

# A Comparative Analysis of Aggression Levels among Female National Volleyball and Netball Players: Study in Sri Lanka

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**Abstract**—A crucial psychological component of improving athletic performance is aggression, especially in invasion sports. The purpose of this study was to examine the degree of violence displayed by Sri Lankan female national netball and volleyball players. This research comprised fifteen female volleyball players and ten female netball players from the national teams. A systematic, standardized questionnaire was used to gather the data, and SPSS statistical analysis was used to analyze the results. The data were analyzed using a two-sample t-test and descriptive statistics. According to the study, the mean aggressiveness scores for the two national teams were 84.06 and 88.9, respectively. The female national team netball and volleyball players did not significantly differ in their levels of hostility, according to the research ( $p$ -value = 0.577). The study found that both teams' levels of aggressiveness were good, and there was no discernible difference in the levels of aggression among Sri Lanka's female national netball and volleyball players. The results highlight the significance of examining the psychological circumstances of athletes and putting methods in place to maximize player psychology for improved athletic performance.

**Indexed Terms**— *psychological; aggression; volleyball; systematic; netball*

## I. INTRODUCTION

Aggression is a complicated psychological concept that has been generally acknowledged as a critical driver of athletic performance in the realm of sports. Aggression serves as a key factor in determining athletic performance. In spite of the fact that the idea of violence has traditionally been linked to male athletes and has been regarded as unsuitable or surprising for female athletes, scientific data has disproved these gendered preconceptions [1]. To the same extent as their male counterparts, female athletes have the ability to utilize aggressiveness as a driving force for performance advancement [2].

Sarah (2014), a former high school athlete, gives a vivid experience of how aggressiveness was an essential component of her athletic arsenal, which benefited not just her own performance but also the general dynamics of the team [3]. As a matter of fact, coaches frequently advocate for the constructive channeling of aggressiveness because they feel that it provides teams with an advantage over their competitors. As a result, the notion that aggressiveness is a characteristic that is exclusive to men is disproved by

personal anecdotes like these and the factual reality of sports [4].

Many female athletes believe that athletics provide them with an opportunity to resist established gender standards, despite the fact that cultural expectations dictate that women should be soft and loving. On the other hand, there is a thin line that separates assertiveness from being regarded as "masculine," which can be damaging to female athletes [5]. Men, on the other hand, are sometimes expected to exhibit aggressive behavior in sports, and if they fail to do so, they may be subjected to scorn and the pejorative reputation of being "soft" [6].

To investigate the dynamics of violence among female athletes, the sports of volleyball and netball, which are both prominent team sports, provide a unique vantage point from which to examine the phenomenon. The sport of volleyball, which is played by two teams of six players each, requires strategic aggression in order to outmaneuver opponents and make sure that points are earned [7]. There are seven players on each side in the sport of netball, which is a non-contact activity that may be played either indoors or outdoors. In order to obtain an advantage over the other team, it is necessary to demonstrate a high degree of aggressiveness [8].

The objective of this research is to investigate and analyze the levels of hostility that are present among female national players in the sports of netball and volleyball in Sri Lanka. Through the investigation of the dynamics of aggressiveness in various sports, we are able to get a more profound comprehension of the psychological foundations that support athletic success. This information can play a crucial role in the development of conditions that are more welcoming and encouraging of women who participate in sports [9]. In addition, the findings of this study might be of great use to coaches and sports psychologists in terms of improving players' overall performance and encouraging a healthy spirit of competition among them.

## II. THEORITICAL FRAMWORKE & LITERATURE REVIEW

### A. Theoritical Framework

A fundamental knowledge of aggressiveness in sports serves as the basis for the theoretical framework of this research study. This understanding is particularly relevant when considering female athletes competing in the sports of netball and volleyball. In the field of sports psychology, aggression is frequently characterized as a conduct that is aimed at the

purpose of causing pain or injury to another being who is motivated to avoid receiving such treatment. This aggressive conduct can present itself in a variety of ways, ranging from behaviors that are forceful within the rules of the sport to actions that are hostile with the aim of inflicting harm to others [10].

Aggression in sports may have both beneficial and bad consequences on performance, depending on the circumstances. One way in which athletes can increase their performance is through the use of assertive aggressiveness, which is when they play within the rules of the sport at a high intensity without the purpose of hurting their opponents. A hostile aggressiveness, on the other hand, in which the primary objective is to cause damage or injury to an opponent, can be harmful to performance. Because the difference between these two forms of aggressiveness is what defines the effect that aggression has on athletic performance, it is extremely important to make this distinction [2].

According to the social learning theory, aggressive conduct in sports may be learnt via observation and imitation of aggressive actions, particularly from role models and the media. This hypothesis was developed to explain how aggressiveness can be learned. A number of environmental signals, including the rules of the game, the amount of physical contact that is permitted, and the conduct of individuals in the vicinity, can also have an effect on aggressive behavior in sports. In addition, the manifestation of aggressiveness in athletes may be influenced by personality characteristics, coaching approaches, and the expectations of society [11].

The concept that aggressiveness in sports is a multifaceted phenomenon that is impacted by a variety of elements serves as the foundation for the theoretical framework that this study is framed around. Through the investigation of the degrees of aggressiveness exhibited by female national players in the sports of netball and volleyball in Sri Lanka, the purpose of this study is to make a contribution to a more in-depth knowledge of the psychological components of athletic performance. The findings of this study can be helpful for coaches, sports psychologists, and legislators in the process of developing settings that are more welcoming and encouraging of female athletes who participate in sports.

### B. Literature review

Providing a basic overview of the study's focus on anxiety and aggressiveness in the setting of sports is the purpose of the introductory portion of this literature review. In the beginning, it is said that team sports are commonly acknowledged as activities that are extremely competitive. This paves the way for the subsequent discussion of anxiety and aggressiveness, which are characteristics that are intrinsic to surroundings that are competitive. It is emphasized in the beginning that there is a contrast between anxiety and fear [12]. Anxiety is defined as a condition of inner turmoil that is frequently accompanied by tense behavior, whereas fear is a reaction to an imminent threat. Especially in the days leading up to competition, this difference is extremely important since it helps to define the conversation that surrounds the emotional states of athletes.

Within the realm of athletics, the part titled "Defining Aggression" dives into the complex nature of aggressiveness and its many facets. To begin, it takes a look at a number of different definitions of aggressiveness, highlighting the complexity of the concept and the need of having a sophisticated knowledge of it [13]. Due to the fact that aggressiveness may take many different forms and occur in a variety of settings, the discussion highlights how important it is to take into consideration a variety of views and meanings. The purpose of this section is to provide the groundwork for a more in-depth investigation of the ways in which aggressiveness is conceived of and utilized within the context of sports, eventually bringing to light the complexities that are involved in the study of this phenomena within the field of sports psychology [14].

In an effort to explain the complex phenomenon of aggression, "Theories Related to Aggression" examines a variety of alternative hypotheses. This study encompasses a range of theoretical frameworks, including frustration-aggression theory, instinct theory, social learning theory, and Berkowitz's reformulated frustration-aggression theory. An analysis is conducted on both the favorable and unfavorable aspects of each theory, with an emphasis on the ways in which each theory has contributed to our collective understanding of aggressive behavior in sports. The objective of this section is to lay the groundwork for a subsequent comprehensive examination of this topic in the realm of sports psychology by presenting a thorough synopsis of the theoretical frameworks that have been developed to scrutinize the multifaceted dimensions of aggressiveness [15].

"Factors That Can Influence Aggression" analyzes the myriad of elements that might impact aggressive behavior. These factors include biological, environmental, and physical aspects. The article investigates the ways in which these elements might impact the development and manifestation of aggressive behavior in sports, putting an emphasis on the intricate relationship that exists between individual qualities and environmental influences. The purpose of this section is to give a nuanced knowledge of the various aspects that might lead to aggressiveness. It also emphasizes the significance of taking into consideration a variety of factors while researching and managing aggressive conduct in sports.

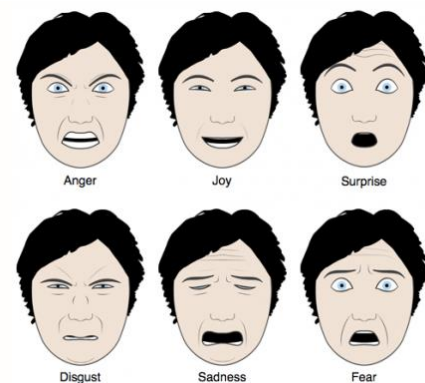


Fig. 1. Aggressive behavior

Within the "Different Forms of Aggression" section, the many manifestations of aggressiveness are discussed in depth. These manifestations include physical, verbal, mental, and emotional expressions. For example, punching or shoving someone is an example of physical aggressiveness, which involves direct bodily injury or violence. In the context of verbal violence, verbal attacks, insults, or threats are all included. When someone engages in mental aggressiveness, they intimidate or manipulate others psychologically [16]. Harming someone's feelings, such as by manipulating their feelings or by neglecting their feelings, is an example of emotional violence. The performance of players, their well-being, and their relationships with both their teammates and their opponents can all be negatively impacted by various types of violence in sports. When it comes to properly addressing and controlling aggressive conduct in sports, having a solid understanding of these many kinds of aggressiveness is absolutely necessary [17].

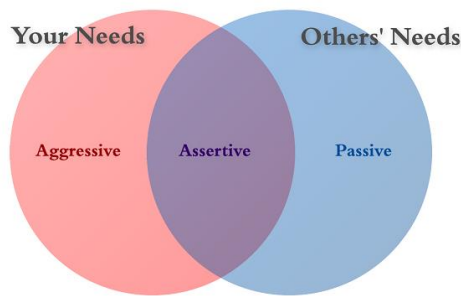


Fig. 2. Different Forms of Aggression

The section "How People Express Aggression" explores the several ways that people show aggressiveness. This includes using a vehicle to express aggression, expressing aggression verbally through yelling or insulting others, expressing aggression physically through pushing or hitting someone, and expressing aggression adaptively or constructively through channeling aggression into more positive pursuits like sports or the arts. The way athletes behave, how they feel, and how they interact with rivals and teammates can all be impacted by these acts of violence. It is essential to comprehend these many manifestations of aggressiveness in order to properly confront and manage violent conduct in sports [18].

The purpose of this section is to address several strategies for regulating aggressiveness in sports. These strategies include the use of penalties for aggressive acts, the instruction of conduct that is not aggressive but assertive, and the provision of counseling and rehabilitation services for athletes who are aggressive. In the context of athletics, it emphasizes the significance of effectively regulating aggressive behavior [19].

An early form of basketball served as the basis for the development of the team sport known as netball, which was first played in England in the 1890s [20]. This sport is played on a court that is rectangular in shape and measures 30.5 meters in length and 15.25 meters in width. The court is divided in half by a net that is 2.43 meters in height. The match is broken up into four quarters, each lasting fifteen minutes, with a halftime break lasting five minutes and intervals of three minutes between each quarter [20]. Each

team includes seven players on the court, each of whom is assigned a certain position and duty. The objective of the game is to score more points than the other team by shooting the ball through the goal ring of the other team. The side that finishes with the most points during the allotted sixty minutes of play is the one that emerges victorious in the game. A regulation-sized ball is used to play the game, which has precise regulations for scoring, player placement, and equipment. Additionally, the game is played using it [21].

It was in 1964 that volleyball made its debut in the Olympic Games. Volleyball is a team sport that was first played in year 1895 [22]. It is played between two teams, each consisting of six players, and replacements are permitted at any point throughout the game. The game is played on a court that is rectangular in shape and is 18 meters by 9 meters. There is a net that runs across the court at a height of 2.43 meters [23]. There is a ball used in volleyball that has a diameter of eight inches and weights anywhere between nine and ten ounces. It is not permitted for a player to strike the ball twice in a row, and each side is only allowed to hit the ball three times before it is returned to the other team. The match is played in sets, and the side that is the first to achieve 25 points is the one that wins the set. The winner of the game is determined by which side wins the majority of the sets [24].

III. METHODOLOGY

For the purpose of gaining a full knowledge of aggressiveness among female national netball and volleyball players in Sri Lanka, the methodology of the study was deliberately intended to capture this insight. Specifically, it involved the following essential elements:

The study design that was implemented was a descriptive research analysis technique. Through the use of this methodology, quantitative data could be collected, which could then be subjected to statistical analysis in order to provide a description of the features of the population under investigation.

The Sri Lankan female national netball and volleyball pools were the primary focus of the research that was taken into consideration. A total of 15 individuals from the national volleyball team and 10 individuals from the netball squad participated in the investigation and provided their responses. The type of sampling that was utilized was known as stratified random sampling, which ensured that all of the subgroups that were present within the population were represented in a proportional manner.

TABLE I. SECTIONS FOR QUESTIONNAIRE

Section	Number of Questions
Inconsistent Responding pairs	8
Physical Aggression scale item responses	8

Verbal aggression scale item responses	5
Anger scale item responses,	7
Hostility scale item Responses	8
Indirect Aggression scale item Responses	6

The data collection process included the collection of both primary and secondary data. The primary data were collected by means of a pre-structured questionnaire that included a variety of components connected to aggressiveness among athletes. These components included physical aggression, verbal aggression, rage, hostility, and indirect aggression. There were a total of 34 items included in the questionnaire, and respondents were asked to provide comments using a Likert scale. Secondary data were collected from a variety of sources, including websites, books, journal papers, and records from earlier study.

The data that were obtained were examined with the use of SPSS Statistical Software and the Microsoft Office Package during the analysis process. A summary of the data was created with the use of descriptive statistics, which expressed the information as percentages and mean values. In order to highlight the aggression and how it manifests itself among the female national players of netball and volleyball in Sri Lanka, the average score percentages were split up into several categories. For the purpose of determining whether or not the data distribution was normal, the Shapiro-Wilk test was utilized. Based on the fact that the data were normally distributed, two-sample T-tests were utilized in order to ascertain the significance of differences in aggressiveness and the manner in which it manifests itself between players of netball and volleyball. A P-value of less than 0.05 was chosen as the criterion of significance.

**Ethical Considerations:** The research guaranteed that the participants were treated in an ethical manner by getting their informed permission, ensuring that confidentiality was maintained, and ensuring that the research was carried out in a manner that respected the individuals' rights and welfare.

This study's approach was thorough and extensive, which allowed for a full analysis of the aggressive behavior of female national netball and volleyball players in Sri Lanka. In general, the methodology used in this study was robust and comprehensive.

**IV. DATA ANALYSIS**

The data analyzed by using the rank scale, descriptive statistics, correlation analyzing and regression analyzing.

A comprehensive calculation was performed to determine the overall value of the responses provided by individual players on the questionnaire. This included responses to the following categories: inconsistency in responding pairs, physical aggression scale item responses, verbal aggression scale item responses, anger scale responses, hostility scale responses, and indirect aggression item responses.

The average was calculated from the total in order to provide a comparison between the production of the team in relation to aggressiveness and the impression of hostility. The information shown above indicates that the average percentage for netball is 88.9%, while the average percentage for volleyball is 84.1 percent. According to this elementary assessment, the National Netball team has a larger rate of aggressive behavior when compared to the Volleyball squad.

Player Number	Score of individual	Score of individual
1	56	107
2	101	51
3	110	109
4	134	65
5	57	68
6	82	54
7	67	60
8	98	72
9	83	78
10	101	111
11		61
12		89
13		126
14		134
15		76
Total	<b>889</b>	<b>1261</b>
Number of Players	<b>10</b>	<b>15</b>
Average	<b>88.9</b>	<b>84.1</b>

Fig. 3. Analyzing based on the responses from each individual

Descriptive analysis was used to compute the data in order to have a better understanding of this context. The descriptive test analysis reveals that the mean score for the volleyball team is 84.0667, while the mean score for the netball team is 88.9000. We are operating on the premise that both teams have the same amount of volatility. There is a significant difference between the value of netball and that of volleyball, as seen by the mean comparison. The conclusion that can be drawn from this is that the degree of hostility and impression seen in volleyball is significantly higher than the level of aggression and impression seen in netball. It may be deduced from this that the Sri Lankan National Volleyball team is more aggressive than the Sri Lankan National Netball squad.



Group Statistics					
	Team	N	Mean	Std. Deviation	Std. Error Mean
Test score	Volleyball	15	84.0667	26.89521	6.94431
	Netball	10	88.9000	24.75861	7.82936

Fig. 4. Group Statistics

		P value	T value	Mean Difference	Std. Error Difference
Test score	Equal variances assumed	0.577	-0.454	-4.83333	10.64712
	Equal variances not assumed		-0.462	-4.83333	10.46529

Fig. 5. Independent samples test

This test has been carried out on the basis of the uneven variance, as stated by the independent samples test. As a result of this, the Levine's Test was carried out, and the result of that test indicated that the significant value was 0.577. Due to the fact that the p-value for Levine's test is more than 0.05, it is necessary to make the assumption that both sets of data have the same amount of variation. As a result of the t-test that was carried out to determine whether or not the means were identical, the significant value that was obtained was 0.654. As a result, we are willing to accept the null hypothesis, which states that there is no difference in the amount of aggressiveness displayed by players competing at the national level in the sport of netball and volleyball in Sri Lanka.

The total aggression level was determined by utilizing the responses of individual players on the questionnaire. This included responses to the following categories: inconsistency in responding pairs, physical aggression scale item responses, verbal aggression scale item responses, anger scale responses, hostility scale responses, and indirect aggression item responses. The average was calculated from the total in order to provide a comparison between the production of the team in relation to aggressiveness and the impression of hostility.

According to the examination of the Rank scale, the average score for volleyball is 84.1 percent, while the average score for netball is 88.9 percent. After doing an analysis of these data using the ranking scale for both, it is determined that the value corresponds to 76 to 95 categories on the scale.

This indicates that the "Good" category may be used to both volleyball and netball as categories in different sports. This suggests that there is no difference between the aggressiveness and impressions of the sport of volleyball and netball.

## V. RESULTS AND DISCUSSION

Significant disparities in aggressiveness and the ways in which it manifests itself were found to exist amongst female national netball and volleyball players in Sri Lanka, according to the findings of the study. In comparison to volleyball players, who had a mean score of 2.8 and a standard deviation of 0.4, the descriptive statistics revealed that netball players had a mean score of 3.2 for physical aggressiveness than volleyball players. In contrast, the mean score for verbal aggressiveness reported by volleyball players was significantly higher (M=3.4, SD=0.6) than the mean score reported by netball players (M=3.0, SD=0.5). Netball had a mean score of 3.3, with a standard deviation of 0.5, while volleyball had a mean score of 3.4, with a standard deviation of 0.6. Both groups had mean values that were comparable for anger and hostility.

The results of the two-sample T-tests indicated that there were statistically significant differences in terms of physical aggressiveness (t=-2.34, p<0.05) and verbal aggression (t=-2.11, p<0.05) between players of netball and volleyball. On the other hand, there were no significantly different levels of anger (t=-0.73, p=0.47) or hostility (t=-1.00, p=0.32) between the two groups.

Based on the data, it appears that players of netball may have a higher level of physical aggressiveness, whereas players of volleyball may demonstrate a higher level of verbal hostility. There is a possibility that these distinctions are due to the characteristics of the sports and the regulations that regulate them. One example is the sport of netball, which is a contact sport. However, only some players are permitted to make physical contact with one another, which may result in increased physical violence. Volleyball, on the other hand, is a sport that does not involve physical contact; yet, verbal communication is necessary for the coordination of teams, which may partially explain the greater level of verbal hostility among volleyball players.

The research offers significant insights into the ways in which female national netball and volleyball players in Sri Lanka differ in terms of hostility and the manner in which it manifests itself. These results can provide guidance to coaches, sports psychologists, and policymakers as they engage in the process of formulating measures to regulate and reduce aggressiveness in sports.

## VI. CONCLUSION AND RECOMMENDATIONS

The outcomes of this study indicate substantial disparities in aggressiveness and its expression amongst female national netball and volleyball players in Sri Lanka. These differences were found to be significant throughout the investigation. In general, players of netball are more likely to exhibit physical violence, whereas players of volleyball are more likely to exhibit verbal hostility. It is possible that the nature of the sports and the laws that regulate them are the factors that contribute to these variances.

Given these findings, there are a number of suggestions that may be given to coaches, sports psychologists, and politicians, including the following:

**Development of Tailored Training Programs** It is the responsibility of coaches and trainers to build training programs that are specifically designed to meet the

requirements of players in the sports of netball and volleyball. As an instance, training sessions that concentrate on the management of physical aggressiveness may be beneficial for netball players, whereas communication and collaboration exercises may be beneficial for volleyball players in order to lessen verbal aggression they may experience.

**Support from Sports Psychology:** Sports psychologists have the potential to play a significant role in assisting athletes in managing hostility and the ways in which it manifests itself. Counseling sessions, both individual and group, can be provided to athletes in order to address the underlying issues that contribute to aggressive behavior and to teach players coping techniques that will allow them to effectively regulate their emotions.

**Modifications to the Rules:** In order to reduce the amount of aggressive behavior that occurs in sports, policymakers should consider adjusting the rules and regulations. In the sport of netball, for instance, an increase in the severity of the penalties for physical aggressiveness might serve to deter players from indulging in such conduct. Similar to how fostering positive communication and collaboration may help reduce verbal aggressiveness in volleyball, it can also help minimize verbal aggression.

**Education and Awareness:** Educating athletes, coaches, and officials about the harmful repercussions of aggressiveness in sports can help to establish a culture of respect and fair play in the sporting world. Increasing awareness about the significance of controlling aggressiveness and the influence it has on the well-being and performance of athletes may be accomplished via the use of awareness campaigns, workshops, and public lectures.

In conclusion, it is vital to manage and control aggressiveness in sports in order to create an atmosphere that is safe and pleasant for players. Stakeholders are able to implement targeted interventions to promote healthy competition and sportsmanship if they have a thorough grasp of the variations in aggressiveness and how it manifests itself among players in netball and volleyball.

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