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## Gender- and age-based analysis of emotional intelligence among badminton players in West Java clubs

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### ABSTRACT

**Background:** Although research on emotional intelligence (EI) continues to expand, limited studies have examined EI within the context of badminton, particularly from gender and age perspectives. **Research Objectives:** This study aims to analyze the emotional intelligence levels of badminton athletes in West Java by examining differences based on gender and age groups. **Method:** A descriptive quantitative approach was employed, involving 50 participants (29 males and 21 females). Emotional intelligence was assessed using the emotional skills dimension of the Badminton Sport Life Skills Scale (LSSBS), developed by Hambali. **Data were analyzed** using descriptive statistics, independent samples t-tests, and one-way ANOVA, utilizing SPSS version 29.0. **Finding/Results:** The overall emotional intelligence level among participants was categorized as moderate (62%), with male athletes accounting for 8% and female athletes 24%. The t-test showed no statistically significant gender difference ( $p = 0.219$ ), and the one-way ANOVA indicated no significant difference across age groups ( $p = 0.328$ ). **Conclusion:** The findings suggest that emotional intelligence levels among badminton players in West Java do not significantly differ by gender or age. This study contributes to the existing literature by providing empirical evidence that can inform the development of targeted emotional intelligence training programs within badminton coaching contexts.

**Keywords:** Emotional intelligence; badminton; gender differences; age group; life skills



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### INTRODUCTION

The old paradigm considered intellectual intelligence as the main determinant of success. However, over time, various studies have shown that the level of intelligence quotient (IQ) is not the main determinant of an individual's success in life (Srivastava & Jaiswal, 2022). Instead, there are other factors that are even more dominant in determining success, namely emotional intelligence (Luan & Blegur, 2019). This is in line with research that has been conducted since the end of the 20th century which shows that, compared to other types of intelligence, such as intellectual intelligence (IQ), emotional intelligence (EI) has a greater impact (Kumar et al., 2022). In another context, emotional intelligence is one part of the life skills component, as stated by Cronin and Allen (2017) that life skills include many abilities, such as goal setting, time management, leadership, social skills, interpersonal communication, emotional skills, problem solving, and decision

making. These skills are very important for a person's general well-being in personal and professional life (Hidayat et al., 2022). Therefore, as a component of life skills, emotional intelligence is no less important than intellectual intelligence in determining life success, both personally and professionally.

One of the developing fields of psychology is emotional intelligence (EI). Since being introduced by psychologists in the mid-1990s, this concept has received widespread attention (Yousaf et al., 2021). In the 1990s, John Mayer and Peter Salovey introduced the concept of emotional intelligence, which was subsequently brought into the spotlight by psychologist Daniel Goleman through his influential work, *Emotional Intelligence*, published in 1995. Since then, this concept has captivated the global audience (Kumar et al., 2022). The generally accepted definition of emotional intelligence refers to a person's ability to not only recognize and feel his or her own feelings, but also understand and observe the moods of those around him or her (Andika et al., 2020; Anzeli & Firlando, 2021). In the context of education, emotional intelligence has an influence in influencing student learning achievement (Jan et al., 2017; Labhane & Baviskar, 2015). Furthermore, in research (Urquijo et al., 2019), the results show that EI has a very important role in achieving success. Supporting this opinion, Stevens et al. (2019) stated that someone with a good level of emotional intelligence will be much better prepared to face various pressures in their life. In addition, other benefits that will be obtained with a person's high emotional intelligence are being able to work together (Kotsou et al., 2019), maintaining social relationships between each other (MacCann et al., 2019), and can also affect the motivation and achievements of athletes (Magnano et al., 2016; Zoghلامي et al., 2023).

Meanwhile, emotional intelligence is a concept that is influenced by many things, both from within and outside oneself. According to Yunalia & Etika (2020), internal factors are related to individual characteristics, such as gender and age. These things are very important in determining how high a person's emotional intelligence. The external factors are the family environment and the surrounding environment (Patel, 2024), and education (Alnjadat & Al-Rawashdeh, 2021). These two factors, both internal and external, have their respective roles in the process of developing a person's emotional intelligence. Meanwhile, the need for a harmonious and shared life is increasing, especially among young people (Portela-Pino, 2022). In the realm of education, the regulation of emotions and interpersonal relationships among students is crucial; thus, it should serve as the foundation for the socialization and intervention processes implemented by schools (Castillo-Viera et al., 2021). In addition, emotional balance has a positive relationship with optimal physical and mental health, because the better a person's emotional health, the better they feel in facing various daily challenges. Those who engage in physical activity or sports in any form show positive impacts on physical and mental health. This is related to the fact that those who participate in physical activity often feel a variety of positive emotions (Sánchez Ortega & Chacón-Cuberos, 2021). Research conducted by López et al. (2021) also shows that there is a significant correlation between physical activity and emotional expression, which ultimately affects sports performance, with differences observed between the different genders.

However, the increasing number of bullying cases experienced by children and adolescents shows that emotional intelligence is still low. According to Rueda et al. (2022), bullying in schools is a major problem that has a negative impact on its victims. In addition, Halik et al. (2022) showed that student delinquent behavior and inability to manage emotions are the main challenges faced by teachers in educational institutions. Furthermore, Marheni et al. (2024) emphasized that there has been a spike in the number of adolescents experiencing mental health problems. Although considered very important, this aspect of emotional skills does not receive adequate attention and handling, where there is a gap between understanding the importance of these skills and the actions taken.

The issue has been worsened by the COVID-19 pandemic, which has caused significant adverse effects on global mental health (Santomauro et al., 2021; Wu et al., 2021). Several countries including China, Spain, Italy, Iran, the United States, Turkey, Nepal, and Denmark have observed a rise in symptoms of anxiety, depression, and psychological distress during the pandemic (Xiong et al., 2020). In addition, the problem of violence in the educational realm has become a greater challenge for the education sector itself, especially due to the increasing incidence of violent behavior among young people. In addition, there are still a number of cases of seniority in the world of education (Lohy & Pribadi, 2021). This incident can arise due to lack of supervision from families, educational institutions, and the surrounding community. For example, in a study

Kurnia (2015) found that one of the vocational schools in Makassar, there were senior students who bullied junior students during the new student orientation process. In response to these problems, participating in sports activities that integrate psychosocial elements such as self-concept and emotional intelligence can be an effective intervention step to reduce such disruptive behavior. Referring to the previous explanation, it is very clear that children, adolescents, and even adults are still very difficult to regulate their emotions. For this reason, badminton can be used as a medium to overcome this problem. This is because badminton has long been favored by the Indonesian people, its appeal has crossed generations, from early childhood to the elderly also participating in this sport (Rifai et al., 2020; Ginanjar et al., 2019). Even though numerous coaches recognize the significance of incorporating life skills into their training programs, a considerable number still have not put this into practice (Hambali et al., 2023).

Therefore, instilling emotional intelligence from an early age is very necessary, because it can form a positive mindset for future generations (Gil-Moreno & Rico-González, 2023). With structured designs and programs, it is hoped that children and adolescents can control and manage their emotions and their mental health will be maintained (Yinghua, 2024). The aim of this study is to examine the differences in emotional intelligence levels among badminton players from the perspectives of gender and age groups. This research was undertaken to address the gaps or shortcomings identified in previous studies. The innovative aspect of this study lies in its analysis of the comparative levels of emotional intelligence across gender and age groups. Earlier studies primarily focused on assessing emotional intelligence in a general manner (Fazlan et al., 2023), or on comparing emotional intelligence based on gender alone (Ram, 2023). Therefore, the broader significance of this study is its ability to demonstrate that emotional intelligence levels can differ not only by gender but also based on an individual's age. This is very important for the development of a more targeted and efficient mental training program for badminton athletes, both in improving performance and as a key element to achieving success in their daily lives.

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## METHOD

### Type of Research

The study employed a quantitative descriptive method. This approach allows for a thorough description of the phenomenon being investigated (Aggarwal & Ranganathan, 2019), and uses statistical analysis to achieve a more profound insight into the relevant variables (Waruwu, 2023). Specifically, it aims to detail the state of life skills in badminton athletes, considering gender and age group through the lens of emotional intelligence.

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### Participant

In this study, the sample used was 50 people consisting of 29 men and 21 women using purposive sampling technique. Purposive sampling is employed to choose cases that optimize the use of scarce research resources by identifying respondents who are most likely to offer pertinent and valuable insights (Palinkas et al., 2015). Additionally, it enhances the sample's alignment with the research's goals and objectives, which bolsters the study's validity and the reliability of the findings and conclusions (Campbell et al., 2020). Meanwhile, the inclusion criteria used in this study were as follows: (i) active members in badminton schools or clubs in West Java, with Bandung City as the designated cluster location; (ii) includes both male and female athletes; and (iii) has experience practicing badminton for at least three months.

### Instrument

In research, tools like instrument are really important for gathering data. In this study, the questionnaire was chosen as the main instrument. A questionnaire is a method for gathering information that consists of a set of questions pertaining to the subject or issue under investigation (Prawiyogi et al., 2021). To measure emotional intelligence, this study adopted the Life Skills Scale of Badminton Sport (LSSBS), an instrument developed by Hambali (2024) which measures dimension of emotional skills. The results of the reliability test using Cronbach's alpha show a high level of internal consistency, with a value of 0.93 obtained. The findings from the validity test indicated the extent to which the emotional intelligence construct is valid, with factor analysis yielding satisfactory outcomes for the five identified factors. The first factor exhibited loading values that

34 ranged from 0.52 to 0.81. The second factor presented a loading value range of 0.54 to 0.81. The third factor showed factor loading values between 0.59 and 0.83. The fourth factor has a loading value between 0.66 and 0.74. The fifth factor has a factor loading ranging from 0.55 to 0.78. Overall, the five factors that make up the emotional intelligence construct show factor loading values greater than 0.50, which indicates that the items on each factor have good validity and contribute to the measured construct. Then, for each question, question items were formulated based on three indicator components, namely: (1) Can control emotions, (2) Can maintain awareness of thoughts, feelings, and self-evaluation, (3) Can regulate thoughts, feelings, and behavior effectively.

68 **Data Analysis**

Statistical analytic techniques were used to process the data from the emotional intelligence questionnaire. Microsoft Excel and IBM Statistical Product and Service Solution (SPSS) Version 29 are used in this analysis technique. In this study, three distinct methods of data analysis were applied. First, the emotion intelligence level was divided into three groups using percentage analysis: low, medium, and high. Second, the T-test was employed to determine the significance of differences between one or two sample groups. Third, more than two sets of data were compared using the one-way ANOVA test. During the data processing stage, calculations for the mean and standard deviation were performed to assist with the classification process.

13 **RESULTS AND DISCUSSION**

Analysis of the level of emotional intelligence of athletes at the Badminton Club of West Java produces a series of data which is then processed using SPSS software version 29. Table 1 presents details of the results of the descriptive analysis that has been carried out.

16 **Table 1. Overall Value of Descriptive Statistics of Emotional Skills of Badminton Athletes**

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Male	29	27	63	90	77.10	7.830
Female	21	29	58	87	74.24	8.312
Total	50	32	58	90	75.67	8.071

60 Analysis of the descriptive statistics presented in Table 1 revealed some important findings. The mean score for emotional intelligence was 75.67. There was a considerable range between the lowest and highest scores, with a minimum of 58 and a maximum of 90, leading to a difference of 32 points. The recorded standard deviation was 8.071, reflecting the variability in the data. To offer a more detailed view, the emotional intelligence levels of athletes from various badminton clubs in West Java are summarized in a frequency distribution presented in Table 2.

13 **Table 2. Frequency Distribution of the Level of Emotional Intelligence of Athletes at the West Java Badminton Club**

No	Interval	Criteria	Frequency	%
1	X < 68	Low	8	16%
2	68 ≤ X < 84	Medium	31	62%
3	X > 84	High	11	22%
Total			50	100%

The frequency distribution data that has been presented in Table 2 provides the basis for further visualization. To facilitate understanding and interpretation, the level of emotional intelligence of athletes in West Java badminton clubs has been represented in the form of a frequency graph. This visualization can be seen in Figure 1, depicting the distribution of emotional intelligence levels among athletes.

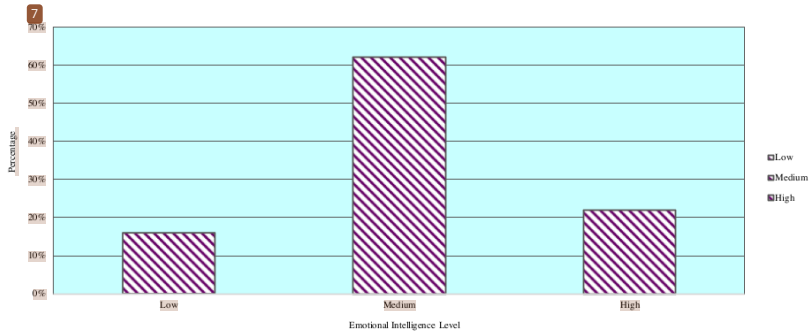


Figure 1. Graph of the percentage of the overall level of emotional intelligence of badminton athletes

The analysis shown in Figure 1 revealed the distribution of emotional intelligence levels among the athletes. The results indicated that 62% of the athletes fell into the medium category. Meanwhile, 22% of the athletes were in the high category, with the remaining 16% in the low category. To provide a more in-depth perspective, Figure 2 shows the distribution of the level of emotional intelligence of West Java Badminton Club athletes by gender. This percentage chart will enable a deeper comparison of emotional intelligence between male and female athletes.

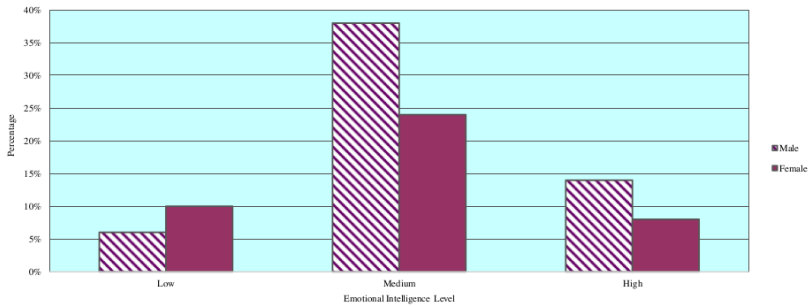


Figure 2. Graph of the percentage of emotional intelligence levels based on gender

Data analysis in Figure 2 shows the percentage of athletes' emotional intelligence based on gender and category. The distribution of emotional intelligence for male athletes was as follows: 6% fell into the low, 38% moderate, and 14% high categories. In contrast, for female athletes, 10% fell into the low category, 24% fell into the moderate category, and 8% fell into the high category. Additionally, the percentage graph depicting the emotional intelligence levels of athletes in West Java badminton clubs, categorized by age groups, can be seen in Figure 3.

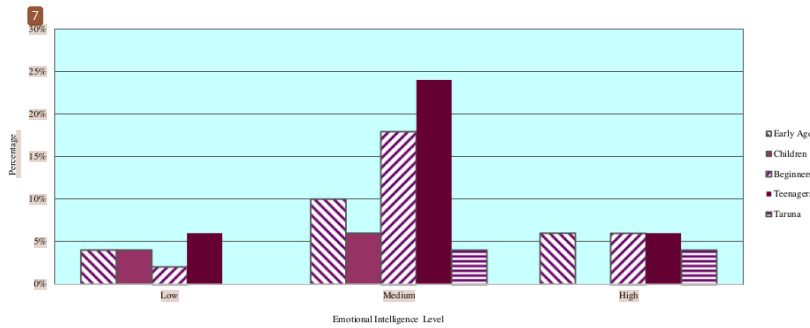


Figure 3. Presentation chart of emotional intelligence levels by age group

An examination of the information presented in Figure 3 indicates that the degree of emotional intelligence across various age groups can be divided into three categories: low, medium, and high. In the low category, the breakdown is as follows: early childhood 4%, children 4%, beginners 2%, and adolescents 6%. In the medium category, the breakdown is: early childhood 10%, children 6%, beginners 18%, youth 24%, and taruna 4%. In the high category, the percentages for each age group are: early childhood 6%, beginners 6%, youth 6%, and taruna 4%. Regarding the comparison of emotional intelligence levels between male and female badminton players, the details will be presented in Table 3.

Table 3. Results of Independent samples T-test Comparison of Athletes' Emotional Intelligence by Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means		Sig. (2-tailed)
		F	Sig.	t	df	
Value	Equal variances assumed	.318	.576	1.245	48	.219
	Equal variances not assumed			1.233	41.671	.225

According to the data analysis presented in Table 3, an independent samples T-test was performed to examine the emotional intelligence levels of male and female badminton players, yielding a Sig value (2-tailed) of 0.219. Since the Sig. (2-tailed) value exceeds 0.05, it can be inferred that there is no significant difference in emotional intelligence between males and females. In addition, Table 4 shows whether there are noteworthy variations in the significance values in the emotional intelligence of badminton athletes by age group.

Table 4. One-way Anova Test Results Comparing the Emotional Intelligence of Athletes by Age Group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	306.148	4	76.537	1.191	.328
Within Groups	2892.352	45	64.274		
<b>Total</b>	<b>3198.500</b>	<b>49</b>			

Note. Type III Sum of Squares

After analyzing the data from Table 4 regarding the one-way Anova test comparing the levels of emotional intelligence in different age groups, we obtained a Sig. value of 0.328. When the Sig. value exceeds 0.05, there is no significant difference in the emotional intelligence of athletes across different age groups. In an effort to realize and improve life skills, sports can contribute to positive development among adolescents, including aspects of physical fitness, social, and essential life skills to make them agents of change in the future (Hambali

et al., 2022). In addition, coaching programs in the field of sports can be an effective tool to shape and hone individual life skills. This initiative is not only aimed at improving athlete performance but also has a great capacity to develop various aspects of life skills. In this context, the study conducted aims to evaluate one of the key elements of life skills, namely the dimension of emotional intelligence. The findings of this analysis indicate that the moderate category is the most common in both genders. Male athletes have a moderate percentage of 38%, while female athletes have a moderate percentage of 24%. In addition, the analysis also revealed that among the various age groups, adolescents and beginners showed a higher percentage in the moderate category compared to the early age group, children, and cadets. Specifically, teenagers and beginners have percentages of 24% and 18% respectively, while early age, children, and cadets have percentages of 10%, 6%, and 4%. It is clear that most athletes fall into the medium category with 27%, while fewer athletes are in the high category with 22% and the low category with 16%. In addition, statistical analysis using independent samples t-test and one-way ANOVA test provides interesting findings. The average emotional intelligence by gender and age group does not show significant differences, as seen from the  $t$ -value (2-tailed) = 0.219 > 0.05 for the independent samples t-test and the Sig value. 0.328 > 0.05 for the one-way ANOVA test. In other words, the data does not support the hypothesis that gender and age group have a significant influence on the level of emotional intelligence of the athletes studied.

Meanwhile, from a gender perspective, the results of this study support the previous findings of a study that compared emotional intelligence, psychological resilience, and resilience from a gender perspective in badminton players (Ram, 2023). According to the results of the study, there does not seem to be much difference between male and female badminton players. However, this finding is not consistent with the findings of Fernández et al. (2019) regarding a comparative study of emotional intelligence and state anxiety trait between competitive level, gender, and performance with participants from different sports. In the study, the results showed that in terms of emotional intelligence in competitive sports, females tend to understand and capture emotions better than males. Meanwhile, when viewed based on age level, the results of this study contradict previous findings conducted by Soylu (2021) related to comparing the level of emotional intelligence based on the perspective of age level and playing position in soccer players. In the study, the researchers found some interesting findings in emotional intelligence in different age groups of soccer players. They found that the emotional intelligence of the soccer players did not really show a big difference based on gender or age. They found that the emotional intelligence of soccer players showed large differences based on age. Other factors, such as family and neighborhood environments (Patel, 2024), and education can play a significant role in developing a person's capacity to comprehend and handle emotions efficiently (Alnajat & Al-Rawashdeh, 2021). In addition, parenting patterns that support and pay attention to the importance of emotional intelligence will be influential in increasing self-awareness, empathy, and emotion regulation (Salsabila, 2024).

The findings in this study reaffirm the importance of developing emotional intelligence for badminton players needs to be given more attention by teachers or coaches, considering that the majority of athletes are still in the moderate category. This is because emotional intelligence is crucial for reaching life goals, whether in personal, academic, or professional realms (Para, 2022). Furthermore, emotional intelligence can play a significant role in achieving success in life and enhancing overall satisfaction and quality of life; as emotional intelligence increases, so does the quality of life (Hendrayana et al., 2025). A key element of strong emotional intelligence is its ability to aid individuals in steering clear of aggressive actions (Reji et al., 2023), promotes prosocial behavior such as better social interaction and less involvement in violence (González Moreno & Molero Jurado, 2024), and increases cooperation and reduces misunderstandings (Mutongi et al., 2024). In line with this assumption, a study conducted by Khan (2019) expressed his view that emotional intelligence is very important in playing a role in supporting the process of individual intellectual intelligence, both in terms of academics and in expanding students' lifelong learning that is more meaningful.

The implication of the results of this study is the discovery of a sports coaching development program that has not been fully implemented optimally, especially in paying attention to the psychological factors of athletes in this case, namely emotional intelligence. This is consistent with the findings of previous research conducted by Hambali et al., (2023) which explains many coaches who have not yet implemented life skills into the

training program, although they are aware of the importance of integrating life skills for any training program. The process of developing emotional intelligence and mental education should be provided in education and training by coaches to athletes and students to strengthen their personal resilience (Marheni et al., 2024). Emphasizing the importance of developing skills and training for mental resilience, we need to focus and pay attention to psychological aspects such as cognition, determination, and emotions of athletes (Kiswanto, 2016). To attain optimal outcomes, it is essential to successfully integrate all three elements.

On the other hand, it's important to recognize that this study has certain limitations that need to be considered. First, this was a cross-sectional study, which limits the ability to look at cause and effect on the development of an individual's emotional intelligence. Second, the sample size was too small to be truly representative of all sports, so one must be cautious in drawing general conclusions from the results of this study. Third, this study did not take into account other factors that may influence an individual's emotional intelligence. And fourth, using a self-report method to collect data on emotional intelligence may introduce some bias. This is because respondents may give answers that they think are more appropriate or ideal, rather than reflecting their true feelings or situation.

Therefore, it is recommended that research in the future take into account the results and constraints identified in this study. For example, longitudinal research is needed to understand the development of individual's emotional intelligence over time, especially in relation to sport training programs. Research that compares different types of sports, such as individual versus team, or contact versus non-contact, may provide us with deeper insights into how the characteristics of each sport affect the development of emotional intelligence. In addition, using more objective measures and triangulating data, such as combining self-reports, behavioral observations, and coach ratings, would increase the accuracy of measuring emotional intelligence, and examining factors that act as mediators and moderators in the relationship between sport and emotional intelligence development would help us better understand the mechanisms underlying the formation of life skills through sport.

## CONCLUSION

In general, the conclusion of this study is that the level of emotional intelligence of the majority of athletes is in the moderate category and there is no significant difference when viewed from the perspective of gender and age group. In addition, these findings indicate that the development of emotional intelligence for badminton players needs more attention by teachers or coaches, considering that the majority of athletes are still in the moderate category. In practice, the results of this study can be the basis for developing more adaptive training programs based on the psychological needs of athletes and it is hoped that the development of emotional intelligence in badminton training programs can be more targeted, not only to support athletes' performance, but also their resilience in facing various challenges on and off the field.

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## CONFLICT OF INTEREST

The authors state no conflict of interest.

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