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The Effect of Anxiety and Aggression on Youth Female Handball Players' Performance the Case of Addis Ababa City

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ABSTRACT

Objective: This study investigated how anxiety and aggression influence game performance among U-17 female handball players in Addis Ababa City. Psychological readiness was hypothesized to significantly affect in-game effectiveness.

Methods: A correlational, quantitative design was employed. Eighty players were selected from four project centers. Anxiety and aggression were measured using the Sport Competition Anxiety Test (SCAT) and Buss-Perry Aggression Questionnaire (AQ). A custom observation checklist assessed game performance. Pearson's r and multiple regression analysis were run in SPSS 27.

Results: A strong negative relationship was found between anxiety and game performance ($r = -0.883$, $p < 0.001$) and between aggression and game performance ($r = -0.870$, $p < 0.001$). Regression identified anxiety as the stronger predictor of reduced performance. Mean anxiety = 2.45 (SD = 0.70); aggression = 2.4 (SD = 0.69); performance = 3.72 (SD= 0.64).

Conclusion: Both anxiety and aggression significantly impair performance in youth female handball players, with anxiety exerting a stronger effect. Mental skills training and behavioral regulation strategies are recommended to mitigate these issues.

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Introduction

The psychological aspects of athletic performance have gained more attention in recent years, especially in the adolescent sport context [1]. Anxiety and aggression are key psychological constructs affecting the performance of youth athletes. Retaining a certain level of mental stability is paramount within the high-pressure environment of competitive handball, especially for young female athletes who may face specific physiological and emotional drawbacks [2].

Handball is a physically demanding and mentally challenging team sport. Players are required to maintain high levels of concentration, coordination, and rapid decision-making as the game unfolds with fluidity and unpredictability. Poor management and handling of psychological states such as anxiety and aggression could land a player into poor performance, causing errors, diminished confidence, and impaired tactical execution [3].

Various studies have pointed out how anxiety could negatively affect athlete performance [2]. High levels of competitive anxiety can really mess with your thinking and make it harder to perform well physically.

Similar to this, although aggression is frequently viewed as a result of competitiveness, as noted by [4], it can occasionally cause more impairment than good, particularly when it results in rule breaking or team disagreements. However, no study has examined the combined effects of these psychological issues on Ethiopian female young handball players. In order to close that gap, this study examines the effects of aggression and anxiety on young girls' actual handball game performance in Addis Ababa. This study focuses on young female athletes in a competitive environment, in contrast to earlier research that examined these aspects independently or on adults [1].

The purpose of this study is to investigate three main areas: first, the potential impact of anxiety on handball performance; second, the relationship between aggression and performance; and third, which of these psychological elements has a greater effect on athletes' performance. Working with 80 young handball players from nearby teams, we employed a simple, numerical method to comprehend these interactions. We collected our data using performance observation techniques and reliable psychological questionnaires. Our findings demonstrated that while both aggression and anxiety have a tendency to impair performance, anxiety is a better predictor of players' success.

This study has important implications for coaches, sport psychologists, and program designers who want to improve athletes' performance by using mental training techniques. Interventions to support young female athletes' emotional control and resilience can be created by understanding the psychological factors at work.

Materials and Methods

This study employed a quantitative methodology with a descriptive and correlational research design. The primary objective was to investigate the relationship between psychological variables such as anger and anxiety and young female handball players' performance during games. The optimal strategy for the study was non-experimental as its goal was to comprehend these interactions without altering any conditions. The Addis Ababa City Administration's four youth handball centers served as the sites of the study. The study population consisted of all female participants under the age of 17 who were

actively involved in these projects. Eighty of these individuals were specifically chosen due to their regular training and participation in formal games. Martens' [5] Sport Competition Anxiety Test (SCAT) was used to measure competitive anxiety. The frequency of anxiety-related pre-competition symptoms in athletes is measured by this 15-item survey. Participants were asked to score their experiences in order to gauge their trait anxiety. Buss and Perry created the Buss–Perry Aggression Questionnaire (AQ) [6], and it was used to measure aggression. Anger, hostility, verbal aggression, and physical violence are the four dimensions of aggressiveness that are measured by its 29 items. The creation of a Game Observation Checklist allowed for real-time game performance observation. Successful passes, attempts on goal, defensive plays, and tactical errors were all examined in this checklist. The tool was evaluated and validated by a registered sports psychologist and two trained coaches to ensure its validity. Data was gathered during regular playing sessions over a period of three weeks. At the same time, skilled observers used the checklist to independently record game play. SPSS version 27 was used to analyze the data. The sample was described using descriptive statistics such as averages and standard deviations. The degree and direction of the associations between performance, aggression, and anxiety were evaluated using Pearson correlation coefficients. Finding the elements that best predicted game outcomes was made easier with the use of multiple linear regression. All required presumptions, including independence, equal variance, normality, and linearity, were examined and confirmed prior to the regression [7]. P-values less than 0.05 were regarded as statistically significant.

The Bahir Dar University Research Ethics Committee provided ethical approval under the number BDUSA/RERC-02/2024. Written informed permission was provided by each participant and their guardian. All data was kept private during the study, and participation was completely voluntary.

Results

In this section, the researcher examines the study's key findings, particularly the relationship between adolescent female handball players' anxiety, aggression, and game performance. To interpret the data gathered from 80 players, the researchers combined regression analysis, correlation analysis, and descriptive statistics.

Table 1:Descriptive Statistics for Anxiety, Aggression, and Game Performance

Variable	Mean	Standard Deviation
Anxiety	2.45	0.70
Aggression	2.40	0.69
Game Performance	3.72	0.64

Table 1 presents the descriptive statistics of the main study variables. Anxiety and aggression levels were moderate among the participants, with means of 2.45 and 2.40, respectively. Game performance had a mean score of 3.72, indicating moderate-to-high performance outcomes across the sample.

Table 2:Correlation Between Anxiety, Aggression, and Game Performance

Variables	Anxiety	Aggression	Game Performance
Anxiety	1	0.698	-0.883
Aggression		1	-0.870
Game Performance			1

As shown in Table 2, a strong negative correlation was observed between anxiety and game performance (r = -0.883), as well as between aggression and game performance (r = -0.870). These correlations were statistically significant at $p < 0.01$, indicating that higher levels of anxiety and aggression are associated with lower levels of game performance.

Table 3:Multiple Regression Analysis for Predicting Game Performance

Predictor	B	SE	Beta (β)	t	p-value
(Constant)	4.762	0.394		12.091	0.000
Anxiety	-0.430	0.117	-0.430	-3.669	0.001
Aggression	-0.392	0.126	-0.392	-3.111	0.004

Table 3 illustrates the multiple regression analysis results. Anxiety and aggression significantly predicted game performance, with β values of -0.430 and -0.392, respectively. This confirms that both psychological variables negatively affect athletic performance, with anxiety having a stronger predictive power.

Discussion

According to our research, psychological elements such as anxiety, and aggression might significantly affect how young women in Addis Ababa play handball. Among these, anxiety was the most significant predictor of poorer performance, followed by aggression. This lends credence to the theory that mental strains might hinder athletes, particularly those who are young and competing at this level. Considering earlier studies [1,2], this one demonstrates how anxiety can have a significant impact on mental clarity, focus, and decision-making during games. The strong correlation between anxiety and performance is consistent with research by Petruș and colleagues [1], who highlighted the benefits of using techniques like Jacobson's relaxation to help players relax and perform better. Our findings are consistent with those of Krishnaveni and Shahin [8] regarding aggression. They noted that while a small amount of restrained aggressiveness might increase drive and vitality, too much of it can undermine discipline and teamwork.

Furthermore, athletes' performance did not significantly differ depending on the training facility they attended. This suggests that psychological preparation and training methods are rather same across the board, most likely due to the city's organized youth handball programs. All things considered; these results clearly show how important it is to incorporate psychological training into coaching practices. More attention should be paid to controlling anxiety and anger by coaches, sports psychologists, and support groups using strategies like mindfulness, positive self-talk, breathing exercises, and stress management. Future studies should examine how these strategies function over time and incorporate player narratives to have a deeper understanding of their anxiety experiences and coping mechanisms.

Conclusion

The researcher examined the psychological effects of anxiety, and aggression on adolescent girls playing Addis Ababa handball. Apparently, anxiety and aggression actually impair their ability to play. Anxiety can essentially disrupt these young athletes' concentration, self-assurance, and general performance. The results confirm our hypothesis that these psychological factors can impair performance if they are not controlled. Thus, it seems obvious that a major component of young players' handball practice should include mental training. The goal of coaches and team organizers should be to help players develop mental toughness by teaching them mental skills, such as relaxation techniques and coping mechanisms. Although the statistics supporting this are quite strong, more participants, a wider range of regions, and a longer-term testing of particular mental training techniques are all need for future research to determine what is most effective.

Author Contributions

Conceptualization, B.M.T.; methodology, B.M.T.; software, B.M.T.; validation, B.M.T.; formal analysis, B.M.T.; investigation, B.M.T.; resources, B.M.T.; data curation, B.M.T.; writing original draft preparation, B.M.T.; writing review and editing, B.M.T.; visualization, B.M.T.; supervision, Z.T.; project administration, B.M.T. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

Data available on request from the author.

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Ethical Considerations

The study was approved by the Ethics Committee of Bahir Dar University. The authors avoided data fabrication, falsification, plagiarism, and misconduct throughout the research process.

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Conflict of Interest

The authors declare no conflict of interest.

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