Mentally Tough (MT). This implies that, on average, the athletes exhibit a mentally tough level of mental toughness, reflecting a fair capacity to manage challenges encountered in both training and competitive environments. Among the indicators, the highest-ranked item is Item 10 (I believe mental preparation strategies have improved my overall athletic performance), which received a weighted mean of 3.30 and is interpreted as Extremely Mentally Tough (EMT). This indicates that athletes strongly recognize the value and effectiveness of mental preparation in boosting their performance, highlighting their self-awareness and confidence in psychological readiness. The lowest-ranked indicator is Item 3 (I quickly recover from failures or losses), with a weighted mean of 2.82, still within the Mentally Tough range. This finding suggests that athletes may experience more difficulty in recovering quickly from setbacks, pointing to

an area where further development in emotional resilience and mental recovery strategies may be beneficial. The results align with the findings of Sheard (2020) emphasized that mental toughness isn't just a trait you're born with—it can be trained and strengthened over time through mental conditioning programs. This is aligned with the responses of our athletes, especially the high score for belief in mental preparation. It shows they already understand how important mindset is for performance, but need more structured support in learning how to mentally recover after losses.

Study by Mendoza and Cruz (2021) found that Filipino collegiate athletes benefit significantly from visualization, positive self-talk, and goal setting. This directly reflects our highest-rated item, where volleyball players acknowledged the influence of mental strategies on their athletic performance. However, Mendoza and Cruz also noted that while mental skills improve confidence and focus, consistent application and emotional support from coaches are crucial especially when dealing with failure or performance slumps. Based on the results, the hypothesis stating that "the perceived level of mental toughness among the volleyball athletes is slightly mentally tough" is negated. The overall weighted mean of 3.07 indicates a moderately influential perception of mental toughness among the athletes, suggesting that they generally recognize its importance in their performance.

Table 3. ***Perceived Level of Mental Toughness Among Volleyball Athletes***

Indicators	**EMT**	**MT**	**MMT**	**SMT**	**Total**	**WM**	**DE**	**R**
1. I stay confident even after making mistakes in a game.	20	36	8	2	66	2.86	MT	**6**
2. I can focus under pressure during competitions.	28	27	12	1	68	2.95	MT	**5**
3. I quickly recover from failures or losses.	24	24	16	1	65	2.82	MT	**7**
4. I remain motivated despite challenges in training.	40	27	8	0	75	3.26	EMT	**1**
5. I use mental strategies like visualization and self-talk to improve my game.	32	27	12	0	71	3.08	MT	**4**
6. I maintain a positive mindset despite challenges in training or competition.	32	33	8	0	73	3.17	MT	**2**
7. I remain focused and	28	33	10	0	71	3.08	MT	**4**

confident even in high-pressure volleyball matches.								
8.I believe my mental resilience allows me to recover quickly from errors or mistakes.	32	30	10	0	72	3.13	MT	**3**
9. I can maintain focus and concentration even when facing strong opponents.	36	27	8	1	72	3.13	MT	**3**
10. I believe mental preparation strategies have improved my overall athletic performance.	48	18	10	0	76	3.30	EMT	**1**
Total						3.07		

Legends

Scale	Statistical Limit	Descriptive Equivalent	Symbol
4	3.26 - 4.00	Extremely Mentally Tough	EMT
3	2.51 - 3.25	Mentally Tough	MT
2	1.76 - 2.50	Moderately Mentally Tough	MMT
1	1 - 1.75	Slightly Mentally Tough	SMT

Moreover, the highest-rated item, with a weighted mean of 3.30, reflects a high influence of mental preparation strategies, showing that athletes feel mentally equipped to perform effectively. Psychological Flexibility Model (Moore et al., 2021) indicates that mentally prepared athletes can adapt better under pressure, leading to improved performance outcomes. This supports the conclusion that mental preparation has a high influence on athletes' perceived

effectiveness. Even the lowest-rated item still falls under the moderate category, indicating that mental toughness is not perceived as low-influence in any area. This reconcile with The 4Cs Model of Mental Toughness (Clough & Strycharczyk, updated by Lin et al., 2020) show that athletes rarely view mental toughness as low-priority, recognizing it as essential for coping with pressure and sustaining performance. Therefore, the data contradict the hypothesis and instead suggest that mental toughness plays a meaningful role in the athletes' performance and development. Together, these recent studies confirm that while mental toughness is present among athletes, developing all its aspects particularly resilience and recovery would require continuous support and intentional training. Our study affirms that

the volleyball players in BCU are on the right track, but could benefit from more targeted programs to strengthen their coping and recovery skills.

In summary, the results indicate that volleyball athletes perceive a moderate influence of training, injuries, and mental toughness on their performance, as reflected in the overall weighted means of 3.02, 2.89, and 3.07 respectively, suggesting that while current training and recovery practices are generally effective, there remain key areas for improvement where particularly in high-intensity performance training, injury management and medical support, and enhancing emotional resilience to setbacks also while athletes show strong awareness of mental preparation and injury prevention techniques, further strategic enhancements in coaching and support systems could significantly elevate overall athletic performance and well-being.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings, the following conclusions were drawn:

1. The level of influence of the training to the volleyball athletes is moderately influential to their current training, this can be attributed to expressing strong confidence in its effectiveness for competition.
2. The level of influence of injuries of the volleyball athletes moderately recognize the influence of injuries and recovery on performance, this can be attributed to the good awareness of injury prevention strategies.
3. The results reveal that athletes perceive mental toughness as moderately mentally tough on their performance. They highly value the benefits of mental preparation.

Recommendations

The following recommendations are proposed:

1. Coaches may enhance training programs by incorporating more high-intensity, sport-specific drills to better support athlete development.
2. Teams may improve medical support systems and implement proactive injury prevention and recovery protocols.
3. Mental resilience training should be integrated into regular routines to help athletes recover more effectively from setbacks and losses.

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