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What does SEA-PLM 2019 tell us about child well-being and learning in six Southeast Asian countries?

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Contents

SUMMARY

Governments across Southeast Asia have an opportunity to reshape their approach to education so that children and adolescents are equipped with the necessary academic and socio-emotional skills to live a rewarding life. The recent COVID-19 pandemic created an opportunity for governments and school systems to rethink how to approach children's learning and to create policies for more resilient and inclusive societies. This paper contributes to the evidence base by providing deeper insight into children's attitudes and values in well-being domains, and the relationship between children's well-being and academic learning in the region.[1] The study can inform policymakers and practitioners about the support that children and adolescents need to excel now and in the future, through quantitative analysis of the Southeast Asia Primary Learning Metrics (SEA-PLM) 2019 database, along with investigation of policy implications and promising practices.

Key findings and recommendations from this report are aligned with the conclusions of the SEA-PLM 2019 Main Regional Report (UNICEF & SEAMEO, 2020). They include:

- Higher reading, writing and mathematics scores are associated with:
    o a home environment that fosters learning through higher levels of parental engagement and access to books at home
    o positive feelings and attitudes towards school – having a sense of belonging, making friends with ease, feeling safe and learning useful things at school
    o opportunities to engage in physical activity in the community – in public gardens/parks and sports facilities
    o access to adequate water, sanitation and hygiene (WASH) facilities.

- Lower reading, writing and mathematics scores are associated with:
    o exposure to violence at school
    o involvement in work-related activities that hinder access to and engagement in learning (e.g., farm work, commercial activities and physical work)
    o lack of adequate nutrition.

- Children in all countries indicate significant interest in and concern about environmental issues, including climate change. There is a strong positive correlation in most countries between children's concern for environmental sustainability issues and learning performance.

This study recommends that government institutions work across sectors to strengthen the response to the pandemic and ensure the health, safety and well-being of children to maximize associated learning gains. Schools, parents and community members need to actively support children's development during this crucial stage of life through direct engagement and the establishment of supportive environments. By providing a platform for children's voices, researchers, caregivers and policymakers can tap into their perspectives, better attend to their needs, and truly develop child-friendly policies and programmes to support their learning and well-being.

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[1] For the remainder of this paper 'academic learning' and 'learning' are used interchangeably to refer to knowledge acquisition and skill development in reading, writing and mathematics.

INTRODUCTION

The link between a child's well-being and learning outcomes is mutually reinforcing and interconnected.[2] Studies have found that children with higher levels of emotional, behavioural and social well-being demonstrate higher levels of academic engagement and achievement (Gutman & Vorhaus, 2012). Other studies have shown that success in learning can enhance student well-being (Mosha, 2017). These well-being domains are critically important during the impressionable stage of early adolescence, when rapidly occurring physical, emotional and social changes affect children's well-being and learning.

The recent COVID-19 pandemic posed various risks and challenges to children: when disruptions shifted learning from schools to homes, millions of children were affected both socially and academically. Although addressing children's well-being has traditionally been a relatively low priority for most national education systems in the region, now more than ever policymakers across Southeast Asia are aware of the need to address children's well-being beyond academic performance. The school reopening agenda creates an opportunity to improve support for children's well-being in schools, which will be critical to recovering losses in learning and socio-emotional skill development in the short term and to strengthening approaches to these outcomes in the long term.

To better understand children's well-being and learning outcomes, this paper uses SEA-PLM 2019 – the first regional learning assessment in Southeast Asia. SEA-PLM 2019 covers Grade 5 students' learning outcomes in reading, writing and mathematics in six participating countries: Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Viet Nam. Its findings are published in the SEA-PLM 2019 Main Regional Report (UNICEF & SEAMEO, 2020) and SEA-PLM 2019 Latest Evidence in Basic Education: Boys' and Girls' Learning in 6 Southeast Asian Countries (UNICEF, 2021a).

This paper delves deeper into the SEA-PLM 2019 database, relying on quantitative methods to examine the links between children's well-being and their learning outcomes in the participating countries. The SEA-PLM 2019 contextual questionnaire was collected prior to the COVID-19 pandemic. It is not explicitly designed to measure children's well-being (as conceptualized below), but a strong advantage of the data collected is that it includes children's own perspectives on some of the main issues and topics related to well-being. This is an important consideration, as most of the findings included in this report reflect children's voices. Research that includes the voices of children can provide direct insight into their worlds and perspectives, thus better informing national and school policies and practices that are in the best interests of children.

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[2] Existing frameworks in the Asia-Pacific region, such as UNESCO's 'Happy Schools', also capture associations between well-being and learning (UNESCO, 2016).2

Figure 1: The connection between well-being and learning
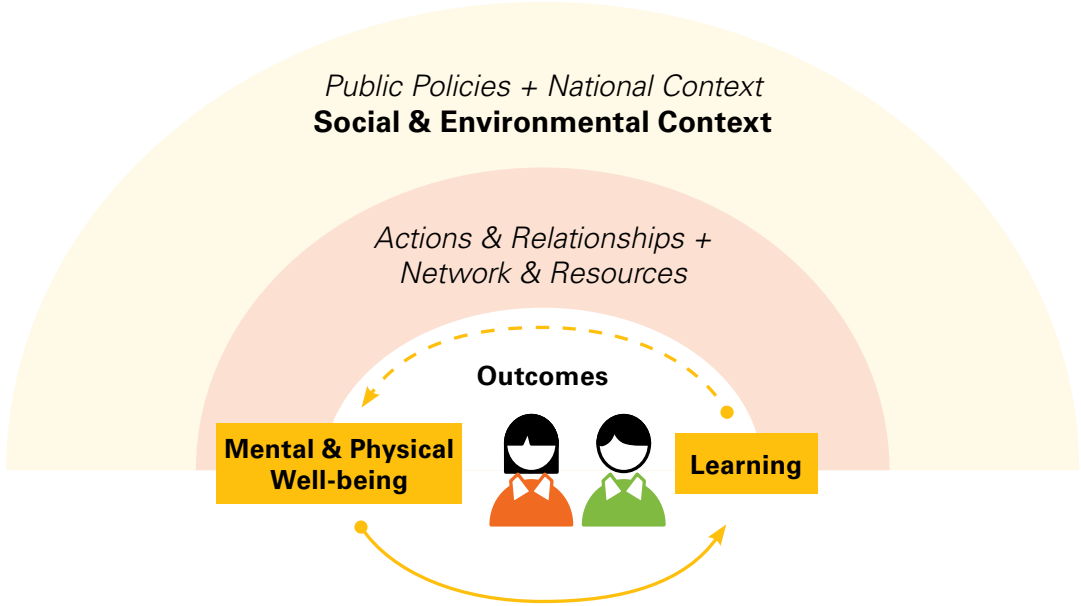
Adopting a similar approach to the conceptualization of children's well-being in UNICEF Innocenti's Report Card 16 (2020), this analysis considers that a child's well-being is influenced by objective and subjective factors including: their own actions, experiences and relationships; the networks and resources of their caregivers; and public policies and national context. This paper recognizes that well-being and learning effects are bidirectional and influenced by multiple factors including the social and environmental context. However, the findings and discussion focus on the impact of well-being on learning. Also aligned with the 2020 Report Card, this analysis is guided by the 1989 United Nations Convention on the Rights of the Child and the child-related targets under the Sustainable Development Goals (SDGs), recognizing the responsibilities of governments, families and communities to help realize children's rights and promote their well-being (UNICEF Innocenti, 2020).

As shown in Figure 1, this paper takes a closer look at the relationship between well-being and learning across three key areas:
- mental well-being
- physical well-being
- social and environmental context.

Box 1: SEA-PLM 2019 – Data and methodology

SEA-PLM is a comparative learning assessment programme, designed by and for countries in Southeast Asia, to collect valid and reliable data on children's level of proficiency in three learning domains (reading, writing and mathematics) (see Appendix 1 for further information). The extensive information collected by SEA-PLM 2019 allows for analysis of the associations between children's characteristics and environment and their learning performance. The authors selected variables in the datasets that held potential to understand the link between children's well-being and academic achievement related to reading, writing and mathematics. Any identified associations included in this report are rooted in the existing international literature to gain a better understanding of the findings. Analysis of the outcomes is driven by policy interest, and data availability and validity.

The SEA-PLM 2019 contextual questionnaire and sampling frames at the national level do not cover all issues. For example, objective measures of children's mental and physical well-being employed in the existing literature – such as life satisfaction, happiness and anthropometric indicators – are not addressed. Moreover, factors such as bullying and violence are only measured at the school level, limiting the breakdown of results by direct and indirect exposure to these factors. Database constraints also limit the analysis of some marginalized populations of children, including children not enrolled in formal education, children enrolled in very remote locations, children with special needs, children from migrant backgrounds, and children from ethnic minorities.

Statistical estimates (means and differences, and linear regression predictors) are nationally representative of the generation of children enrolled at Grade 5 in formal education at the time of the data collection, as defined by each participating country under SEA-PLM technical standards. All statistical tests of significance between estimates are reported at the 95 per cent confidence level. The notes under the figures indicate where there are not statistically significant differences between groups. All regression analyses account for child gender, rural/urban location, socioeconomic status, and country of residence.

It should be noted that the discussion in this paper focuses on findings from the full/pooled sample. Unless otherwise noted, the associations discussed are statistically significant for the full sample as well as at individual country levels. Pooled and country-level regression results can be found in Appendix 1 and Appendix 2.

Area 1

MENTAL WELL-BEING AND LEARNING

Mental well-being encompasses a broader sense of positive functioning (UNICEF Innocenti, 2020). Good-quality relationships – via supportive families, peers and communities – and the ability to express one's opinions are significant predictors of children's happiness and life satisfaction (Mínguez, 2020; The Children's Society, 2013; UNICEF Innocenti, 2020). Previous literature suggests that these factors are also positively associated with learning. Research shows that when students are happy, their anxiety decreases, health is better, school attendance and performance improve, and relationships are easier (Seligman et al., 2009). Children with higher levels of mental well-being are, on average, more likely to have higher levels of academic achievement and to be more engaged in school (Gutman & Vorhaus, 2012). This paper recognizes that wider social networks, which a child may not directly experience, can affect their well-being (UNICEF Innocenti, 2020). However, given the SEA-PLM data availability, this analysis focuses on the child's perspective of immediate relationships (parent–child and peer-to-peer) that influence their development. Household and school environments that are favourable to learning also contribute to positive learning outcomes.

Based on the literature and data collected through the SEA-PLM 2019 survey, this section presents findings that address the relationship between mental well-being and learning. Specifically, it discusses findings around:

- the household environment, including parental engagement and at-home learning resources
- the social environment at school, including children's ability to make friends and express opinions, children's feelings, attitudes and safety, and violence at school.

Household environment

Parental engagement

Family has a strong influence on a child's development and academic success, and is also a key factor in their happiness (UNICEF, 2020).[3] Studies show that good-quality relationships between parents and children boost self-esteem, and increase children's motivation and engagement in school (Fan & Williams, 2010; Fan et al., 2011; Goodall & Montgomery, 2014). The 2015 Programme for International Student Assessment (PISA) yielded similar findings: students whose parents engaged in basic activities with their child, such as sharing a meal or talking together at least once a week, scored higher in the PISA science test and were more inclined to report high life satisfaction (OECD, 2018).[4] Children at risk of failure or poor performance can benefit from the extra support that involved parents provide – regardless of their income, education or occupation (Henderson & Mapp, 2002).

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[3] This paper views 'parental engagement' as a continuum between parents' (or guardians/primary caregivers') involvement with schools at one end and parents' participation with their child's learning at the other (Goodall & Montgomery, 2014). The analysis recognizes that parents may face barriers that prevent them from engaging with schools (what may commonly be known as 'parental involvement') but find ways to engage in their children's learning. Therefore, the focus is on the parent–child relationship.

[4] Four of the six SEA-PLM 2019 participating countries also participated in PISA 2015: Cambodia, Malaysia, the Philippines and Viet Nam.

Understanding parents' influence on well-being and learning is critically important when schools are operating as normal, but their role became substantially larger during the COVID-19 pandemic. In households where there is no access to technology, engaged parents can play a key role in continued learning at home (Brossard et al., 2020). Their encouragement and motivation during this time (and when schools are open) can benefit children academically, as described below.

In SEA-PLM 2019 participating countries, 46 per cent of children reported that their parents or guardians motivated them daily to succeed in school, but only one in three children said that their parents actively engaged daily in activities that foster learning at home – inquiring what they are learning at school, discussing schoolwork, and checking or helping with homework (see Table 1 in Appendix 2). Parental engagement in children's learning differed by country, with children in Viet Nam reporting the highest percentages in almost all forms of engagement compared with the other countries (see Table 7 in Appendix 3).

Analysis of the SEA-PLM 2019 data shows that parental engagement is dependent on socioeconomic status (SES) and parents' education levels. In all six participating countries, children from lower socioeconomic backgrounds (lower bottom SES quartile) reported lower levels of parental engagement than those from higher socioeconomic backgrounds (belonging to the upper SES quartile).[5] Children who had at least one parent with secondary education or higher were also more likely to have their parents involved in their education in all forms analysed in this section. Parents' educational expectations also play an important role in their level of engagement. SEA-PLM 2019 data show that parents from higher socioeconomic backgrounds were significantly more likely to expect their children to get more than a secondary education than those from lower socioeconomic backgrounds. Children (from all backgrounds) whose parents expected them to get more than a secondary education reported higher levels of parental involvement in all forms.

Figure 2: Learning scores by parental engagement in children's learning on a daily basis
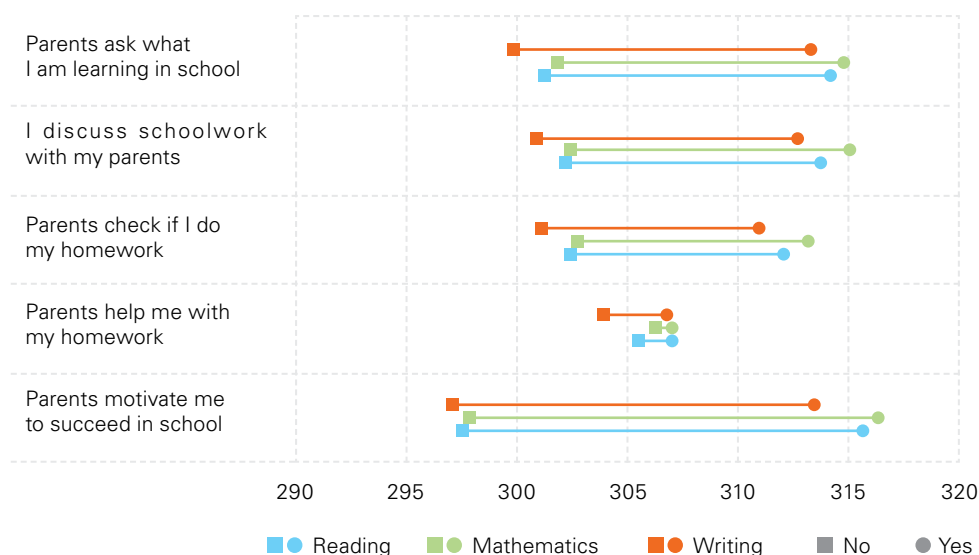
Note: At the country level, in Cambodia and Viet Nam there is a negative association between learning outcomes (in reading and mathematics) and parental help with homework. With respect to the other outcomes, the degree and significance of the associations reported may vary within individual countries; these country-level regression results can be found in Table 10 in Appendix 3.

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5   See Box 3.2 of SEA-PLM 2019 Main Regional Report for further details on how the SES index was constructed.

Figure 2 shows the relationship between parental engagement and children's learning outcomes. Across the six participating countries, children whose parents were engaged in their learning on a daily basis – by asking about what they are learning at school, discussing schoolwork, helping with homework and checking if homework is done – were significantly more likely to achieve higher scores in reading, writing and mathematics, notwithstanding parental education, socioeconomic status and child's gender (see Table 4 in Appendix 2).[6] Interestingly, the smallest differences in scores in all three learning domains were found between children who reported that their parents helped them with their homework daily and their peers who did not receive help from their parents with the same regularity.

Figure 2 also highlights the importance of parental motivation in learning. Children whose parents daily motivated them to succeed in school were significantly more likely to achieve higher scores than those who were rarely or not motivated by their parents. The association between this form of parental engagement and learning appears to create the largest learning gaps across the socioeconomic spectrum. This pattern is consistent across all three learning domains and the magnitude of the difference is substantial, ranging between 4 and 11 scale points at the country level (see Table 10 in Appendix 3).

Learning resources at home

Beyond direct engagement with their children, parents can support their children's learning with resources, such as by providing books at home, so they are able to actively engage in educational opportunities outside of school. To objectively measure household resources, the number of books a child has at home is often used. Previous studies suggest that a book-oriented environment can provide benefits to a child's current and future educational achievement, as well as occupational prospects (Dowd et al., 2017; Sikora et al., 2019). Furthermore, other research has shown that access to child-oriented books particularly plays a key role in children's learning, especially during school closures such as those experienced throughout the COVID-19 pandemic (Brossard et al., 2020). The SEA-PLM 2019 Main Regional Report highlights the influence of home background and resources on learning outcomes.

SEA-PLM 2019 data show that on average among participating countries, 67 per cent of children had no or few books at home. Children in rural areas and those from lower socioeconomic backgrounds were less likely to have access to books (see Table 1 in Appendix 2). Access to books also varies significantly by country: while only 25 per cent of children in Malaysia lacked books at home, 90 per cent of children in Cambodia had little to no access to those resources at home (see Table 7 in Appendix 3).

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6   As mentioned in Box 1, all regression analyses account for children's gender, rural/urban location, socioeconomic status and country of residence. The results are also significant after controlling for parental education. Further heterogeneity tests suggest that these results do not differ by gender or socioeconomic status, except for parental motivation. Children from high socioeconomic backgrounds whose parents motivate them to succeed in school achieved significantly higher scores than children from low socioeconomic backgrounds who also reported that their parents motivate them to succeed in school.

Figure 3: Learning scores by access to books at home
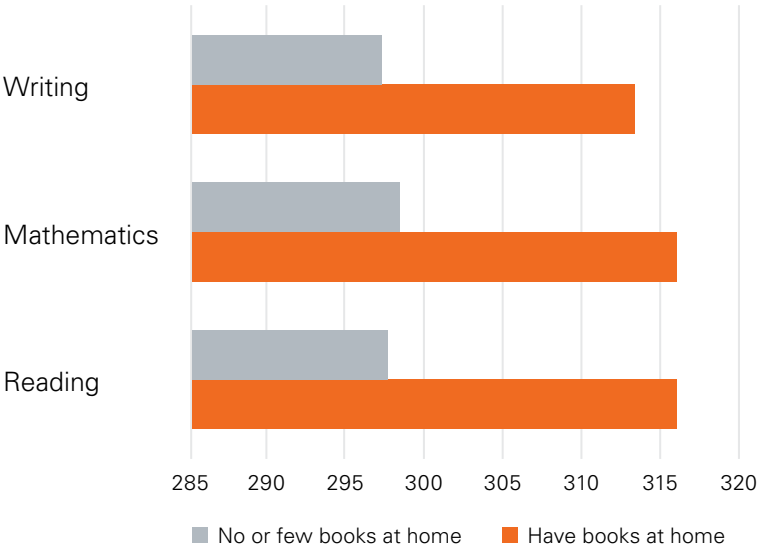
Note: Mean differences are not statistically significant in writing (see Table 4 in Appendix 2). At the country level, differences are statistically significant for Cambodia in reading and writing, Viet Nam in reading, and Malaysia in mathematics (see Table 10 in Appendix 3).

Consistent with previous literature on the importance of educational resources at home, SEA-PLM 2019 survey responses suggest that access to books at home is positively correlated with learning outcomes. Figure 3 shows that children who had no or few books at home attained lower learning scores in reading and mathematics.

Social environment at school

Making friends and expressing opinions

Peer relationships are critical for children's well-being as they grow up. Children's confidence in speaking about how they feel and developing interpersonal relationships benefits them both in the present and during adulthood, in all aspects of their lives (UNICEF Innocenti, 2020). Making friends at school not only affects children's motivation towards school but also contributes to the transmission of knowledge between children (Hartup, 1992). Previous studies have found that early-adolescent students who strive to make friends show higher levels of prosocial behaviour and academic achievement, as well as less emotional distress, than students who do not (Wentzel et al., 2004); the inverse also tends to be true, with peer rejection in early adolescence potentially disrupting academic achievement (Véronneau et al., 2010). Schools' particular emphasis on friendships and relationships is vital to making schools happy places, making learning fun, and ensuring inclusion (UNESCO, 2016). When positive social, behavioural and emotional experiences are reinforced over time, young people who are confident in building friendships may also see long-term academic effects.

SEA-PLM 2019 data show that, on average, in the six participating countries nearly nine out of ten children found it easy to make friends at school, regardless of gender or rural/urban location (see Table 1 in Appendix 2). Children in the Philippines reported the lowest percentages (77 per cent), while most children in Viet Nam found it easy to make friends

at school (94 per cent) (see Table 7 in Appendix 2). Children's social skills and ability to make friends could positively affect their academic accomplishments over time, as studies indicate that learning performance is related to peer experiences.

Figure 4: Learning scores by whether children make friends easily at school
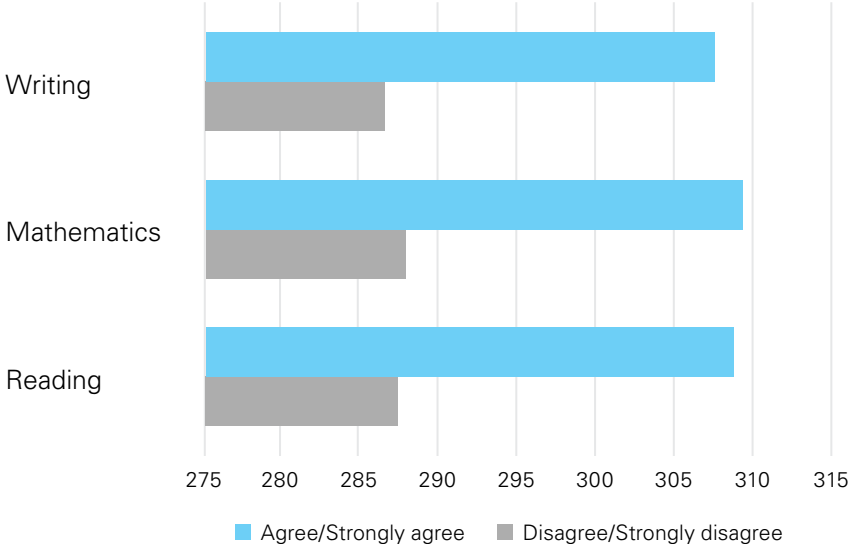
Data from the SEA-PLM 2019 survey show the association between children's learning and their perceived ability to make friends (see Figure 4). On average, children who reported that it is easy to make friends at school were more likely to attain higher scores in all three learning domains (see Table 4 in Appendix 2).

The quality and stability of friendships can improve a young person's self-esteem, which may also contribute to their confidence in expressing their views (Minev et al., 2018). Schools upholding the United Nations Convention on the Rights of the Child (Article 12) recognize that it is a child's right to convey their opinions and can be fertile grounds for fostering this ability. Across the six participating countries, 74 per cent of children had presented ideas to their class, 46 per cent had spoken up in classroom discussions about world issues, and 49 per cent had spoken in an organized debate at school (see Table 1 in Appendix 2). These activities represent an opportunity to develop communication and critical thinking skills. At the country level, children in the Philippines (62 per cent) and Viet Nam (53 per cent) were more likely to have participated in a school debate than those in Cambodia (27 per cent) or Malaysia (21 per cent) (see Table 7 in Appendix 3).

Feelings, attitudes and safety

Given the significant amount of time children spend at school, their perception of an enjoyable, supportive and safe school environment is critical for them to feel comfortable and to fully engage in learning. Schools provide children with a base for social interaction, but according to the 2015 PISA results, students' sense of belonging at school tends to be lower among disadvantaged students and first immigrant students. In addition, students' sense of belonging to school has, on average, weakened between 2003 and 2015 (OECD, 2018). This trend is noteworthy because this factor may influence the trajectory of a person's life. Recent studies show that children's perceived safety (Fattore et al., 2009; Huebner et al., 2014; Saputra et al., 2020; Wodon et al., 2021) and sense of belonging (UNICEF Innocenti, 2020) at school have been linked to higher academic achievement and life satisfaction. The SEA-PLM 2019

data show that most children in the six participating countries felt safe at school (85 per cent), liked being at school (92 per cent) and felt a sense of belonging to their school (81 per cent), regardless of rural/urban location, socioeconomic status or gender (see Table 1 in Appendix 2). Children's sense of belonging varies by country, with the highest percentage in Myanmar (89 per cent) and the lowest in the Philippines (76 per cent) (see Table 7 in Appendix 3).

Figure 5 shows a positive correlation between children's perceived safety at school and their academic performance. On average among participating countries, children who felt safe at school were more likely to obtain higher scores in all three learning domains (see Table 4 in Appendix 2). At the country level, Myanmar, Cambodia and the Philippines saw the greatest differences in learning outcomes related to children's perceived safety at school, in all three learning domains. Moreover, children who exhibited positive feelings and attitudes – liking school, having a sense of belonging, and feeling like they are learning useful things at school – were also more likely to have higher scores in all three learning domains. This pattern is consistent across countries, except for Malaysia in mathematics.[7]

Figure 5: Learning scores by children's positive feelings and attitudes towards school
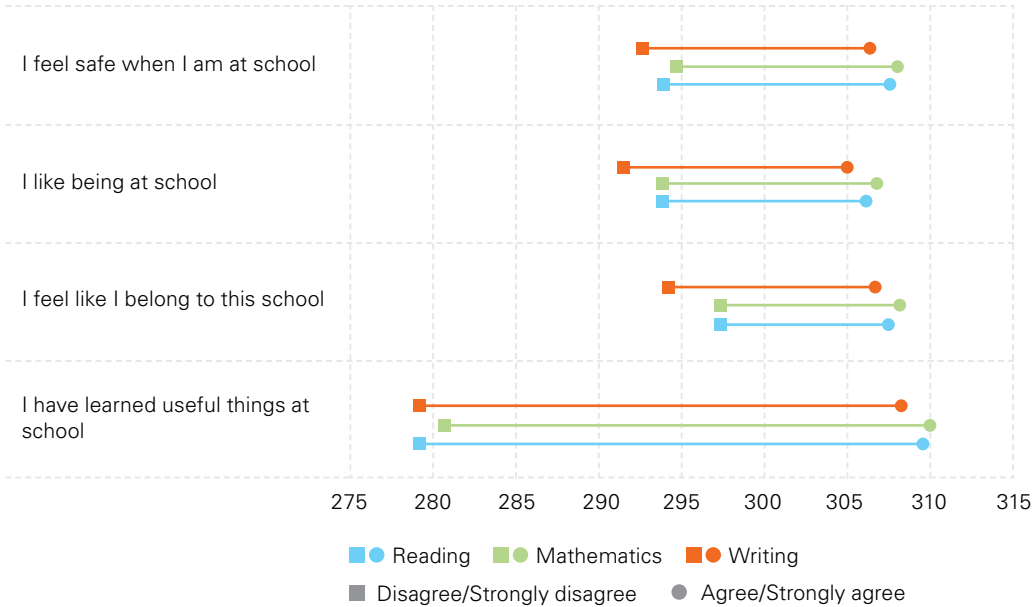
Note: At the country level, the correlation between children's academic performance and their perception of safety at school is significant only in writing for Malaysia and Viet Nam. With respect to whether children liked school, differences are significant only for reading in Lao PDR. In Malaysia, this association is negative for mathematics and positive for writing (see Table 10 in Appendix 3).

SEA-PLM 2019 data suggest that in addition to children's feelings and attitudes towards school and sense of belonging, the perception of learning useful things positively influences learning outcomes. Figure 5 shows the association between learning and children's perceived usefulness of the knowledge acquired in school. On average, children who agreed or strongly agreed with the statement 'I have learned things at school that are useful' were more likely to achieve higher scores in all three learning domains (see Table 4 in Appendix 2). The magnitude of the mean difference between those who agreed with this statement and those who disagreed is substantial – on average 30 scale points across the three learning domains.

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[7]   In Malaysia, children who reported they like being at school had lower mathematics scores.

Violence at school

Schools are especially important places for children to form friendships and learn the social and academic skills that will accompany them throughout their lives. Yet for many children around the world, the presence or threat of violence in school compromises their ability to benefit from educational opportunities and social interactions. Available data suggest that bullying by classmates is by far the most common form of violence to which children are exposed in school (UNICEF, 2014; UNICEF, 2017; Wodon et al., 2021), particularly for children with disabilities (UNESCO, 2021).[8] Previous evidence suggests that peer bullying is a serious problem that has a lasting negative impact on children's relationships and mental health (Chávez et al., 2021; Currie et al., 2012; González-Carrasco et al., 2019; Office of the SRSG on Violence against Children, 2016; UNICEF Innocenti, 2020). A survey conducted by UNESCO revealed that an unsafe environment prone to bullying is the factor most likely to lead to unhappiness and low achievement in schools (UNESCO, 2016). However, a safe environment can be established: results from the 2015 PISA student reports indicate that there is less bullying in schools where there is better classroom correction/discipline and where students believe that their teachers demonstrate fairness (OECD, 2018).

Figure 6: Proportion of children exposed to different forms of violence at school
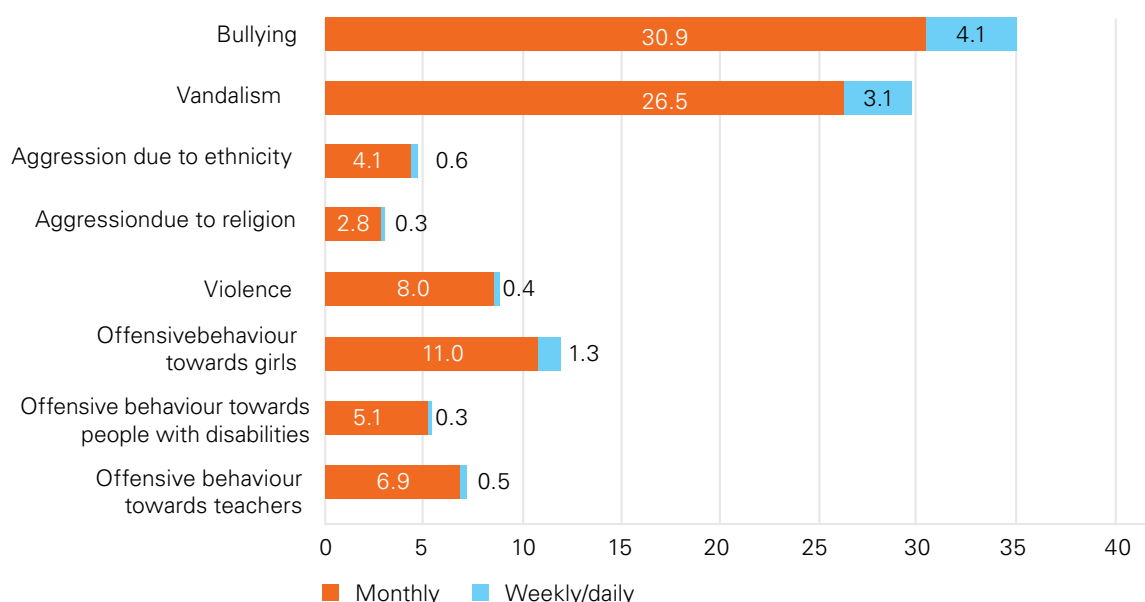
On average, 35 per cent of children in the six SEA-PLM 2019 participating countries were enrolled in a school where bullying occurred at least once a month *(see Figure 6).[9]* Exposure to bullying varies considerably by locality and country. While 29 per cent of children in rural schools were exposed to bullying in their schools frequently (i.e., at least once a month), in urban schools this percentage increased to 42 per cent (see Table 1 in Appendix 2). At the

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8 According to UNICEF (2017), bullying "occurs when a student, or group of students, say or do bad, nasty or unpleasant things to another student. It is also bullying when a student is teased repeatedly in an unpleasant way or when he or she is deliberately left out of things. It is not bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and playful or fun way."

9 It should be noted that children's exposure to bullying and other forms of violence is defined at the school level, based on the head teacher's response to the question about the frequency with which each of these problems occurs in the school among students. Head teachers were asked to select one of four options: never or hardly ever; monthly (at least once a month); weekly (at least once a week); or daily or almost daily. Their responses were categorized into two groups for analytical purposes: never or almost never, and at least once a month (which includes weekly and daily options).

country level, exposure to bullying at school was as high as 63 per cent in the Philippines and as low as 2 per cent in Cambodia (see Table 7 in Appendix 3). Previous evidence suggests that all forms of bullying, harassment and intimidation – direct or not – can affect children's learning capacity, make them feel afraid or uncomfortable, and cause them to feel despair (Ansary et al., 2015). Moreover, being bullied directly is associated with lower quality of life and subjective well-being in children (Goswami, 2011; UNESCO, 2018), as well as lower academic achievement (Chávez et al., 2021; UNESCO, 2018; UNICEF Innocenti, 2018). Some studies have shown that being bullied can have a lasting negative impact into adulthood, on both social relationships and mental and physical health (Farrington et al., 2012).

Figure 7 shows the relationship between learning outcomes and frequent exposure to bullying in school.[10] In all participating countries, although differences are not statistically significant, children who had been exposed to bullying tended to have lower mean scores in reading, writing and mathematics than children who had not.

Other studies show that bullying also occurred (or continued) in cyberspace when schooling and socializing were moved online at the onset of COVID-19 (Karmakar & Das, 2020). Although digital platforms have allowed students to learn and stay connected with their peers, increased internet use and unstructured time spent online have been shown to put children at increased risk for cyberbullying (Kardefelt-Winther et al., 2019). Just as traditional forms of bullying affect learning, cyberbullying also adversely affects the mental well-being and academic performance of cyberbullied children (UNESCO, 2018).

Given the importance of school and teacher support in mitigating the incidence of bullying and its impact on children's well-being, it is critically important to consider what steps schools are taking to help children manage conflict with their classmates, as well as children's own views on the importance of these school initiatives. Across participating countries, 71 per cent of children reported learning how to peacefully solve disagreements with their classmates at school, and 83 per cent considered it important to learn this. In addition, 79 per cent of children said they might or will stand up for a classmate who is being mistreated by other students.

In addition to bullying, exposure to other forms of violence is a pervasive problem in schools in many communities around the world, directly affecting children's ability to engage in learning and indirectly affecting the wider community (UNICEF, 2014; Wodon et al., 2021). SEA-PLM 2019 data show that children in the region are, to varying degrees, exposed to other forms of violence at school. The most common form of violence (other than bullying) among participating countries was vandalism, with 30 per cent of children being exposed to vandalism at least once a month in their schools. Offensive behaviour towards girls, teachers and people with disabilities was the second most common form of violence, followed by violence and aggression (see Figure 6). At the country level, the highest percentages of exposure to all these forms of violence were found in the Philippines and the lowest in Cambodia (see Table 7 in Appendix 3).

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[10] This figure captures the relationship between learning outcomes and both direct and indirect exposure to bullying.

Figure 7: Learning scores by exposure to violent behaviour at school

Reading ▫●   Mathematics ▫●   Writing ▫●   ▪ At least once a month   ● Never/hardly ever
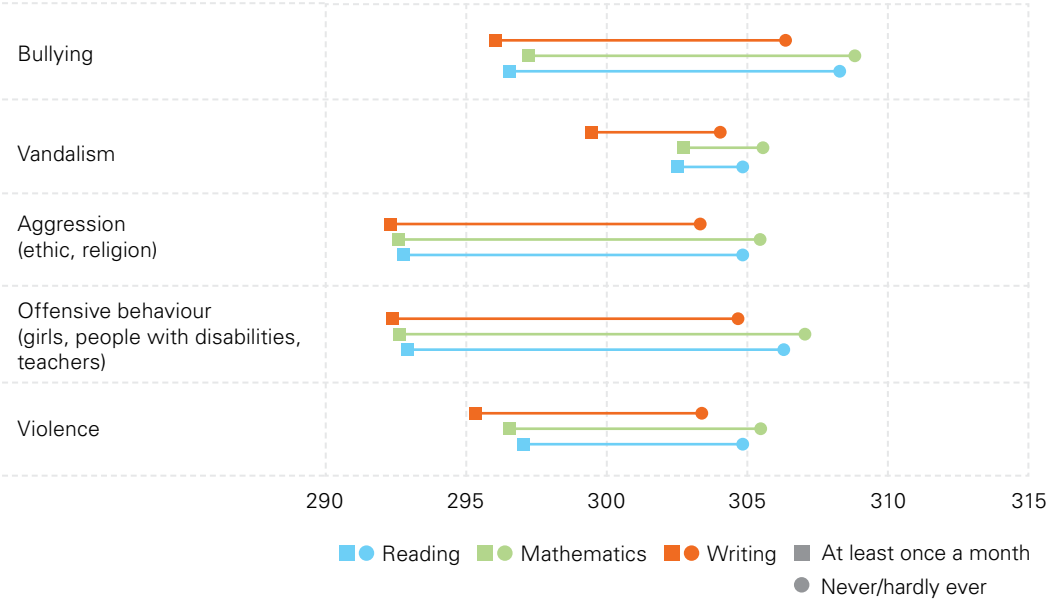
Note: Mean differences are only statistically significant for vandalism in all three learning domains (see Table 4 in Appendix 2). At the country level, differences are statistically significant for the Philippines in writing for vandalism and violence; in Viet Nam in mathematics and writing for vandalism; in Myanmar in reading for offensive behaviour.

Just as the evidence shows with bullying, existing literature suggests that experiencing and witnessing violence in childhood are both particularly damaging to children's development, their mental well-being, and their ability to learn (Saran et al., 2020; UNICEF, 2014; Wodon et al., 2021). Studies indicate that when a child witnesses violence among peers, they may be as affected as if they were personally victimized (Flannery, 2004; Muller, 2016). Experiencing violence in school can negatively affect children's mental well-being, interfere with their ability to concentrate and participate in school activities, and hinder their educational progress (Flannery, 2004; Pereznieto et al., 2010; UNICEF, 2014; WHO, 2020a; Wodon et al., 2021). In severe cases, experiences of violence in school can lead to school absence and/or dropping out (Pereznieto et al., 2010; UNICEF, 2014; Wodon et al., 2021).

The SEA-PLM 2019 data support these previous findings on the negative correlation between exposure to violence and academic achievement (see Figure 7). Exposure to vandalism at least once a month negatively influenced children's learning outcomes in all three learning domains. Moreover, although differences are not statistically significant, children who were exposed to more direct forms of violence – such as aggressive, offensive behaviour, or violence at school – tended to have lower mean scores in reading, writing and mathematics (see Table 4 in Appendix 2). Previous evidence suggests that children's experiences with violence at school are also correlated with school attendance, to an even greater extent than the correlation with academic achievement (Chávez & Aguilar, 2021).

Area 2
PHYSICAL WELL-BEING AND LEARNING

Children's activities – both in and out of school – are critical factors that affect learning. However, how a child spends their time may depend on a variety of dimensions such as parental involvement, socioeconomic conditions, safety and the availability of facilities in local areas. This section presents findings from SEA-PLM 2019 that address how learning is influenced by children's physical activities. Specifically, it analyses outcomes around:

- children's time use and activities, including household chores and responsibilities, and school commutes and play
- health and nutrition, including the availability of water, sanitation and hygiene (WASH) services at school, and dietary intake.

Children's time use and activities

Household chores and responsibilities

In all six participating countries, children regularly engaged in household responsibilities outside of school, such as household chores and physical work. On average, nearly seven out of ten children participated daily in household chores and caregiving activities in their own homes (65 per cent), regardless of rural/urban location or socioeconomic status. Girls were more often responsible for caring for younger siblings and older relatives, and performing household chores (see Table 2 in Appendix 2). Previous studies suggest that household chores done by children in their own homes – under reasonable conditions, with supervision, and not interfering with their education – are an integral part of their upbringing and family life (ILO, 2013). Some studies have found that children who are given age-appropriate responsibilities, such as household chores and assisting with caregiving tasks, exhibit increased self-confidence and academic achievement (White et al., 2019). The SEA-PLM 2019 report on boys' and girls' learning is in line with this evidence and suggests that regular household responsibilities (e.g., household chores and caregiving activities) are associated with higher performance in most of the participating countries (UNICEF, 2021a).[11]

However, when children are involved in work that creates a barrier to access and engagement in learning, well-being and learning outcomes suffer. The 2015 PISA results show that students who work for pay report feeling like an outsider at school, arriving late and/or skipping school, and having lower expectations for further education compared with their counterparts who do not (OECD, 2018). The SEA-PLM 2019 data show that 13 per cent of children in participating countries were engaged daily in farm work, 12 per cent in commercial activities, and 8 per cent

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[11] The correlation between household chores and academic performance is not statistically significant for Viet Nam in reading and mathematics. For caring for younger children, the association is not significant in Malaysia and Viet Nam in all three learning domains, and in Myanmar for mathematics. Finally, with respect to caring for the elderly, the correlation is not significant in Viet Nam in all three learning domains, and in Cambodia, Lao PDR and Malaysia for writing (see Table 11 in Appendix 3).

in physical work when not in school (see Table 2 in Appendix 2). In all countries, children who regularly engaged in these activities performed worse in all three learning domains than children who rarely or never did such activities (see Table 5 in Appendix 2).[12] ILO and UNICEF (2021) confirm that students engaged in potentially harmful activities such as these often lag behind their non-working peers in learning achievement and grade succession, and are more likely to drop out of school early.

COVID-19 put more children at risk for engaging in these types of activities, owing to both school closures and the economic hardships faced by families as a result of the pandemic. In addition, the crisis also created disruptions in learning and school-based services, including school meals. Studies show that without access to safety nets such as these, household food insecurity and financial stress can intensify among vulnerable families, forcing them to turn to child labour to meet their basic needs (Duryea et al., 2007; Guarcello et al., 2010).

School commutes and play

In addition to out-of-school responsibilities, the time children spend commuting can also affect their ability to learn. Long commutes can distract them from their learning tasks and interfere with their concentration in school, owing to fatigue. On average, 12 per cent of children in the participating countries reported that it takes them more than an hour to get to school each day. Children in urban areas and from lower socioeconomic backgrounds were more likely to have long school commutes (see Table 2 in Appendix 2). Differences also appear at the country level: only 1 per cent of children in Viet Nam had a commute of more than an hour to school, while this proportion reached 23 per cent in the Philippines (see Table 8 in Appendix 3).

Children's commuting time to school appears to be negatively associated with learning outcomes. On average, children in the SEA-PLM 2019 study who commuted to school for more than an hour had lower learning scores in all three learning domains than children who spent less time commuting (see Table 5 in Appendix 2).[13] Other studies may offer insight as to why long school commutes can have negative effects on children's learning and overall well-being: commuting can take away precious time needed for sleep and play (Larouche et al., 2014; Voulgaris et al., 2019); and children with shorter commutes to school are more likely to engage in physical activity because they employ active modes of transportation (e.g., walking and cycling) compared with those with longer commutes (Chillón et al., 2015).

Commuting is one way for children to move their bodies, but play and sport can bring young people together through physical activities. This helps them to develop agency and a sense of belonging, increase learning and life skills, generate positive behaviours and attitudes, and respond to exclusionary and negative practices and norms (UNICEF Innocenti, 2019). The 2015 PISA results show that physically active students are less likely to feel like an outsider among their peers, be frequently bullied, skip school, or feel anxious about their schoolwork. Moreover, when children have opportunities to engage in more physical education at school, they are more likely to be physically active outside of school as well (OECD, 2018). SEA-PLM 2019 data show that, on average, three out of four children in the participating countries had access to facilities where they can engage in playing and recreational activities (e.g., playground at school or in the local area, and sports facilities) and one out of two children had access to public gardens and parks. Although the availability of a playground at school was not significantly different

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[12] Differences are not statistically significant for farm work in Lao PDR; for commercial activities in Viet Nam in all three learning domains, in Myanmar in mathematics and writing, in Malaysia in mathematics, and in the Philippines in reading (see Table 11 in Appendix 3).

[13] At the country level, this association is not significant in Lao PDR in all three learning domains, in Myanmar in reading and writing, and in Malaysia in mathematics (see Table 11 in Appendix 3).

between urban and rural areas, children in urban areas were more likely to have access to local playgrounds, sports facilities, public gardens and parks than children in rural areas (see Table 2 in Appendix 2). Access to these resources seems to be positively associated with learning outcomes. Children who had access to sports facilities and public gardens/parks tended to achieve significantly higher scores in all three learning domains than children who did not have access, even after controlling for socioeconomic status (see Table 5 in Appendix 2).[14]

Health and nutrition

WASH in schools

Water, sanitation and hygiene (WASH) in schools is essential to children's physical well-being and provides a safe, healthy and comfortable environment where children can grow, learn and thrive. When children do not have access to safe drinking water, adequate toilets and functioning handwashing facilities, they are more susceptible to illness and their ability to learn could be compromised (UNICEF, 2012). Yet, according to SEA-PLM 2019 data, 14 per cent of children in the six participating countries did not have access to safe drinking water at school, especially in rural areas (see Table 2 in Appendix 2). At the country level, the highest percentages of children without access to safe drinking water at school were in Lao PDR (42 per cent) and Cambodia (40 per cent), and the lowest in Viet Nam (4 per cent) (see Table 8 in Appendix 3).

Lack of basic sanitation facilities at school continues to be a prevalent problem in the six participating countries. SEA-PLM 2019 data show that, on average, 34 per cent of children were enrolled in a school where instruction was moderately to severely hampered by the absence or inadequacy of toilet facilities.[15] This was particularly the case in Lao PDR (51 per cent), Myanmar (46 per cent) and Cambodia (43 per cent). Adequate sanitation facilities are a particularly important element in ensuring participation in school, as many children, especially girls, may have difficulty attending and staying in school if they lack safe, single-sex sanitation facilities (Nielsen & Carnwath, 2019). Among the SEA-PLM participating countries, 74 per cent of children had access to basic single-sex toilet facilities in their schools. At the country level, the highest percentages were in Malaysia (96 per cent) and Viet Nam (96 per cent), and the lowest in Lao PDR (46 per cent). In addition, on average, 88 per cent of children had access to a handwashing station, with rural areas less likely to have access (see Table 2 in Appendix 2). At the country level there were also important variations in this regard, with 97 per cent of children in Malaysia having a handwashing station in their school, but only 58 per cent of children in Lao PDR having one (see Table 8 in Appendix 3).

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[14] At the country level, significant differences were found in Cambodia, Malaysia, Myanmar, the Philippines and Viet Nam (see Table 11 in Appendix 3).

[15] In the SEA-PLM 2019 survey, head teachers were asked to indicate to what extent (i.e., not at all, to a little extent, to a moderate extent, to a large extent) the school's capacity to provide instruction is hindered by 'shortage or inadequacy of toilets.'

Figure 8: Learning scores by access to WASH at school
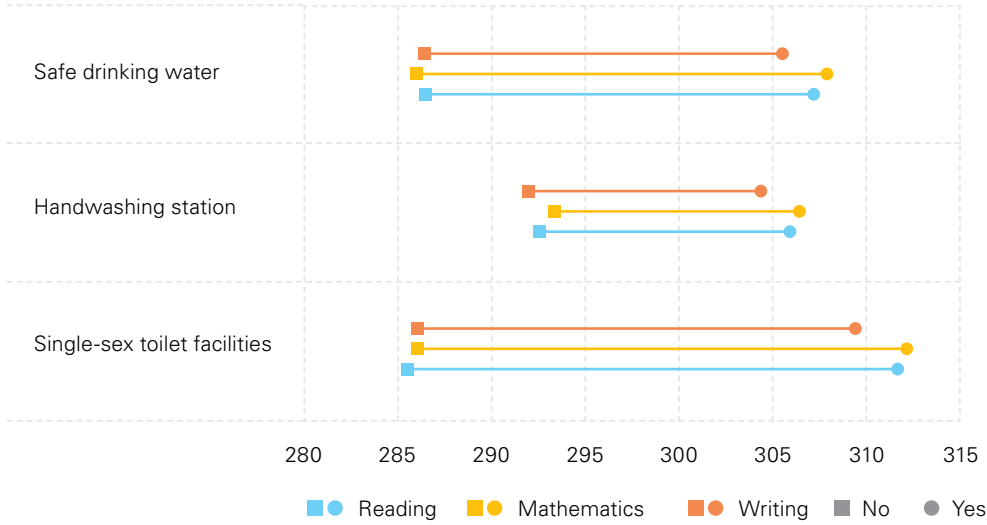
Note: At the country level, significant differences were found in Malaysia, Myanmar, the Philippines and Viet Nam (see Table 11 in Appendix 3).

The COVID-19 pandemic has underlined the importance of WASH, especially hygiene, for effective infection prevention and safe reopening of schools. Schools provide an ideal setting to learn and acquire lifelong hygiene practices. Previous evidence suggests that hygiene behaviours acquired during childhood do not fade easily (Curtis et al., 2009) and that health and hygiene knowledge learned in school benefits not only children and their families but also the entire community (UNICEF, 2012). Moreover, the availability of WASH in schools has been found to improve attendance, health and learning outcomes, particularly for girls (UNICEF, 2012; UNICEF & WHO, 2020). SEA-PLM 2019 data align with previous evidence that suggests a positive correlation between access to WASH at school and learning outcomes (see Figure 8). On average, children who had access to safe drinking water, handwashing stations and toilet facilities were more likely to achieve higher scores in all three learning domains (see Table 5 in Appendix 2).

Nutrition

Good nutrition is the foundation of child survival and development. Children who are well-nourished are better able to grow, learn, play and participate in their communities. Yet on a typical school day 14 per cent of children in the six participating countries had only one meal or less per day, with the higher percentages among children from lower socioeconomic backgrounds (see Table 2 in Appendix 2). At the country level, important differences also emerge, with the lowest percentages of children having only one meal or less per day observed among children in Viet Nam (7 per cent) and the highest in the Philippines (19 per cent) (see Table 8 in Appendix 3). Furthermore, despite the positive effects that breakfast can have on schoolchildren's cognitive and academic performance (Adolphus et al., 2016; UNICEF, 2019), according to SEA-PLM 2019 data, 9 per cent of children in the six countries skipped this meal. The highest percentages for skipped breakfast were observed in Malaysia (22 per cent) and the lowest in Viet Nam (7 per cent).

Figure 9: Learning scores by number of meals on a normal school day

Legend: ■ One meal or less a day ■ More than one meal a day
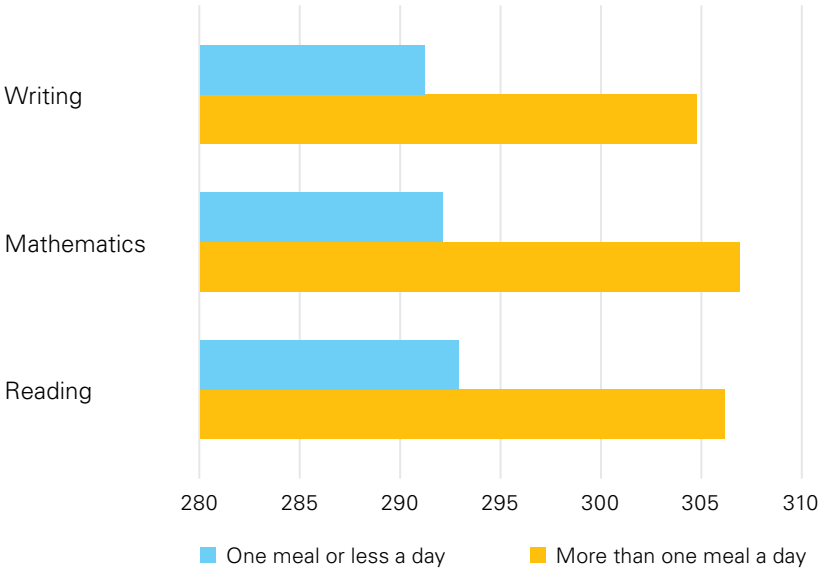
Note: At the country level, differences are not significant in Viet Nam in all three learning domains, in Lao PDR and Malaysia in reading, and in Myanmar and Malaysia in writing (see Table 11 in Appendix 3).

When children do not receive adequate dietary intake, they spend much of the day feeling hungry, which interferes with their attention in class and affects their academic performance (UNICEF, 2019). The SEA-PLM 2019 data align with previous evidence suggesting that skipped meals and lack of adequate nutrition negatively affect children's physical health, academic learning and psychosocial behaviour (Ochola & Masibo, 2014). Children who ate one meal or less during a typical day tended to have lower learning scores in reading, mathematics and writing (see Figure 9, and Table 5 in Appendix 2). This is especially true for children from lower socioeconomic backgrounds.[16]

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[16] Further heterogeneity tests suggest that these results differ by socioeconomic status. Children from low socioeconomic backgrounds who declared that they eat one meal or less during a typical day achieved significantly lower scores than children from high socioeconomic backgrounds who reported the same frequency of meals.

Area 3

SOCIAL AND ENVIRONMENTAL CONTEXT

Each society influences its children through national policies and services, as well as the broader social and environmental context (UNICEF Innocenti, 2020), and this paper recognizes these broader effects of policies and context on children. However, this section of the analysis goes beyond the interrelated outcomes of children's well-being and learning to analyse findings around children's perceptions of the environment, based on the SEA-PLM 2019 data capturing children's views. Specifically, it discusses discoveries made around children's:

- worries about the environment
- learning about the environment.

These findings have implications for the earlier areas of this report, as the environmental context affects both domains.

Worries about the environment

The natural environment is a key contextual factor contributing to children's mental and physical well-being (UNICEF Innocenti, 2020). The United Nations Convention on the Rights of the Child (1989) recognizes that children have rights to a clean environment to live in, clean air to breathe, water to drink and food to eat. Yet almost every child in the world is exposed to climate and environmental hazards such as heatwaves, air pollution and water scarcity, among others (UNICEF, 2021b). The Southeast Asia region is considered one of the most vulnerable and heavily affected by climate change and other environmental risks (Beirne et al., 2021; Raitzer et al., 2015). Cambodia, Lao PDR, Myanmar, the Philippines and Viet Nam are among the 50 most at-risk countries in the world (UNICEF, 2021b). While understanding children's exposure and vulnerability to the impacts of climate change and other environmental problems is crucial, understanding their views, worries and actions is equally important.

Figure 10: Children's environmental concerns
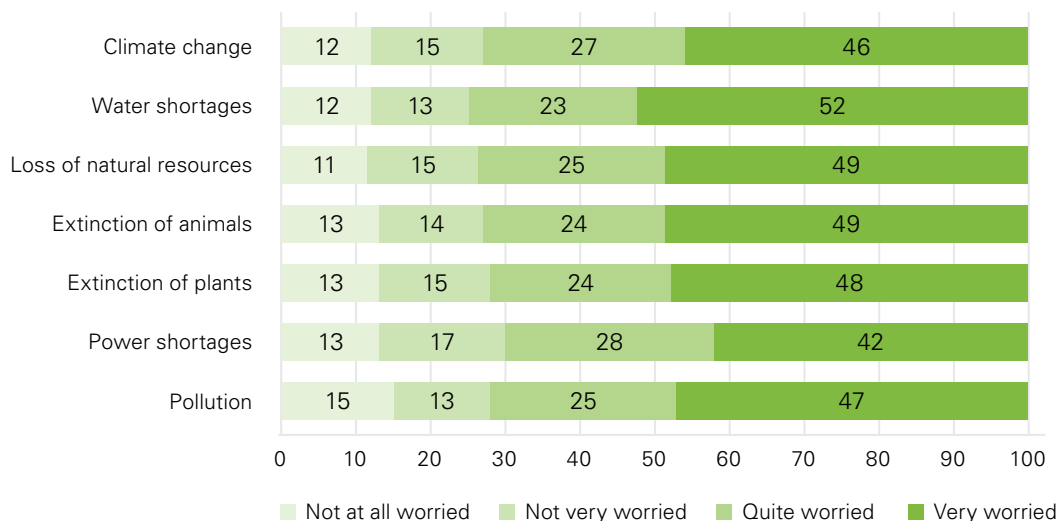
SEA-PLM 2019 data suggest that environmental issues are at the core of children's worries. Approximately half of the children in participating countries were very worried about environmental problems such as pollution, water and power shortages, loss of natural resources, extinction of animals and plants, and climate change (see Figure 10). Most of these concerns appear to be common to children regardless of rural/urban location, except for power shortages, which were significantly more likely to be a concern of children in rural areas. Girls and children from higher socioeconomic backgrounds were significantly more likely to express concerns about environmental issues than boys and children from lower socioeconomic backgrounds (see Table 3 in Appendix 2). These results are consistent with previous studies that suggest environmental attitudes may be affected by gender and socioeconomic status, but less conclusively by age or academic ability (Rickinson, 2001).[17] At the country level, children in Viet Nam were more likely to indicate they were very worried about the environment (across all domains surveyed), compared with children in the Philippines, who showed the lowest levels of concern among participating countries (see Table 9 in Appendix 3).

Evidence from the SEA-PLM 2019 Main Regional Report suggests that there is a strong correlation between children's concern for environmental sustainability issues and their learning performance. On average, children who demonstrated high proficiency in all three learning domains were more likely to be concerned about environmental sustainability issues than children with lower proficiency (UNICEF & SEAMEO, 2020). Children's exposure to environmental hazards has direct consequences for their physical health, but evidence also suggests that their concerns – whether fear, anxiety, worry or despair – about environmental issues impinge on mental health as well (Clayton, 2020; Vergunst & Berry, 2021). Increased worries about the environment, such as climate change concerns, seem to be more prevalent among children and adolescents than any other age group (Vergunst & Berry, 2021).

Learning about the environment

Children are growing up in the midst of a climate emergency. As a result, they are increasingly speaking out and getting more involved in collective initiatives to protect the environment (UNICEF Innocenti, 2020). In that regard, schools play a crucial role in providing children with the knowledge to understand and act on local and global environmental challenges (Rickinson, 2001). The SEA-PLM 2019 data suggest that the majority of children in the region have learned at least 'some' or 'a lot' about environmental issues such as climate change (71 per cent), resource losses (e.g., water, energy, usable land) (65 per cent) and pollution (55 per cent). Additionally, about three out of four children have learned about how to protect the environment (78 per cent) and have participated in activities to make schools more environmentally friendly (e.g., through water-saving approaches or recycling) (71 per cent) (see Table 3 in Appendix 2).

Knowledge provides children with greater awareness about these issues, helps to develop their critical thinking skills and confidence, and supplies them with the vital tools needed to express their opinions, engage in debate and take action. The SEA-PLM 2019 data show that about eight out of ten children believed it is the responsibility of all members of society to protect the environment (85 per cent) and, as such, they might or would want to join a group (84 per cent) or encourage others to help protect the environment (84 per cent) (see Table 3 in Appendix 2).

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[17] Previous studies suggest that girls and children from higher socioeconomic backgrounds are more likely to be environmentally concerned or willing to undertake actions in favour of the environment (Rickinson, 2001).

Evidence on the links between children's feelings about environmental issues and their well-being is limited. Some argue that learning about global problems can affect children's mental well-being and trigger feelings of anxiety, helplessness and hopelessness (Hicks & Bord, 2001; Ojala, 2012), as well as negatively affect their life satisfaction (The Children's Society, 2013). However, environmental education programmes can also help children develop competencies that are central to learning (Ballantyne & Packer, 2005; Rickinson, 2001). For instance, they could encourage children's curiosity and exploration, develop children's sense of personal, cultural and community identity, and encourage decision-making about moral and ethical issues. These skills can be enhanced by the educational approach and processes used to impart knowledge. Processes such as collaborative group discussions and role modelling, as well as the length of the programme, the context and the level of teacher–student interaction can all have a positive effect on learning outcomes (Rickinson, 2001). The SEA-PLM Curriculum Audit concludes that pedagogical approaches, as well as the coverage of environmental topics at the school level, differ across countries. While in some countries environmental concepts are located as goal or objective statements, in others the learning objective includes not only the acquisition of knowledge but also the development of behaviours, skills, attitudes and values (UNICEF & SEAMEO, 2016).

The SEA-PLM 2019 data suggest that coverage of environmental topics in school, as perceived by children, has a positive influence on learning. In most participating countries, there was a positive association between the number of environmental topics covered (i.e., environmental issues and how to protect the environment, where children have learned at least 'some' or 'a lot') and learning outcomes in all three learning domains (see Table 6 in Appendix 2).[18]

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[18] In Myanmar, there is a negative association between the number of environmental topics covered and learning outcomes in reading and mathematics. For results at the country level, see Table 12 in Appendix 3.

POLICY IMPLICATIONS AND EXAMPLES OF PROMISING PRACTICES

SEA-PLM 2019 captured a multitude of findings regarding children's well-being and learning from across six Southeast Asian countries prior to the COVID-19 pandemic. This section is divided into two subsections:

- **policy implications** at the national/system level and at the school level, at a time when countries are reopening schools and planning long-term strategies to support building back better in education

- examples of **promising practices** (i.e., interventions that have the potential to sustainably bring about positive change) found across the region, related to each area of analysis in this paper: Area 1: Mental well-being and learning; Area 2: Physical well-being and learning; and Area 3: Social and environmental context.

Policy implications

National/system level

Ensure intersectoral collaboration at different levels to address education, social protection and child protection simultaneously. Ministries of Education (MOEs) and other government representatives responsible for national social and child protection need to work with international and national child welfare agencies and community-based child protection groups to ensure practical adherence to the vision of the United Nations Convention on the Rights of the Child. In connection to the findings from this study, that includes ensuring that children's basic needs are met, and that they have access to education (Article 28), are able to rest, play and take part in cultural activities (Article 31), and are protected from harmful work (Article 32). Each dimension affects their learning and well-being, with long-term implications for societies and economies; therefore, it is the responsibility of multiple actors at every level to uphold the established Articles of the convention.

Invest in basic school-based WASH services; they are needed now more than ever to ensure the physical health and safety of students and staff. WASH services are especially important in the recovery from the COVID-19 pandemic, and this moment provides an opportunity for MOEs and Ministries of Health (MOHs) to work together to establish or improve current school-based facilities. Every school needs access to safe water and soap to enable handwashing, cleanliness and disinfection. Furthermore, global campaigns and resources can help to encourage behaviour change at school, which can carry over to homes and communities to improve the practice of essential hygiene behaviours in the long term. Beyond handwashing, all WASH-related services at school provide children with a clean and safe environment so they can stay healthy and learn.

Dedicate resources and improve legislation at the national level to address mental and physical well-being among children and adolescents. Many countries in the region lack protective regulations and allocated budgets for mental health and well-being services (Sharan et al., 2018); however, global commitments are in place for creating 'health-promoting schools' to improve the mental and physical well-being of children (WHO, 2021). This is another opportunity for intersectoral ministerial collaboration between MOEs and MOHs to support the broader well-being of children at school, especially in the aftermath of the recent pandemic. But it will require scaling up financial and human resources to translate plans and policies into action.

Continue to provide school-based safety nets, such as school meals, to contribute to children's health, nutrition and learning outcomes. Programmes such as these can also prevent children from dropping out of school early or engaging in harmful activities such as child labour. Each of the six countries participating in this study provide school meals to primary-level students, but the COVID-19 pandemic disrupted this service. Offering additional support when schools are closed – such as take-home rations, cash transfers or a combination of responses – may help the most vulnerable families during times of crisis. As schools reopen, school-based feeding programmes may encourage children back to school and keep them enrolled for longer (Borkowski et al., 2021).

Ensure school safety related to environmental emergencies; up-to-date risk reduction and resilience strategies should be reflected in national education sector policies. At the planning level, MOEs need to use multi-hazard risk-informed analysis to integrate disaster risk reduction (DRR) and peacebuilding into education preparedness and response. National curriculum standards should include specific components on developing knowledge, values, skills and attitudes about how to prepare for and respond to natural disasters, as well as how children can adopt more sustainable lifestyles.

School level

Ensure schools are safe spaces. Schools should adopt a zero-tolerance policy on bullying and violence to guarantee that they are a secure environment for students, teachers and staff. Particular attention should be given to protecting girls from gender-based violence. Schools should also be a place where children feel safe enough to express their views, develop friendships and engage with others peacefully. After recent lockdowns, schools need to protect against stigma and discrimination related to COVID-19, and provide staff with guidance and support for working with students as they return to classrooms. Using resources such as UNICEF's Tips for Teachers and School Management can provide concrete actions to improve the well-being of students and staff.

Ensure opportunities for physical activity throughout a child's day. According to the World Health Organization (2011; 2020b), children and young people aged 5–17 should limit their time being sedentary and engage in "play, games, sports, transportation, chores, recreation, physical education, or planned exercise, in the context of family, school and community activities." Schools should allocate safe places and time throughout the school day for play and physical activity. To supplement school activities or in areas where structural physical education does not exist, governments can look externally to community partners that run sport for development (S4D) programmes. Families can be encouraged to spend time together engaging in playful activities that all members enjoy.

Increase homeschool collaboration to support young people through the social and cognitive changes that occur during early adolescence. Engaged parents can influence their child's progress, regardless of a family's socioeconomic background. Investments in training principals and teachers to improve communication skills, and working with families may pay off in the long run to increase parental involvement. Schools need to create programmes to support parents when children are attending classes and during times of school closures. Through school-supported programmes, habits at home may improve, fostering better communication between parents and their children regarding learning and well-being, and influencing cultural norms and expectations of engagement over time.

Provide opportunities for children to learn how they can change their behaviour, manage risk and reduce vulnerability to environmental hazards. Beyond curriculum, addressing climate change is also about social organization and future citizenship. Education on these topics can empower and motivate young people to act on their own or through community or school-based groups. But modelling by example can also demonstrate to students that their school is environmentally friendly and supportive. A good place to start is the inclusion of well-established initiatives such as 'reduce, reuse, recycle.' Some examples include: creating school gardens and compost programmes to reduce food waste; establishing donation areas to reuse school supplies and clothing; and providing spaces for classrooms to easily recycle paper, newspapers, beverage containers, electronic equipment and batteries. Schools can take other steps as well, such as conserving water and energy resources by shutting off faucets and lights and turning down heating, and reducing pollution by encouraging students to walk or cycle to school.

Promising practices

Area 1: Mental well-being and learning

Around the region, several countries offer examples of promising practices to engage parents, address bullying and violence in schools, and improve children's safety and mental well-being. These include:

- In **the Philippines**, a 'Bully No More' programme aims to reduce violence and foster a positive learning climate through annual anti-bullying campaigns that raise student awareness of bullying, its effect on victims, and the repercussions for bullies. Students ensure any bullying cases are reported and properly addressed. Parent volunteers also add security by preventing bullying near the school.

- A 'School Safety Toolkit for **Myanmar**' was developed as part of the ASEAN Safe School Initiative (ASSI). The toolkit aims to create safer teaching and learning spaces, especially for girls and children with disabilities. Measures include providing adequate physical distance between sex-segregated toilets, locks on and lighting around shower blocks and toilets, and culturally suitable menstrual hygiene facilities (safe spaces and facilities for washing clothes) and products.

- **Cambodia**'s Ministry of Education, Youth and Sport (MoEYS) launched a 'COVID-19 Education Response Plan' that coordinates partners and mobilizes resources to address mental health, psychosocial support, and violence against children in schools. Since its inception, several school-based initiatives have been piloted, including counselling for students and

teachers, child protection and child safeguarding policies and procedures, and reporting and referral mechanisms. Through the partnership with UNICEF, MoEYS has disseminated key messages on child protection through national back-to-school campaigns, and developed the *Safe Operation of Schools in the Context of COVID-19* handbook to promote the well-being of children and ensure their safety within schools.

- 'Parenting for Lifelong Health (PLH)' is facilitated by WHO and is present in 25 countries, including **the Philippines.** PLH aims to prevent violence against children by strengthening caregivers' ability to ensure the health and well-being of their child through positive parenting techniques. Open-source manuals are available in Tagalog/Filipino and in other local languages where the programme is active. During the COVID-19 pandemic, PLH also provided parents with an additional support package that can be used any time schools are closed. The package includes evidence-based resources to support children's development during lockdowns, and a toolkit for social media guidance.

Area 2: Physical well-being and learning

Promising practices from the region that can physically improve children's well-being and learning include:

- 'Pass It Back' is an S4D (sport for development) programme operating in rural, underserved communities throughout **Viet Nam,** where many children have parents who have migrated for work. Through rugby, adolescents engage in physical activity but are also guided through modules that teach them about planning for their future, being healthy and feeling safe. Moreover, the programme provides an opportunity for boys and girls to practise positive attitudes and behaviours in supporting gender equality within their communities. Young, locally recruited coaches serve as teachers and role models, leading weekly sessions. Overall, it takes two years for participants to complete the programme and 'graduate' to other sport-related opportunities, usually supported by a national sports federation. When the programme began in 2015, there were no nationally established sports federations, so the graduates formed their own government-registered rugby clubs to continue playing.

- In **Malaysia,** students' physical fitness is evaluated twice a year; results are included in their report cards and reviewed with parents during parent–teacher conferences (UNICEF EAPRO, 2015). Additional programmes, such as 'Happy Traveler' and 'My Body Is Fit and Fabulous at School', provide interactive activities and games, and/or group exercise before or after school. In each programme, students are taught about nutritious eating and active lifestyles. Programme leaders conduct regular overweight and obesity (body mass index/BMI) screenings with provision of counselling and psychology classes to students. Additional outreach components, in which parents volunteer to teach healthy meal preparation, are also available to programme participants.

- **The Philippines** MOE developed a holistic WASH programme for schools called 'WinS' to address gaps in hygiene and sanitation, with the overall aim of keeping children healthier at school. It contains eight WASH components, including specific guidelines to improve menstrual hygiene management and to provide separate toilets for boys and girls to promote empowerment of

female students. Furthermore, the approach includes national operational standards (and guidance on steps to reach them), a framework for monitoring and evaluation, and a reporting mechanism to motivate schools to improve in each area of WASH. In preparation for schools reopening after the onset of COVID-19, the WinS programme used technical support from UNICEF and other partners to provide professional development for teachers and staff to refamiliarize themselves with WASH and how to promote healthy behaviours and practices during the pandemic and beyond.

Area 3: Social and environmental context

Students, parents, schools and communities around the region have demonstrated their willingness to act on climate change. Meaningful youth participation is indispensable, as young people can inspire others in their generation to make sustainable changes. Promising practices that have the potential to make a positive impact on the environment, as well as children's well-being and learning, include:

- In **Lao PDR**, Village Education Development Committees (VEDCs) and Village Disaster Preparedness Units (VDPUs) are often the same people, involving parents and communities to support educational development and school safety measures. VEDCs oversees the educational development of village children and acts as a liaison between school management and the wider community by providing cash and in-kind support to vulnerable families, while VDPUs engage parents and communities as a network for DRR, raising awareness and assessing school safety. VDPUs have increased the capacity of schools and communities to cope with disasters. Both organizational bodies encourage a more active community and parent involvement in children's education to promote their mental well-being (Plan International Laos, 2015; Save the Children, 2016).

- **Viet Nam**'s Ho Chi Minh Communist Youth Union (Đoàn Thanh niên Cộng sản Hồ Chí Minh) uses social media to raise awareness among young people about climate change, environmental protection, and the negative impact of plastics and waste. Capitalizing on high-profile events, such as International Youth Day, the group calls for young people across the country to act, as Viet Nam is globally ranked as the sixth country most affected by climate change (UNICEF Viet Nam, 2021).

- Under the ASSI, 'Guardians of the Planet' highlights the need to include local children's and youth voices in mainstream climate discussions. The report demonstrates young people's hopes for the future and capacity to reduce environmental risks. ASSI also brings together all participating governments of the SEA-PLM study (Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Viet Nam) along with Indonesia and Thailand to work in regional partnership with Plan International, Save the Children, World Vision and Mercy Malaysia in developing several strategies to increase resilience to disasters and create safer, more secure learning environments. The overall aim of the initiative is to improve school safety by increasing collaboration in the region; by using policy, tools and technical capacity; and by increasing advocacy and learning. All education sector plans are aligned to national, subnational and local disaster management plans to assess risk, create safer facilities, and provide resilience education and training.

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Promising practices

- The Philippines' 'Bully No More'
- ASEAN's 'School Safety Toolkit for Myanmar'
- Cambodia's 'COVID-19 Education Response Plan'
- WHO's 'Parenting for Lifelong Health (PLH)' (the Philippines).

Area 2

Borkowski, A., Ortiz Correa, J. S., Bundy, D. A. P, Burbano, C., Hayashi, C., Lloyd-Evans, E., Neitzel, J., & Reuge, N. (2021). COVID-19: Missing more than a classroom: The impact of school closures on children's nutrition (Innocenti Working Paper 2021-01). UNICEF Office of Research – Innocenti.

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Promising practices

- Handwashing campaign video (Quang Đăng)

- The Global Handwashing Partnership

- 'Pass It Back' (Viet Nam)

- 'Happy Traveler' and 'My Body Is Fit and Fabulous at School' (Malaysia)

- 'WinS' and COVID-19 professional development (the Philippines).

Area 3

UNICEF. (2021b). The climate crisis is a child rights crisis: Introducing the children's climate risk index. United Nations Children's Fund (UNICEF).

Promising practices

- Village Education Development Committees (VEDCs) and Village Disaster Preparedness Units (VDPUs) – Lao PDR Case Study (Lao PDR)

- Ho Chi Minh Communist Youth Union (Đoàn Thanh niên Cộng sản Hồ Chí Minh) (Viet Nam)

- ASEAN school safety initiative: 'Towards School Safety in ASEAN' (Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Viet Nam) and 'Guardians of the Planet' youth consultations

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APPENDICES

Appendix 1

What is SEA-PLM?

SEA-PLM (Southeast Asia Primary Learning Metrics) is a comparative learning assessment programme, designed by and for countries in Southeast Asia. The programme aims to generate reliable data and evidence for monitoring learning outcomes across and within countries, and for understanding what factors drive and hinder children's learning along their school journey. It also aims to promote cross-border exchange on learning and education policies, and to build the capacity of participating countries to design and conduct solid learning assessments. SEA-PLM aims to help countries to identify, prioritize and address educational challenges in key policy areas, such as curriculum development, resource allocation, pedagogical practice, and planning at national and sub-national levels.

Through the first round of SEA-PLM, stakeholders obtained robust evidence to answer a critical question: How do children in Southeast Asia perform against regional metrics in reading, writing and mathematics at the end of primary school? The SEA-PLM 2019 main survey was implemented during the 2018–2019 school year. Six countries from the region participated: Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Viet Nam. SEA-PLM 2019 collected children's and schools' responses through paper-pencil tests and questionnaires, conducted with a sample of children that was representative of the school population enrolled at Grade 5 in each country.

SEA-PLM 2019 used tests to collect valid and reliable data on children's level of proficiency in three learning domains (reading, writing and mathematics), and used a series of background questionnaires to collect extensive information about children, classrooms, teachers, schools, principals, parents and communities. Linking this information to the learning domains provides important insights into variations and inequalities in children's learning performance, and the different drivers of learning and achievement. A global citizenship module was also developed as an experimental exercise in comparative large-scale assessment at the primary education level, using contextual questionnaires.

SEA-PLM proficiency scales offer a common reference for comparing performance between and within countries. SEA-PLM 2019 methodology enabled the overall national performance of participating countries to be reported for two Sustainable Development Goal indicators in reading and mathematics: SDG 4.1.1a (end of lower primary) and SDG 4.1.1b (end of primary).

Statistical tables – pooled sample of the six participating countries

Table 1: Grade 5 children's responses to selected mental well-being statements in Area 1 across the six participating countries, by location, gender and socioeconomic condition (%)

Outcome – Area 1	Average	Location		Gender		SES quartile			
		Urban	Rural	Male	Female	1	2	3	4
Household environment									
Parental engagement (daily/almost daily)									
Parents ask what I am learning in school	34.5	35.2	33.8	31.5	37.5	29.8	32.9	34.8	41.0
I discuss schoolwork with my parents	31.8	32.5	31.2	29.6	34.0	27.8	30.2	32.4	37.6
Parents check if I do my homework	36.2	37.1	35.1	34.2	38.3	30.8	34.6	37.6	42.7
Parents help me with my homework	26.3	27.2	25.4	26.3	26.4	22.5	25.0	27.5	30.9
Parents motivate me to succeed in school	46.4	47.8	45.1	44.5	48.4	39.0	43.0	46.7	58.2
Parental expectations									
Parents expect me to complete more than secondary education	74.0	79.3	68.7	73.3	74.7	59.4	70.5	78.2	91.5
Learning resources									
No or few books at home	67.4	57.2	77.9	67.4	67.4	87.4	76.7	63.2	36.5
Social environment at school									
Peer relationships									
I make friends easily at school	85.0	84.8	85.2	83.5	86.5	82.0	83.1	86.5	89.0
Attitudes towards school									
I feel safe when I am at school	85.0	84.3	85.8	84.4	85.7	83.1	85.4	85.8	86.1
I like being at school	92.0	91.8	92.2	91.7	92.4	90.7	91.3	92.1	94.3
I feel like I belong to this school	80.9	79.7	82.3	79.5	82.3	80.1	80.3	81.1	82.5
I have learned useful things at school	86.7	86.9	86.6	84.6	89.0	82.9	85.6	87.0	92.0
Children's voices									
Speak in an organized debate at school	49.4	47.5	51.8	50.5	48.3	52.4	51.2	50.2	43.1
Present ideas to your class	74.1	71.7	76.9	71.6	76.7	72.4	74.9	75.9	73.6
Speak up in classroom discussions about problems in the world	45.9	45.1	46.7	45.8	45.9	45.5	47.3	46.5	44.0
Violence at school									
Exposure to violence at school (at least once a month)									
Bullying	35.0	41.6	28.6	-	-	-	-	-	-
Vandalism	29.6	33.8	25.5	-	-	-	-	-	-
Aggression (ethnic, religion)	5.6	7.1	4.1	-	-	-	-	-	-
Offensive behaviour (girls, people with disabilities, teachers)	16.1	20.3	11.9	-	-	-	-	-	-
Violence	8.4	12.1	4.6	-	-	-	-	-	-

Table 2: Grade 5 children's responses to selected physical well-being statements in Area 2 across the six participating countries, by location, gender and socioeconomic condition (%)

Outcome – Area 2		Average	Location		Gender		SES quartile			
			Urban	Rural	Male	Female	1	2	3	4
Children's time use and activities										
Out-of-school activities (daily/almost daily)	House chores (e.g., washing dishes, tidying up, sweeping a floor)	43.7	38.9	48.9	37.3	50.3	45.4	44.7	44.4	40.1
	Farm work (e.g., livestock, fishing, gardening)	12.9	10.6	15.3	14.3	11.3	16.5	13.6	12.2	8.7
	Commercial activities (e.g., at the market, in a shop, in a restaurant, in the street)	12.3	12.7	11.7	13.0	11.5	11.7	12.0	13.6	11.8
	Physical work (e.g., in a mine, in a workshop, in a factory)	7.5	7.0	8.0	7.8	7.3	9.4	7.5	7.3	5.7
	Taking care of younger children	36.6	35.7	37.7	32.7	40.5	35.3	36.5	37.7	36.9
	Taking care of elderly people	27.1	26.7	27.7	26.7	27.6	26.0	26.7	26.8	29.2
Time to get to school	More than one hour to get to school	12.4	14.2	10.5	12.1	12.8	14.4	12.2	12.4	10.4
Facilities at school	Sports area/playground	79.1	78.3	79.9	-	-	-	-	-	-
Facilities in the local area	Playground	75.1	82.5	67.5	-	-	-	-	-	-
	Sports facilities	72.4	85.0	59.4	-	-	-	-	-	-
	Public gardens/parks	46.1	67.3	23.7	-	-	-	-	-	-
Health and nutrition										
Meals on a normal school day	One meal or less a day	13.7	15.6	11.8	15.2	12.2	18.8	12.5	12.1	10.9
	Breakfast	91.2	90.2	92.5	90.9	91.6	89.9	92.0	92.0	91.2
Access to WASH at school	Safe drinking water	85.9	91.4	80.1	-	-	-	-	-	-
	Handwashing station	88.0	94.6	80.9	-	-	-	-	-	-
	Single-sex toilet facilities	74.2	81.3	66.2	-	-	-	-	-	-
	Shortage or inadequacy of toilets (moderate/large extent)	34.3	32.0	36.3	-	-	-	-	-	-

Table 3: Grade 5 children's responses to selected environmental concern statements in Area 3 across the six participating countries, by location, gender and socioeconomic condition (%)

Outcome – Area 3		Average	Location		Gender		SES quartile			
			Urban	Rural	Male	Female	1	2	3	4
Worries about the environment										
Environmental concerns (very worried)	Pollution in country	47.1	46.1	48.2	44.1	50.2	43.9	47.2	47.1	50.7
	Pollution outside country	21.7	21.6	21.9	21.7	21.8	21.5	20.8	21.4	23.4
	Power shortages	42.2	40.1	44.5	40.5	44.0	40.6	41.8	42.1	44.6
	Extinction of plants	48.4	48.6	48.3	48.2	48.7	46.3	44.6	48.7	55.0
	Extinction of animals	48.7	49.8	47.8	48.6	48.9	43.9	45.3	49.7	57.0
	Loss of natural resources	48.7	49.2	48.3	46.8	50.6	42.6	45.9	49.8	57.6
	Water shortages	52.3	50.7	54.1	50.5	54.2	51.3	49.8	51.2	57.6
	Climate change	46.0	44.5	47.8	43.9	48.2	44.9	43.9	47.1	48.8
Learning about the environment										
Learned some/a lot at school about environmental issues	Protect the environment	77.6	79.4	75.6	76.4	78.8	72.6	76.1	78.3	83.9
	Pollution in country	68.8	71.4	66.0	68.7	69.0	64.8	67.1	69.7	74.3
	Pollution outside country	55.9	57.0	54.8	56.4	55.4	56.4	55.8	56.7	54.8
	Loss of natural resources	64.1	63.0	65.3	63.5	64.7	63.6	64.0	63.0	65.8
	Climate change	70.5	70.4	70.6	69.7	71.2	67.7	70.1	70.8	73.7
Taking action	Might/will encourage other people to help protect the environment	83.7	83.8	83.7	82.3	85.2	80.2	82.9	84.4	88.0
	Might/will join a group to help protect the environment	83.7	83.8	83.5	81.6	85.7	79.7	83.7	84.5	87.4
	Participated in an activity to make the school more environmentally friendly	70.5	69.0	72.3	68.8	72.4	69.9	70.7	71.5	70.2
Responsibility	It is the government's role to protect the environment	74.5	74.9	73.9	74.5	74.6	73.6	74.4	73.9	76.3
	All people in society must protect the environment	84.7	85.0	84.5	83.0	86.5	80.8	82.9	85.2	90.7
	It is important to learn how to protect the environment	88.5	88.9	88.1	86.4	90.6	84.7	87.9	89.2	92.8

Table 4: Grade 5 children's learning differences based on responses to selected mental well-being statements in Area 1 across the six participating countries

Outcome – Area 1		Reading		Mathematics		Writing	
		Coefficient	SE	Coefficient	SE	Coefficient	SE
Home environment and parental engagement							
Parental engagement (daily/almost daily)	Parents ask what I am learning in school	6.1***	0.33	6.0***	0.37	7.6***	0.42
	I discuss schoolwork with my parents	4.4***	0.39	5.1***	0.42	5.8***	0.44
	Parents check if I do my homework	4.5***	0.37	5.0***	0.37	5.5***	0.44
	Parents help me with my homework	2.6***	0.38	2.4***	0.38	3.2***	0.51
	Parents motivate me to succeed in school	8.3***	0.42	8.4***	0.42	8.0***	0.45
Learning resources	No or few books at home	-1.8***	0.50	-1.6**	0.51	-1.1	0.57
Social environment at school							
Peer relationships	I make friends easily at school	8.6***	0.54	8.2***	0.54	10.0***	0.61
Attitudes towards school	I feel safe when I am at school	6.2***	0.57	5.6***	0.50	7.4***	0.65
	I like being at school	5.8***	0.64	6.5***	0.65	7.6***	0.73
	I feel like I belong to this school	5.7***	0.47	6.6***	0.49	8.1***	0.58
	I have learned useful things at school	13.0***	0.61	11.0***	0.61	14.0***	0.81
Violence at school							
Exposure to violence at school (at least once a month)	Bullying	-0.7	1.00	-0.01	0.94	-0.5	1.22
	Vandalism	-1.9*	0.98	-3.1***	0.94	-3.7**	1.15
	Aggression (ethnic, religion)	-2.4	1.53	-2.5	1.62	-3.0	1.98
	Offensive behaviour (girls, people with disabilities, teachers)	-1.6	1.26	-1.7	1.14	-2.7	1.59
	Violence	-2.8	1.89	-3.4	1.82	-3.7	1.98

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement and learning outcome, controlling for gender, socioeconomic condition, rural/urban location, and country of residence. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

Table 5: Grade 5 children's learning differences based on responses to selected physical well-being statements in Area 2 across the six participating countries

Outcome – Area 2		Reading		Mathematics		Writing	
		Coefficient	SE	Coefficient	SE	Coefficient	SE
Children's time use and activities							
Out-of-school activities (daily/almost daily)	House chores (e.g., washing dishes, tidying up, sweeping a floor)	2.3***	0.36	2.8***	0.39	3.8***	0.43
	Farm work (e.g., livestock, fishing, gardening)	-5.2***	0.53	-4.8***	0.60	-4.6***	0.73
	Commercial activities (e.g., at the market, in a shop, in a restaurant, in the street)	-1.9***	0.52	-2.0***	0.53	-1.8**	0.68
	Physical work (e.g., in a mine, in a workshop, in a factory)	-5.8***	0.65	-5.9***	0.66	-5.6***	0.79
	Taking care of younger children	2.1***	0.35	2.4***	0.37	3.3***	0.43
	Taking care of elderly people	0.95**	0.35	0.9*	0.43	1.8***	0.44
Time to get to school	More than one hour to get to school	-6.6***	0.58	-5.5***	0.62	-7.4***	0.81
Facilities at school	Sports area/playground	0.3	0.76	-0.49	0.87	-0.2	1.00
Facilities in the local area	Playground	1.7	0.88	2.0*	0.92	1.5	1.17
	Sports facilities	2.6**	0.94	2.7*	1.11	3.3**	1.15
	Public gardens/parks	2.6**	0.89	2.7**	1.00	2.6*	1.19
Health and nutrition							
Meals on a normal school day	One meal or less a day	-2.1***	0.52	-3.3***	0.59	-3.7***	0.77
Access to WASH at school	Safe drinking water	3.3***	0.92	4.1***	1.17	3.9**	1.46
	Handwashing station	3.7**	1.17	3.9**	1.30	3.6*	1.45
	Single-sex toilet facilities	4.4***	1.15	3.7**	1.14	5.2***	1.40
	Shortage or inadequacy of toilets (moderate/large extent)	-3.0***	0.76	-3.0***	0.88	-3.3***	0.94

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement and learning outcome, controlling for gender, socioeconomic condition, rural/urban location, and country of residence. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *p<0.05, ** p<0.01, ***p<0.001

Table 6: Grade 5 children's learning differences based on responses to selected environmental concern statements in Area 3 across the six participating countries

Outcome – Area 3		Reading		Mathematics		Writing	
		Coefficient	SE	Coefficient	SE	Coefficient	SE
Learning about the environment							
Learned some/a lot at school about environmental issues	Number of environmental topics covered where the child learned some/a lot	2.0***	0.19	2.0***	0.19	2.3***	0.23

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement and learning outcome, controlling for gender, socioeconomic condition, rural/urban location, and country of residence. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *p<0.05, ** p<0.01, ***p<0.001

Statistical tables – country level

Table 7: Grade 5 children's responses to selected mental well-being statements in Area 1 by participating country (%)

Outcome – Area 1		Cambodia	Lao PDR	Malaysia	Myanmar	Philippines	Viet Nam
Home environment and parental engagement							
Parental engagement (daily/almost daily)	Parents ask what I am learning in school	37.9	28.9	32.2	35.2	29.5	42.0
	I discuss schoolwork with my parents	32.5	33.2	28.4	30.6	27.0	40.2
	Parents check if I do my homework	40.9	33.4	34.0	31.4	33.2	42.1
	Parents help me with my homework	25.2	25.6	28.6	32.2	28.1	21.4
	Parents motivate me to succeed in school	50.7	40.5	48.0	48.6	36.1	58.5
Parental expectations	Parents expect me to complete more than secondary education	37.8	36.1	71.3	80.1	80.9	75.3
Learning resources	No or few books at home	90.2	83.0	83.9	24.8	69.8	61.1
Social environment at school							
Peer relationships	I make friends easily at school	82.4	84.9	89.1	86.4	77.0	94.4
Attitudes towards school	I feel safe when I am at school	88.1	88.1	86.2	89.3	78.4	90.6
	I like being at school	94.1	92.7	90.9	96.2	88.5	94.5
	I feel like I belong to this school	77.6	81.7	79.5	88.8	75.7	84.9
	I have learned useful things at school	89.0	88.5	93.8	89.2	75.4	98.2
Children's voices	Speak in an organized debate at school	26.9	36.8	21.0	36.9	62.0	52.8
	Present ideas to your class	74.5	68.4	66.8	69.1	79.0	72.8
	Speak up in classroom discussions	38.0	62.0	32.0	41.1	52.8	43.3
Violence at school							
Exposure to violence at school (at least once a month)	Bullying	2.4	4.0	25.9	13.2	63.2	18.4
	Vandalism	3.5	15.5	27.1	14.6	39.4	31.1
	Aggression (ethnic, religion)	0.0	6.1	7.3	3.7	9.2	2.1
	Offensive behaviour (girls, people with disabilities, teachers)	3.9	8.1	16.4	9.9	28.8	4.3
	Violence	4.6	4.2	9.6	5.4	12.3	5.3

The column group is headed **Country**.

Table 8: Grade 5 children's responses to selected physical well-being statements in Area 2 by participating country (%)

Outcome – Area 2		Cambodia	Lao PDR	Malaysia	Myanmar	Philippines	Viet Nam
Children's time use and activities							
	House chores (e.g., washing dishes, tidying up, sweeping a floor)	53.8	60.8	42.5	41.8	35.4	53.3
Out-of-school activities (daily/almost daily)	Farm work (e.g., livestock, fishing, gardening)	19.5	37.0	6.9	13.2	14.6	8.6
	Commercial activities (e.g., at the market, in a shop, in a restaurant, in the street)	12.0	16.0	10.6	13.0	15.3	
	Physical work (e.g., in a mine, in a workshop, in a factory)	7.0	13.2	2.3	10.2	11.4	1.9
	Taking care of younger children	45.2	44.7	33.3	31.8	34.7	40.2
	Taking care of elderly people	29.2	39.2	20.0	33.3	27.8	23.6
Time to get to school	More than one hour to get to school	5.2	13.7	7.7	11.0	22.9	1.3
Facilities at school	Sports area/playground	77.9	89.5	81.8	76.0	77.5	81.7
Facilities in the local area	Playground	67.7	78.1	77.3	57.1	80.3	78.2
	Sports facilities	27.7	40.6	82.0	69.4	78.8	73.9
	Public gardens/parks	20.2	16.8	69.5	20.8	58.5	42.9
Health and nutrition							
Meals on a normal school day	One meal or less a day	17.0	12.7	9.6	14.3	18.7	6.9
	Breakfast	91.7	91.7	78.0	90.4	92.7	93.5
Access to WASH at school	Safe drinking water	60.0	58.2	92.2	85.9	83.0	96.3
	Handwashing station	68.2	66.7	96.8	87.0	89.4	90.2
	Single-sex toilet facilities	73.2	45.5	96.2	81.9	52.8	95.6
	Shortage or inadequacy of toilets (moderate/large extent)	42.6	50.5	24.7	45.9	36.8	24.0

Table 9: Grade 5 children's responses to selected environmental concern statements in Area 3 by participating country (%)

Outcome – Area 3		Cambodia	Lao PDR	Malaysia	Myanmar	Philippines	Viet Nam
Worries about the environment							
Environmental concerns (very worried)	Pollution in country	44.7	46.2	40.9	40.8	36.0	68.3
	Pollution outside country	18.5	26.0	15.2	31.5	22.4	17.9
	Power shortages	30.1	41.5	51.3	38.8	24.7	67.6
	Extinction of plants	43.7	44.8	64.2	44.4	31.9	69.8
	Extinction of animals	42.3	46.3	62.4	41.2	35.1	68.7
	Loss of natural resources	46.7	52.0	63.9	45.5	37.2	61.6
	Water shortages	47.2	48.6	65.9	48.6	32.5	78.4
	Climate change	35.4	46.3	39.6	52.5	39.3	55.8
Learning about the environment							
Learned some/a lot at school about environmental issues	Protect the environment	69.4	82.9	80.0	61.4	70.0	97.0
	Pollution in country	42.8	67.4	69.5	49.2	65.0	89.6
	Pollution outside country	38.5	55.2	50.1	44.9	55.9	67.0
	Loss of natural resources	49.3	68.8	42.3	56.0	61.7	81.0
	Climate change	64.6	77.4	66.3	55.5	65.3	87.6
Taking action	Might/will encourage other people to help protect the environment	86.0	79.4	82.4	77.3	77.6	96.1
	Might/will join a group to help protect the environment	84.9	77.5	81.9	79.5	78.1	94.5
	Participated in an activity to make the school more environmentally friendly	71.5	67.7	51.3	58.1	74.1	78.1
Responsibility	It is the government's role to protect the environment	81.9	71.4	76.8	76.3	74.6	71.5
	All people in society must protect the environment	87.5	86.7	94.7	87.4	71.7	97.6
	It is important to learn how to protect the environment	87.9	87.7	93.3	87.6	81.0	98.0

Country

Table 10: Grade 5 children's learning differences based on responses to selected mental well-being statements in Area 1 by participating country

Outcome – Area 1		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Home environment and parental engagement								
Parental engagement (daily/almost daily)	Parents ask what I am learning in school	Cambodia	5.0***	0.83	4.6***	0.73	7.2***	0.91
		Lao PDR	5.7***	0.97	5.7***	0.97	7.3***	1.49
		Malaysia	3.4***	0.85	0.4	0.81	3.5***	0.69
		Myanmar	7.2***	0.73	5.8***	0.80	6.0***	0.92
		Philippines	10.0***	0.55	11.0***	0.60	12.0***	0.81
		Viet Nam	1.2	0.90	2.1*	1.04	3.1***	0.84
	Discuss schoolwork with my parents	Cambodia	0.9	0.86	0.9	0.88	3.4**	1.12
		Lao PDR	3.5***	0.85	4.1***	0.88	6.5***	1.45
		Malaysia	1.5	0.94	-1.0	0.74	2.7***	0.76
		Myanmar	5.8***	0.72	6.2***	0.90	5.6***	0.81
		Philippines	7.0***	0.66	8.1***	0.56	7.9***	0.85
		Viet Nam	2.0*	0.81	3.4***	0.97	3.7***	0.99
	Parents check if I do my homework	Cambodia	4.3***	0.77	4.1***	0.76	6.7***	1.07
		Lao PDR	4.9***	0.86	4.7***	0.92	6.4***	1.40
		Malaysia	2.1**	0.76	-0.11	0.71	2.8***	0.59
		Myanmar	4.3***	0.72	4.5***	0.92	4.2***	0.81
		Philippines	7.2***	0.51	8.4***	0.53	8.0***	0.72
		Viet Nam	1.5	0.96	2.6*	1.08	2.5*	1.00
	Parents help me with my homework	Cambodia	-1.8*	0.74	-2.2**	0.66	-1.2	1.10
		Lao PDR	0.42	0.90	2.5**	0.95	2.3	1.65
		Malaysia	1.7	0.93	0.3	0.69	2.3***	0.68
		Myanmar	4.3***	0.77	4.0***	0.90	3.1***	0.85
		Philippines	5.7***	0.67	6.8***	0.66	6.5***	0.95
		Viet Nam	-2.6*	1.01	-4.3***	1.06	-1.4	1.08

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *p<0.05, ** p<0.01, ***p<0.001

Table 10: Grade 5 children's learning differences based on responses to selected mental well-being statements in Area 1 by participating country (continued)

Outcome – Area 1		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Home environment and parental engagement								
Parental engagement (daily/almost daily)	Parents motivate me to succeed in school	Cambodia	7.0***	0.80	7.4***	0.67	8.6***	0.88
		Lao PDR	5.2***	0.83	6.0***	0.91	6.7***	1.58
		Malaysia	5.2***	0.78	3.7***	0.65	4.8***	0.65
		Myanmar	11.0***	0.76	9.3***	0.77	9.0***	0.94
		Philippines	10.0***	0.65	11.0***	0.66	9.9***	0.80
		Viet Nam	4.9***	1.00	6.7***	1.03	4.9***	0.93
Learning resources	No or few books at home	Cambodia	-1.8	1.15	-3.7**	1.30	-3.4*	1.57
		Lao PDR	-2.0	1.22	-1.8	1.25	-2.4	1.72
		Malaysia	-1.8	1.68	-2.8*	1.39	-1.0	1.20
		Myanmar	-2.1	1.20	-1.0	0.99	-1.8	1.20
		Philippines	-1.3	0.80	-1.1	0.80	-0.9	0.95
		Viet Nam	-2.0*	0.91	-1.6	1.12	-1.0	1.07
School environment at school								
Peer relationships	I make friends easily at school	Cambodia	7.5***	1.02	7.8***	0.98	10.0***	1.23
		Lao PDR	4.3***	1.18	3.8**	1.25	6.8***	1.86
		Malaysia	11.0***	1.60	8.7***	1.45	9.0***	1.31
		Myanmar	9.3***	1.12	8.1***	0.88	11.0***	1.30
		Philippines	9.0***	0.72	8.3***	0.75	9.9***	0.97
		Viet Nam	3.8*	1.77	7.1***	1.94	6.2***	1.78
Attitudes towards school	I feel safe when I am at school	Cambodia	11.0***	1.08	10.0***	1.16	13.0***	1.68
		Lao PDR	4.1**	1.33	6.3***	1.46	7.9***	2.01
		Malaysia	2.3	1.48	0.02	1.52	4.6***	1.04
		Myanmar	13.0***	1.21	11.0***	1.00	13.0***	1.50
		Philippines	6.4***	0.78	5.9***	0.76	6.9***	1.05
		Viet Nam	1.4	1.17	2.7	1.42	3.5**	1.29

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *p<0.05, ** p<0.01, ***p<0.001

Table 10: Grade 5 children's learning differences based on responses to selected mental well-being statements in Area 1 by participating country (continued)

Outcome – Area 1		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
School environment at school								
Attitudes towards school	I like being at school	Cambodia	13.0***	1.36	13.0***	1.51	16.0***	2.05
		Lao PDR	3.4*	1.66	1.9	1.65	3.0	2.72
		Malaysia	0.7	1.61	-4.8**	1.50	4.1***	1.12
		Myanmar	11.0***	1.69	13.0***	1.52	14.0***	2.47
		Philippines	5.6***	0.95	7.5***	1.00	6.8***	1.30
		Viet Nam	3.7*	1.57	5.3**	1.89	3.8*	1.52
	I feel like I belong to this school	Cambodia	3.9***	1.02	4.0***	0.90	6.0***	1.35
		Lao PDR	3.1**	1.08	3.8***	0.98	6.0***	1.64
		Malaysia	2.3*	1.00	2.3*	1.04	4.6***	0.90
		Myanmar	15.0***	1.07	11.0***	0.95	16.0***	1.38
		Philippines	7.5***	0.63	7.5***	0.67	8.6***	0.91
		Viet Nam	-0.5	1.08	5.2***	1.06	4.1***	1.06
	I have learned useful things at school	Cambodia	15.0***	1.14	14.0***	1.12	18.0***	1.70
		Lao PDR	8.2***	1.17	11.0***	1.36	17.0***	2.27
		Malaysia	23.0***	1.92	16.0***	1.96	19.0***	1.72
		Myanmar	16.0***	1.10	11.0***	1.00	17.0***	1.53
		Philippines	11.0***	0.79	10.0***	0.80	12.0***	1.04
		Viet Nam	11.0***	2.80	14.0***	2.76	9.3***	2.62
Violence at school								
Exposure to violence at school (at least once a month)	Bullying	Cambodia	-1.0	3.43	0.1	2.71	-1.5	5.25
		Lao PDR	-2.5	4.93	-0.9	4.89	-6.6	6.84
		Malaysia	0.5	2.17	-2.1	2.20	0.6	1.56
		Myanmar	-4.3	2.67	-3.1	1.84	-5.5	3.55
		Philippines	0.1	1.31	1.5	1.36	0.8	1.65
		Viet Nam	-1.1	1.81	-1.0	2.18	-0.8	1.61

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

Table 10: Grade 5 children's learning differences based on responses to selected mental well-being statements in Area 1 by participating country (continued)

Outcome – Area 1		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Violence at school								
Exposure to violence at school (at least once a month)	Vandalism	Cambodia	4.1	4.38	2.9	4.12	6.7	5.81
		Lao PDR	-1.5	2.06	-1.5	2.43	-5.9	3.29
		Malaysia	-1.3	2.03	-2.0	1.88	-0.3	1.40
		Myanmar	-3.1	2.55	-2.4	1.87	-3.1	3.18
		Philippines	-1.7	1.28	-1.8	1.35	-3.3*	1.64
		Viet Nam	-1.9	1.55	-5.6**	1.80	-5.1***	1.32
	Aggression (ethnic, religion)+	Cambodia	.		.		.	
		Lao PDR	-1.1	3.49	0.4	3.97	-3.2	5.33
		Malaysia	0.3	2.84	1.8	3.69	0.3	1.97
		Myanmar	-3.0	4.25	-3.3	3.44	-2.8	4.27
		Philippines	-1.7	1.79	-1.4	1.92	-2.9	2.61
		Viet Nam	-7.4	6.57	-13.0	7.83	-5.0	7.48
	Offensive behavior (girls, people with disabilities, teachers)	Cambodia	-1.7	3.42	-1.6	3.18	-3.6	5.54
		Lao PDR	0.8	2.47	-0.8	2.54	-1.2	4.31
		Malaysia	1.3	2.02	-0.2	1.96	1.0	1.78
		Myanmar	-5.8*	2.81	-3.4	1.87	-6.9	4.12
		Philippines	-1.5	1.50	-1.2	1.46	-2.4	1.80
		Viet Nam	0.02	2.41	-3.4	3.17	-2.5	2.97
	Violence	Cambodia	2.1	3.07	2.4	2.82	1.3	4.56
		Lao PDR	3.9	5.42	5.0	5.37	5.4	9.30
		Malaysia	-0.3	3.46	1.4	3.36	0.9	1.99
		Myanmar	-2.6	3.06	-2.4	2.62	-1.8	3.06
		Philippines	-2.6	2.23	-3.00	1.97	-5.6*	2.63
		Viet Nam	-6.1	5.59	-9.2	6.27	-3.4	3.00

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

+ Regression coefficients for Cambodia are not available due to the absence of this type of violence at least once a month in this country (see Table 7 in Appendix 3 for reference)

Table 11: Grade 5 children's learning differences based on responses to selected physical well-being statements in Area 2 by participating country

Outcome - Area 2	Country	Reading		Mathematics		Writing	
		Coefficient	SE	Coefficient	SE	Coefficient	SE
Children's time use and activities							
Out-of-school activities (daily/almost daily) — House chores (e.g. washing dishes, tidying up, sweeping a floor)	Cambodia	3.4***	0.99	2.2*	0.89	4.2***	1.14
	Lao PDR	6.2***	0.94	5.8***	1.02	7.9***	1.52
	Malaysia	3.5***	0.95	2.7***	0.82	3.8***	0.68
	Myanmar	3.5***	1.01	4.0***	0.82	2.5*	1.09
	Philippines	3.4***	0.62	4.3***	0.64	4.5***	0.85
	Viet Nam	-1.0	1.00	-0.3	1.03	2.2**	0.80
Farm work (e.g. livestock, fishing, gardening)	Cambodia	-2.7**	0.97	-3.8***	0.90	-3.4*	1.44
	Lao PDR	-0.04	1.08	0.1	1.09	-0.5	1.76
	Malaysia	-7.3***	1.91	-3.7*	1.75	-5.0***	1.46
	Myanmar	-4.2***	1.25	-3.7**	1.26	-2.7*	1.17
	Philippines	-6.9***	0.81	-5.9***	0.81	-5.7***	1.16
	Viet Nam	-3.2*	1.60	-4.7*	2.15	-3.8**	1.42
Commercial activities (e.g. at the market, in a shop, in a restaurant, in the street)	Cambodia	-2.6*	1.15	-3.3*	1.30	-4.8**	1.49
	Lao PDR	-3.0*	1.21	-1.8	1.28	-1.9	2.06
	Malaysia	-4.6***	1.29	-1.6	1.11	-3.7***	0.96
	Myanmar	-3.4**	1.13	-0.4	1.06	0.7	1.15
	Philippines	-1.2	0.83	-2.3**	0.87	-2.4*	1.16
	Viet Nam	-0.5	1.29	-1.9	1.25	-0.4	1.11
Physical work (e.g. in a mine, in a workshop, in a factory)	Cambodia	-8.9***	1.30	-9.5***	1.48	-10.0***	1.84
	Lao PDR	-3.7***	1.06	-4***	1.16	-5.5**	1.81
	Malaysia	-18.0***	2.78	-16.0***	2.33	-13.0***	2.25
	Myanmar	-5.4***	1.51	-5.4***	1.39	-4.4**	1.63
	Philippines	-4.9***	0.88	-4.5***	0.85	-4.9***	1.13
	Viet Nam	-6.3*	3.08	-12.0***	3.22	-4.4	2.38

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *p<0.05, ** p<0.01, ***p<0.001

Table 11: Grade 5 children's learning differences based on responses to selected physical well-being statements in Area 2 by participating country (continued)

Outcome - Area 2		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Children's time use and activities								
Out-of-school activities (daily/almost daily)	Taking care of younger children	Cambodia	2.7**	0.84	2.5***	0.72	4.3***	0.97
		Lao PDR	3.3***	0.86	4.1***	0.77	5.2***	1.37
		Malaysia	-0.51	0.86	-0.5	0.75	0.5	0.68
		Myanmar	2.7*	1.06	1.7	1.03	2.4*	1.05
		Philippines	4.6***	0.59	5.2***	0.62	5.5***	0.80
		Viet Nam	-1.4	0.94	-0.6	0.89	0.3	0.76
	Taking care of elderly people	Cambodia	-2.7***	0.80	-2.8***	0.75	-1.9	1.02
		Lao PDR	2.0**	0.76	1.8*	0.81	0.8	1.44
		Malaysia	-3.2*	1.26	-2.6*	1.01	0.7	0.97
		Myanmar	2.7**	0.98	1.9*	0.91	2.8**	1.06
		Philippines	2.2***	0.62	3.1***	0.65	2.6**	0.91
		Viet Nam	-0.6	1.03	-1.6	1.33	0.2	1.11
Time to get to school	More than one hour to get to school	Cambodia	-9.5***	1.51	-7.3***	1.69	-9.7***	2.02
		Lao PDR	-1.5	1.29	-1.0	1.23	1.7	2.19
		Malaysia	-12.0***	2.76	-0.5	3.26	-7.8***	2.05
		Myanmar	-1.9	1.32	-3.4**	1.05	-2.5	1.43
		Philippines	-6.3***	0.71	-5.5***	0.74	-7.4***	1.03
		Viet Nam	-14.0***	2.95	-21.0***	3.55	-13.0***	3.29
Facilities at school	Sports area / playground	Cambodia	-0.7	1.60	-0.7	1.59	-1.6	2.01
		Lao PDR	3.9	2.35	3.5	2.32	10.0*	4.24
		Malaysia	4.7*	1.91	1.8	2.10	2.5	1.58
		Myanmar	-2.3	1.72	-2.1	1.58	-3.2	1.80
		Philippines	0.6	1.17	-0.1	1.22	0.7	1.60
		Viet Nam	0.9	2.03	-1.1	2.20	0.1	1.69

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

Table 11: Grade 5 children's learning differences based on responses to selected physical well-being statements in Area 2 by participating country (continued)

Outcome - Area 2		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Children's time use and activities								
Facilities in the local area	Playground	Cambodia	2.2	1.83	1.9	1.67	1.0	2.26
		Lao PDR	-0.9	1.71	-1.5	2.04	-2.0	2.84
		Malaysia	5.0*	2.16	4.7*	2.19	4.5**	1.70
		Myanmar	-0.7	2.02	-1.3	1.64	-2.0	2.30
		Philippines	2.3	1.32	2.9	1.53	3.8	2.21
		Viet Nam	3.2	2.07	3.5	2.06	2.5	1.67
	Sports facilities	Cambodia	2.8	1.70	3.9*	1.82	3.4	2.18
		Lao PDR	1.8	1.63	1.6	1.67	4.8	2.57
		Malaysia	4.4	2.57	3.2	2.59	4.1*	1.92
		Myanmar	-3.4	1.75	-3.1*	1.54	-4.2*	1.80
		Philippines	2.9*	1.40	3.8*	1.63	4.8*	2.22
		Viet Nam	5.4*	2.30	4.6	2.75	5.7**	2.02
	Public gardens/ parks	Cambodia	2.7	2.00	3.8	2.19	2.7	2.56
		Lao PDR	-1.8	2.87	-1.2	3.03	0.8	4.48
		Malaysia	4.6*	2.11	5.9**	1.88	2.3	1.57
		Myanmar	5.4*	2.23	2.9	1.58	5.6*	2.71
		Philippines	3.1*	1.30	2.8*	1.35	3.5*	1.72
		Viet Nam	1.9	2.01	3.6	2.19	2.1	1.93
Health and nutrition								
Meals on a normal school day	One meal or less a day	Cambodia	-4.7***	1.29	-5.6***	1.18	-6.9***	1.53
		Lao PDR	-2.0	1.68	-5.1**	1.74	-6.6**	2.43
		Malaysia	-2.8	1.59	-4.8***	1.41	-1.8	1.16
		Myanmar	-3.4**	1.19	-2.5**	0.96	-1.1	1.33
		Philippines	-1.8*	0.77	-3.4***	0.93	-4.2***	1.15
		Viet Nam	0.2	1.74	-1.5	2.01	-2.6	1.61

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

Table 11: Grade 5 children's learning differences based on responses to selected physical well-being statements in Area 2 by participating country (continued)

Outcome - Area 2		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Health and nutrition								
Access to WASH at school	Safe drinking water	Cambodia	-0.7	1.57	-0.2	1.52	-0.7	1.97
		Lao PDR	2.3	1.79	2.9	1.98	3.9	3.17
		Malaysia	7.4*	3.64	11.0***	2.82	5.1	2.90
		Myanmar	2.6	2.15	2.2	1.67	1.3	2.31
		Philippines	2.3	1.57	3.6	2.05	4.0	2.52
		Viet Nam	8.7*	4.09	8.7*	4.18	4.3	3.43
	Handwashing station	Cambodia	-0.6	1.55	-0.6	1.62	-0.8	2.06
		Lao PDR	0.6	1.77	1.6	1.80	0.4	3.07
		Malaysia	-1.5	4.73	2.0	4.54	-0.6	4.14
		Myanmar	2.1	2.13	1.8	1.56	2.1	2.36
		Philippines	2.0	1.63	3.0	2.01	4.3	2.49
		Viet Nam	9.3**	3.37	9.2*	3.62	4.2	2.80
	Single-sex toilet facilities	Cambodia	-0.5	2.00	-1.4	2.09	-0.4	2.50
		Lao PDR	0.5	1.53	1.1	1.62	-0.1	2.34
		Malaysia	4.1	7.24	7.2	5.84	4.6	5.24
		Myanmar	4.0	2.40	2.3	1.74	4.1	2.68
		Philippines	3.7**	1.29	3.0*	1.34	4.5*	1.78
		Viet Nam	9.9	7.58	12.0	7.66	5.9	5.98
	Shortage or inadequacy of toilets (moderate/ large extent)	Cambodia	-0.3	1.48	-1.4	1.44	-0.3	2.00
		Lao PDR	-1.3	1.43	0.03	1.58	-0.8	2.48
		Malaysia	-0.3	2.18	-3.0	2.14	0.4	1.57
		Myanmar	-3.4*	1.61	-1.5	1.26	-4.7*	1.85
		Philippines	-2.9*	1.24	-2.7	1.46	-3.2	1.74
		Viet Nam	-3.7	2.32	-4.9	2.50	-3.0	1.65

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

Table 12: Grade 5 children's learning differences based on responses to selected environmental concern statements in Area 3 by participating country

Outcome - Area 3		Country	Reading		Mathematics		Writing	
			Coefficient	SE	Coefficient	SE	Coefficient	SE
Learning about the environment								
Learned some/a lot at school about environmental issues	Number of environmental topics covered where the child learned some/a lot	Cambodia	0.2	0.25	0.2	0.23	0.7*	0.34
		Lao PDR	2.0***	0.29	1.7***	0.34	2.7***	0.61
		Malaysia	2.1***	0.37	2.1***	0.32	1.5***	0.29
		Myanmar	-0.8*	0.35	-1.1***	0.32	-0.6	0.40
		Philippines	3.4***	0.27	3.2***	0.26	3.9***	0.38
		Viet Nam	2.4***	0.52	3.2***	0.58	2.1***	0.49

Note: The reported coefficients and standard errors are the result of a linear regression model estimated separately for each statement, learning outcome and country, controlling for gender, socioeconomic condition, and rural/urban location. Asterisks indicate statistical significance of differences at 95 per cent confidence level: *$p<0.05$, ** $p<0.01$, ***$p<0.001$

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