

Interpersonal conflicts as a predictor of academic performance among secondary school students

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Article Info

Article history:

Received Nov 26, 2024

Revised Aug 14, 2025

Accepted Sep 30, 2025

Keywords:

Academic performance

Correlational study

Interpersonal conflict

Interpersonal relationship

Secondary school

ABSTRACT

There is a global concern about promoting peaceful coexistence in school learning environments. Interpersonal conflicts in schools can lead to academic difficulties and violent interactions among the students. The academic performance among students in Embu East Sub-County has not been satisfactory and has become an issue of concern. The study conducted a quantitative correlational study to determine the relationship between interpersonal conflicts and students' academic performance. A correlational research design was used, involving a sample of 357 form 2 students sampled through simple random sampling. Data were collected using the interpersonal conflict questionnaire and document analysis. The items in the questionnaire yielded a Cronbach's alpha coefficient value of 0.759. Data were analyzed using inferential statistics, including Pearson's correlation and simple linear regression analysis. The findings revealed a weak negative and statistically significant relationship between interpersonal conflicts and academic performance among the students ($\beta = -0.152^{**}$, $p = 0.008$). The study concludes that interpersonal conflict engagement among students leads to poor academic performance. Therefore, schools should prioritize integrating programs that build interpersonal and social skills among students to improve interpersonal relationships and academic performance.

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1. INTRODUCTION

The schools have remained a preparatory place to certify human developmental requirements [1]. Interpersonal relationships in learning are fundamental for overall development and academic functioning among students [2]. Interpersonal conflicts are inevitable in homes, workplaces, and other human organizations, but schools have been identified as being more prone to conflicts than other human settings [3]. During the teenage period, interpersonal relationships assume great importance and become more complex, and students face social dilemmas, including interpersonal conflicts [4]. Schools often build an interface favorable for involvement, where interpersonal conflicts increase in the school environment, hence are common in classrooms and the school environment [5]. Interpersonal conflicts refer to disagreements among individuals who differ in their perceptions, needs, values, beliefs, attitudes, and goals [6]. It is acknowledged that peer interactions are fundamental for students' development, school engagement, and academic achievement. Peer interactions in schools are both beneficial and detrimental, and significantly influence students' academic outcomes [7]. Interpersonal conflicts may stem from misunderstandings, competition, or differing values among individuals, which often influence the quality of interpersonal relationships and the effectiveness of collaborative efforts [3]. In secondary school, students are at a critical

stage of personal and social development, and interpersonal conflicts can have significant implications on their academic performance [8]. Therefore, understanding these relational dynamics among the students is essential for educational stakeholders to foster school learning environments that support both academic excellence and harmonious social interactions.

Researchers have increasingly recognized the dual role schools play in shaping academic success and social skills among students [9]. While academic achievement remains a primary focus for schools, the ability to navigate interpersonal relationships effectively is equally vital for the holistic development of students [10]. Recent studies have highlighted that interpersonal conflicts among students may lead to stress, reduced classroom engagement, and poor academic outcomes [11]. Despite this, there is limited empirical evidence in the literature providing the basis for understanding the direct relationship between relational dynamics among students and their academic performance. According to Embu East Sub-County Education Office data, the academic performance among the students in the Kenya Certificate of Secondary Education (KCSE) has not been satisfactory in the past years, with an overall mean of D+, indicating that the majority of the students scored low in their academic performance. Therefore, little attention has been paid to the relationship between interpersonal conflicts and students' academic performance. Researchers across the globe recognize the beneficial role of both academic excellence and interpersonal relationships in students' development, hence, it is crucial to explore how interpersonal conflicts influence academic performance. The existing literature provides general insights on student conflicts but lacks specific empirical evidence on how these interpersonal conflicts influence students' academic outcomes, particularly in Kenyan secondary schools, which the current study aims to address this question.

Researchers have proposed the investigation of non-cognitive variables that influence academic performance among students [12], [13]. However, few studies provide empirical evidence regarding the impact of interpersonal conflicts on academic success. The existing literature explores interpersonal conflicts, their causes, and their effects on teaching and learning [1], [11]. Previous studies have established a negative relationship between interpersonal conflicts and academic outcomes [14], [15]. The study findings among pre-adolescent learners revealed a negative relationship between school bullying and students' grades [16]. They argued that bullied learners had low cognitive scores, greater behavioral problems, and poor academic achievements. Similarly, positive peer relationships correlate with higher academic achievement, while negative peer relationships are associated with lower academic success [2]. Examining school conflicts is essential as they increasingly affect learning and student relationships [17].

In Kenya, interpersonal conflicts and student behavior problems have been reported in public secondary schools [18], [19]. Interpersonal conflicts are shaped by unhealthy interpersonal relationships, which can result in antisocial behavior among students, which has been reported to be common in Kenyan secondary schools [20], [21]. Teenage students who engage in antisocial behavior exhibit physical and verbal aggression and poor academic performance [22]. Therefore, understanding interpersonal conflicts among students is important for the professional training of a teacher-psychologist to prevent deviant and antisocial behavior among students [23]. The study provides the basis for designing evidence-based programs and interventions in schools, including social-emotional learning approaches, which promote good interpersonal relationships, reduce interpersonal difficulties, and enhance peaceful learning contexts.

Researchers have confirmed that interpersonal relationships among the students play a crucial role in the socialization process [24], [25]. In a school context, positive student relationships are associated with better academic achievement, while negative relationships are associated with academic difficulties [26]. The study provides a novel contribution by establishing a relationship between interpersonal conflicts and academic performance among secondary school students. Existing literature has primarily examined interpersonal conflicts in school settings between the principals and teachers, focusing mainly on the causes and conflict management strategies. However, empirical studies on students' interpersonal conflicts are scarce and have largely relied on qualitative approaches, such as interviews. The study adopts a quantitative approach to determine a direct relationship between interpersonal conflict and academic performance. Further, the study enhances the understanding of how interpersonal conflicts within students' immediate social environment impact their academic performance. The findings provide practical insights for educators and school counselors seeking to foster healthier student interactions and improve academic outcomes. Additionally, the study is beneficial to the academic body on the interplay between social dynamics, specifically students' interpersonal conflicts and educational outcomes, offering a nuanced understanding of how interpersonal conflicts influence students' academic performance, and providing interventions for schools to adopt effective conflict management strategies, ultimately improving interpersonal relationships and students' academic trajectories. Therefore, the study sought to answer one objective: to determine the relationship between interpersonal conflicts and students' academic performance, and one research hypothesis: there is no statistically significant relationship between interpersonal conflicts and students' academic performance (Ho1).

2. RESEARCH METHOD

2.1. Research design

A quantitative research approach, specifically a correlational research design, was adopted to establish the relationship between interpersonal conflicts and students' academic performance. The design allowed the researcher to determine the link between the studied variables without manipulation [22]. Other studies have utilized the design to determine the correlation between the variables [27]–[29]. Therefore, the quantitative data obtained through students' questionnaires and document analysis made the correlation between the variables possible.

2.2. Sampling procedures and sample size

The study participants were 357 Form 2 students sampled from 13 public secondary schools in Embu East Sub-County, representing 30% of the total number of schools in the area. The study locale was randomly selected, and stratified sampling was utilized to sample 2 males' boarding schools, 2 females' boarding schools, 2 mixed day and boarding schools, and 7 mixed day secondary schools. This stratification ensured the homogenous representativeness of all school categories in the sample. Simple random sampling was used to sample students who participated in the study. The Yamane formula was used to determine the sample size from a total of 3,278 Form 2 students, as shown in (1):

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

$$n = \frac{3,278}{1 + 3,278^2} = 357$$

Where, n is the sample size, N is the total population, and e is the precision level. The Yamane was used because the study population was known; therefore, the sample could be accurately obtained. Moreover, the formula is appropriate for determining sample sizes where simple random sampling techniques are used, particularly in social sciences [30].

2.3. Research instruments

The students' questionnaire and document analysis were used as the research instruments. The interpersonal conflict questionnaire had 15 items rated on a 3-point Likert scale, where 1=never, 2=sometimes, and 3=often to measure the frequency of interpersonal conflicts among the students. The items were adapted from the existing literature. The subject matter experts from the Department of Education, University of Embu, ascertained the content and face validity. A pilot study was conducted in 2 public secondary schools outside the study locale to confirm the items' validity and reliability. A total of 36 students filled out the questionnaires, and a Cronbach's alpha coefficient value of 0.759 was obtained, indicating acceptable internal consistency.

2.4. Data collection procedures

During the data collection phase, the researcher sought permission from the principals of the sampled schools. Furthermore, consent was sought from the participants, who were assured that their responses would be held confidential. The researcher self-administered the questionnaires to the participants and collected after they had filled them out. The questionnaires took 15 minutes. Out of 357 questionnaires distributed, an 86% (306) return rate was achieved, which was used to analyze and interpret the findings. Lund [31] argued that a response rate of 80% and above is considered acceptable for data analysis.

2.5. Data analysis

The data were subjected to cleaning, coding, and analysis using the SPSS version 25. The descriptive data were analyzed using descriptive statistics such as means, standard deviations, frequencies, and percentages. Inferential statistics, including correlation and simple linear regression analysis, were utilized to analyze the quantitative data. Specifically, the Pearson product-moment correlation coefficient (r) was used to determine the correlation. Subsequently, simple linear regression analysis was particularly employed to test the null hypothesis. The regression model equation is shown in (2).

$$Y = \beta_0 + \beta_1 X_1 + \mu \quad (2)$$

Where, Y is the outcome variable (academic performance), β_0 is the constant term or the intercept, β_1 is the regression coefficient, X_1 is the independent variable (interpersonal conflicts), and μ is the random variability not examined in the model or the error term.

3. RESULTS AND DISCUSSION

3.1. Students' demographic information

Table 1 results show that a higher number of students were female, 157 (51%), while 149 (49%) of the total sample were male students. Subsequently, the results indicate that the majority of students aged between 17 and 19 years, representing 154 (50%), 147 (48%) aged between 14 and 16 years, and 5 (2%) were aged above 19 years. Therefore, the results indicated a balanced response regarding gender.

Table 1. Students' demographic information (N=306)

Variables	Description	Frequency	Percentage
Gender	Male	149	49
	Female	157	51
	Total	306	100
Age	14-16	147	48
	17-19	154	50
	Above 19	5	2

3.2. Interpersonal conflict experiences in school

According to Table 2, a higher number of students, representing 82% (250), reported experiencing interpersonal conflicts with fellow students at school. Conversely, 18% (56) of students indicated they have never faced interpersonal conflicts with their peers at school. The results clearly show that most students have experienced interpersonal conflicts with fellow students at school. These findings align with those of Xu *et al.* [32], who argued that conflicts related to students occur more frequently. This suggests that the prevalence of interpersonal conflicts between students may stem from peer competition, bullying, misunderstandings, or differences in personal values and backgrounds.

Similarly, the results in Table 3 indicate that the majority of students, 58%, often engaged in interpersonal conflicts, 20% sometimes engaged in interpersonal conflicts, and 22% indicated they have never engaged in interpersonal conflicts with other students, with an overall item mean of 2.360. The Likert scale items were rated on a 3-point Likert scale where 1=never, 2=sometimes, and 3=often. A Likert scale grand mean of 2.0 was computed and used as a benchmark for decision-making on the frequency of interpersonal conflict engagement among the students. Any item on the scale with a mean of 2.0 and above indicated a high frequency of interpersonal conflict engagement, while any item with a mean below 2.0 indicated a low frequency of interpersonal conflict engagement among students.

Table 2. Interpersonal conflict experiences among the students (N=306)

Interpersonal conflict experience	Frequency	Percentage
Yes	250	82
No	56	18
Total	306	100

Table 3. Frequency of interpersonal conflicts among the students (N=306)

Items	Never (%)	Sometimes (%)	Often (%)	Mean	Std.
1. Fighting with your peers in school	64.7	32.7	2.6	1.38	0.544
2. Using a weapon to attack your peers	72.2	23.2	4.6	1.32	0.558
3. Engaging in a war with your peers that causes physical injuries	71.2	23.2	5.6	1.34	0.581
4. Quarrelling with your peers	1.6	12.1	86.3	2.85	0.404
5. Gossiping about your peers	4.2	9.8	85.9	2.82	0.485
6. Shouting at your peers	4.6	9.5	85.9	2.81	0.494
7. Taking learning materials without permission from your peers, such as books and pens	3.9	7.5	88.6	2.85	0.457
8. Inability to share seating spaces and assets with your peer	3.6	8.5	87.9	2.84	0.453
9. Stealing personal items from your peers, such as watches, bottles, and spoons.	5.6	6.5	87.9	2.82	0.507
10. Engaging in a disagreement with your peer, i.e., in games and classrooms, and dormitory.	4.2	20.3	75.5	2.71	0.539
11. Misunderstanding your peer's view or opinion	4.9	18.6	76.5	2.72	0.550
12. Speaking rudely to your peers	10.1	33.3	56.5	2.46	0.673
13. Competing with your peers in classroom activities	10.1	31.0	58.8	2.49	0.674
14. Belittling your peers' skills and abilities	25.5	31.0	43.5	2.18	0.812
15. Comparing your intellectual capacity with that of your peers	39.2	39.2	21.2	1.82	0.758
Overall	22	20	58	2.360	0.566

The results indicate that majority of students frequently engaged in interpersonal conflicts such as quarreling with their peers, shouting at their peers, gossiping about their peers, taking learning materials from their peers without permission, inability to share seating spaces with their peers, stealing personal items from their peers, engaging in disagreement with their peers, misunderstanding their peers' view/opinion, speaking rudely to their peers, competing with their peers in classroom activities, and belittling their peers' skills and abilities. The items had a mean of 2.85, 2.81, 2.82, 2.85, 2.84, 2.82, 2.71, 2.72, 2.46, 2.49, and 2.81, respectively. On the other hand, students reported not engaging frequently in fighting with their peers, using a weapon to attack their peers, engaging in a war with their peers that caused physical injuries, and comparing their intellectual capacity with that of their peers. The items had means of 1.38, 1.32, 1.34, and 1.82, respectively. Based on these findings, it can be deduced that students frequently engaged in interpersonal conflicts in school, with an overall scale mean of 2.360, which is above the criterion mean of 2.0 used for decision-making. Therefore, understanding how these conflicts influence academic performance is paramount for developing interventions.

3.3. Relationship between interpersonal conflicts and academic performance

To determine the relationship between interpersonal conflicts and students' academic performance, interpersonal conflict scores and students' academic scores were correlated, and the results are presented in Table 4. The findings revealed a weak negative relationship between interpersonal conflicts and academic performance ($r=-0.152^{**}$, $p=0.008$). This suggests that a high frequency of interpersonal conflicts leads to poor academic performance among students. Simple linear regression analysis was used to test the hypothesis, which states that there is no statistically significant relationship between students' interpersonal conflicts and academic performance. The researcher used a probability statistic value (p-value) denoted as (sig.) in the table as a measure of evidence against the null hypothesis.

The assumption of linearity was checked, and the data showed a linear relationship between the variables, as in Figure 1. To check for the assumption of homoscedasticity, the residuals versus fitted values scatter plot was produced, and the residuals fairly converged around the zero mark with equal variances; hence, homoscedasticity was not violated, as shown in Figure 2. The Shapiro-Wilk test was computed to check and ascertain the normality of the data. A p-value of 0.090 was obtained, which was greater than 0.05, indicating a normal distribution. The assumption of the independence of observation was ascertained using the Durbin-Watson, and a value of 1.505 was obtained, indicating no serial autocorrelation in the residuals, as seen in Table 5.

Table 4. Correlation between interpersonal conflicts and students' academic performance (N=306)

Academic performance		
Interpersonal conflicts	Pearson correlation	-.152**
	Sig. (2-tailed)	.008
	N	306

**Correlation is significant at the 0.01 level (2-tailed)

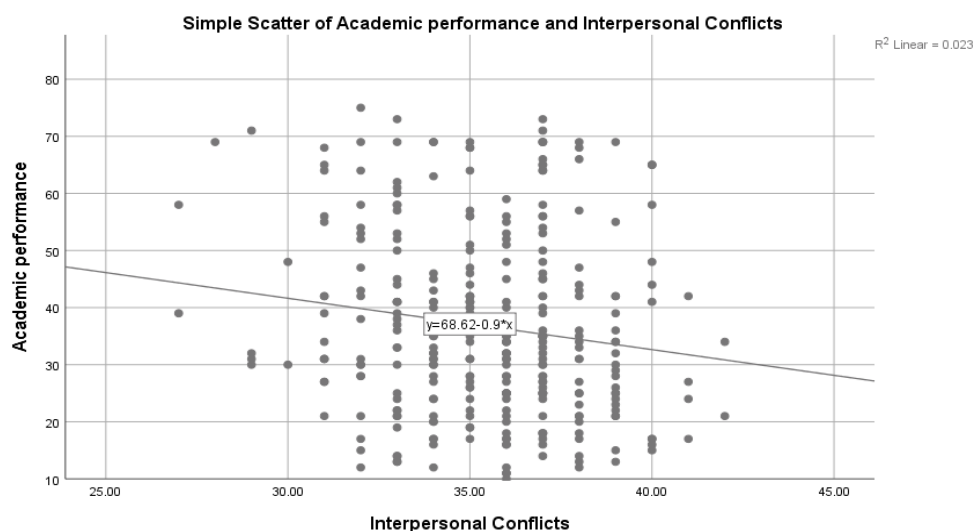


Figure 1. A simple scatter plot of interpersonal conflicts and academic performance

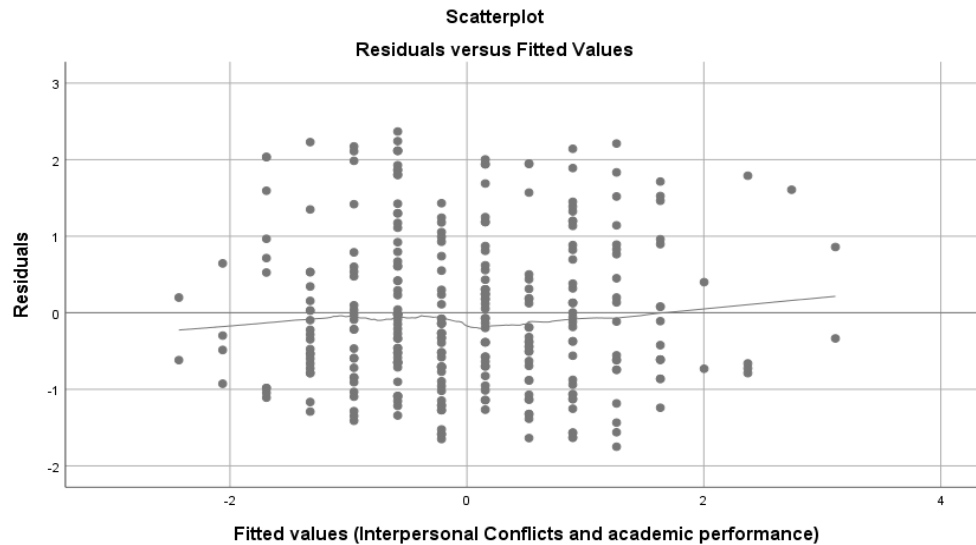


Figure 2. Simple scatter plot of the residuals versus fitted values

According to Table 5, $R^2 = -0.023$, which suggests that 2.3% of interpersonal conflicts explained the variation in students' academic performance. The remaining unexplained 97.7% may be ascribed to other factors not examined in the model. The results of Table 6 were computed to test the model's significance. The results showed, $F(1, 304) = 7.145$, $p = 0.008$, less than 0.05; hence, the model was considered significant. Table 7 shows the regression coefficient results indicating, $\beta = -0.152^{**}$, $p = 0.000$, which is less than 0.05, suggesting a weak negative and statistically significant relationship between interpersonal conflicts and academic performance. Further, the results show a constant value = 68.619 and a slope coefficient = -0.900, which suggests that each unit increase in interpersonal conflicts leads to a -0.900 decrease in students' academic performance.

Table 5. Model fitness of interpersonal conflicts and academic performance (N=306)

Model	R	R square	Adjusted R square	Standard error of the estimate	Durbin-Watson
1	.152	.023	0.020	15.908	1.505

Table 6. ANOVA, interpersonal conflicts, and academic performance (N=306)

Model	Source of variation	Sum of squares	df	Mean square	F	Sig.
1	Regression	1808.172	1	1808.172	7.145	0.008
	Residual	76927.932	304	253.052		
	Total	78736.105	305			

Table 7. Model fitness of interpersonal conflicts and academic performance (N=306)

Model	Unstandardized Coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
1(Constant)	68.619	11.954		5.740	0.000
Interpersonal conflicts	-0.900	0.337	-0.152	-2.673	0.000

3.4. Discussion

The teenage period among secondary school students marks a transitional stage where students not only experience physical, cognitive, and emotional changes but also changes in socialization and behavioral patterns [8]. Prior literature has indicated that interpersonal conflicts influence students' academic performance [3], [11]. Interpersonal conflicts, such as bullying, result in negative individual and organizational outcomes, which disrupt normal functioning, affect teaching and learning in schools, and lead to low academic performance [32]. According to Table 2, a higher number of students reported experiencing interpersonal conflicts with fellow students in school, with 82% indicating yes, and a smaller percentage, 18%, indicating no, suggesting that students in the sampled schools engaged in interpersonal conflicts with fellow students in school. As shown in Table 3, a higher number of students frequently engaged in interpersonal conflicts in school, ranging from physical, verbal, learning environment, communication, and

intellectual conflicts. The results align with those of Longobardi *et al.* [33], who revealed that peers in school experienced verbal, physical, and relational conflicts in the form of bullying, which influenced how students relate and adjust in the school learning environment.

The findings in Table 4 indicate a weak negative relationship between interpersonal conflicts and academic performance ($r=-0.152^{**}$, $p=0.008$). This suggests that students who frequently engage in interpersonal conflicts with fellow students in school obtain low academic grades, unlike students who are less conflictual in school. Interpersonal conflicts, such as school bullying, can cause students to fear going to school and, therefore, rarely participate in school learning activities, leading to a direct decline in academic achievement [14]. A longitudinal survey among college students found that interpersonal problems, such as bullying among students, increase the probability of skipping lessons, school dropout, and a decrease in grade point averages, which decrease college performance and graduation rates [34]. The findings align with prior studies that have found a negative relationship between interpersonal conflicts and academic outcomes [1], [3]. The meta-analytic study findings among students across 77 countries revealed a significant negative correlation between interpersonal conflicts, such as peer bullying, and academic achievement. Students who experienced bullying scored low on academic achievement, especially in mathematics and science courses [35]. Similarly, the correlation results of the meta-analytic review findings revealed that bullying and victimization among the students were correlated with low cognitive-motivational factors such as motivation and engagement, which resulted in poor academic outcomes [36].

The regression analysis results in Table 7 showed ($\beta=-0.152^{**}$, $p=0.000$). The null hypothesis, which states that there is no statistically significant relationship between interpersonal conflicts and academic performance, was rejected. This indicates that interpersonal conflict engagement among students in school negatively influences their academic outcomes. The findings align with prior studies [37], [38]. A study among grade 4 and 8 students in China revealed that peer interactions and academic achievement significantly correlated with academic performance, where high academic performance was predicted by connections with peers free of conflicts, whereas low academic performance was predicted by conflictual peer relationships [26]. Similarly, a systematic review of the longitudinal data among adolescents found that school victimization and bullying were correlated negatively with psychosocial outcomes such as depression, anxiety, peer rejection, and poor academic outcomes [39]. The findings emphasize the critical influence of interpersonal conflicts on academic performance, highlighting that students who engage in conflictual experiences with other students in school achieve low academic performance.

However, other researchers have found divergent findings indicating that interpersonal conflicts positively correlate with students' academic achievement. Valente *et al.* [40] argued that interpersonal conflicts can be functional since individuals get to know themselves and their colleagues in terms of character, therefore enhancing cooperation among individuals, which promotes academic performance. Also, the correlation results among the university students revealed that higher levels of school bullying among the students were associated with slightly higher academic achievement [41]. This suggested that students who were involved in school bullying were not likely to obtain poor academic grades in examinations.

Moreover, other researchers found no relationship between interpersonal conflicts and academic performance. For instance, a multi-level analysis study in Japan revealed that school bullying was not associated with academic achievement among the students [42]. Students who obtained higher or lower academic achievements were not likely to be susceptible to bullying in school. Further, the correlation findings among the students revealed no significant relationship between school conflicts and academic performance [25]. The divergent results may be attributed to contextual differentiation, the sample, and diverse measures of interpersonal conflicts among students. The findings are justified by the ecological systems theory, which asserts that the microsystem directly surrounds and shapes students' development out of the five ecological systems. Therefore, schools as microsystems provide a context in which students engage in direct, face-to-face interactions and cultivate peer relationships. When students' interactions are positive, there are positive relationships that enhance collaboration and motivation and improve academic performance. However, when students' interactions are negative, it results in poor interpersonal relationships and conflicts, which can lead to poor academic performance.

The study findings hold critical practical implications for policymakers, curriculum developers, school administrators, and teachers. Specifically, policymakers should prioritize implementing conflict resolution skills programs in schools to help students handle disagreements constructively, fostering a healthier learning environment. The curriculum developers should integrate and enhance social-emotional learning approaches into the curriculum, which will teach students how to manage emotions, establish positive peer relationships, and constructively resolve interpersonal conflicts, hence improving academic outcomes. The school academic setting requires collaboration in terms of school projects and discussions, which can be inhibited by interpersonal conflicts among the students; therefore, school leaders should organize specialized training programs on interpersonal and social skills for students to modify their intergroup and intragroup behaviors and improve their capabilities in managing interpersonal conflicts they

face within an academic setting. Teachers should promote positive relationship-building initiatives such as team building, peer mentoring, and teacher-student engagement to foster a supportive academic environment.

The findings enrich the academic discourse on understanding the role of social dynamics in education, such as peer interpersonal relationships in shaping academic outcomes. It expands the understanding that schools should not only focus on curriculum and pedagogy but also aim to build human interpersonal relationships for individual and educational success. The findings recognize the beneficial role of collaboration across disciplines in developing comprehensive strategies for mitigating conflicts, which will help create a supportive educational environment that enhances academic performance.

4. CONCLUSION

The school context aims to promote a productive, collaborative, and smooth learning environment for positive learning outcomes. The study findings revealed a weak negative and statistically significant relationship between interpersonal conflicts and academic performance among the students. From the findings, we can conclude that interpersonal conflicts negatively influence academic performance among students. This can create new horizons in considering the importance of human interpersonal relationships in educational institutions, which will be beneficial in developing effective strategies to manage interpersonal conflicts encountered by secondary school students. The study recommends that school leaders and teachers address interpersonal conflicts among students through programs such as positive behavior intervention support and social-emotional learning approaches. These will help decrease aggression and interpersonal difficulties, increase peer and social acceptance, and improve academic engagement.

While the study offers a new perspective on the influence of interpersonal conflicts on academic performance, some limitations are acknowledged. The study focused on interpersonal conflicts, excluding other factors influencing academic performance; therefore, other researchers should consider other potential social factors that might influence academic performance among students. A correlational research design was used; hence, causation was not established. Therefore, future studies should use other designs, such as mixed methods, to establish causation. The findings were captured from public secondary schools in one specific sub-county, which could influence external validity and the generalization of the results to other geographical areas, hence, future studies should include samples from diverse sub-counties in Kenya to compare the findings. The study recommends that future studies should utilize a mixed-method design to determine the variables mediating the relationship between interpersonal conflicts and academic performance.

ACKNOWLEDGMENTS

The authors acknowledge the University of Embu and the Ministry of Education, Embu County, for granting approval and authorization to conduct this study. They also wish to thank the participants from the sampled schools for their voluntary participation.

FUNDING INFORMATION

Authors state no funding involved.

AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

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C : Conceptualization

M : Methodology

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Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

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Su : Supervision

P : Project administration

Fu : Funding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

ETHICAL APPROVAL

The study was reviewed and approved by the National Commission for Science, Technology, and Innovation, and a research license number NACOSTI/P/24/32469 was granted. Also, review and approval were obtained from the Ministry of Education, State Department of Early Learning and Basic Education, Embu County, with reference no EBC/GA/32/1/Vol./V/119, which allowed the researcher to collect from the respondents in sampled public secondary schools.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author [AC], upon reasonable request.

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