

Harassment Free Schools: Sexual Harassment and Academic Performance of Primary School Pupils in Kenya

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Abstract

Improvement of learning outcomes in primary schools is one of the remaining challenges in the Kenyan education sector. Exam scores are commonly used globally to measure outcomes of learning activities of pupils in schools. This study underscores the importance of safe and protective learning environments to encourage pupil academic performance and examines whether or not experiencing sexual harassment in schools has a negative impact on pupil academic achievement. We employ CEM with the SACMEQ III dataset for 4,436 pupils in Kenya. Our result shows that pupils in schools where sexual harassment is reported, either from their peers or from their teachers, marked statistically significant lower exam scores than peers without experiences of sexual harassment, after controlling for covariates. As a conclusion, this paper suggests further analysis on the correlations between the experience of sexual harassment and pupil test scores with panel data from other SACMEQ participating countries. Stronger evidence generation on this theme would ultimately support better learning environments for pupils in primary schools in Sub-Saharan Africa.

Key words: Sexual harassment, academic performance, learning outcomes, Kenya, primary schools

1. Introduction

Education is one of the fundamental human rights. The Education For All (EFA) initiative was launched in 1990 as the landmark commitment globally, and since then, more and more children, youth and adults have access to education including girls, minorities and persons with disabilities (UNESCO, 2015).

However, there are still 258 million children of ages between 6 to 18 around the world who are reported to be out of school in 2018, of which 59.1 million children are of primary school age (6-11 years old) (UNESCO, 2019). More than half of them –32.2 million children– reside in Sub-Saharan Africa (ibid). Kenya is one of the contributing countries to this shocking figure; it is estimated to be home to 1.5 million out of school children of which majority of them live in the most underserved six counties in arid and semi-arid lands (ASAL) out of the total 47 administrative counties (UNICEF, 2018).¹

According to UNESCO's report, gender parity in primary education showed globally the highest area of progress in terms of EFA for the period from 2000 to 2015 (UNESCO, 2015). Yet, many girls are still denied their rights to education (ibid). Besides "traditional" obstacles that block girls schooling such as parents' male-preference, gender-stereotyped teaching and learning materials, and a lack of gender-sensitive facilities such as segregated latrines for boys and girls, school-related gender-based violence (SRGBV) including sexual harassment, has increased its recognition in recent years as one of persistent burdens to achieve EFA, particularly among girls. (UNGEI, 2019).

Academic scholarship have identified common patters between school-based sexual harassment and sexual harassment in

professional settings between adults (Stein, 1995). These harmful practices often begin as teasing and bullying, escalating into more psychologically harmful forms of sexual harassment (Witkowska & Menckel, 2005). Studies show that both peer-to-peer harassment and adult-to-pupil harassment can lead to psychological harm and as such should not be treated as a 'rite of passage' experience to be ignored (Fineran & Bolen, 2006; McMaster, Connolly, Pepler, & Craig, 2002). Studies focusing on sexual harassment of students in Africa have found that roughly one third of female student have been sexually assaulted (Prinsloo, 2006), with one third of perpetrators identified as teachers (Jewkes, Levin, Mbananga, & Bradshaw, 2002). Specific to Kenya, various qualitative studies have captured various effects of harassment at the secondary and tertiary levels (Abuya, Onsomu, Moore, & Sagwe, 2012; Ruto, 2009), however to the best of the authors' knowledge, no study has yet focused on a quantitative assessment of sexual harassment on pupil test scores.

In this study, we focus on the experience of sexual harassment among pupils in primary schools and its impacts on academic performance by analyzing test scores of pupils in Kenyan primary schools. Drawing on the data of SACMEQ III for 4,436 Kenyan pupils in three proficiency tests of reading, mathematics, and HIV-AIDS knowledge. SACMEQ is a regional initiative on monitoring learning outcomes with large-scale datasets available including experiences of sexual harassment in schools among pupils and teachers, detailed further in the Section on Data and Methodology. We apply Coarsened Exact Matching (CEM) techniques to see whether the correlations exist between the experiences of sexual harassment in schools and academic performance of pupils.

This study is laid out as follows: Section 2 provides a literature review and background of the Kenyan education sector including the issues of sexual harassment and SRGBV, a review of past research on the correlations between SRGBV and learning outcomes of pupils, key challenges of the Kenyan education sector with a focus on SRGBV as an obstacle to achieve EFA in the country. Section 3 describes the data and methodology. Section 4 presents the summary statistics and the result of the CEM analysis, while Section 5 presents the conclusion of this paper.

2. Literature Review

2-1. Literature review on sexual harassment in education context

Education, as one of the fundamental human rights mentioned in Article 26 of the UDHR,² is set as a global commitment under the Education For All (EFA) initiative launched in 1990.³ Since then, more children, youth and adults have access to education opportunities (UNESCO, 2015). Although considerable progress on education access has been made, the world is facing a "Global Learning Crisis."⁴ The World Development Report 2018 described the crisis as "being in school is not the same as learning" (World Bank, 2018). For children who are in school, numerous studies over the past several decades have sought to identify the factors that inhibit learning and what can be done to rectify those issues (Adelman & Taylor, 1997, 2002; Illeris, 2016). Among those barriers to education is the prevalence of sexual harassment in schools (Bond, 1990; Larkin, 1996; Meyer, 2008).

The majority of these studies utilized qualitative methods such as key informant interviews and focus group discussions with predominant themes for explaining the prevalence of sexual harassment having included workplace settings and organizational cultures from philosophical and legal perspectives (Franke, 1997; Schultz, 1998; Stein, 1995; Stockdale, 1996). A minority of studies utilized descriptive statistics to present comparative effects among the target populations (Lee, Croninger, Linn, & Chen, 1996), analyzing collected data using quantitative methods by controlling for background characteristics. Universally, the impacts of experiencing sexual harassment on students were negative in a multi-dimensional way - cognitive, physical, emotional and well-being (Espelage, Hong, Rinehart, & Doshi, 2016; Koss, 1992). In addition, pupils in primary and secondary schools in developing countries are also experiencing the various forms of sexual harassment (DeSouza & Ribeiro, 2005; Mensch & Lloyd, 1998; Prinsloo, 2006). This scholarship, with the added support of women's and girls' advocacy groups, led to the ratification on November 2018 of the UN Resolution to end sexual harassment.⁵

And yet, is estimated that 246 million children experience violence in and around schools every year (Kibriya et al., 2016). As Figure 1 presents,⁶ sexual harassment is located in the center of the three different types of violence - physical, psychological and sexual violence.⁷ Several past studies focused that SRGBV in Sub-Saharan Africa exists in line with gender analysis and advocacy for promoting girls' education. The first example is a field-based research conducted by Perks and Heslop from the Institute of Education for ActionAid's project entitled 'Stop Violence Against Girls in School'. The study developed a conceptual framework on violence against girls in schools, describing multidimensional factors in the context of everyday interactions and relationships including school settings, families and community contexts (Parkes & Heslop, 2011).

Another example is a detailed desk review conducted by Leach, Slade and Dunne from the University of Sussex, commissioned by the Irish NGO Concern Worldwide, for providing recommendations to them by analyzing other aid agencies' past interventions that aimed at addressing the SRGBV in their respective projects (Leach, Slade, & Dunne, 2013). The report

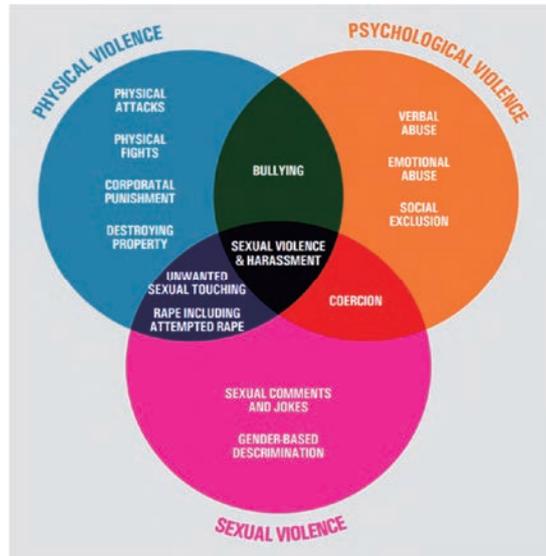


Figure 1. Different forms of SRGBV. UNESCO et al (2015)

critically mentioned the limitations of monitoring and reporting of behavioral change for preventing SRGBV while providing recommendations on school-level activities such as school clubs as spaces for children on peer-to-peer learning and confidence-building to confront the issues related to SRGBV in schools and communities.

SRGBV has often been discussed in the context of violence against children, and/or gender and girls’ education with a focus on recommending preventive measures in and around schools. However, there is a clear evidence gap about the impact of SRGBV on the most important aspects of schooling - retention in schools, completion of learning, and academic achievement (Leach et al., 2013). In addition, most studies in the past were conducted with qualitative methodologies and the evidence with statistical analysis is particularly absent (ibid).

A small-scale quantitative analysis on SRGBV and its impact on learning outcomes exists. One example is a study on the effects of bullying on academic performance of learners, commissioned by the US Agency for International Development.⁸ The study found a clear negative impact of bullying to pupils’ academic performance as statistically consistent in all three countries of analysis (Kibriya et al., 2016).⁹ The study also concluded that quantitative evidence on the correlations between SRGBV and pupils’ academic performance, specifically with large-scale data samples with a focus on Sub-Saharan African countries, has been largely absent to date (ibid).

2-2. Education sector in Kenya

Kenya has been categorized as a lower-middle income country by the criteria of the World Bank since 2014.¹⁰ Kenyan education sector has been progressing over the several years in terms of access to schools.¹¹

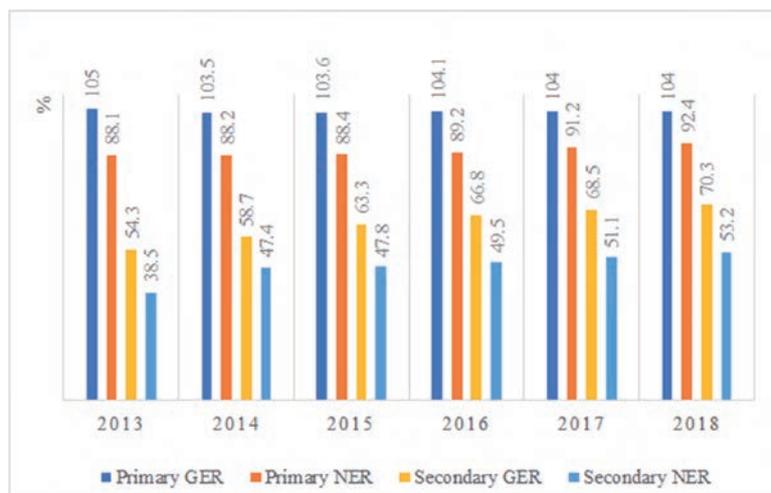


Figure 2. Enrollment trends of primary and secondary education in Kenya, 2013-2018. Adapted from NESSP, GoK 2018.

According to data in the National Education Sector Strategic Plan 2018-2022 (NESSP), overall access to education has been steadily expanded both at primary and secondary level. Kenyan government has made strong commitments on the provision of education services.¹² However, retention and completion of primary education remains a challenge.

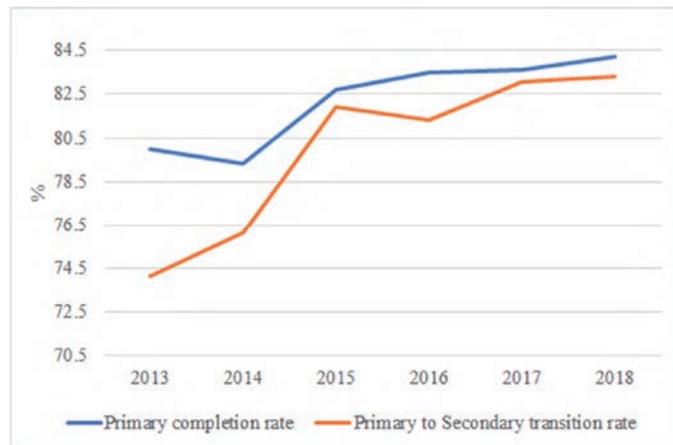


Figure 3. Trends in primary education completion and transition to secondary education 2013 - 2018. Adapted from NESSP.

Figure 3 indicates that although the gap between the completion rate of primary education and the transition rate from primary to secondary has been narrowed down significantly over the past years, the completion of primary education does not guarantee the full promotion of those who completed primary learning to secondary level education. In addition, what Kenyan children actually acquire from schooling is the most important question in the Kenyan education sector.

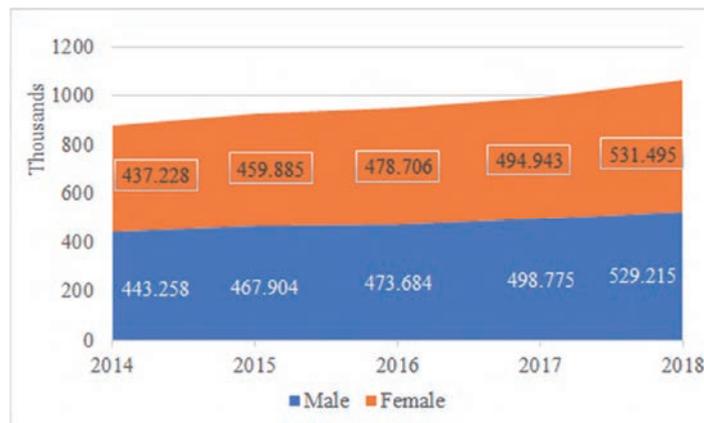


Figure 4. Trends of the number of candidates to KCPE by sex, 2014 to 2018. Adapted from NESSP, GoK 2018.

Figure 4 is the summary trend of the KCPE¹³ exam takers. The number of candidates for the KCPE, both male and female, has been increasing steadily over the period from 2014 to 2018.

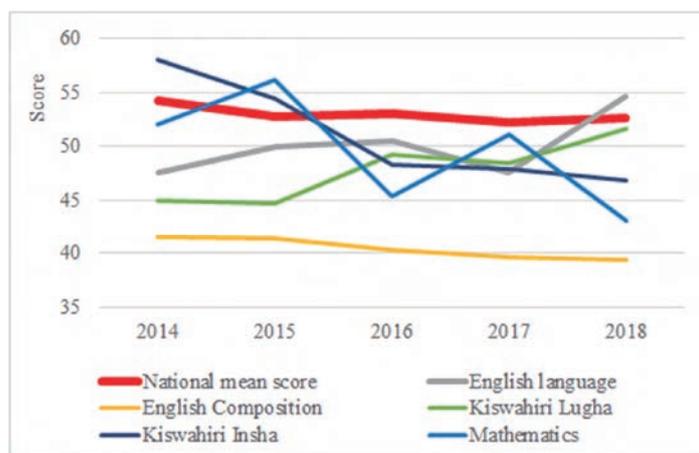


Figure 5. National average mean score of eight subjects and mean scores by core subjects of the KCPE, 2014 - 2018. Adapted from NESSP 2018.

Figure 5 shows the large fluctuations of the KCPE average national mean score of all subjects as well as the national mean scores of selected subjects between 2014 and 2018. Only the mean score of Kiswahili¹⁴ comprehension has been steadily increasing. Despite the steady increase of the number of KCPE candidates during 2014 to 2018, learning outcomes measurable by the mean scores of the KCPE subjects have been fluctuating with an overall trend of decline.

The Government of Kenya (GoK) set a very ambitious goal of “100 percent transition from primary to secondary education by 2022” (NESSP, 2018).¹⁵ The transition rate from primary education to secondary education has increased from 74.1 in 2013 to 83.3 in 2018, yet, the current rate of increase does not seem to fit the government’s target by its deadline in 2022.¹⁶

Experiencing sexual harassment in schools causes multiple negative impacts on pupils at individual level¹⁷ as well as at communities and societal level with large economic loss.¹⁸ The GoK recognized SRGBV as an emerging issue¹⁹ not only hampering the access to and retention in schooling among their children but also completion of primary education toward 100 percent transition to secondary education. Sexual harassment is said to be escalates if ignored,²⁰ and the GoK is increasingly showing its commitments on eliminating SRGBV, together with international communities and Civil Society Organizations (CSOs).²¹

3. Data and methodology

3-1. SACMEQ

SACMEQ is a consortium of ministries of education from countries in eastern and southern Africa conducting standardized testing of sampled pupils on subjects including reading, mathematics, and HIV-AIDS awareness. As the name suggests, SACMEQ III is the third such data collection, completed in 2007. Rather than analyze the entire dataset, this study focuses on the data collected by the ministry of education in Kenya, with 4,436 participating pupils enrolled in the 6th grade.

By focusing on the situation in Kenya, this study can more deeply explore the context of policy, legislation, and cultural practices influencing the situation of sexual harassment in Kenya.

In addition to administering standardized tests, the consortium additionally collects data on the family and school characteristics of each participating student. These include proxies for the student’s household wealth, such as the materials of his or her home (for example, asking if the walls of the house are made of thatch, mud bricks, or stone; or if the floor is earth, wood, or brick) and what possessions the family owns (such as a car, bicycle, television, radio, books, etc.). The study also looks at characteristics of the participating schools and teachers at those schools, including the teacher’s years of experience, education levels achieved, and subsequent training, to name a few.

3-2. Descriptive statistics

Unlike other standardized tests that limit access to the test to pupils of a certain age, SACMEQ allows pupils of any age so long as they are enrolled in the 6th grade, mirroring the education policy and practice for schools in the regions. Consequently, the distribution of ages for the sampled pupils in Kenya is fairly wide (see Figure 6), ranging from ages ten to 25 with a median age of 13.

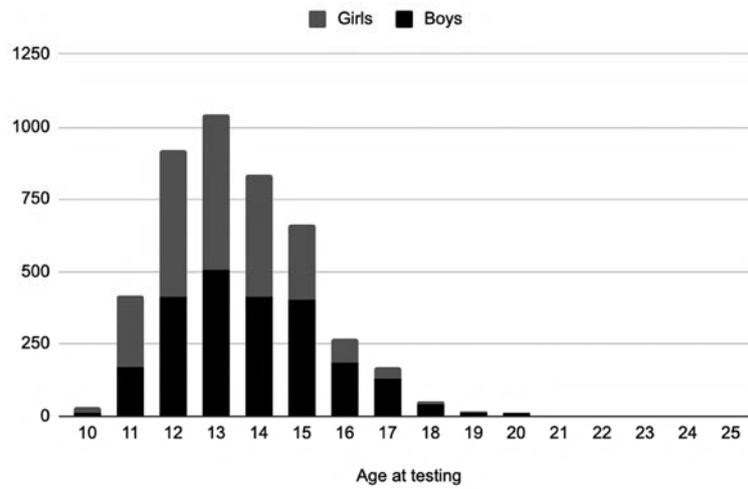


Figure 6. Distribution of participating students by age and sex

Out of the 178 schools sampled in Kenya, 20 schools (11 percent) reported sexual harassment as occurring either sometimes or often between pupils with a somewhat smaller number of reported teacher-to-pupil incidences. The age distribution of pupils affected by pupil-to-pupil sexual harassment is reflected in Figure 7, with that of teacher-to-pupil sexual harassment shown in Figure 8.

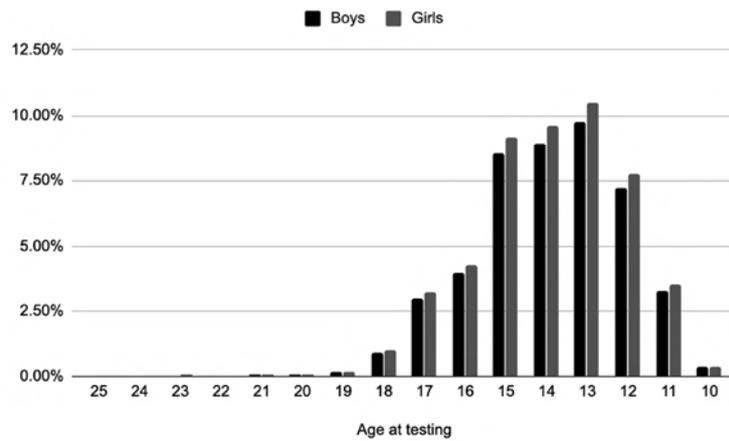


Figure 7. Reported total *pupil to pupil* sexual harassment by sex and age, percentage

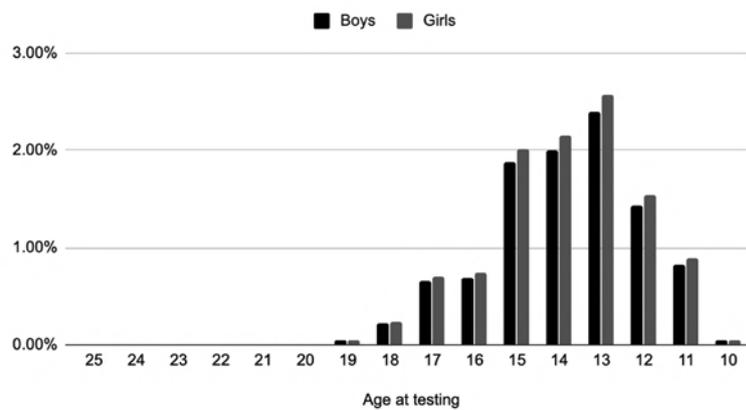


Figure 8. Reported total *teacher to pupil* sexual harassment by sex and age, percentage

3-3. Methodology

For this study, coarsened exact matching (CEM) is used to measure the sample average treatment effect on the treated (SATT) between the prevalence of school-based sexual harassment, both from teachers-to-pupils and from pupils-to-pupils, and lower test scores in reading and mathematics compared to schools with no reported sexual harassment, in Kenya.

Following Iacus, King, and Porro (2012), CEM exactly matches observation units (pupils) on a set of predetermined covariates, each of which are predictive of the outcome variable, prior to estimating the treatment effect.²² This generates a robust estimation by optimizing covariate balance between treatment and control groups. As covariates are often correlated with each other, adding multiple covariates does not lead to the problem of multidimensionality that would be produced using ordinary least squares regression (OLS) (See Appendix A for a comparison of results with OLS). The selection of covariates used in CEM, both categorical and continuous, must be informed by the researcher's understanding of the relationship between the variables and the outcome. Continuous variables are treated by CEM as units to be grouped into substantively similar 'bins.' These covariate bins, once organized into strata with at least one treatment and one control unit, are to be included in the weighted regression model (for the complete list of covariates and their respective bin settings, see Appendix B). If controlled or treated units are not matched from the selection of covariates, these units are dropped from the model prior to the weighted regression. By removing non-matched units and applying weights to the remaining units based on their frequency within the strata, CEM reduces estimation error, mean square error, imbalance and bias compared to other matching methods. For the exact number of matches per category, see Appendix C.

4. Results and discussion

The following table provides the results for pupil-to-pupil and teacher-to-pupil sexual harassment (Table 1), and the measured correlation on learning outcomes of pupil. When estimating the effect of pupil-to-pupil harassment, a negative impact is correlated on scores of all three subjects for both boys and girls.

Table 1. CEM regression with controls

<i>Pupil to pupil harassment</i>						
	Sometimes			Often		
	Reading	Math	HIV	Reading	Math	HIV
Boys	-2.101	-1.306	-6.669	-17.10*	-15.14*	-13.89*
Girls	-1.266	-2.619	-9.551*	-20.10**	-13.48*	-5.906
<i>Teacher to pupil harassment</i>						
	Sometimes			Often		
	Reading	Math	HIV	Reading	Math	HIV
Boys	1.162	-13.08	-6.054	-16.72†	-19.03*	-0.383
Girls	14.66†	-5.482	1.427	-27.33**	-21.95*	8.962

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4-1. Pupil to pupil sexual harassment

The CEM regressions displayed in Table 1 show similar results in terms of the negative impact on test scores for pupils in classrooms where sexual harassment is reported either "Sometimes" or "Often." For schools reporting harassment sometimes, the effect is insignificant despite a generally negative trend in test scores whereas in those schools reporting harassment often, the effect is generally significant and negative with comparable effects between boys and girls.

4-2. Teacher to pupil sexual harassment

In schools that reported that teachers sometimes or often sexually harassed students, all tested subjects mark a significantly lower score compared with students in schools where harassment was not reported, with harassed boys' scores lower than harassed girls scores.

5. Limitations

Limitations to the findings include the limited number of schools reporting sexual harassment, which represent approximately 11 percent of the schools sampled in the SACMEQ III dataset. In part, this is a function of the sampling methodology of the dataset

which did not question children themselves whether or not they have experienced forms of sexual harassment from either fellow pupils or teachers. Rather, enumerators queried the heads of schools to report on the occurrence of sexual harassment. Given the underreporting of sexual harassment generally, especially due to the negative stigma of having teachers or students committing such acts (Zindi, 1994), deciding not to ask students directly surely reduced the total number of reported incidences for the analysis. Given the negative effect reported, increasing the sample size with likely increase the measurable effect of sexual harassment due to likely underreporting.

6. Conclusion and recommendations

The analysis showed the correlations between the prevalence of school-based sexual harassment, both from teachers-to-pupils and from pupils-to-pupils, and lower test scores in reading, mathematics, and HIV-AIDS awareness in Kenya. The analysis applied coarsened exact matching (CEM) to measure the difference in test score in schools that reported sexual harassment compared with schools that did not. After controlling for covariates of student academic performance such as household wealth and school quality, the results clearly demonstrated that students exposed to sexual harassment score lower than students that do not.

Further analysis is needed in other countries participating SACMEQ in order to generate stronger evidence on the impact of sexual harassment to pupils on their lower test scores, including test hypotheses such as whether the broad age-range present in the classroom might be a contributing factor to the presence of sexual harassment. As direct evidence for this is not available in the dataset, further research is needed to confirm whether or not the classroom age gap is a contributor to sexual harassment in the classroom.

Endnotes

- ¹ Namely Mandera, Turkana, Wajir, Garissa, Nairobi and Bungoma Counties (Kenya Ministry of Education, 2018)
- ² The Universal Declaration of Human Rights (UDHR) in 1948 stated equal protection to all people against any discrimination in violation of their fundamental human rights.
- ³ The EFA is reclaimed in the top global agenda in the Millennium Development Goals (MDGs) in 2000 followed by the Goal 4 of the Sustainable Development Goals (SDGs) in 2015.
- ⁴ 258 million children and youth between 6 to 17 years old were still out of school in 2018 (UNESCO, 2019), whereas more than 617 million children and adolescents worldwide, who are in schools, are reported to be not achieving minimum proficiency levels in reading and mathematics (UIS, 2017)
- ⁵ <https://undocs.org/en/A/C.3/73/L.21/REV.1>
- ⁶ <http://www.ungei.org/srgbv/files/Ending-SRGBV-thematic-briefs-UNGEI-Dec-2019.pdf>
- ⁷ This implies that experiencing sexual harassment may lead a complex impact in negative manner which interlinked to diverse aspects of violence.
- ⁸ The study focused on bullying and its impact of academic learning, with internationally comparable data from Progress in International Reading Literacy Study (PIRLS) and The Trends in International Mathematics and Science Study (TIMSS) conducted in 2011 in Botswana, Ghana, and South Africa.
- ⁹ The study also concluded that variables such as sex, age, teachers' teaching experience, parents' education level, and geographical locations are all influential factors on the academic performance of pupils with variations of each context; and context-specific characteristics that are influential to the effect of bullying.
- ¹⁰ <https://data.worldbank.org/country/kenya>
- ¹¹ In the education sector, the Free Primary Education Policy was endorsed in 2003 which significantly contributed to an expansion of education access to children in primary schools across the nation. While the Policy has led huge burden on teachers to handle an influx of newly enrolled pupils especially in the first few years of implementation which revealed general inadequacy of teachers in terms of numbers as well as quality of teaching and management capacities in overcrowded classrooms (Mulinyai & Orodho, 2015).
- ¹² It is reflected in the national budgeting exercise, as the education sector received more than 17.8 percent of the total public expenditure in 2017. This trend has been stable as the allocation to the education sector has been constantly above 16 percent over the last many years.
- ¹³ Kenya Certificate of Primary Education (KCPE), an annually conducted nation-wide examination by the Kenya National Examination Council (KNEC), is considered widely in Kenya for measuring the academic achievements of all children in the final grade in primary schools across Kenya.
- ¹⁴ Kiswahili is an official language in Kenya along with English as mentioned in Chapter 7 of the Constitution updated in 2010.
- ¹⁵ <https://www.education.go.ke/images/NESSP/NESSP-2018-2022.pdf>
- ¹⁶ Due to lack of infrastructure, shortage of teachers and adequate teaching and learning materials.
- ¹⁷ Students who experienced sexual harassment tend to be dropout more than those who do not experience the same due to being shamed, loss of self-dignity and self-esteem, and ended up being impregnated (UNGEI, 2015). Even if they do not drop out of school, they may not be able to concentrate on learning in schools thus resulting in achieving low academic performance (ibid). Moreover, the impact is said to be beyond the learner's individual level.
- ¹⁸ As the Global Working Group to End SRGBV warned by citation of the RTI's report on SRGBV that SRGBV is equivalent to the loss of one full year of learning in primary schooling which can be translated to a yearly cost of around USD 17 billion to low- and middle-income countries.
- ¹⁹ In Kenya, teenage pregnancy is becoming increasingly challenging as the media is continuously reporting shocking news of female exam-takers of KCPE and Kenya Certificate of Secondary Education (KCSE) delivering a baby in the examination centers over the past several years.
- ²⁰ <https://www.nwlc.org/sites/default/files/pdfs/titleixpregnancyharassmentfactsheet.pdf>
- ²¹ Through awareness raising campaigns, strengthening policy framework on the safety of schools, and revision and renewal of practical guidelines and Standard Operating Procedures (SOPs) on prevention and response to SRGBVs including sexual harassment.
- ²² For the complete list of covariates and the bin width, see Appendix A.

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Appendices

Appendix A OLS regression with controls

<i>Pupil to pupil harassment</i>						
	Sometimes			Often		
	Reading	Math	HIV	Reading	Math	HIV
Boys	-25.32*	-23.20*	-30.32***	-26.46†	-26.42*	-26.05*
Girls	-15.22	-11.76	-21.09*	-30.30*	-24.76**	-17.82

<i>Teacher to pupil harassment</i>						
	Sometimes			Often		
	Reading	Math	HIV	Reading	Math	HIV
Boys	-13.67	-29.96†	-18.78	-39.89**	-30.82*	-18.18
Girls	-3.357	-15.78	-10.95	-39.73***	-28.43*	-8.897

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

With robust clustered standard errors

Appendix B Included covariates with bin settings for CEM

Variables	Mean	Std. Dev.	Min	Max	Bins	Description
Biological sex	1.51	0.50	1	2	2	male/female
Birth year	1993.8	1.71	1980	1997	8	measured in two-year increments
Pupil home quality	10.20	3.26	4	16	3	lower-/ middle-/ upper-tercile
Extra tuition	1.29	0.45	1	2	2	no/yes
Living with family	1.20	0.73	1	5	2	no/yes
Pupils' number of siblings	4.14	3.28	0	60	30	measured in two-unit increments
Homework given	3.36	0.83	1	4	4	none/ 1-2 month/ 1-2 week/ most days
Repeated grades	1.52	0.77	1	4	4	never/ once/ twice/ three or more
Speak English at home	2.15	0.88	1	4	4	never/ sometimes/ most of the time/ all the time
Dropout of school	2.07	0.61	1	3	3	never/ sometimes/ often
Parents' mean education	7.04	2.90	2	12	5	measured in two-year increments
Pupil possessions	6.00	3.21	0	13	5	measured in three-unit increments
School resources	9.26	5.24	0	22	6	measured in four-unit increments
School location	0.62	0.81	0	2	3	isolated or rural/ small town/ city

Appendix C Number of matched pupils exposed to sexual harassment using CEM

	Pupil to pupil		Teacher to pupil	
	0	1	0	1
All	2,332	2,104	3,969	467
Matched	181	194	386	173
Unmatched	2,151	1,910	3,583	294