

## PREVALENCE AND SOCIAL DEMOGRAPHIC CHARACTERISTICS OF CHILDREN WITH AGGRESSION IN SELECTED SCHOOLS IN ONGATA RONGAI TOWNSHIP, KAJIADO COUNTY

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**Abstract:** *Aggression among school children is a phenomenon that does affect the developmental, academic, and social interactions among this population. As such, the main objective of the current study was to examine the prevalence of aggression in school children in selected schools in Ongata Rongai, Kajiado County, Kenya. The study employed a quasi-experimental design, targeting a population of 1,907 (1,040 girls and 867 boys) from two schools. After data cleaning, 422(92.95%) participants from the experimental group and 477(98.1%) from the control group proceeded with the prevalence study. These Participants were further screened for aggression using the Reactive-Proactive questionnaires (RPQ) and five hundred and forty-four (544 {Control;n=206; Experimental: n=338}) met the criterion for aggression. The standardized self-report RPQ assessment tool was the data collection instrument. Descriptive statistics were used to examine the prevalence of aggression based on gender, age and grade of the pupils and inferential statistics; analysis was performed using the SPSS version 27. Pearson correlation test assessed for the validity of the RPQ tool in measuring aggression constructs ( $r=0.793$ ) while Cronbach's Alpha was applied to test its internal consistency; the reliability coefficient of  $\alpha=0.821$  was realised. The study revealed that the prevalence of aggression increased as the respondents' grade increased ( $p=0.002$ ). The age of the respondents had an impact on prevalence of aggression such that, respondents who were older had higher prevalence than the younger ones ( $p<0.001$ ). The study found that prevalence of aggression for both genders was comparable ( $p=0.871$ ) even though male respondents had higher prevalence at 63.7 % (95% CI: 59.10 - 68.03) compared to female respondents at 57.1 (95% CI: 57.23 - 63.72%). The study concluded that aggression is a prevalent issue among school children in Ongata Rongai, and that factors such as age, grade level, and gender impacted on it. The study therefore recommended that a comprehensive approach is necessary to effectively address the issue of aggression in school children, taking into consideration the factors that impact on this behavior.*

**Keywords:** *Aggression prevalence, school children, age and aggression, gender and aggression, grade level and aggression, Problem Solving Skills Training*

## INTRODUCTION

Instances of aggression among school children is of great concern for educationists, parents, the community and mental health professionals. Aggression can be described as that act when one person harms another person's physical or psychological safety; these include behaviours like bullying, physically offensive, threatening, and mocking others (Lansford, 2018). The consequences of aggressive behaviour impair the psychological, social, economic and general wellbeing of the children involved, and as such, Babcock et al. (2014) emphasised the need to increase its diagnosis, management and prevention in children. Aggressive behaviour causes problems for both the perpetrator and the victim, therefore, more often than not, it leads to rejection and isolation of the aggressor. Similarly, it brings about psychosocial difficulties for the victims at school, at home and in the community at large (Wang et al., 2019). These aggressive tendencies do affect children's academic, social functioning and also may lead to psychiatric problems (Sehgal & Nayak, 2021). The profound consequence of aggression necessitates an understanding of its pervasiveness among the school children.

The acquisition of one's social beliefs and thoughts about aggression is mainly through observational learning, whose proponent was Bandura (1973). Similarly, in their argument, Crombach and Elbert (2014) stated that acquisition of aggressive tendencies was an inductive process or reaction dependant on undergoing experiences associated with exposure to violence and maltreatment in the child's life. Aggression is amongst the major externalizing behaviour problems during childhood. According to Sehgal and Nayak (2021), school children who continually experience aggression and violence, acquire thoughts and beliefs which sanction aggression, a behavior that can progress into adulthood.

Aggressive behavior may range from verbal aggression (e.g., threatening language) to physical aggression (e.g., hitting) to relational aggression (e.g., social isolation); however, forms and functions of aggression include reactive and proactive aggression. Each of these forms of aggression has its own prevalence rate, and the overall prevalence of aggression in schools can be difficult to estimate accurately (Bukowski et al., 2021; Propper et al., 2022). Aggression in school children is a multifaceted issue, and its prevalence can vary from one school to another depending on various factors such as: the school's location, size, age and gender (Sehgal & Nayak., 2021).

Aggression and bullying among children and adolescents have garnered increasing global attention due to their long-lasting impacts on individual development and societal well-being. Studies reveal varying prevalence rates of aggression, ranging from 2% to 16% globally, with notable differences based on age and gender (Lubke et al., 2018). Research conducted in the Netherlands suggests that early childhood aggression can be a predictor of continued aggressive behavior into adolescence and adulthood, highlighting the importance of early intervention. In the United States, Lebrun-Harris et al. (2020) reported that bullying victimization among children aged 6 to 11 years and adolescents aged 12 to 17 years varied widely across states. For

instance, prevalence among children ranged from 16.5% in New York to 35.9% in Wyoming, while for adolescents, it ranged from 14.9% in Nevada to 31.6% in Montana. These variations indicate the complex interplay of sociocultural factors that influence aggressive behavior across different regions.

Studies across diverse geographical contexts further demonstrate the widespread nature of aggression and victimization. In Canada, Cyr et al. (2014) reported that 68% of young children experienced multiple forms of victimization, while in Brazil, Borsa et al. (2013) found aggression rates were significantly higher among boys (17.5%) than girls (8.9%). These gender differences in aggressive behavior were also evident in studies from the United States, where Barbero et al. (2023) found that bullying victimization was higher among females (47.22%) compared to males (37.28%). In contrast, in sub-Saharan Africa, aggression rates are influenced by age, with younger children showing lower levels of aggression than older adolescents (Galal et al., 2019). In Kenya, a study conducted in Kisumu County found that 15% of children exhibited relational and physical aggression (Lansford et al., 2012), reflecting trends seen globally. Such evidence points to the multifaceted nature of aggression, influenced by age, gender, regional factors, and cultural norms.

Identifying the prevalence of aggression in Ongata Rongai was intended to inform future studies because it reported the actual prevalence among school children. Studies reviewed from different regions sampled above, demonstrate different ranges of aggression prevalence; for example, Kenya (15%), Uganda (29%), US (30%), Canada (68%) India (70%) and therefore, denote a variation in prevalence of aggression among school children. This enabled the researcher to relate the findings of aggression prevalence in Ongata Rongai and some of the countries depicted. A number of studies conducted on prevalence of aggression in children in Kenya, focus on those already involved in criminal activities such as arson in schools or conduct disorders. Moreover, most studies address older students in secondary schools. It is on the basis of this gap, the current study intended to examine prevalence of aggression among school children in selected schools in Ongata Rongai subcounty, Kajiado County, Kenya.

## METHODOLOGY

### **Design:**

This study utilized a quasi-experimental design. The choice of this design was to enable the researcher to examine the effect of specific variables within a natural setting, without full randomization of participants.

### **Target Population:**

The study targeted a total of 1,907 respondents. These included 1,040 girls and 867 boys from thirty-one streams of classes four to seven. The streams were purposively selected to ensure representation of the target population across different grades within the selected schools.

Table 1: *Summary Representation of Target Population*

Primary School	Grade 4	Grade 5	Grade 6	Grade 7
Ole Kasasi	Has 4 streams	Has 4 Streams	Has 4 Streams	Has 4 Streams
	Boys – 95	Boys – 91	Boys - 100	Boys – 99
	Girls – 115	Girls – 121	Girls - 101	Girls – 114
Total No. pupils each grade	210	212	201	213
Nakeel Primary	3 Streams	Has 4 Streams	Has 4 Streams	Has 4 Streams
	Boys – 90	Boys – 131	Boys - 129	Boys – 132
	Girls – 110	Girls – 162	Girls - 189	Girls – 128
Total No. pupils each grade	200	293	318	260

Source: MoEST, Ongata Rongai Zonal Office, June-Aug.2018, school returns

## Sampling Technique

The sampling process involved a combination of purposive and simple random sampling techniques. First, purposive sampling was used to select Ongata Rongai as a representation of the seven administrative divisions in Kajiado County. Out of the six public primary schools in Ongata Rongai, the first school, Nakeel, was selected using simple random sampling. The second school was purposively selected based on its furthest distance from Nakeel. Public primary schools were chosen because they are more likely to experience school-related issues, such as fighting and violence, compared to private schools (Shakeel & DeAngelis, 2018). Both selected schools were situated in informal settlements, which are the main catchment areas for pupils attending these schools.

## Sample Size

Next, using simple random sampling, two streams from each class were selected, totaling 15 streams. Simple random sampling was also employed to select the experimental and control groups. After data cleaning, 422 pupils (92.95%) from the experimental group and 477 pupils (98.1%) from the control group proceeded with the prevalence study. The Reactive-Proactive Questionnaire (RPQ) was used to collect data from 899 respondents, out of which 544 met the criterion for aggression (Control: n=206; Experimental: n=338).

### **Data Collection Tools**

The RPQ, a self-report standardized questionnaire, demonstrated acceptable reliability ( $\alpha=0.821$ ) and validity ( $r=0.793$ ), verified through Cronbach's Alpha and Pearson correlation coefficient analysis. The questionnaire assessed whether each item inquiring about forms of aggression correlated with overall aggression, and all items had a statistically significant relationship ( $p=0.001$ ), validating them for the assessment.

### **Data analysis Procedure**

Quantitative data analysis techniques, including descriptive statistics, were used to examine the prevalence of aggression based on gender, age, and class among the pupils. Pearson Chi-square tests were conducted to identify significant differences in aggression prevalence between the experimental and control groups. All analyses were performed using SPSS version 27.

In terms of inclusion criteria, the study targeted grade 4 to 7 pupils whose parents or guardians had provided written consent, and the pupils themselves had assented. The study excluded children with known addiction problems, those with a history of extreme violent tendencies, and those considered a significant truancy risk. Ethical clearance was obtained from the Bioethics and Research Board, and permission to conduct the research was granted by the National Commission for Science, Technology, and Innovation (NACOSTI).

## **RESULTS**

### **Socio-demographic Characteristics of the Respondents**

The socio-demographic characteristics examined included distribution of gender, age bracket and grade. The distribution of the SDC into 422 in the experimental group and 477 in the control group are shown in table 2

Table 2: *Socio-demographic characteristics of the Respondents*

	Grade	n (%)	Gender	n (%)	Age	n (%)
Experimental	4	63(14.9%)	Male	237(56.2%)	9-13years	331(78.4%)
	5	126(29.9%)				
	4&5	189(44.8%)				
	6	111(26.3%)	Female	85(43.8%)	14-17years	91(21.6%)
	7	122(28.9%)				
	6&7	233(55.2%)				
	Total	422(100%)				
Control	4	115(24.1%)	Male	228(47.8%)	9-13 years	407(85.3%)
	5	128(26.8%)				
	4&5	243(50.9%)				
	6	103(21.6%)	Female	249(52.2%)	14-17 years	70(14.7%)
	7	131(27.5%)				
	6&7	234(49.1%)				
	Total	477(100%)				

Table 2 shows that the highest number of respondents were from grade 5 in the experimental group (29.9%) and grade 7 in the control group (27.5%). However, apart from grade 4 in the experimental group (14.9%) who were relatively fewer, the distribution of the respondents based on grade levels were not highly dissimilar within each group. As for gender, the experimental group had more males (56.2%) compared to females (43.8%) whereas the control group had more females (52.2%) compared to males (47.8%). Concerning age distribution, the 9–13-year-old had the highest representation in both the control group (85.3%) and the experimental group (78.4%).

### Prevalence of Aggression of Respondents

Based on the self-reported responses in the RPQ questionnaire, a mean score of  $\geq 13$  meant the respondent used aggression ‘sometimes’ or ‘always’. Hence, all total scores of 13 or above were assigned to ‘aggression’ category giving the prevalence of aggression as shown in table 1.2

Table 3: *Prevalence of Aggression of the Experimental and Control group of the entire study population at Baseline One*

Group	Mean	N	Std. Deviation	Aggression Prevalence ( $\geq 13$ )
Experimental	19.56	422	8.30	338(80.1%)
Control	12.10	477	6.20	206(43.2%)
Total	15.60	899	8.16	544(60.5%)
ANOVA	<b>F=236.42; p=0.0001</b>			

Table 3 shows that the prevalence of aggression for the entire population (n=899) was 60.5% (n=544, M=15.60, S. D=8.16). Prevalence in the experimental group was 80.1% (n=338, M=19.56, S. D=8.30) compared to that of the control group which was 43.2% (n= 206, M=12.10, S. D=6.20). ANOVA test results demonstrated statistically significant differences between the experimental and control groups in

terms of mean aggression ( $F=236.42$ ;  $p<0.0001$ ). This was surprising and unexpected since both schools are from similar localities, are both public and mixed gender-day schools. Hence, deeper investigations into the propagating factors are required after this study. The prevalence of aggression based on gender, age and grade for each group was done and findings are presented in table 1.3.

Table 4: *Prevalence of Aggression of the Experimental and Control group based on Age, Grade and Gender at Baseline One*

Grade	Exp. Aggression		Control Aggression		Prevalence	%	95% CI	Sig
	Yes	No	Yes	No				
4	50	14	62	72	112/198	56.6	[49.4, 63.6]	<b>0.002*</b>
5	96	29	58	70	154/253	60.9	[55.6, 66.9]	
6	86	25	50	73	136/234	58.1	[51.5, 64.5]	
7	106	16	36	56	142/214	66.4	[60.02, 72.69]	
<b>Total</b>	338	84	206	271	544/899	60.5	[57.2,63.7]	
<b>Age</b>								
<10	6	4	11	9	17/30	56.7	[37.43, 74.54]	<b>0.004*</b>
10-12	181	41	137	169	318/528	60.2	[55.91, 64.43]	
>12	151	39	58	93	209/341	61.3	[55.89, 66.49]	
Total	338	84	206	271	544/ 899	60.5	[57.23, 63.72]	
<b>Male</b>	183	54	113	115	296/465	63.7	[59.10, 68.03]	0.871
<b>Female</b>	155	30	93	156	248/434	57.1	[52.34, 61.85]	
<b>Total</b>	338	84	206	271	544/899	60.5	[57.23, 63.72]	

Prevalence of aggression based on respondents' grades were as follows: grades 4 was 56.6% (112), grades 5 was 60.9% (154), grades 6 was 58.1% (136) and grades 7 was 66.4% (142). The overall aggression was 60.5% (544). Grade 7 had the highest prevalence of aggression at 66.4% (95% CI: 60.02 - 72.69). The Chi square test demonstrated that prevalence of aggression increased as the respondents' grade increased ( $X^2=33.81$ ,  $p<0.001$ ).

Prevalence of aggression based on age of respondents who were below 10years was 56.7% (17), 10-12 years was 60.2% (318) and over 12 years old was 61.3% (209). Respondents who were above 12 years old had the highest prevalence with 95% CI: 55.89 - 66.49. Respondents who were older had higher prevalence than the younger ones when the experimental and control groups were compared ( $X^2=22.92$ ,  $p<0.001$ ).

The study found that prevalence of aggression for both genders was comparable ( $p=0.871$ ) even though male respondents had higher prevalence at 63.7 % (95% CI: 59.10 - 68.03) compared to female respondents at 57.1 (95% CI: 57.23 - 63.72).



## DISCUSSION

Information about prevalence rates of aggression in children and adolescents provides vital knowledge which helps in defining the burden of psychological problems which is experienced by this population. It is noteworthy that there is minimal and reliable information about prevalence of aggression among children and adolescents, living in sub-Saharan countries. The purpose of this study is to establish the prevalence rates of aggression in Kenyan children and adolescents using a population-based gender, grade and age stratified random sample of these informants.

The current study found incongruence in prevalence of aggression between the experimental and control groups despite the fact that both schools are co-educational day schools and are from informal settlements within the same region, although over 10 kms apart. A plausible explanation for this incongruence is that perception and meaning of aggression may vary from one population to another because of shared behaviour and common values.

Our study report is supported by Shukla et al., (2016) who found that respondents in the negative climate classes reported the highest rates of aggression and indiscipline including using marijuana and alcohol, fighting, carrying weapons and so on. Similarly, Wahl and Metzner (2012) noted that aggression prevalence varies from one population to another because of shared behaviour and common values. This finding is reinforced by Thomas et al. (2011) and also resonate with Wakoli (2020), who intimated that the community climate contributed to the variance in aggressive behaviour among learners. This suggests that although respondents come from informal settlements, if there is more violence and aggression in one more than the other, the higher the aggressive behaviour amongst learners.

The credible explanation for this current study finding is that the specific school environment (either Nakeel or Ole Kasasi), the classroom makeup, and interactions between learners may have influenced and modified the respondents' socializing processes, affecting their prosocial or antisocial and aggressive behaviors. The incongruence in prevalence of aggression between the two groups in our study, suggests different values and behaviour between them.

From the current study report, prevalence of aggression for the entire population was 60.5%. This prevalence rate resonates with those documented in other regions including Cyr et al. (2014) in Canada at 68%; from Greece, Bourou and Papageorgiou (2023) recorded 70.5% and in Spain, González-Cabrera et al., (2022) provided additional insights into the prevalence and developmental trajectory of aggression among children. Likewise, Patel et al. (2020) reported high prevalence rate at 70% while in Kenya, Wakoli and Bundotich (2020) established that aggressive behaviour was still high in secondary schools in Bungoma County.

However, much lower prevalences (22.4%) were reported by Lebrun-Harris et al. (2020) in a US study; Wandera et al. (2017) reported 29% in Uganda; while in Tanzania, Global School-Based



Health Survey (2015) reported the prevalence ranging from 25.6 to 30.8% in one month alone. In Kenya, Lansford et al. (2012) reported 15% and Magail et al. (2018) found lower prevalence at 7.6% in Central Kenya. Going by these studies, prevalence of aggression among school children has shown variation across different environment depending on various factors, including the description (e.g., gossiping, ostracizing) and measurement of aggression, the specific population being targeted and the sample sizes. This dissimilarity across different regions globally may also be influenced by prevailing socioeconomic conditions of the countries, cultural and societal norms that may support or discourage aggression in children and the availability or lack of resources to support mental health. Additionally, lower prevalence rates may simply be due a reluctance to report certain behaviour, especially if it is a self-report by the perpetrators. Integrating our findings with existing literature ensured we gain a comprehensive understanding of the multifaceted spread of aggression and highlighted aggression in diverse socio-cultural contexts beyond the confines of the study area.

Aggression prevalence can differ across grade levels, but the patterns may vary from one population to another. In the current study, the prevalence of aggression increased as the respondents' grade increased; respondents in grade 7 had the highest prevalence and the lowest was grade 4. Study findings aligning with our report include Spataro et al. (2020) and Duranovic and Opic (2013) who confirmed that eighth grade respondents had significantly higher rate of social aggression in comparison to those in fourth grade.

Plausible explanation for this report is that as they grow older and move up the grades in school, aggressive behaviour may be influenced by factors such as physiological and psychological developmental and peer interactions. Even as noted in this study, prevalence of aggression was higher among the older children compared to the younger ones. As the children grow older and their verbal communication develops, they tend to be more verbal and relational in their aggression as opposed to when they are in lower grades and exhibit more physical forms of aggression. It is also noteworthy that as they progress through school, the effect of peer pressure increases and has a greater impact especially if the child is in a classroom with many aggressive peers.

At discord with our study findings was Donoghue and Raia-Hawrylak (2016) and Patel et al. (2020) who reported that there was no significant correlation between aggression and respondents' grade. The probable variance would be attributed to difference in ages and the environment; Donoghue and Raia-Hawrylak (2016) study was conducted in a high school among older respondents. However, differences may also be influenced by cultural and social norms, as well as individual differences in temperament and personality.

Age was a factor in the prevalence of aggression and it did impact on prevalence in the current study; the highest prevalence of aggression was among those over 12 years of age. These results were in tandem with González-Cabrera et al. (2021) and Galal et al. (2019) who found that younger respondents were not frequently aggressive as were those above 12 years. The older

children more often than not, have reduced physical aggression significantly and if aggressive, then it is more of relational aggression which is verbal in nature than physical. Due to school rules, the older children will avoid physical aggression and indulge in the more verbal type. Bourou and Papageorgiou (2023) study negated the current findings; however, the variation could result from the fact that this was a teacher-reported study using a structured non-standardized questionnaire compared to our study. Interestingly, the study found that prevalence of aggression for both genders was comparable even though male respondents had higher prevalence compared to female respondents. Plausible account would be that both genders engage in different types of aggressive behaviour, which when weighed in terms of frequency, are congruent. For instance, the aggressive behavior of females most of the time is hidden, noted for covert forms of aggression that is not violent such as gossiping, social exclusion, rumor mongering, defamation of character, threatening to end valuable friendships, that may be more frequent. Boys are noted for more open aggression such as fighting, threatening, shouting, and taking things from others (Boutin et al., 2017).

Various studies are consistent with the current one that prevalence of aggression for both genders were comparable (Duranovic & Opic, 2013; Wandera et al., 2017; Lansford et al., 2012). The results were surprising given that it has been reported that girls have more advanced verbal skills than boys such that they would be expected to be more socially aggressive. However, the current study findings depicting prevalence of aggression for both genders as congruent was contradicted by other study findings (Smith et al., 2010; Osuka et al., 2019; Borsa et al., 2013). Moreover, Dutt et al. (2013) indicated in their findings that boys were inclined to surpass girls in aggressive behavior.

However, it's important to note that these differences are based on group averages, and there is substantial overlap between genders in terms of aggression. Boys are prone to be frequent physical aggressors, which could be attributed to cultural factors where boys in society, particularly in the rural area rarely get punished for misbehavior as opposed to girls. In fact, they are encouraged at every opportunity during play and day to day activities, to perform aggressive acts that reinforce this aggressive behaviour. This socialization where the male child is encouraged to be more physically aggressive and dominant, whereas the girl-child is dissuaded from direct conflict is a norm in many societies.

## CONCLUSION

The study concludes that aggression is a significant issue among school children in Ongata Rongai Subcounty, with a higher prevalence in the experimental group compared to the control group (experimental group: 338; control group: 206). Despite similarities in school type and demographics, this difference highlights the influence of specific school environments and interactions on behavior. Younger children (under 12) and those in lower grades (grades 4 and 5) exhibited lower levels of aggression, reinforcing the need for early intervention. The study found

comparable prevalence rates between genders, though males showed a slightly higher prevalence of aggression, emphasizing the need for gender-specific interventions.

Based on these findings, early identification, treatment, and monitoring of aggressive behavior, especially among older students, are essential. School administrations and counselors should address aggression early, before peer influence exacerbates the issue. Further research should explore factors such as parenting styles, environmental variables, and cultural influences, as well as emotional regulation and personality traits. Larger studies with diverse samples are recommended to validate these findings and develop targeted interventions to effectively reduce aggression in school children.

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