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Link Between Participation in Competitive Sports, Self-Esteem and Discipline Among Secondary School Students in Meru County, Kenya

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Abstract

The purpose of the study was to investigate the influence of participation and non-participation in competitive sports on self-esteem and discipline among secondary school students in Meru County, Kenya. The target population comprised all secondary school students in Meru County, Kenya. Sample size included participants in basketball, hockey, and handball in the Kenya Secondary School Sports Association (KSSSA) up to the regional championship in term one (January-April) year 2024. Purposive sampling was used to obtain a total sample size of 384 participants who responded. 192 sports participants who progressed to the regional level were identified by census. Each of them identified a matching friend to form a group of 192 non-competitive participants. Questionnaires and discipline analysis guides provided data for the study. The collected data were quantitative and analyzed using descriptive and inferential statistics. Descriptive statistics included percentages, means, frequency counts, and standard deviations; whereas, inferential statistics included Pearson's correlation coefficient (r), Chi-square, one-way Analysis of Variance (ANOVA), and post hoc test of Tukey's HSD. All statistical tests were carried out at $p< 0.05$ level of significance. According to the study's null hypothesis (H_{01}), there is no statistically significant difference in students' self-esteem levels between those who play competitive sports and those who do not. This hypothesis was assessed using a chi-square (χ^2) test. Engagement in athletic activities was associated with self-worth in a statistically significant manner (χ^2 (2) = 152.63, p = .001). Consequently, the null hypothesis was rejected at the 0.05 level of significance, suggesting that students' self-esteem varied meaningfully by their involvement in competitive sports. Participants in such activities demonstrated notably higher self-esteem compared to their non-participating peers. Kenyan secondary schools should develop integrated programs that combine sports participation with behavioural and counselling among Kenyan secondary school students. Ministry of Education and other agencies in the ministry should develop a policy that prioritizes investments in sports programs to foster self-esteem and improve overall student well-being.

Keywords: *Participation, non-participation, competitive sports, self-esteem*

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1. Introduction

Self-esteem is a fundamental psychological construct that intersects with learners' emotional, intellectual, and physical development across diverse school contexts worldwide (Nkinga, 2019). Self-esteem during adolescence tends to be unstable due to many changes that occur in the adolescent's roles and responsibilities (Zhao et al., 2021). For instance, a study by Ketata et al., (2021)identified low self-esteem at a prevalence of 29.5% among university students in Tunisia. In Vietnam, a study by Nguyen et al. (2019). It was revealed that low self-esteem caused anxiety, depression, and educational stress at a prevalence of 19.4% among Vietnamese secondary schools. Low self-esteem among students triggered indiscipline in Kenyan secondary schools (Kariuki, 2021; Waithaka, 2017). In Meru, a study by Micheni & Jagero, (2016)It was revealed that indiscipline and drug abuse were leading causes of students' drop out in secondary schools, 80.4% of the students perceived indiscipline led to school dropout. Thus, efforts to promote discipline and self-esteem during adolescence are essential. Healthy self-esteem is a critical factor in success in any area (Martín-Talavera et al., 2023). Self-esteem is a major predictor of psychological well-being, successful interpersonal relationships, and a significant regulator of behaviour (Mandal & Moroń, 2019).

Essentially, active participation in organized competitive sports and physical activity programs has multiple benefits, including psychological, cognitive, social, and physical health benefits. Engaging in sports promotes social skills, leadership skills, self-esteem, mental health, and academic achievement (Eather et al., 2023; I.O.C, 2015; Malm et al., 2019; Muchemi & Kiumi, 2022; Munyua, 2019; Ongong'a, Okwara & Okello, 2010). Sports acts as an intervention to curb school drop-out and promote positive behaviour (Bang & Kim 2021). Globally, PE and Sport have been seen to boost self-esteem and promote mental, social, and physical wellbeing of individuals, contributing to healthy and peaceful coexistence (PES POLICY DOCUMENT, 2021).

In Tanzania, a study by Andrea and Leandry (2021) found that 86% of the interviewees recommended that the provision of games and sports and a positive teacher-student relationship would help significantly to minimize students' indiscipline behaviours. In Kenya, a study by Ongong'a et al., (2010) found that students who participated in sports are generally of good conduct instilled through principles such as 'fair play' and 'sportsmanship' compared to non-participants in sports. According to the International Olympic Committee I.O.C, (2015)Regular practices such as participation in sports and other extracurricular activities help curb student dropout and bullying, facilitate communication skills and team-building, boost mental health, enhance self-esteem, and help manage stress and anxiety and alleviate depression. Similarly, co-curricular activities are vital for the holistic development of learners, as they foster social, emotional, and cognitive skills. This is consistent with the vision 2030 as envisioned by Sustainable Development Goal (SDG) 4: that all girls and boys complete free, equitable, and quality primary and secondary education, leading to relevant and effective learning outcomes.

Researchers have established a positive association between participation in sports and self-esteem (Md. D. Ahmed et al., 2017; Welhenge et al., 2018 & Moral García et al., 2021). For instance, a study by Md. D. Ahmed et al., (2017) established that active participants in sports and other physical exercises showed higher self-esteem than inactive participants. Other studies have linked sport participation to positive social behaviors (Kamau et al., 2015; Rafiullah et al., 2017 UNICEF, 2017). Additionally, a study by Kariuki, (2021); and Nkinga, (2019) found a linear relationship between self-esteem and discipline among secondary school learners. On the contrary, other researchers have found that sports participation may not result in higher self-esteem and may not have a positive impact on students' character (Arshad, Zaidi & Mahmood, 2015). For instance, a study by Arshad et al., (2015) revealed that high self-esteem does not prevent students from undesirable behaviour such as smoking cigarettes, taking alcohol, and drug and substance abuse. Similarly, other researchers have found that sports participation may not directly lead to higher self-esteem, and that potential mediating influences may be at play. That is, sports participation may boost a number of factors, which therefore serve to reinforce self-esteem; they include physical competence, social competence, social acceptance, and body image (Ouyang et al., 2020) (Taylor & Turek, 2010).

Collectively, these studies show that research on self-esteem, self-discipline, and school-based sports participation is inconclusive. This knowledge gap hinders efforts to design effective interventions using sport as a model for positive social behaviour and self-esteem enhancement. Hence, the current study aims to determine the link between participation and non-participation in competitive sports and self-esteem and discipline among secondary school students in Meru County, Kenya.

1.1 Problem Statement

Low self-esteem is a global problem that contributes to poor academic performance, feelings of inadequacy, and self-doubt among adolescents, and it remains a concern for all stakeholders. Low self-esteem is linked to many problems among students, including depression (Antipas, 2022), alcohol and substance abuse, school dropout, antisocial behaviour, suicidal behaviour among other (Kort-Butler & Hagewen, 2011). According to (Bundi, 2020; Kiende, 2019; M'muyuri, Kibaara & Severina, 2021), Cases of indiscipline, such as drug use, vandalism, strikes, and conflicts with teachers among students in Meru County have increasingly continued to be reported. According to Syed & McLean, (2017) adolescents between the ages of 12 and 18 experience an identity crisis and instability, which may lead to lower self-esteem. Whereas lower self-esteem causes criminal and indisciplined behaviours in students (Kariuki et al., 2018), positive self-esteem promotes social integration and positive social behaviour (Nguyen et al., 2019).

Strategies to boost discipline include guidance and counselling, banning corporal punishment, and incorporating student leaders into decision-making (M'muyuri et al., 2021). Despite these strategies aimed at curbing indiscipline, cases are still prevalent in most public secondary schools in Meru County (Kenya National Assembly, 2018; M'muyuri et al., 2021). For instance, a study by Marete et al. (2020) found that student unrest in Meru was about 30%, while the national average was about 10% of all cases reported in 2017. Since low self-esteem and indiscipline are global concerns among adolescents and affect Kenyan society, there are inconsistent findings regarding the use of sports programs as an intervention. This study is therefore timely and can

inform policy. Thus, it's necessary to determine the influence of participation in competitive sports on self-esteem and discipline among secondary school students in Meru County, Kenya.

1.2 Research Objectives

To assess the influence of participation and non-participation in competitive sports on levels of self-esteem among secondary school students in Meru County, Kenya.

2. Literature Review

Numerous investigations have explored the impact of athletic involvement on students' self-worth (Ahmed & Mladenovic, 2014; Kaur & Singh, 2018; Yiyi et al., 2022; Collins, Cromartie, Butler, & Bae, 2018). In particular, Collins et al. (2018) assessed the association between self-esteem and subjective well-being in relation to pre-college sports engagement among a sample of 514 students in Wayne, New Jersey, USA. Data were gathered through structured questionnaires incorporating the (RSES), the Satisfaction with Life Scale (SWLS), and demographic items. Statistical analysis using Spearman's rank correlation and ANOVA indicated that individuals who engaged in athletic activities before enrolling in university demonstrated markedly elevated levels of self-confidence and emotional well-being relative to those who had not taken part in such sports.

Varga (2020) conducted an investigation in Romania involving 60 adult participants aged 30-50 years, examining the relationship between self-worth and perceived stress among individuals who engaged in sports and those who did not. Findings from the t-test indicated that individuals involved in athletic activities exhibited significantly higher self-esteem than their non-participating counterparts. Additionally, the study revealed that stress levels were notably elevated among those who did not engage in sports.

In a related context, Antipas (2022) investigated the relationship between depression symptoms and self-esteem in teenagers attending secondary schools in Kenya's Narok County. The study found that among these students, depression was exacerbated by low self-esteem. While Varga's research focused on adult populations in a European setting, the present study targets adolescent students in secondary schools across Kenya, a developing nation, thereby offering insights within a different demographic and socio-economic context.

Bang, Won, and Park (2020) investigated the associations among academic involvement, self-worth, and depressive symptoms in a sample of 273 adolescents residing in Seoul, South Korea. The research utilized data from the Youth Development Study, targeting individuals aged 11 to 18, and employed the (MIMIC) analytical framework. Findings indicated that engagement in sports was a strong determinant of elevated self-esteem and contributed meaningfully to the reduction of depression among young participants.

Muchemi and Kiumi (2022) investigated the impact of co-curricular programs offered in public secondary schools on learners' self-esteem, focusing on a sample of 240 Form Two students in Nyandarua West Sub-County, Kenya. Data collection was conducted through researcher-developed questionnaires administered exclusively to Form Two respondents. Statistical analysis of mean scores, percentage distributions, and one-way ANOVA revealed that engagement in activities such as ball games, athletics, indoor sports, music, and dance positively contributed to students' self-esteem.

The study further noted that learners enrolled in boarding institutions with well-equipped, high-quality co-curricular resources exhibited higher levels of self-esteem than their counterparts in day schools, where facilities were deemed inadequate and associated with lower self-esteem outcomes. Consistent with these findings, the PES Policy Document (2021) affirms that participation in sports enhances students' self-worth. Collectively, these studies suggest that participation in sports and other co-curricular activities is associated with improved self-esteem compared with non-participation.

However, because Muchemi and Kiumi's (2022) research was confined to Form Two students in Nyandarua County, the findings may not be broadly applicable to other regions. This limitation underscores the necessity for comparative research in different parts of Kenya to validate and expand upon these insights.

In a related study, Gilani and Dashipour (2017) found that aerobic exercise significantly boosts self-esteem, contributing to students' psychological development and influencing their personal beliefs, emotions, values, and aspirations. Unlike the current investigation, which focused on secondary school learners in Kenya, Gilani and Dashipour's study targeted university students, thereby offering a distinct perspective within a higher education context.

3. Methodology

The study employed an ex post facto research design. This study targeted all secondary school students in Meru County. According to the Meru County Director of Education office (2022) data, Meru County had 425 secondary schools with a population of about 133,791 students. Therefore, the group of participants was selected through a census of participants qualifying for ERSSSA championships listed on the scoresheet as: four basketball teams (24 boys and 24 girls), four handball teams (28 boys and 28 girls), and four hockey teams (44 boys and 44 girls). The number of participants in competitive sports was 192 (100%), combined with 192 non-participants, using matched pairs, yielding a total sample size of 384. Data was collected using questionnaires and a Document Analysis Guide. The data obtained were coded, analyzed, and organized using the Statistical Package for the Social Sciences (SPSS) version 27. The collected data were quantitative and were analyzed using both descriptive and inferential statistics. Chi-square analysis was used to determine associations between participation and non-participation in competitive sports, self-esteem and discipline. A one-way ANOVA test was used to assess whether there was a significant difference in self-esteem and discipline levels between participants and non-participants in competitive sports. A post hoc Tukey's HSD test was conducted to help the researcher identify which groups differed significantly across school types. All statistical tests were carried out at the 0.05 significance level.

4. Results

Participants' self-worth was assessed using the RSES. This tool, designed to assess general self-esteem, comprises 10 self-report items. Using a four-point Likert scale, respondents indicated how strongly they agreed with a variety of statements reflecting their personal values and perceptions of themselves, ranging from "SA" to "SD." The scoring guide for this assessment is provided in Appendix IX. On the RSES, values of 15 and 25 are considered within the usual range, with a

possible total score of 0 to 30. Lower or negative self-esteem is indicated by scores below 15, whilst higher levels of self-esteem are indicated by scores above 25. (Rosenberg, 1965).

Table 1 summarizes the frequency distributions and percentage breakdowns of student responses. These data are subsequently analyzed and presented in Table 2 to illustrate variations in self-esteem levels across different school types.

Table 1: Students' Self-Esteem Score Ranges on the Ten RSES Items-Likert Scale

	Participation in Competitive Sports		
Self-Esteem Level	**Non-participants**	**Participants**	**Total**
(0 to 14) Low/ Negative	36(9.9%)	0(0.0%)	36(9.9%)
(15 to 25) Normal/ Satisfactory	134 (36.9%)	81 (22.3%)	215 (59.2%)
(26 to 30) High/ Very satisfactory	2(0.6%)	110 (30.3%)	112 (30.9%)
Total	172 (47.4%)	191(52.6%)	363(100.0%)

The (RSES) Scoring.

Table 1 presents the distribution of students' self-esteem scores based on their participation in external sports competitions, as measured by the RSES. The self-esteem scores were categorized into three levels: Low/negative (0-14), Normal/satisfactory (15-25), and High/very satisfactory (26-30). The results indicate that the majority of students (59.2%) fell within the normal/ satisfactory Self-esteem range. A substantial proportion of students (30.9%) scored in the high/very satisfactory range, while a smaller group (9.9%) exhibited low/negative self-esteem levels.

A comparative analysis of competitive sports participants and non-participants revealed notable differences. Among participants in competitive sports, none (0.0%) recorded low self-esteem scores. In contrast, (9.9%) of non-participants fell into the low self-esteem category. Furthermore, a significantly larger proportion of sports participants (30.3%) reported higher self-esteem levels than among non-participants (0.6%). Conversely, (36.9%) of non-participants and (22.3%) of participants had scores within the normal/ satisfactory range.

These results indicate that higher self-esteem is positively associated with involvement in external sporting events. When comparing learners involved in competitive sports with those who were not, the former group tended to exhibit higher self-worth and a lower likelihood of experiencing diminished self-esteem. Table 2 provides a summary of respondents' self-esteem ratings and the type of school they were enrolled in.

4.1 Students' Participation and Non-participation in Competitive Sports and their Self-Esteem based on School Type

Table 2 presents the frequency and percentage distribution of students' self-esteem levels by their involvement or non-involvement in competitive sports, categorized by school type. In this evaluation, the type of school functioned as the predictor variable, whereas self-worth was the outcome variable. School classification was determined using a nominal measurement scale with four distinct groups: sub-county institutions (coded as 1), county schools (coded as 2), extra-county schools (coded as 3), and national schools (coded as 4). Respondents identified their respective school type from a predefined list.

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The table summarizes the distribution of self-esteem scores across the different school types. These results were subsequently analyzed to determine whether a statistically significant association exists between self-esteem levels and participation in competitive sports using the chi-square test, as shown in Table 2.

Table 2: Cross-Tabulation of Self-Esteem by School Type and Sports Participation

Type of school	Level of self-esteem	Participation in External Sports Competitions (Participation in Competitive Sports) Non-participants	Participants	Total
Sub-county	Low	16 (32.7%)	0 (0.0%)	16 (32.7%)
	Satisfactory	10 (20.4%)	13 (26.5%)	23 (46.9%)
	Very Satisfactory	0 (0.0%)	10 (20.4%)	10 (20.4%)
County	Low	9 (6.9%)	0 (0.0%)	9 (6.9%)
	Satisfactory	54 (41.2%)	35 (26.7%)	89 (67.9%)
	Very Satisfactory	0 (0.0%)	33 (25.2%)	33 (25.2%)
Extra- county	Low	5 (7.2%)	0 (0.0%)	5 (7.2%)
	Satisfactory	29 (42.0%)	12 (17.4%)	41(59.4%)
	Very Satisfactory	2 (2.9%)	21 (30.4%)	23 (33.3%)
National	Low	6 (5.3%)	0 (0.0%)	6 (5.3%)
	Satisfactory	41 (36.0%)	21 (18.4%)	62 (54.4%)
	Very Satisfactory	0 (0.0%)	46 (40.4%)	46 (40.4%)
	Total	172 (47.4%)	191 (52.6%)	363 (100.0%)

Table 2 presents a cross-tabulation of students' self-esteem levels by school type and participation in external sports competitions. Of 363 respondents, 191 (52.6%) reported participating in external/competitive sports competitions, while 172 (47.4%) had not. Among sub-county school students, the majority of non-participants had low (32.7%) or satisfactory (20.4%) self-esteem, while those who participated showed relatively higher levels of self-esteem, with 20.4% recording very satisfactory levels.

County school students largely reported satisfactory self-esteem, with 41.2% among non-participants and 26.7% among participants. Notably, none of the participants in county schools reported low self-esteem. For extra-county schools, 30.4% of participants had very satisfactory self-esteem, compared to only 2.9% among non-participants, suggesting a strong link between sports participation and high self-esteem in this category.

Students from national schools displayed the highest levels of self-esteem, with 40.4% of participants reporting very satisfactory levels and none reporting low self-esteem. This trend indicates that students in national schools who engage in competitive sports competitions tend to have stronger self-worth.

In general, the findings indicate a favourable correlation between sports involvement and elevated self-esteem, with this trend particularly pronounced among learners from national and extra-county institutions. Notably, none of the students who participated in inter-school sports competitions exhibited low self-esteem. The distribution of self-esteem scores across different school types, as outlined in Table 1, was examined using the chi-square test. The outcomes of this analysis are detailed in Table 3.

4.2 Influence of Participation and Non-Participation in Competitive Sports Activities on Students' Self-Esteem

The results of the chi-square analysis used to evaluate the relationship between students' participation in competitive sports and their levels of self-esteem are presented in this subsection. The test's goal was to ascertain whether there is a statistically significant correlation between athletic competition involvement and self-esteem as measured by the RSES. Table 3 summarizes the findings, which showed a strong association between these variables.

Table 3: Influence of students' engagement or non-engagement in competitive sports on their self-esteem within secondary schools

Chi-square test between participation and self-esteem			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	152.632a	2	.000
Likelihood Ratio	197.312	2	.000
Linear-by-Linear Association	148.430	1	.000
N of Valid Cases	363		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.06.

Drawing on the chi-square evaluation presented in Table 3, the research examined the influence of students' engagement or non-engagement in competitive sports on their self-esteem in secondary schools. To determine whether participation in athletic activities exerted a statistically meaningful impact on self-worth, a chi-square test of independence was conducted. This analytical procedure was applied to assess the null hypothesis, which posits that learners involved in competitive sports and those who abstain do not differ significantly in their levels of self-esteem. A statistically significant finding, χ^2 (2) = 152.63, p =.001, was obtained from the results, suggesting a substantial correlation between self-esteem and sports activity. Thus, the null hypothesis was disproved.

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4.3 Gender Differences in the Influence of Participation and Non-participation in Competitive Sports Activities on Self-Esteem among Students

The research examined how involvement or lack thereof in inter-school sports competitions affected self-esteem across male and female student groups. A chi-square test was used to examine the association between gender and the three self-esteem categories. The analysis's findings are shown in Table 4.

Table 4: Gender, Sports Participation, and Self-Esteem Chi-Square Test

Students' participation in competitive sports and their levels of self-esteem							
Variables	Male		Female		X2	Df	p-value
Self-Esteem Levels	Participant	Non-participant	Participant	Non-participant			
Low	0 (0.0%)	11 (7.0%)	0 (0.0%)	25 (12.1%)			
Satisfactory	19 (12.1%)	57 (36.3%)	62 (30.1%)	77 (37.4%)	152.63	2	.001
Very Satisfactory	70 (44.6%)	0 (0.0%)	40 (19.4%)	2 (1.0%)			
Total	89	68	102	104			

The association between students' self-esteem, gender, and involvement in extracurricular athletic events is shown in Table 4. According to the statistics, male students were more likely than female students to report extremely high self-esteem, particularly if they had played competitive sports. In particular, none of the male participants had low self-esteem, and 44.6% reported having very excellent self-esteem.

In contrast, while female students had a higher number of participants (n = 102), the majority (30.1%) reported only satisfactory self-esteem, and 1.0% had very satisfactory self-esteem among non-participants. Lower self-esteem levels were more prevalent among female students (12.1%) than among male students (7.0%).

The chi-square analysis revealed a statistically significant association between gender, participation in sports, and self-esteem levels $\chi 2(2) = 152.63$, df = 2, p = .001. This indicates that both gender and involvement in competitive sports play a significant role in shaping students' self-esteem.

4.4 Influence of Participation and Non-participation in Competitive Sports on Students' Levels of Self-Esteem based on School Classification

The goal of the study was to determine how learners from day and boarding schools differed in their levels of self-esteem. The distribution of students' self-esteem levels by school classification is displayed in Table 5.

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Table 5: Classification of School and Students' Self-Esteem Cross-Tabulation

		Participation in competitive sports activities		
Classification of the school		**Non-participants**	**Participants**	**Total**
Boarding school	Low	20 (6.4%)	0 (0.0%)	20 (6.4%)
	Satisfactory	124 (39.5%)	68 (21.7%)	192 (61.1%)
	Very Satisfactory	2 (0.6%)	100 (31.8%)	102 (32.5%)
Day school	Low	16 (32.7%)	0 0 (0.0%)	16 (32.7%)
	Satisfactory	10 (20.4%)	13 (26.5%)	23 (46.9%)
	Very Satisfactory	0 (0.0%)	10 (20.4%)	10 (20.4%)
	Total	172 (47.4%)	191 (52.6%)	363 (100.0%)

Table 5 presents the cross-tabulation between the classification of the school (boarding or day), Learners' involvement in organized athletic programs was examined in relation to their self-worth levels. Among the total sample of 363 respondents who took part in the investigation, 172 (47.4%) were non-participants in competitive sports, while 191 (52.6%) had participated in competitive sports.

Among students in boarding schools, 124 non-participants (39.5%) exhibited satisfactory self-esteem, while 68 participants (21.7%) fell in the same category. Notably, only 2 non-participants (0.6%) from boarding schools reported very satisfactory self-esteem, compared to 100 participants (31.8%) who reported very satisfactory self-esteem. Interestingly, none of the participants in boarding schools reported low self-esteem, whereas 20 non-participants (6.4%) did.

In day schools, a contrasting pattern emerged among non-participants, where a significant proportion (32.7%) reported low self-esteem. Only 10 (20.4%) reported satisfactory self-esteem, and none reported very satisfactory self-esteem. On the other hand, among the day school participants, 13 (26.5%) reported satisfactory self-esteem, and 10(20.4%) reported very satisfactory self-esteem. However, none of the participants in day schools reported low self-esteem.

Overall, the data suggest that students who participated in competitive sports had higher self-esteem than their non-participating counterparts, regardless of school classification. Moreover, students in boarding schools showed a greater tendency toward very satisfactory self-esteem levels, particularly among those involved in sports. These findings suggest a positive association between participation in competitive sports and students' self-esteem, with a stronger effect observed in boarding school settings.

4.5Differences in the Influence of Participation and Non-participation in Competitive Sports Activities on Students' Self-Esteem across School Types

This section presents the results of the effects of participation and non-participation in competitive sports on students' self-esteem, by school type. An investigation of students' self-esteem across school types using a one-way ANOVA was conducted to assess whether there were any notable differences between groups. Table 6 presents the findings of this analysis.

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Table 6: One -Way ANOVA on Self-Esteem among Students across School Types

ANOVA					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	7.202a	3	2.401		
Within Groups	123.329	356	.346	6.929	.000
Total	130.531	359			

The results of a one-way ANOVA showed that the mean self-esteem scores for the four school groups varied statistically significantly (F (3, 356) = 6.929, p =.001), as shown in Table 6. As a result, at the 0.05 significance level, the null hypothesis, which proposed that there was no discernible difference in self-esteem between students who played competitive sports and those who did not, was rejected. To further explore which specific school groups exhibited notable differences in self-esteem, the researcher conducted a post hoc comparison using Tukey's (HSD) test. The detailed outcomes of this analysis are provided in Table 7.

Table 7: Post Hoc Test Analysis on School Type across Students' Self-Esteem

					95%Confidence Interval	
(I) Type of School	**(J) Type of School**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
Sub-county	County	-.2919*	.10087	.021	-.5523	-.0315
	Extra county	-.3696*	.11203	.006	-.6588	-.0804
	National	-.4596*	.10281	.000	-.7249	-.1942
County	Sub-county	.2919*	.10087	.021	.0315	.5523
	Extra county	-.0777	.08755	.812	-.3037	.1483
	National	-.1677	.07539	.119	-.3623	.0269
Extra county	Sub-county	.3696*	.11203	.006	.0804	.6588
	County	.0777	.08755	.812	-.1483	.3037
	National	-.0900	.08978	.748	-.3217	.1417
National	Sub-county	.4596*	.10281	.000	.1942	.7249
	County	.1677	.07539	.119	-.0269	.3623
	Extra county	.0900	.08978	.748	-.1417	.3217

*. The mean difference is significant at the 0.05 level.

The findings from the Tukey HSD post hoc analysis, as outlined in Table 7, indicated that sub-county schools exhibited statistically significant differences in self-esteem levels when compared to the other three school types. In particular, significant variations were identified between extra-county and sub-county institutions (mean gap = –.292, p = .021), county and sub-county institutions (mean gap = –.370, p = .006), and national and sub-county institutions (mean gap =

.460, p = .001). Conversely, no statistically meaningful distinctions in self-esteem levels were detected among learners from national, extra-county, and county schools.

4.6 Differences in the Influence of Participation and Non-participation in Competitive Sports Activities on Self-Esteem of Students across School Categories

To assess whether students' self-esteem levels varied significantly across school groups, a one-way ANOVA was performed. Table 8 displays the findings of this analysis.

Table 8: One -Way ANOVA on Self-Esteem among Students across the Category of School

ANOVA					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	9.615a	2	4.808		
Within Groups	120.915	357	.339	14.195	.000
Total	130.531	359			

The findings, shown in Table 8, indicated that students from various school groups differed significantly in their mean self-esteem scores, F(2,357) = 14.195, p = .001. This implies that pupils' self-esteem is greatly influenced by the category of school they attend. To ascertain precisely which school category differed significantly from the others, the researcher conducted a post hoc analysis (Tukey HSD) based on this conclusion. Table 9 displays the findings of this analysis.

Table 9: Post Hoc Test Analysis on Students' Self-esteem across School Categories

					95% Confidence Interval	
(I) Category of School	**(J) Category of School**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
Girl school	Boys school	-.2293*	.06569	.002	-.3839	-.0747
Boys school	Mixed school	.2552*	.09757	.025	.0256	.4848
	Girl school	.2293*	.06569	.002	.0747	.3839
County	Mixed school	.4845*	.09757	.000	.2549	.7141
Mixed school	Girl school	-.2552*	.09757	.025	-.4848	-.0256
	Boys school	-.4845*	.09757	.000	-.7141	-.2549
Girl school	Boys school	-.2293*	.06569	.002	-.3839	-.0747
Boys school	Mixed school	.2552*	.09757	.025	.0256	.4848
	Girl school	.2293*	.06569	.002	.0747	.3839
National	Mixed school	.4845*	.09757	.000	.2549	.7141
Mixed school	Girl school	-.2552*	.09757	.025	-.4848	-.0256
	Boys school	-.4845*	.09757	.000	-.7141	-.2549

*The mean difference is significant at the 0.05 level.

The findings of the Tukey HSD Post hoc-tests as presented in Table 9 revealed that there were statistically significant differences between boys' schools and girls' schools (mean difference= -

.2293, p =.002), mixed schools and girls' schools (mean difference= .2252, p =.025), and mixed schools and boys' schools (mean difference= -.4845, p =.001), on levels of self-esteem.

5. Discussion

According to the study's null hypothesis (H_{01}), there is no statistically significant difference in students' self-esteem levels between those who play competitive sports and those who do not. This hypothesis was assessed using a chi-square (χ^2) test. Engagement in athletic activities was associated with self-worth in a statistically significant manner (χ^2 (2) = 152.63, p = .001). Consequently, the null hypothesis was rejected at the 0.05 level of significance, suggesting that students' self-esteem varied meaningfully by their involvement in competitive sports. Participants in such activities demonstrated notably higher self-esteem compared to their non-participating peers.

These results are consistent with earlier studies. Kort-Butler and Hagewen (2011), for example, found that children who participated in school-based extracurricular activities had higher levels of self-esteem than those who did not. This improvement is attributed to the growth in interpersonal skills and collaboration, as well as in mental well-being and personal growth, fostered through extracurricular engagement (IOC, 2015). Similarly, Muchemi and Kiumi (2022) showed a favourable relationship between students' levels of self-esteem and their involvement in extracurricular activities. Their study further highlighted that learners attending schools with superior co-curricular infrastructure experienced higher self-esteem than those in institutions with limited resources.

The current study's outcomes are consistent with those of Collins et al. (2018), Bang et al. (2020), Varga (2020), and Pérez-Díaz et al. (2022), all of whom found that students involved in sports tend to report greater self-esteem than their non-participating counterparts. Pérez-Díaz et al. (2022) emphasized that sports participation contributes to social development and the formation of a positive self-concept, which in turn enhances psychological well-being. Varga (2020), in a study conducted in Romania, demonstrated that adults who regularly engaged in sports exhibited higher self-esteem and lower stress perception than those who did not. Kirimi et al. (2018). Additionally, it was established that engagement in co-curricular programs, including athletic pursuits, music, and digital arts, improved students' self-confidence and social competence while fostering motivation and a positive attitude toward school attendance.

From the current study's sample of 363 students across Forms One to Four, only 36 learners (9.9%) exhibited low or negative self-esteem, while 327 students (90.0%) reported healthy self-esteem levels. Specifically, 215 students (59.2%) fell within the satisfactory range, and 112 students (30.9%) demonstrated very satisfactory self-esteem. These findings are consistent with Nkyi (2018), who reported that students generally scored higher on positive items than on negative items on the RSES. Overall, the evidence suggests that participation in competitive sports positively influences students' self-worth and confidence, likely due to factors such as peer interaction, physical fitness, and achievement-related experiences.

6. Recommendations

Kenyan secondary schools should develop integrated programs that combine sports participation with behavioural and counselling among Kenyan secondary school students.

Ministry of Education and other agencies in the ministry should develop a policy that prioritizes investments in sports programs to foster self-esteem and improve overall student well-being.

Further research is also recommended to explore the underlying causes of these gender differences and to evaluate the expectations of tailored interventions in improving students' outcomes

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