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WORKING PAPER

Impact of Gender-Responsive and Violence-Free School Environments on Primary and Lower Secondary School Children.

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Abstract

In many countries, various forms of negative discipline are not considered abusive. It often arises from common practice and taboos dealing with child abuse and gender roles. Knowledge acquisition on acceptable forms of discipline and gender equity among teachers, can lead to changes in attitudes and instruction of teachers through which gender-responsive and violence-free learning environment for students are created. To tackle school-related gender-based violence (SRGBV), an innovative project, Teaching for Improved Gender Equality and Responsiveness (TIGER), was implemented in Cambodia, Battambang province. TIGER took place in grades 4 to 6 of primary education and grades 7 to 9 of lower secondary education in Battambang province. We have set-up a pre-intervention (2018) and post-intervention (2020) study that involves a treatment and comparison group. We were able to collect repeated cross-sectional data on (N=2,333) students. The data are stratified by gender and representative for the participating schools. The empirical method applied in this study corresponds to difference-in-differences in combination with matching analysis. Results indicate small significant transfer effects in primary schools owing to the TIGER project on all three student outcomes: emotional abuse, physical violence, and sexual harassment. The impact of the TIGER project on students from lower secondary schools was limited to reducing sexual harassment.

Keywords: Cambodia; Gender Equity; Impact; Teacher Professional Development; Violence;

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Declarations

1. Funding

European Union represented by the European Commission under grant agreement CSO-LA/2017/389-622 and the Belgian Development Cooperation.

2. Conflicts of interest

The authors declare that they have no relevant material or financial interests that relate to the research described in this paper.

3. Availability of data and material

The University of Leuven developed a survey and collected data using this survey in close collaboration with the Royal University of Phnom Penh. Data are available at DOI: http://dx.doi.org/10.13140/RG.2.2.11347.91686.

4. Code availability

The STATA-code is available at DOI: http://dx.doi.org/10.13140/RG.2.2.11347.91686.

5. Ethics approval

The study received prior approval from the Ministry of Education Youth and Sports in Cambodia. They carefully checked the ethical code of conduct of the research and gave written approval to proceed with this study.

6. Consent to participate

All children were informed of the research goals and procedure. They could voluntarily participate in the study. We were given informed consent by the participating schools and the Ministry of Education Youth and Sports to anonymously process the data of the children as part of the research.

7. Consent for publication

All stakeholders involved in this study, including the authors, gave informed consent to publish this manuscript without the inclusion of (identifiable) personal data. The data in this study were processed anonymously.

1. Introduction

Negative forms of discipline occurring in and around schools can seriously jeopardize children's short-term and long-term health and wellbeing and cannot be ignored (Currie and Spatz Widom, 2010; Norman et al., 2012; Fredrick and Demaray, 2018; UNGEI, 2018; Smiley et al., 2021). There are still many unacceptable forms of discipline in practice around the globe (Stoltenborgh et al., 2015; Hillis et al., 2018), and this paper focusses on emotional abuse (e.g. shouting, cursing) and physical violence (e.g. kicking, beating) happening in a teacher-child relationship. This paper also focusses on sexual harassment of both boys and girls, occurring in and around schools, but to which the perpetrator can be anyone. In the public debate and reports, these negative forms of discipline have been positioned under the umbrella of school-related gender-based violence (SRGBV) (UNESCO and UN Women, 2016; UNGEI, 2018). UNGEI (2018) defined SRGBV as *"acts or threats of sexual, physical, or psychological violence occurring in and around school, perpetrated as a result of gender norms and stereotypes, and enforced by unequal power dynamics."* Throughout this paper we will use this umbrella term of SRGBV, because (1) emotional abuse, physical violence and sexual harassment are often triggered by gender norms, social norms and values, and stereotypes, (2) because we are looking at those negative forms of discipline occurring in and around schools, and (3) because of the implicit unequal power dynamics between children and teachers or other perpetrators in and around school. To define those investigated negative forms of discipline as gender-based, however, is not the focus of this paper.

Tackling SRGBV is not an easy task, whereas negative forms of discipline are not always perceived as such (Glaser, 2002; Stoltenborgh et al., 2015; Parkes et al., 2016; Hillis et al., 2018), and whereas it involves different layers of the school environment wherein the children attend class (Parkes et al., 2013; Lewallen et al., 2015). It involves the children and their parents, teachers and school leaders, school policy and regulation, and common practice and taboos dealing with child abuse and gender roles. Features of interaction between adults and children and between peers are indeed often embedded in social norms and values, and, therefore, difficult to breach (Hunter et al., 2001; Barth et al., 2004; Aikman et al., 2005; Elliot et al., 2010; Booth, 2014).

This paper nourishes the discussion on the effectiveness of teacher professional development (TPD) in activating a whole-school turnaround to tackle SRGBV. Doing so, we add to the previous literature in at

least two ways. First, while there is ample evidence that indicates how to improve teacher quality and/or student performance by using whole-school turnarounds (Garet et al., 2001; Wayne et al., 2008; Postholm, 2012; Van Veen et al., 2012; Kang et al., 2013; Darling-Hammond et al., 2017); far less is known on how to tackle SRGBV (Parkes et al., 2016). Well-constructed TPD activities that touches upon the different layers of the school and society appear to be promising in reaching out to teachers, school leaders, the students and their families (Erden, 2009; Schwandt & Underwood, 2016; Merchie et al., 2018). The idea is then that knowledge gains (among adults mainly, but also the children) may lead to changes in attitudes and instruction of teachers. If these conditions are met, one may effectively tackle SRGBV.

The TPD project under evaluation in this study, *'Teaching for Improved Gender Equality and Responsiveness'* (TIGER), was launched at the end of 2017 in Battambang province. The core activities of the TIGER project included strengthening teachers' and school leaders' understanding of gender equity, gender responsive pedagogy and violence-free school environments. First findings indicate large effects of the TIGER project on teachers' beliefs regarding acceptable forms of discipline, and moderate to small effects on performing SRGBV in a teacher-child relationship (Cabus et al., 2021). It seems that the pre-conditions to yield any effects of the TIGER project at the level of the students are there.

The focus on Cambodia, the country wherein the TIGER project was implemented, is the second contribution of this paper. In the era of the Khmer Rouge (1975-1979), Cambodia suffered from periods of war, genocide and violence, leading to massive psychological trauma (Somasundaram et al., 1999; Zimmer, 2008). This may (at least partly) explain why Cambodia has generally high incidence rates of SRGBV (Plan Asia and ICWR, 2015; UNICEF Cambodia, 2016; Cabus et al., 2019). Cantor-Graae et al. (2014) further argue that daily stressors related to poverty and poor to fair physical health should be considered to explain the observed psychiatric consequences. But also, human interactions, rooted in traditions and culture, and transmitted from teachers to children through teaching, are also an important factor in sustaining SRGBV. School curricula often convey the prevailing gender norms and beliefs, for instance, they advise girls to obey their husbands (Anderson and Kelly, 2018). The format of textbooks is important in normalising violence against girls and women, for example, when they depict girls and women in traditional gender roles such as housekeepers (Velasco, 2004). Teachers and school leaders may also pass on implicitly gender norms and beliefs to their students in the way they interact with them.

It is not common practice for girls and boys to sit next to each other in class, for example, or that girls can succeed in mathematics. In some communities, like observed in Botswana, Malawi and Mozambique, it appears that some school staff, including teachers, ask girls for sex in exchange for academic favours (Schwandt & Underwood, 2016). SRGBV encompass underlying (social) inequalities between the sexes which eventually threatens inclusive and equitable education for girls and boys (UNESCO, 2016).

This paper delivers the evidence base on potential transfer effects of the TIGER project to students (Desimone, 2009; Merchie et al., 2018). To this end, we rely on a baseline study conducted in 40 primary and lower secondary treatment and control schools in Cambodia in 2018, and a post-intervention study conducted in the same schools in October 2020. Both studies included intensive field work, using structured questionnaires, and semi-structured interviews with key informants. We were able to collect a representative, cross-sectional dataset of 2,333 boys and girls that attended the treated and control schools at time of evaluation. The data are processed in a difference-in-differences analysis in combination with matching techniques to further strengthen the results.

This paper proceeds as follows. First, we discuss the previous literature on tackling SRGBV by using TPD activities. Then, we present the core features of the TIGER project in Section 3. The method is discussed in Section 4. Data and descriptive statistics are covered in Section 5 and 6, respectively. Section 7 presents the overall results of the effectiveness of TIGER. Further evidence on the effects of TIGER can be found in Section 8. Section 9 concludes.

2. Literature

Only very few studies look at the impact of TPD on students in low-and-middle-income-countries (Baker-Henningham et al, 2012; Devries et al., 2015; Parkes et al., 2016; Schwandt & Underwood, 2016). Devries et al. (2015) estimate the impact of The Good School Toolkit, an intervention designed by the Ugandan not-for-profit organisation Raising Voices, on students' reporting on physical violence experienced in the week preceding the questionnaire. The authors assigned 42 primary schools randomly to treatment or control conditions and collected data using cross-sectional surveys at baseline and post-intervention. The intervention ran for a period of almost two years. A difference-in-differences

analysis indicated a reduction of 15.8 percentage points in the reporting of physical violence owing to the toolkit. No effects were found on mental health or test scores.

Baker-Henningham et al. (2012) analysed the Incredible Years intervention than ran in Jamaica in early childhood education. The aim of the intervention was to tackle child conduct problems and to improve social and emotional skills by training teachers. All teachers in the intervention schools received a training once a month, for a total of 7 days, on how to promote children's social and emotional competence. Then again, children received 14 lessons on learning school rules, understanding and detecting feelings, anger management, and learning how to be friendly. Children actively engaged in the lessons through group games and structured play to practice friendship skills. The authors used random assignment at the level of the schools to assess the intervention. They find a large significant reduction of the Incredible Years on negative teachers' behaviour. Teachers also moderately improved the ratings of child conduct disorders and social skills.

Schwandt & Underwood (2016) conducted a process evaluation on an intervention designed to educate school personnel on harmful (sexual) behaviour towards girls and the risk of HIV. The intervention got implemented in sixteen communities in Malawi, Botswana, and Mozambique. Instruction and communication on gender norms, expectations to power, coercion, and consent, are at the core of the intervention. The intervention targeted all teachers and school personnel, who work with female students aged 10 to 17 in the respective communities. The intervention got assessed with multilevel regressions. The authors find that girls from treated schools in Botswana were significantly less likely to report on sex in exchange for academic favours in comparison with girls who attend non-intervention schools. Teachers from Botswana, who received the intervention, were also significantly more likely to encourage girls to excel in math. These results were nonsignificant for Malawi and Mozambique.

3. The TIGER project

The TIGER project included teacher professional development (TPD) for in-service teachers and school leaders in primary and lower secondary schools in Battambang province. The TIGER project team created an Action Guide to develop and or strengthen teachers' and school leaders' understanding of gender responsive pedagogy and gender equity and to provide tools and strategies to establish a violence-free school climate. The Action Guide consists of chapters written for school leaders and

chapters written for teachers. Both teachers and school leaders get the same introduction chapter, which provides basic knowledge on gender and school-related gender-based violence. The chapters for teachers provide guidelines and tools to implement gender-responsive teaching into their classroom while the chapters for school management focuses on gender-responsive school leadership and parental/community involvement. The Action Guide was endorsed by The Ministry of Education, Youth and Sport (MoYES).

In summary, teachers and school leaders from the participating TIGER schools received several trainings using the Action Guide. At the end of training sessions, there was also a refresher training. This training dealt with the concepts of sex and gender and gender-responsive pedagogy (incl. lesson planning, teacher material development, the use of language and interactions, positive discipline and assessment of gender interactions and stereotypes in the classroom).

In between the training sessions and the refresher training, the TIGER project involved two other activities. The first activity dealt with individual coaching sessions. As teaching staff start to implement the Action Guide in their teaching and general professional context, they may experience difficulties and challenges or even question certain elements in the Action Guide. To address these questions of teachers, TIGER team members, core trainers and Civil Society Organizations individually coached teachers. The second activity dealt with peer support discussions or 'learning cycles'. To further strengthen implementation, coaches brought the teaching staff together for peer learning in a process of learning cycles. Such learning cycles offer teaching staff a platform to share experiences and further strengthen their competences in establishing gender responsive school environments.

The TIGER project further included a sensitization campaign at the grassroots-level, and an advocacy campaign at national and sub-national level. Different channels were used to achieve this, including Information, Education and Communication (IEC) materials and campaigns as well as radio broadcast, social media, interactive theatre plays and a story-telling app. The TIGER project ended with an online advocacy campaign on gender and a closing webinar in December 2020. Both events happened after data collection for this research.

4. Method

We conducted a pre-intervention (2018) and post-intervention (2020) study that involved a treatment group and a comparison group. To this end, we collected repeated cross-sectional data of treatment pre, treatment post, comparison pre and comparison post in the schools under study (Section 5). This empirical method corresponds to a difference-in-differences analysis (Lechner, 2011).

TIGER took place in 20 schools located in the rural area of Battambang province. These schools are comparable to an average school in Cambodia, and they are reachable through cooperation with local Civil Society Organizations (CSO). The project targeted at grades 4 to 6 of primary education and grades 7 to 9 of lower secondary education All 20 rural schools were included in the treatment group in this study to evaluate the impact of TIGER.

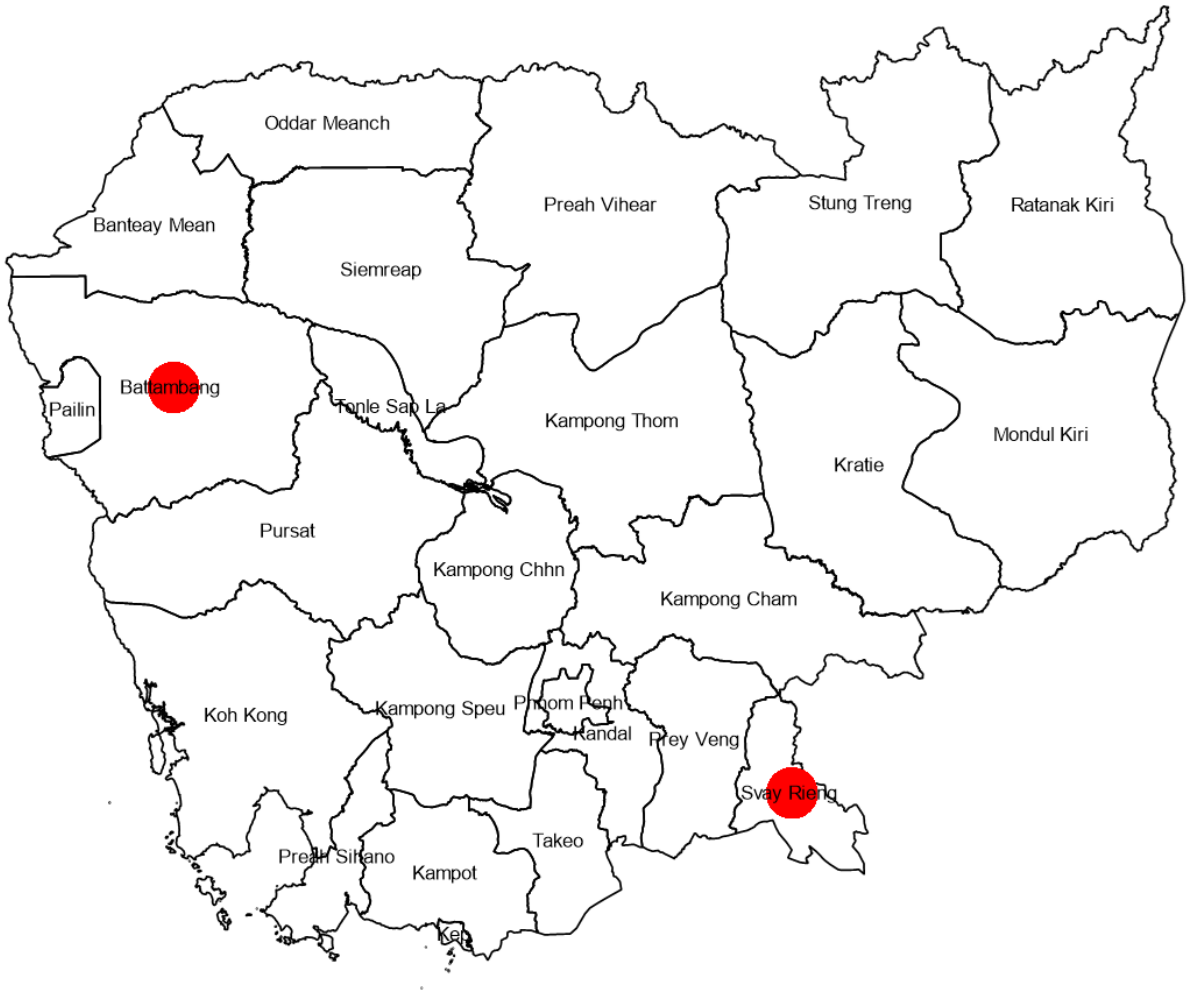
Then again, we have selected a comparison group. Schools assigned to the comparison group have a geographical location in the rural areas of Svay Rieng province. Both provinces are close to a neighbouring country – Battambang shares a border with Thailand, Svay Rieng shares a border with Vietnam (Figure 1). These provinces share both the feature that parents frequently travel across the border, especially to Thailand, for professional reasons. Children of these migrant workers often grow up without one or even both parents and rely then on the care from the grandparents or other guardians. Furthermore, Cambodia is a very small country. Cultural traditions, ideas, or (school) regulations that may manipulate SRGBV is similar across Battambang and Svay Rieng provinces.

In summary, we estimate the effects of the TIGER project on students' reported experiences with SRGBV over the past school year by using a difference-in-differences analysis (Abadie, 2005):

$$Y_{is} = \alpha_0 + \beta_0 D_{is} + \delta_0 T_{is} + \theta_0 (D_{is} \times T_{is}) + \varepsilon_{is} \ , \qquad (1)$$

where D_{is} denotes Battambang province $(D_{is} = 1)$ and Svay Rieng province $(D_{is} = 0)$; T_{is} the pre-intervention $(T_{is} = 0)$ and the post-intervention period $(T_{is} = 1)$; and $(D_{is} \times T_{is})$ the interaction effect. Subscripts i denotes the students, and s the schools. The parameter of interest is θ_0, which presents the impact of the TIGER project after the intervention took place in comparison with the pre-intervention period and the comparison group.

Figure 1: The provinces in Cambodia with Battambang and Svay Rieng provinces marked with a red dot



Comparability of the treatment and the comparison group increases the likelihood of having a robust evidence base regarding the effectiveness of the TPD estimated by using a difference-in-differences analysis. To further strengthen comparability of children between Battambang and Svay Rieng provinces, we also apply propensity score matching techniques (Rosenbaum and Rubin, 1983, 1985; Rubin 2007; Rosenbaum 2010). Propensity score matching in combination with difference-in-differences is carefully explained by Stuart et al. (2014), and we follow their suggested approach in this (p. 171): "[…] a weighting strategy that will weigh the 4 groups (treatment pre, treatment post, comparison pre, comparison post) to be similar on a set of key characteristics [which] can be implemented with data from repeated cross-sections." The idea of using difference-in-differences in combination with matching analysis is that we can obtain a consistent estimate of the impact of TIGER on students' experiences with SRGBV, even if there would be a selection bias based on observed covariates into treatment or comparison groups across time (Lechner, 2010; McCaffrey et al., 2013; Stuart et al., 2014). In this study,

we define the propensity score as the probability of being in the treatment group at baseline. As such, children in the treatment group at baseline receive a weight of 1. The other groups (treatment post, comparison pre, comparison post) receive a positive weight based on the probability that they resemble children in the treatment group at baseline regarding their set of covariates.

Stuart et al. (2014) summarizes four assumptions underlying the application of a difference-in-differences in combination with matching analysis. The first assumption is that all children in our study receive a positive weight (i.e. there is a positive likelihood of being in one of the four groups). It also relates to the assumption of common support, namely: there should be (sufficient) overlap in the propensity scores as to find comparable children to the treatment group at baseline in each of the other three groups. Section 6 indicates that this is indeed the case. The second assumption implies that the TIGER project is unrelated to the likelihood of being in the treatment group (unconfoundedness). Or else, children's enrolment in the treatment group post-intervention is not influenced by the TIGER project. This can be assured by the fact that children post-intervention were already enrolled in grades 1 to 3 in those schools under study. We are not aware of any negative or positive selection of children in the treatment schools because of the TIGER project. Further, we can argue that the third assumption, the Stable Unit Treatment Value Assumption (SUTVA), was not violated. This assumption implies the absence of spill over effects of the treatment from Battambang to Svay Rieng province. We argue that the SUTVA holds, because the TIGER project does not involve tangible didactic materials or assets that can be easily shared among children. Children from treated schools cannot influence children from control schools, or reversed. Moreover, TIGER only happened in Battambang province, and teachers in Svay Rieng were not aware of it, nor could they enrol in the trainings. This was confirmed by our questionnaire and interviews. Fourth, we assume that the characteristics upon which the matching analysis is based are not affected by the treatment. This can be guaranteed by only including particular child characteristics. This study includes gender, age, mother can read, or father can read, and household wealth. We also included dummies for grade in the list of matching variables as to look for appropriate matches within the same grade of primary or lower secondary education.

Finally, an important caveat is in place, namely: there were school closures due to the global COVID-19 pandemic in Cambodia on 16 March 2020. By the time of data collection in October 2020, students only attended school again for several weeks. There may be a significant impact of school closures on

teachers and students. We account for the potential impact of the school closures on our results regarding students' reporting of SRGBV in several ways. First, we have included questions in the questionnaire dealing with the way how teachers could still reach their students during the school closures. In a similar way we asked the students how frequently they could still visit school or participate at home in lectures. We use these variables as control variables in the multivariate regressions. Second, school closures struck all schools over the whole country of Cambodia. There is no reason to believe that school closures would have affected schools in Battambang province differently than those schools in Svay Rieng province. Both provinces relied on a nationwide decision of the government to close and reopen the schools. Using a research design that compares outcomes of teachers and children in Battambang with Svay Rieng province over time, should then allow us to control for the impact of the school closures by using the variable T_{is}. In Section 7, we further discuss the influence of the COVID-19 pandemic and argue the robustness of our results.

5. Data

5.1. Procedure

This study relies on a structured questionnaire taken from children in the participating schools. We followed the ethical guidelines for research. First of all, this study was approved by the Ministry of Education Youth and Sports (MoYES) in Cambodia. They carefully checked the ethical code of conduct of the research and gave written approval to proceed with this study. All children were informed on the research purposes and goals by an independent interviewer who asked the questions, clarified difficult questions, and who filled in the questionnaire for them. Children were taken out of the classroom to a place where they could freely discuss the questions with the interviewer. A social worker was available to the children who needed to talk about their feelings after having finished the interview. Then again, the children voluntary participated in this study. Children could stop the interview at any time. We were given informed consent by the participating schools and the Ministry of Education Youth and Sports to anonymously process the data of the children as part of the research.

5.2. Composition of the sample

For the construction of the student sample, we have stratified the data collection by gender, meaning that the pre- and post-intervention samples consists of 50% boys and 50% girls. Further, we stratified by primary education (grade 4 to 6) and lower secondary education (grade 7 to 9). We drew a sample

of 30 students (15 girls and 15 boys) in each of the 40 schools participating in either the treatment group or the comparison group. To this end, the school leader selected three classes in the school, or one class per grade. Every student in that selected class received a unique number, and the numbers were then put in a box. Five numbers for girls and 5 numbers for boys were blindly picked from the box. This procedure guarantees a representative sample of children for the participating schools under study.

Table 1: Total sample size (N=2,333) by study phase

	Baseline study	**Post-intervention study**
Comparison group: Svay Rieng province	595	590
Treatment group: Battambang province	575	573
Total	1,170	1,163

We collected cross-sectional data of 1,194 students[2] at baseline in December 2018 and 1,207 students at post-intervention in October 2020. The data is cross-sectional, because the pre- and post-intervention study comprises of different children. Data were collected using a structured questionnaire and an interviewer asking the questions to the students. But we drop the information of 68 observations. These students are either very old for being in lower secondary education (i.e. 55 students are aged beyond 16), or very young for being in the final three years of primary education (i.e. 13 students are aged 8 and below). Especially Battambang province proved to have a relatively high share of old students in the sample, as compared to Svay Rieng province. Dropping these observations from the total sample appeared to improve the overall matching quality too, between treated and untreated students (see Section 6.3). Table 1 summarizes the number of students (N=2,333) included in the final sample.

5.3. Qualitative data

We have also done several interviews with key informants, like parents and school leaders, at baseline and post-intervention. The interviews were guided by an open-ended questionnaire. Results from the baseline study were summarized in Cabus et al. (2019). Besides parents and school-leaders, we also did several interviews with implementing NGO partners, government officers, and CSOs in order to

[2] We lost 20 potential respondents, mainly in the CSO schools from Battambang province during the baseline study. The main reason for losing these respondents was due to organizational issues. The CSO schools from Battambang province are situated in remote areas, and the schools were not sufficiently informed about the timing of our research visit. Consequently, some teachers were not present or not sufficiently prepared. We could avoid these issues in the post-intervention period.

better understand the results of the impact analysis. There were also two focus group discussions with 10 parents in each (5 men, 5 women) in Battambang and Svay Rieng provinces. In Battambang, two group discussions with parents and two other group discussions were organized among students at a primary school and a lower secondary school in Svay Rieng. All interviews took place in the Khmer language and have been translated by the Cambodian researcher.

6. Descriptive statistics

6.1. Demographic Characteristics

In Table 2, we present the descriptive statistics of the student sample of the treatment and the comparison groups across time. The average student in the provinces under study in primary education is 11-year-old. Regarding secondary education, the average student in Battambang province is 14-year-old, about a half year older than in Svay Rieng province. As such, there are small but significant difference in age between Battambang and Svay Rieng provinces.

Whereas we departed from a 1-to-1 boy-girl ratio for data collection, the corresponding figures indicate that about 1 in every two students is female. There is no significant difference in this respect between Svay Rieng and Battambang provinces.

About one in every three students in primary education indicates that their mother is illiterate. This figure drops for fathers to less than one in every five students. For primary education, there are no significant differences between Battambang and Svay Rieng in this respect. But we do observe significant differences in literacy rates in lower secondary education. Especially students in Battambang have higher rates of mothers and fathers that cannot read, compared to students in Svay Rieng, but this only holds true in the post-intervention study. Regarding the variable household wealth, we have more students in Battambang province that report a lower socioeconomic status than their counterparts in Svay Rieng province. The observed difference between the two provinces is again small.

Table 2: Descriptive statistics of the student sample (N=2,333)

	Time = 0 (2018)							Time = 1 (2020)						
	Comparison group			Treatment Group				Comparison group			Treatment Group			
Primary education	Obs.	Mean	Std.Dev.	Obs.	Mean	Std.Dev.	Diff.	Obs.	Mean	Std.Dev.	Obs.	Mean	Std.Dev.	Diff.
female	297	0.495	0.501	376	0.511	0.501		300	0.503	0.501	375	0.515	0.500	
age	297	11.1	1.3	376	11.4	1.4	***	300	11.5	1.3	375	12.0	1.3	***
grade	297	5	1	376	5	1	**	300	5	1	375	5	1	
m_literacy	297	0.744	0.437	376	0.718	0.451		300	0.743	0.438	375	0.693	0.462	
f_literacy	297	0.842	0.366	376	0.846	0.362		300	0.827	0.379	375	0.765	0.424	
p_household	297	3.1	0.7	376	2.9	0.8	***	300	3.0	0.4	375	2.8	0.6	***
Secondary education														
female	298	0.503	0.501	199	0.518	0.501		290	0.507	0.501	198	0.490	0.501	
age	298	13.6	1.2	199	14.2	1.2	***	290	14.1	1.2	198	14.7	1.1	***
grade	298	8	1	199	8	1		290	8	1	198	8	1	
m_literacy	298	0.745	0.437	199	0.688	0.464		290	0.745	0.437	198	0.667	0.473	*
f_literacy	298	0.889	0.314	199	0.844	0.364		290	0.890	0.314	198	0.823	0.382	**
p_household	298	3.2	0.6	199	3.0	0.6	***	290	3.3	0.5	198	3.0	0.4	***

* Significant differences between the treatment and the comparison group at 1%-level (***); 5%-level (**); and 10%-level (*).

Table 3: Descriptive statistics of the student sample with application of propensity score matching (N= 2,332)

	Time = 0 (2018)							Time = 1 (2020)						
	Comparison group			Treatment group				Comparison group			Treatment group			
Primary education	Obs.	Mean	Std.Dev.	Obs.	Mean	Std.Dev.	Diff.	Obs.	Mean	Std.Dev.	Obs.	Mean	Std.Dev.	Diff.
female	297	0.494	0.501	376	0.511	0.501		300	0.493	0.501	374	0.522	0.500	
age	297	11.4	1.4	376	11.4	1.4		300	11.3	1.2	374	11.4	1.3	
grade	297	5	1	376	5	1		300	5	1	374	5	1	
mother can read	297	0.706	0.456	376	0.718	0.451		300	0.698	0.460	374	0.707	0.456	
father can read	297	0.807	0.396	376	0.846	0.362		300	0.818	0.386	374	0.818	0.386	
household wealth	297	2.9	0.7	376	2.9	0.8		300	2.8	0.5	374	2.8	0.6	
Secondary education														
female	298	0.515	0.501	199	0.518	0.501		289	0.519	0.501	198	0.489	0.501	
age	298	14.0	1.2	199	14.2	1.2		289	14.2	1.1	198	14.2	1.2	
grade	298	8	1	199	8	1		289	8	1	198	8	1	
mother can read	298	0.714	0.453	199	0.688	0.464		289	0.741	0.439	198	0.649	0.479	**
father can read	298	0.871	0.336	199	0.844	0.364		289	0.890	0.313	198	0.876	0.331	
household wealth	298	3.0	0.6	199	3.0	0.6		289	3.1	0.5	198	3.0	0.4	

* Significant differences between the treatment and the comparison group at 5%-level (**).

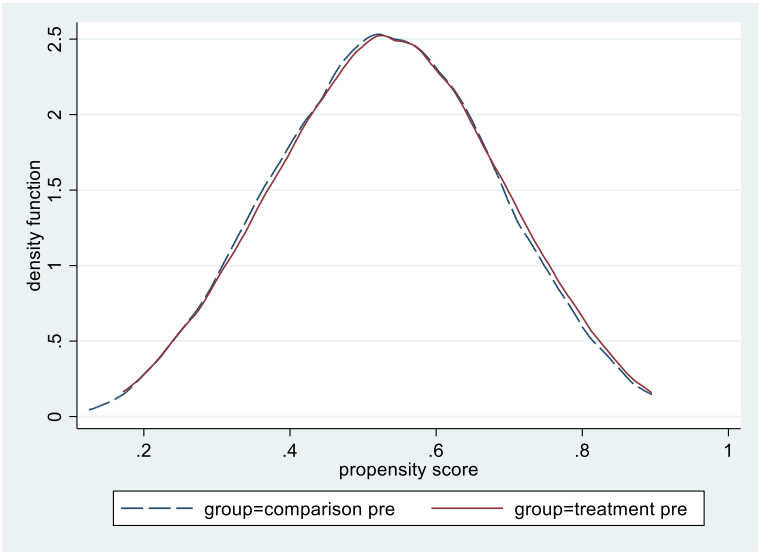
6.2. Matching analysis

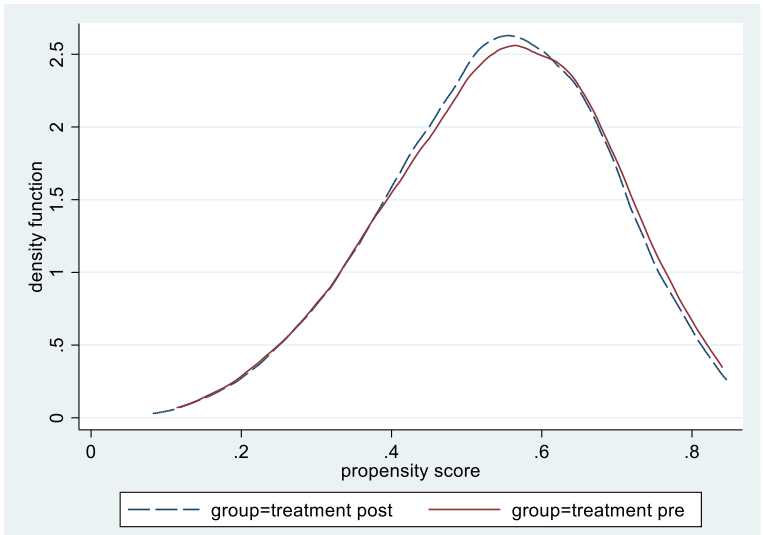
We perform a matching analysis between the children from the treatment and the comparison groups across time to overcome significant differences in the observed pre-treatment characteristics (Section 6.1). We create weights using Kernel matching[3] for the comparison group pre- and post-intervention, and for the treatment group post-intervention, as to resemble the students from the treatment group included in the baseline study (Section 4).

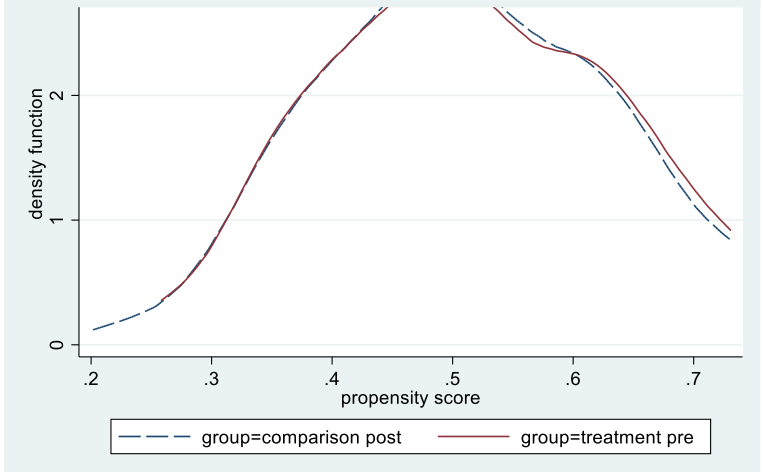
Table 3 indicates that the matching analysis is successful in making the treatment and comparison group comparable on the observed characteristics. There are no longer significant differences between Svay Rieng and Battambang provinces at 5%-level. Only one student drops from the sample (treatment group, post-intervention) due to issues with common support. There is indeed a strong overlap in the propensity scores (Figure 2), which supports the assumption on common support. The total sample size for the impact evaluation is then (N=2,332).

[3] We have used the epanechnikov kernel function with a bandwidth 0.06 and with enforcement of a common support. Due to the fair overlap of the propensity scores, we did not trim the observations in the tails.

Figure 2: Overlap in the propensity scores







6.3. Outcome variables

The outcome variables are an indication of students' school-related experiences with emotional abuse, physical violence and/or sexual harassment.

- Scale of emotional abuse (by teacher): *During this school year, how often did a teacher discipline you by: Making you do chores (E.g.: pick up rubbish, water flowers, clean the classroom or toilets); Making you stand in the front of the classroom or run rounds on the school ground; Deducting marks from your tests or homework; Collecting a fine from you or making you buy things; Shouting or cursing at you, calling you names like "monkey" or "cow" or laughing at you*.
- Scale of physical violence (by teacher): *During this school year, how often did a teacher discipline you by: Making you hurt yourself (E.g.: hit your knuckles on the table, make you stand on one leg for a long time); Hurting you (E.g.: pull your ears, hit you with hand, ruler, stick, rolled up paper).*
- Scale of sexual harassment (perpetrator can be anyone): *How often did someone say things to you or show you images that were related to sex that you did not like? How often did someone try to touch a part of your body that you do not like to be touched on?*

Respondents could answer on each of these questions related to the scales on a 5-point Likert scale that assess the forms of discipline as 'never'; 'seldom'; 'sometimes; 'often'; or 'very often'. The averages on the underlying questions yield then three scales for emotional, physical, and sexual harassment, respectively.

In the pre-intervention period, the average ratings of the students regarding the scale of emotional abuse are close to 1.4 on the 5-point Likert scale. The averages of Battambang and Svay Rieng provinces are not significantly different. Then again, the average on the scale on physical violence is higher in Battambang province (1.6 on the 5-point Likert scale) than in Svay Rieng province (1.4 on the 5-point Likert scale) in the pre-intervention study. The difference is significant at 1%-level. And with regard to the scale of sexual harassment, we observe that, before TIGER took place, students in Svay Rieng province (1.3 on the 5-point Likert scale) more frequently reported

on sexual harassment than students in Battambang province (1.2 on the 5-point Likert scale). The difference between the two provinces is significant at 1%-level.

6.4. School closures due to COVID-19

We have asked students in the questionnaire whether they frequently have visited the schools during the school closures due to COVID-19 (Table 4). In Battambang province, fewer students went to visit the school, with an average of 1.6 times per week, than in Svay Rieng province, where we calculated an average of 2.6 times per week. We have additionally asked about the hours per day students spent on following lectures from their teachers. This corresponds, on average, to 1 hour and 30 minutes per day in Battambang province and 1 hour and 45 minutes in Svay Rieng province. There is a significant difference between the two provinces of 15 minutes.

Table 4: Visits to school and hours per day spent on lectures during school closures due to COVID-19 (year 2020)

	Comparison group				Treatment group				
	Obs	Mean	Std. Dev.	Median	Obs	Mean	Std. Dev.	Median	Diff.
Visits to school	589	2.6	0.9	3	573	1.6	1.0	1	***
Hours per day	589	1.8	1.1	2	573	1.5	1.5	1	***

* Statistics calculated using the weights from the propensity score matching. Significant differences between the treatment and the comparison group at 1%-level (***); 5%-level (**); and 10%-level (*).

Besides the beneficial features of the chosen empirical strategy (Section 4), these two variables, visit to school and hours spent on following lectures from their teachers, will additionally be used as to account for effects of school closures due to COVID-19.

7. Effects of TIGER on students

Table 5 presents the estimated effectiveness of the TIGER project. Full model estimates are given in appendix A of this paper. We estimate four models in total, each adding more control variables to the regression, and applying the weights constructed from the propensity score matching. In Model 1, we present the results without adding control variables. Then, in Model 2, we add the demographic characteristics of the students. Model 3 further accounts for 'corona-effects' by adding variables on teaching methods used during the school closures. Model 4 adds two

variables, namely: the indicator primary vs. secondary education (short: educational level) and the grade wherein the students are at the moment of filling in the questionnaire. Further, Model 4 presents the effectiveness of the TIGER project for primary and lower secondary schools separately.

Table 5: Summary of the impact of the TIGER project on students' ratings of experiencing emotional abuse, physical violence and sexual harassment

	Model 1		Model 2		Model 3		Model 4		Effect size
Students that report emotional abuse									
Primary & secondary schools ($\hat{\theta}_0$) (N=2,332)	-0.090	**	-0.090	**	-0.100	**	-0.097	***	-0.123
	(0.037)		(0.037)		(0.043)		(0.029)		
Primary schools only ($\hat{\theta}_0$) (N=1,348)							-0.113	*	-0.143
							(0.060)		
Secondary schools only ($\hat{\theta}_0$) (N=984)							0.006		0.008
							(0.048)		
Students that report physical violence									
Primary & secondary schools ($\hat{\theta}_0$) (N=2,332)	-0.195	***	-0.191	***	-0.245	***	-0.254	***	-0.195
	(0.048)		(0.047)		(0.061)		(0.046)		
Primary schools only ($\hat{\theta}_0$) (N=1,348)							-0.277	***	-0.203
							(0.075)		
Secondary schools only ($\hat{\theta}_0$) (N=984)							-0.101		-0.088
							(0.110)		
Students that report sexual harassment									
Primary & secondary schools ($\hat{\theta}_0$) (N=2,332)	-0.253	***	-0.251	***	-0.249	***	-0.255	***	-0.311
	(0.034)		(0.033)		(0.041)		(0.043)		
Primary schools only ($\hat{\theta}_0$) (N=1,348)							-0.310	***	-0.354
							(0.053)		
Secondary schools only ($\hat{\theta}_0$) (N=984)							-0.102	**	-0.146
							(0.047)		
Specifications									
Control variables	No		Yes		Yes		Yes		Yes
Corona-effects	No		No		Yes		Yes		Yes
Educational level and grade	No		No		No		Yes		Yes
#Schools	40		40		40		40		40

* This table reports only the estimated interaction effect. Full model estimates can be found in Appendix A. All models apply weights from the propensity score matching. Significance at 1%-level (***); 5%-level (**); and 10%-level (*).

Looking at the estimates of primary and lower secondary schools together, we observe a small but significant impact of the TIGER project on the reporting of emotional and physical violence, and a small to moderate significant impact on the reporting of sexual harassment. The estimated effects are robust to including control variables across the four models, which is in favour of the

chosen empirical strategy. Then again, the estimates are primarily driven by students in primary education. The estimates for only lower secondary schools are almost never significant except for the outcome variable sexual harassment.

Further looking at full model estimates in appendix A, we find that over time (post- vs. pre-intervention for both the treatment and the comparison group) the ratings dropped significantly in all four models. The estimated coefficient for the variable time is in effect size larger than the estimated impact of TIGER on the student outcomes. In other words, school closures due to COVID-19 significantly decreased the students' ratings of experiencing emotional, physical or sexual harassment in both provinces under study. Whereas the questions on these different forms of negative discipline were primarily related to the teacher-child relationship, it is not surprising that, upon changing the context for teaching and learning from (less frequently at) school to (more frequently at) home, children less frequently report on experiencing SRGBV in and around schools. At the point in time the questionnaires were taken in 2020, schools were open again for several weeks.

Another conclusion from appendix A deals with the observation that female students report less than male students on the experience of emotional abuse and physical violence. We also observe in appendix A that female students equally report on sexual harassment than male students (Model 4). One possible explanation taken from the World Bank could be that, during the school closures due to COVID-19 pandemic, female students more often disengaged from school as compared to their male counterparts in order to help their parents with tasks in the household. It is indeed suggested by the World Bank that the impact of the COVID-19 pandemic is not 'gender neutral'.[4] Even though we cannot provide hard evidence on this, the answers to the questionnaire regarding the 'time spent on following lectures and homework during school closures', does not support this hypothesis. In fact, it appears that female students in primary schools post-intervention significantly spent more time on following lessons and homework than male students.

[4] Source: https://www.worldbank.org/en/topic/gender/brief/gender-and-covid-19-coronavirus

For lower secondary education, male and female students were equally likely to spend time on lessons and homework.

It can also be the case that physical violence from the teacher against male students is more tolerated in the Cambodian community than against girls. At baseline, we estimated that 45% of teachers agreed with the statement that boys and girls should be treated differently for the same misbehaviour. An interview with a parent further indicated that *"male students make more serious mistakes than female students. Sons and daughters cannot be treated similarly; daughters are more gentle, punctual and hardworking* ([Blinded for Review])*."* While this points out that teachers tend to punish boys harder than girls in Cambodia, it may also be that female students feel more barriers to accurately report on SRGBV than male students. In previous literature, gender differences were observed regarding perceived barriers to disclosing and reporting violence. For example, women experience a heavier dependence on the perpetrator than men, or they are afraid that the perpetrator would get punished (Sable, 2006; Andersson et al. 2010).

Finally, it appears from appendix A that the literacy rate of the father is a determinant of reporting physical violence. This is not observed for the mothers. Children from illiterate fathers are more likely to report physical violence. The relationship between literacy father and students' ratings of physical violence is significant but the coefficient is rather small. Previous literature also indicated that education of the father is an important predictor of abuse towards children by teachers (Chisamya et al., 2012). Ba-Saddik et al. (2012, p.7) argues in this respect that *"Children of* [families with low education level] *usually witness violence at home, which negatively influence their behavior at school and make them at higher risks of abuse. The findings of our study indicate that the higher education level of fathers play a protective role against child abuse at school."* We did not collect additional evidence on the home context, however, to fully proof that this suggestion also holds for our sample of students.

8. Further exploring the results

We departed in the previous section from the assumption that *all teachers* in the post-intervention period in the treated schools of Battambang province participated in the TIGER project. This assumption is not that unlikely, because all teachers in the CSO schools of Battambang province

were eligible to participate in the TIGER project. In fact, school leaders invited the teachers to participate in the training. Participation was voluntary, and in the end not all invited teachers will have participated in the project. Therefore, we account for heterogeneity in 'treatment intensity' at school-level, or differences in the participation rates of teachers and school leaders in the TIGER project.

From the number of invitees to the activities of the TIGER project, and the number of participants that attended these activities, we are able to calculate a participation rate at school-level. We cluster schools with relatively high (≥95%), moderate (75 to 94%) and low (<75%) participation rates. We observe that primary schools do not have low participation rates, and only four schools have moderate participation rates. All other 9 primary schools have high participation rates. There are two lower secondary schools with relatively low participation rates, three schools with moderate participation rates, and two schools with high participation rates.

The results accounting for differences in the participation rates, referred to as differences in school-level treatment intensity, are summarized in Table 6. The effects of the TIGER project across schools with low-, medium-, and high treatment intensities can be compared to the comparison group (no treatment) and the baseline study.

Table 6: Differences in participation rates in the TIGER project and its impact on students' ratings of experiencing emotional abuse, physical violence and sexual harassment

	Low		Moderate		High	
Primary schools only (N=1,348)						
Students that report emotional abuse ($\hat{\theta}_0$)	n.a.		-0.078		-0.131	**
Robust SE			(0.063)		(0.060)	
Effect size			-0.063		-0.145	
Students that report physical violence ($\hat{\theta}_0$)	n.a.		-0.133		-0.329	***
Robust SE			(0.061)		(0.091)	
Effect size			-0.085		-0.210	
Students that report sexual harassment ($\hat{\theta}_0$)	n.a.		-0.335	***	-0.290	***
Robust SE			(0.042)		(0.058)	
Effect size			-0.249		-0.289	
Secondary schools only (N=984)						
Students that report emotional abuse ($\hat{\theta}_0$)	0.095		-0.042		-0.048	
Robust SE	(0.099)		(0.052)		(0.037)	
Effect size	0.084		-0.019		-0.043	
Students that report physical violence ($\hat{\theta}_0$)	0.056		-0.168		-0.159	
Robust SE	(0.123)		(0.092)		(0.084)	
Effect size	0.026		-0.098		-0.089	
Students that report sexual harassment ($\hat{\theta}_0$)	-0.096	***	-0.076		-0.140	***
Robust SE	(0.031)		(0.069)		(0.032)	
Effect size	-0.077		-0.065		-0.129	
Specifications						
Control variables	Yes		Yes		Yes	
Corona-effects	Yes		Yes		Yes	
Educational level and grade	Yes		Yes		Yes	
#Schools	40		40		40	

All models apply weights from the propensity score matching. Significance at 1%-level (***); 5%-level (**); and 10%-level (*).

First, we look at the results for the primary schools only. The highest impact on student ratings regarding SRGBV are found for the primary schools in the TIGER project with high participation rates. Moderate and high participation rates of teachers in primary schools in the TIGER project are also significantly associated with decreased reporting on sexual harassment. The overall finding, the more TIGER, the better the results at the level of the students, are intuitive and strengthen our conclusions that the TIGER project decreased the student ratings regarding SRGBV.

Regarding lower secondary education, we can only retain small but significant effects of the TIGER project on sexual harassment. For emotional and physical violence, we find no significant effects across the different treatment intensities.

We further explored the question why we observe a significant impact on emotional or physical violence in primary schools as opposed to lower secondary schools. An answer to this question is drawn from the qualitative data collected in October 2020. We depart from an interview with a trained teacher from a lower secondary school. He mentions that they are gradually implementing the concept of gender equity, for example, by mixing female and male students in groups for teaching or homework. However, as compared to the situation before the TIGER project, the teacher observes no changes in his school regarding violence or sexual harassment. In fact, it is argued by the teacher that female and male students are equally safe at his school from any form of child abuse, and that sexual harassment only happens in the community (beyond school), and not in the school itself.

This interview seems contradictory to the estimated significant effects of TIGER on sexual harassment both in lower secondary schools and primary schools. But the way we formulated the question allows sexual harassment to be committed 'by any perpetrator'. As such, the perpetrator could also be someone of the family or community; as is indicated in the interview with a teacher above.

The fact that TIGER decreased sexual harassment significantly, nourishes the assumption that students, their parents, and the community at large, were reached through TIGER. An interview with a PKO representative confirms.

> *"[…] we had organized campaigns to call people, parents, and students to attend meetings and discuss school-related gender-based violence. [Further,] we broadcasted on the radio and our listeners were the parents of the students and all the teachers who had a vague understanding of gender, they turned on the radio and listened. We also used Facebook. If anyone was wondering if they could find lessons and projects of TIGER, they could find them on Facebook."*

The focus group discussions also confirm that parents from primary schools were familiar with the TIGER project. Parents argued that trained teachers use their knowledge to educate students and parents in the community. Parents further said that in the classroom teachers divided, for example, the clean-up, or the discussion groups on (homework) tasks, equally between female and male students. Girls and boys were sitting next to each other instead of sitting only next to the own sex.

The equal divide of tasks between male and female children is also found in lower secondary schools. An interview with a school leader from a lower secondary school in Battambang, indicates that lessons on gender equity and gender-based violence were learned, however, sometimes they were difficult to implement in teaching. They also departed from mixed-gender groups for lecturing or homework.

> *"And we divided them into group discussion using the lessons to be discussed. Before, they dared not to sit next to each other, but, after a while, […] their mind-sets have been changed and their attitudes could be accepted, the attitude of men and women."*

However, when we asked to reflect upon changes in violence at school, the answer of the same school leader indicates that performing emotional abuse is still present because it was felt as "necessary" for students to comply with teachers' demands. The perception that physical violence is needed to make students perform better, have been confirmed, too, in other studies (e.g. Vanner, 2018, for Kenya). We have read similar findings in the interviews with CSO representatives in Battambang province.

A representative from KAPE further argued that they were financially constrained in the distribution of copies of the Action Guide. He argued that this could possibly have contributed to the problem of attracting enough teachers into the TIGER project, and it could potentially have played a larger role in lower secondary schools.

Other threats mentioned deal with the school closures due to the COVID-19 pandemic. A PKO representative argued that COVID-19 made the implementation progress slow(er) in the final year of TIGER. For example, students had to study in small groups of 5 to 10 persons, had to follow

online, or did not receive full time lessons as foreseen, which made it more difficult to implement strategies learned from the TIGER project. But the PKO representative also argued that some online group discussions were as effective as face-to-face. Then again, the school closures affected both Svay Rieng and Battambang provinces, which hamper the conclusions that COVID-19 impacted lower secondary schools differently than primary schools.

It is concluded from these interviews with key informants, that TIGER led to incremental changes in daily teaching practices (or instruction), while, at the same time, successfully reaching out to parents and the local communities. The fact that the estimated effects for primary and lower secondary schools were different, involve implementation issues on how to actively reach (and engage) those teachers in TIGER. However, it may also be due to the fact that TIGER only recently came to an end. A TEC representative from Battambang said that it is indeed an ambitious goal to establish a centre of excellence in creating a gender-responsive learning environment for all children within the given timespan. This goal was formulated as an overall long-term objective in the theory of change underlying TIGER. All interviewees agreed, however, that progress towards this overall objective was made, and that they would further engage in the TIGER project if it would run additional years.

9. Conclusion

We observe small significant transfer effects in primary schools owing to the TIGER project on all three student outcomes: emotional abuse, physical violence, and sexual harassment. Based on the work of Desimone (2009), we reason that knowledge gains on SRGBV among teachers (and other school staff) can lead to (moderate to small) changes in attitudes and instruction through which students are influenced. Our findings are also in line with Parkes et al. (2016), saying that directly working with teachers, and fostering the dialogue between trained teachers and their students, for example, through hands-on strategies learned in the TIGER project, can be an effective approach to tackle SRGBV.

All of this holds true for students in primary schools, however, not (so much) for lower secondary schools. The impact of the TIGER project on students from lower secondary schools was limited to reducing sexual harassment. While we observe changes in attitudes and beliefs among trained

teachers in both primary and lower secondary schools in the study of Cabus et al. (2021), and while we observe incremental changes in instruction, or the implementation of lessons learned on tackling SRGBV in daily teaching practices, the effects on students differ between primary and lower secondary schools. From qualitative and registration data it seems that teachers from lower secondary schools were less engaged in (or attracted to) following all TPD initiatives than teachers from the primary schools. Teacher engagement is prerequisite of effective TPD (Merchie et al., 2018). Teacher engagement – to induce changes in instruction – then becomes key of creating a gender-responsive and violence-free learning environment for students.

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2. Appendix a: Full model estimates

Table A.1 Full model estimates regarding the scale of experiencing emotional abuse

	Model 1		Model 2		Model 3		Model 4	
DiD indicators								
Time: T	-0.151	***	-0.152	***	-0.174	***	-0.173	***
	(0.034)		(0.034)		(0.044)		(0.036)	
Treated: D	0.037		0.038		0.038		0.038	**
	(0.036)		(0.037)		(0.037)		(0.019)	
Impact: DxT	-0.090	**	-0.090	**	-0.100	**	-0.097	***
	(0.037)		(0.037)		(0.043)		(0.029)	
Child characteristics								
female			-0.089	***	-0.086	***	-0.087	***
			(0.016)		(0.016)		(0.014)	
age			0.006		0.006		0.005	
			(0.005)		(0.005)		(0.007)	
mother can read			-0.004		-0.004		-0.004	
			(0.017)		(0.017)		(0.015)	
father can read			0.011		0.011		0.011	
			(0.025)		(0.024)		(0.019)	
household wealth			-0.010		-0.009		-0.010	
			(0.015)		(0.015)		(0.011)	
visits to school					0.016		0.015	
					(0.010)		(0.010)	
hours per day					-0.011		-0.010	
					(0.012)		(0.010)	
Educational variables								
primary vs. Secondary							0.139	
							(0.378)	
grade								
5							-0.037	*
							(0.021)	
6							-0.025	
							(0.025)	
7							0.111	
							(0.378)	
8							0.191	
							(0.378)	
9							0.096	
							(0.378)	
constant	1.334	***	1.328	***	1.322	***	1.214	***
	(0.031)		(0.100)		(0.099)		(0.393)	

Table A.2 Full model estimates regarding the scale of experiencing physical violence

	Model 1		Model 2		Model 3		Model 4	
DiD indicators								
Time: T	-0.227	***	-0.222	***	-0.314	***	-0.325	***
	(0.040)		(0.040)		(0.072)		(0.059)	
Treated: D	0.122	**	0.128	**	0.128	**	0.127	***
	(0.060)		(0.056)		(0.056)		(0.031)	
Impact: DxT	-0.195	***	-0.191	***	-0.245	***	-0.254	***
	(0.048)		(0.047)		(0.061)		(0.046)	
Child characteristics								
female			-0.227	***	-0.224	***	-0.217	***
			(0.026)		(0.026)		(0.022)	
age			-0.018	**	-0.019	**	0.005	
			(0.009)		(0.008)		(0.011)	
mother can read			-0.002		-0.002		0.001	
			(0.028)		(0.028)		(0.025)	
father can read			-0.060		-0.061		-0.053	*
			(0.044)		(0.043)		(0.031)	
household wealth			0.010		0.011		0.020	
			(0.021)		(0.022)		(0.018)	
visits to school					0.040		0.040	**
					(0.022)		(0.017)	
hours per day					-0.005		-0.001	
					(0.016)		(0.016)	
Educational variables								
primary vs. Secondary							0.120	
							(0.611)	
grade								
5							-0.099	***
							(0.034)	
6							-0.105	***
							(0.040)	
7							-0.022	
							(0.611)	
8							0.003	
							(0.610)	
9							-0.082	
							(0.611)	
constant	1.431	***	1.787	***	1.791	***	1.438	***
	(0.033)		(0.132)		(0.133)		(0.636)	

Table A.3 Full model estimates regarding the scale of experiencing sexual harassment

	Model 1		Model 2		Model 3		Model 4	
DiD indicators								
Time: T	-0.295	***	-0.293	***	-0.293	***	-0.302	***
	(0.032)		(0.031)		(0.041)		(0.045)	
Treated: D	-0.161	***	-0.160	***	-0.160	***	-0.160	***
	(0.034)		(0.033)		(0.033)		(0.032)	
Impact: DxT	-0.253	***	-0.251	***	-0.249	***	-0.255	***
	(0.034)		(0.033)		(0.041)		(0.043)	
Child characteristics								
female			-0.034	*	-0.033	*	-0.028	
			(0.017)		(0.017)		(0.018)	
age			-0.008		-0.008		0.008	
			(0.006)		(0.006)		(0.010)	
mother can read			-0.001		-0.001		0.002	
			(0.017)		(0.017)		(0.016)	
father can read			-0.012		-0.011		-0.006	
			(0.035)		(0.035)		(0.034)	
household wealth			0.017		0.017		0.023	
			(0.017)		(0.017)		(0.017)	
visits to school					0.004		0.005	
					(0.008)		(0.009)	
hours per day					-0.006		-0.003	
					(0.008)		(0.009)	
Educational variables								
primary vs. Secondary							0.027	
							(0.046)	
grade								
5							-0.069	**
							(0.032)	
6							-0.066	
							(0.043)	
7							-0.086	*
							(0.044)	
8							-0.051	
							(0.045)	
9							-0.110	**
							(0.042)	
constant	1.312	***	1.393	***	1.389	***	1.196	***
	(0.030)		(0.080)		(0.079)		(0.146)	

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