

# Beach Volley And Wellbeing: A Qualitative Research On Psycophysical Efforts

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**Purpose:** Beach Volleyball (BV) is a sport derived from indoor volleyball, but with different rules and gameplay dynamics. Over time, it has gained popularity for both its recreational and competitive aspects, requiring a balanced aerobic-anaerobic energy effort. Its growth has led to an increasing demand for specific practice and dedicated sports facilities, including urban areas. Given these characteristics, BV can also be used to promote psychophysical well-being. However, scientific literature lacks studies analyzing recreational BV in terms of perceived psychophysical benefits and practitioners' opinions. This study aims to assess the perceptions and opinions of recreational BV players regarding psychophysical, motivational, and social-relational aspects.

**Methods:** The convenience sample consists of 34 amateur players (24 males, 10 females) aged between 21 and 45 years, who have been regularly practicing BV for at least one year at a non-competitive level. Participants completed a 10-item closed-ended questionnaire divided into two sections: the first identifying the sample characteristics and the second evaluating opinions and perceived enjoyment of the sport.

**Results:** Fifty-eight percent of participants highly appreciate BV, 58.9% perceive psychophysical benefits and 53.3% consider their motivation for practicing the sport as optimal. Chi-square test revealed a significant relationship between perceived psychophysical benefits and improved social skills ( $P = .036$ ). Another significant relationship was found between motivation to practice BV and perceived performance ( $P = .025$ ).

**Conclusions:** Practicing BV provides psychophysical benefits including improved physical fitness, increased motivation, enhanced self-esteem, and better body composition. Moreover, a strong link was observed between higher motivation and improved teamwork and social interactions among players, as well as contributing to the improvement of decreased stress of daily routine.

**Keywords:** motivation; self-esteem; questionnaire; perceptions; stress; relationships.

## Introduction

Beach volley (BV) is a team sport that originated on the beaches of Santa Monica (California, USA) in the 1920s, first as a spontaneous game to be played with the ball and later regulated and structured with the birth of real tournaments<sup>1</sup>. In the 1940s on the Italian Peninsula a volleyball played on the beach was practiced independent of the U.S. Phenomenon but developed during the same period. The main locations are Romagna, Versilia and the Roman Littoral<sup>2</sup>. Also in the 1930s, this new sport began to appear in Europe as well, particularly in France near Locanau and Royan but there is evidence of the presence of the sport also in Bulgaria, Czechoslovakia and Russia<sup>3</sup>. The first great players arrived in the 1940s from a location not far from Santa Monica, this is Sorrento Beach where forerunners of the sport such as Manny Saenz, Al Harris and Bernie Holtzman developed the discipline into the modern meaning we know today<sup>4</sup>. BV is played outdoors on beaches or in specially set up sand courts. For this reason, it has spread mainly to places with a warm climate, such as the southern United States and Brazil, partly because of its simplicity and inexpensiveness: all that is needed is a net, a ball, and two players per team. BV, although derived from volleyball differs from it in several respects, both technical and structural, adapting to a different playing environment and developing peculiar characteristics that make it unique. There are

only two players and since there are no predetermined roles they must have marked characteristics of versatility, in addition, the sandy field goes to greatly affect the physical aspect of the game, requiring a greater effort in terms of endurance and power<sup>5-7</sup>. The spectacular nature of the sport and the acceptance it has gained in the sporting landscape have contributed to a gradual growth in its popularity, eventually becoming an Olympic discipline at the 1996 Atlanta Games. Over time, the emergence of indoor playing fields, which allow it to be practiced at any time of year and in all weather conditions, has encouraged an even wider spread<sup>8-11</sup>. This evolution has led many people to approach BV: alongside competitive practice, many have chosen it as a recreational and playful activity. BV carries the fundamental values of every sporting discipline, such as fair play, team spirit, respect for rules, and the adoption of healthy lifestyles, as well as offering benefits such as psychophysical well-being and the opportunity to socialize and compare oneself with others<sup>12</sup>. BV is a sport discipline that, although derived from volleyball, has different rules and game modes, which has become very popular over time because of its recreational and competitive function with congruous aerobic-anaerobic energy commitment<sup>13</sup>. Its development has produced a significant demand for specific practice and the increase of dedicated sports facilities even allocated in urban centres. For this reason, BV can be used to achieve goals of psychophysical well-being as well.

Although BV is an increasingly popular sport at the amateur level, the scientific literature mainly focuses on the analysis of the game at the competitive and professional level. Previous studies have focused on technical, tactical, and physiological aspects of the discipline, with emphasis on performance analysis, injury incidence, and differences between BV and indoor volleyball<sup>14-17</sup>. In addition, according to Medeiros et al.<sup>18</sup>, research on BV is still at an early stage and has evolved mainly from descriptive to comparative studies, with a specific focus on cumulative statistics. Other studies have examined psychological aspects related to BV, such as resilience<sup>19</sup>, development of decision-making ability<sup>20</sup> and psychological variables in general<sup>21</sup>. There appears to be a significant lack of research exploring BV practiced in recreational or non-competitive settings, especially in relation to perceived psychophysical benefits, player motivation, and social-relational aspects associated with amateur practice. This gap in the literature hampers a full understanding of the value that BV can offer beyond competition, limiting the possibility of developing targeted strategies to promote the discipline in educational, recreational, and health settings. The absence of in-depth studies in this area also prevents the identification of emerging trends and the outlining of new research directions, underscoring the need for a specific investigation to fill this knowledge gap.

The purpose of the present research is therefore to analyse the impact of amateur BV practice on practitioners' perceptions of psychophysical well-being, while also investigating their motivations and socio-relational dynamics related to the sport. Through an approach based on players' experience, this study aims to highlight the benefits of the discipline not only in terms of physical health, but also with respect to mental well-being, socialization, and personal motivation<sup>22</sup>. The findings could make a significant contribution to the design of interventions aimed at encouraging sports participation and improving the quality of the experience of players, thus supporting the spread of BV as a wellness and social inclusion activity.

## Methods

### Participants

A convenience sampling was conducted to recruit 34 amateur athletes (24 men, 10 women) ranging from 21 to 45 years old (age  $30.4 \pm 6.2$  years). All participants had been regular BV players for at least one year, with an average training experience of  $3.8 \pm 1.5$  years. The mean height was  $178.2 \pm 8.4$  cm, while their mean body mass was  $74.5 \pm 9.3$  kg. Participants were recruited voluntarily, with no restrictions on their technical skills or competitive background. The eligibility criteria were voluntary participation, good health, and no musculoskeletal injuries. Exclusion criteria included any history of chronic pain, recent surgeries, or conditions affecting balance and motor function. Before taking part in the study, all participants were fully informed about its objectives and procedures and provided written consent. The study was conducted in accordance with the ethical principles outlined in the latest version of the Declaration of Helsinki.

### Design and Instruments

This study follows an observational design, aiming to analyze opinions and perceptions of the psychophysical and motivational benefits of practicing BV at an amateur level. All participants practice at a frequency of three times a week, alternating between indoor and outdoor sessions. In addition to playing both indoor and outdoor matches, they perform athletic preparation protocols to adapt the musculoskeletal system to specific playing situations and to limit the likelihood of incurring injuries. Participants received a structured questionnaire consisting of 10 closed-ended questions divided into two sections: biographical and identifying data (age, gender, playing experience) and perception of playing sports (motivation, enjoyment, psychophysical and social benefits).

Responses were collected anonymously and voluntarily, ensuring compliance with the Declaration of Helsinki for research with human subjects. A detailed description is shown in Table 1.

**Table 1.** Questionnaire for Amateur BV Players.

|                                             |              |
|---------------------------------------------|--------------|
| 1. What is your age?                        | 21-30 years  |
|                                             | 31-35 years  |
|                                             | 36-40 years  |
|                                             | 41-45 years  |
| 2. What is your gender?                     | Male         |
|                                             | Female       |
| 3. How many years have you been playing BV? | < 1 year     |
|                                             | 1 to 3 years |
|                                             | 4 to 7 years |
|                                             | > 7 years    |
| 4. How much do you enjoy playing BV?        | A lot        |
|                                             | Quite a bit  |
|                                             | A little     |
|                                             | Not at all   |

|                                                          |                    |
|----------------------------------------------------------|--------------------|
| 5. What motivates you to play BV?                        | Staying in shape   |
|                                                          | Enjoying the sand  |
|                                                          | Group of friends   |
|                                                          | The feelings       |
| 6. What do you enjoy the most during training?           | Athletic part      |
|                                                          | Technical part     |
|                                                          | Competitive aspect |
|                                                          | Post-training time |
| 7. How do you perceive your performance?                 | Excellent          |
|                                                          | Good               |
|                                                          | Sufficient         |
|                                                          | Poor               |
| 8. How do you perceive your motivation in practicing BV? | Optimal            |
|                                                          | Good               |
|                                                          | Sufficient         |
|                                                          | Poor               |
| 9. Do you feel psychophysical benefits from playing BV?  | A lot              |
|                                                          | Quite a bit        |
|                                                          | A little           |
|                                                          | Not at all         |
| 10. Do you feel your social skills have improved?        | A lot              |
|                                                          | Quite a bit        |
|                                                          | A little           |
|                                                          | Not at all         |

### Statistical analysis

Data collected were analysed through a descriptive analysis of frequencies and percentages of responses. Chi-square test, the magnitude of which was measured by Cramer's V, was employed to assess any significant relationships among the qualitative variables in the questionnaire. The scores can be interpreted as follows:  $V < .1$  indicates a weak relationship,  $V$  between  $.1$  and  $.3$  is considered a moderate relationship,  $V$  between  $.3$  and  $.5$  denotes a strong relationship, and  $V \geq .5$  suggests a very strong relationship, indicative of a nearly perfect association between the variables<sup>23</sup>. Statistical analysis was conducted using JASP software (version 0.19.3, JASP Team, Amsterdam, Netherlands), with the significance level set at  $P < .05$ .

### Results

The analysis of the responses showed that most of the athletes (64%) have been practicing BV for more than 4 years. Appreciation of BV was found to be high, with 58.8% of participants finding it very enjoyable and 41.2% quite enjoyable. Regarding the main motivations to practice, 55.9% of respondents indicated the sensations conveyed by the game, while 23.5% practice it to keep fit. In addition, 53% of the subjects stated that they have optimal motivation, which also has a positive impact on the perception of their performance. The results are shown in Table 2.

**Table 2.** Answers Of The Questionnaire for Amateur BV Players.

| Questions              | Options     | Frequency (N) | Percentage (%) |
|------------------------|-------------|---------------|----------------|
| 1.What is your age?    | 21-30 years | 4             | 11.7           |
|                        | 31-35 years | 8             | 23.5           |
|                        | 36-40 years | 10            | 29.5           |
|                        | 41-45 years | 12            | 35.3           |
| 2.What is your gender? | Male        | 25            | 73.5           |
|                        | Female      | 9             | 26.5           |

|                                                          |                    |    |       |
|----------------------------------------------------------|--------------------|----|-------|
| 3. How many years have you been playing BV?              | 1 to 3 years       | 9  | 26.5  |
|                                                          | 4 to 7 years       | 10 | 29.5  |
|                                                          | > 7 years          | 15 | 44    |
| 4. How much do you enjoy playing BV?                     | A lot              | 20 | 58.8  |
|                                                          | Quite a bit        | 14 | 41.2  |
| 5. What motivates you to play BV?                        | Staying in shape   | 8  | 23.5  |
|                                                          | Enjoying the sand  | 2  | 5.9   |
|                                                          | Group of friends   | 5  | 14.7  |
|                                                          | The feelings       | 19 | 55.9  |
| 6. What do you enjoy the most during training?           | Athletic part      | 8  | 23.5  |
|                                                          | Technical part     | 10 | 29.5  |
|                                                          | Competitive aspect | 11 | 32.3  |
|                                                          | Post-training time | 5  | 14.7  |
| 7. How do you perceive your performance?                 | Excellent          | 3  | 8.9   |
|                                                          | Good               | 16 | 47    |
|                                                          | Sufficient         | 13 | 38.3  |
|                                                          | Poor               | 2  | 5.8   |
| 8. How do you perceive your motivation in practicing BV? | Optimal            | 18 | 53    |
|                                                          | Good               | 10 | 29.5  |
|                                                          | Sufficient         | 6  | 17.5  |
| 9. Do you feel psychophysical benefits from playing BV?  | A lot              | 20 | 58.9  |
|                                                          | Quite a bit        | 12 | 35.2  |
|                                                          | A little           | 2  | 5.9   |
| 10. Do you feel your social skills have improved?        | A lot              | 18 | 52.93 |
|                                                          | Quite a bit        | 14 | 41.17 |
|                                                          | A little           | 2  | 5.9   |

From the inferential analysis using Chi-square, two significant relationships emerged: a moderate correlation between perceived psychophysical benefits and improved interpersonal skills ( $P = .036$ ;  $V = .21$ ) and a moderate relationship between perceived motivation and self-evaluation of sports performance ( $P = .025$ ;  $V = .28$ ). BV, in addition to being a recreational and

sporting activity, promotes the development of interpersonal skills and improved mental and physical well-being, elements that can encourage participation and continuity in the practice of the discipline. The whole can be observed in Table 3.

**Table 3.** Significant Relationships Among Qualitative Variables.

| Items                                     | <i>P</i>   | Cramér's <i>V</i> | Meaning                                                                                                                            |
|-------------------------------------------|------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Psychophysical Benefits and Social Skills | $P = .036$ | $V = .21$         | Moderate ( $.1 \leq V < .3$ ) - The perception of psychophysical benefits is correlated with a higher perception of social skills. |
| Motivation and Performance                | $P = .025$ | $V = .28$         | Moderate ( $.1 \leq V < .3$ ) - Higher motivation is associated with a higher perception of performance.                           |

## Discussion

The study provided significant evidence regarding amateur BV practitioners' perceptions of motivational aspects, psychophysical well-being, and relational components. The results support the initial hypothesis that this discipline offers benefits not only at the physical level but also in terms of motivation and social interactions. Data analysis highlighted key aspects such as enjoyment of BV, motivation for practice,

perceived psychophysical benefits, personal performance, and relational skills. The level of appreciation for BV among participants was particularly high: 58.8% reported greatly enjoying the discipline, while 41.2% considered it rather pleasant. No participants expressed a negative opinion. This finding aligns with previous studies indicating that outdoor sports practiced in natural environments promote greater emotional engagement and a sense of subjective well-being<sup>24, 25</sup>. The combination of physical activity and the natural setting, which characterizes

BV, contributes to making the experience particularly rewarding by stimulating endorphin release and reducing stress levels<sup>26,27</sup>. The data reveal that 55.9% of participants are motivated by the sensations experienced during the game, while 23.5% engage in the activity to maintain physical fitness. This distinction between intrinsic motivations (enjoyment of the game, positive sensations) and extrinsic motivations (fitness goals) is well-documented in scientific literature<sup>28-30</sup>. The prevalence of intrinsic motivation suggests that BV is perceived not only as a tool for physical well-being but also as a playful activity capable of generating strong emotional involvement. Most respondents (58.9%) reported experiencing significant psychophysical benefits from BV practice, while 35.2% expressed a moderately positive opinion. These data are consistent with studies highlighting the role of team sports in increasing psychological well-being and mental health<sup>31,32</sup>. Additionally, sand training requires greater muscular effort and cardiovascular activation than indoor volleyball, promoting improved body composition and muscular endurance<sup>33</sup>. A crucial aspect that emerged from the study concerns the perceived motivation in the sports context, a key factor for athletic success. Fifty-three percent of participants reported feeling highly motivated, and this motivation appears to be closely related to a positive evaluation of their own performance. The chi-square test showed a significant relationship between perceived motivation and perceived performance ( $P = .025$ ;  $V = .28$ ), suggesting that a high level of motivation not only enhances self-confidence but also results in better performance. This phenomenon is widely documented in sports psychology, where numerous studies show that strong motivation contributes not only to improved performance but also to an athlete's psychological resilience in the face of difficulties<sup>34,35</sup>. Vallerand & Losier<sup>36</sup> suggest that high intrinsic motivation leads to higher engagement and reduced incidence of psychological stress during competition. The perception of an improvement in one's athletic ability, therefore, is intertwined with a motivation that feeds the virtuous cycle of self-efficacy, as described by Bandura's<sup>37</sup> theory, where confidence in one's abilities increases following the recognition of tangible progress. Another critically important aspect that emerged from the study relates to improved interpersonal skills. Fifty-three percent of the participants reported significant improvements in their social skills due to BV practice. Statistical analysis revealed a significant relationship between perceived psychophysical well-being and improved interpersonal skills ( $P = .036$ ;  $V = .21$ ), underscoring how sports practice, particularly team play, can positively influence socialization. Interaction among team members provides fertile ground for developing social skills such as communication, cooperation, and mutual trust, which not only enhance sports performance but also extend beyond the athletic context. This phenomenon is reflected in several research studies that highlight how collective sports activities can improve social integration and interpersonal skills<sup>38</sup>. BV practice fosters a high level of coordination and communication, which is also reflected in personal relationships, providing a unique opportunity for social and psychological development. The quality of relationships among participants thus becomes an essential element for achieving objectives.

In conclusion, the study confirms the central role of motivation in enhancing sports performance and practitioners' mental and physical well-being. Strong motivation is associated with higher self-esteem and better performance in sports activities<sup>39</sup>. Similarly, improvement in interpersonal skills is an equally relevant aspect, as it demonstrates how social interaction, and cooperation can strengthen the bond between team members

and foster social integration. These findings support a holistic approach to sports psychology, which not only considers the physical aspect of training but also recognizes the importance of psychological and social dimensions in athlete development. BV, in addition to being an effective physical activity for improving athletic condition, offers significant psychological and social benefits. The link between motivation and perception of performance, as well as between psychophysical benefits and interpersonal skills, underscores the importance of promoting BV not only in competitive settings but also as a recreational activity for overall well-being. Future research could further explore these aspects with longitudinal studies and larger samples, assessing the impact of BV on specific indicators of mental health and quality of life.

## Practical Applications

The findings have practical implications in several key areas: motivation in sports performance, social inclusion, education, psychological well-being, and overall health promotion. The correlation between perceived motivation and performance highlights the importance of creating environments that foster engagement and self-efficacy. Similarly, the role of sports in developing relational skills underscores how activities requiring communication and trust, such as BV, can enhance teamwork and interpersonal relationships. These insights are particularly relevant in schools and youth programs, where sports can be leveraged to teach cooperation and emotional resilience. Additionally, BV's benefits extend to mental health, helping individuals manage anxiety, low self-esteem, and social difficulties through structured physical activity. For coaches and educators, these findings reinforce the importance of integrating strategies that boost both motivation and social skills within training programs. By setting achievable goals, offering constructive feedback, and encouraging collaboration, coaches can create an environment that nurtures both athletic performance and psychological growth. In competitive sports, motivation-driven training can lead to improved confidence and resilience, while in educational and therapeutic settings, structured sports activities can be used to foster personal development and social inclusion. Recognizing BV and other paired sports as tools for holistic growth allows for the implementation of more effective training methodologies<sup>40</sup>, benefiting both athletes and broader communities.

## Conclusions

The study confirms the importance of investigating how sports disciplines, even at an amateur level, contribute to gaining a comprehensive understanding of activities and focusing on the analysis of perceptual aspects that are rarely examined in a performance-oriented context. This, in turn, generates positive opinions that can be shared with others, further promoting the sport. The results clearly show that BV is not only appreciated by players for the beauty of its practice but is also perceived to promote psychophysical well-being, sustain motivation, and enhance social skills. In a historical period characterized by increasingly sedentary lifestyles, influenced by factors such as work, family commitments, and technological advancements, it becomes essential to identify engaging sports disciplines that encourage people to stay active throughout their lives. Amateur practice allows individuals to participate without being pressured



to achieve results at all costs. This significantly reduces the stress typically associated with competitive sports, instead fostering a relaxed and enjoyable environment that contributes to maintaining psychophysical well-being and, consequently, cultivating a healthy lifestyle.

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## Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

## Ethical Committee approval

The use of these data did not require approval from an accredited ethics committee, as they are not covered by data protection principles, i.e., they are non-identifiable, anonymous data collected through an anonymous questionnaire. In addition, based on Regulation (EU) 2016/679 of the European Parliament and of the Council on 27 April 2016 on the protection of individuals concerning the processing of personal data and on the free movement of such data (which entered into force on 25 May 2016 and has been compulsory since 25 May 2018), data protection principles do not need to be applied to anonymous information (i.e., information related to an identifiable natural person, nor to data of a subject that is not, or is no longer, identifiable). Consequently, the Regulation does not affect the processing of our information. Even for statistical or research purposes, its use does not require the approval of an accredited ethics committee.

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## Topic

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## Conflicts of interest

The authors have no conflicts of interest to declare.

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