



Socioeconomic inequalities in learning opportunities, educational achievement, and mental health: impact of COVID-19 school lockdown in Ghana

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1. Introduction

Globally, the COVID-19 pandemic has had an unprecedented impact on children's education, with about 90% of children being affected by school closures worldwide (UNESCO, 2020a, 2020b). Prior to the pandemic, there were significant inequalities in children's achievement across the educational life course, with students from lower socioeconomic (SES) backgrounds achieving lower outcomes than their high SES peers (Miller et al., 2015; Sosu & Schmidt, 2017; Wolf & McCoy, 2019; Nyatsikor et al., 2020). The COVID-19 pandemic and associated school closures are expected to exacerbate socioeconomic gaps in children's learning, achievement, and wellbeing (e.g., Andrew et al., 2020; Sabates et al., 2021; Schult et al., 2021; UN, 2020). Emerging evidence on the impact of the pandemic indicates SES inequalities in children's engagement with home and online learning (Allen & Wespieser, 2021; Kuhfeld et al., 2020; The DELVE Initiative, 2020) and mental health during school closures (Dewa et al., 2020; Silva Junior et al., 2020; Young Minds, 2020). There were also SES differences in school attendance after schools reopened, with lower SES children more likely to miss school (Sosu & Klein, 2021). This has increased concerns about the long-term educational and wellbeing impacts of the pandemic on all children, especially those from disadvantaged backgrounds.

In March of 2020, schools in Ghana were closed to mitigate the spread of the virus. Over 9 million children from both primary and secondary education were affected (UNICEF, 2021) and the majority of school children only returned to learning in January 2021. Although a nationwide daily educational broadcasts on TV and radio was implemented to support learning during the school lockdown (Brako & Essel, 2020; UNICEF, 2021), a large proportion of children did not have access to the resources needed to participate in these programmes (UNICEF, 2020; Husselman et al., 2020). While school closures are likely to have had a

disproportionate negative impact on all children, the extent to which these effects vary by students' socioeconomic and demographic characteristics remains unclear. Identifying the groups that have been disproportionately affected is key to helping put in place support to mitigate long-term consequences and prevent the widening of socioeconomic inequality gaps.

Achievement of the Sustainable Development Goals (SDGs) agenda for 2030, especially goals 4 and 10 ("Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", and "Reduce inequality within and among countries"), will no doubt require significant investment given the potential setback caused by COVID-19 school closures (Goudie, 2021). Crucially, high quality research evidence will be required to guide investments and interventions that target groups most affected by the pandemic, as will longer term strategies to build resilience into the educational system.

Our study aimed to contribute to these aspirations by examining the nature of socioeconomic disparities in senior high school students' learning experiences, educational achievement, and mental health during the COVID-19-related school closures in Ghana. Additionally, we investigated how the pandemic has affected students' achievement trajectories by analysing trends in achievement before and after schools reopened. Taking an intersectional approach, we examined whether these impacts of the lockdown vary across student SES, gender or place of location (rural or urban) in order to generate socioeconomic gradients of groups most negatively affected. Our findings will help guide policy and interventions to mitigate the long-term negative consequences of the COVID-19 pandemic on educational outcomes and reduce inequalities in student's life chances.

2. Methodology

a. Design and Sample

Using survey methodology, we purposively sampled second year senior high school students (n=1481) enrolled in five different schools in Ghana shortly after schools reopened. We sampled participants across the different public senior high school types using the Ghana Education Services (GES) categorisation of public schools to capture a diverse representation of students from different socioeconomic backgrounds. The students completed a questionnaire detailing their socioeconomic status and their experiences during the lockdown. They also took a short assessment (test) in English Language and Mathematics.

b. Measures

Socioeconomic Status (SES) was a composite measure consisting of students' ratings of their subjective family wealth¹, highest education of parent or guardian², and experiences of hunger during the lockdown³. Participants were categorised into high vs low SES groups depending on whether they fell above or below the mean of a standard score (z) based on our composite of SES variables.

Learning experiences measured the degree to which participants had access to various opportunities to learn during the school lockdown. Key questions included number of hours spent studying during the lockdown, nature of their home learning environment, access to and experience of remote learning during the lockdown, and extent to which they engaged in domestic and economic activities during the school lockdown.

Trajectory of educational attainment was measured by asking participants to indicate their grades in English Language and Mathematics at the

end of their Basic Certificate Examination (Junior High School), and in the end of semester (i.e., term-time) examination before the lockdown. Participants also sat a very short multiple-choice test in both subjects (i.e., after the lockdown). The correlation between reported grades and post-school lockdown assessment was high ($r = .54$ to $.64$, $p < .001$).

Mental health measured participants experiences of household stress, anxiety, and depression during the school lockdown.

Key *demographic characteristics* were also recorded. These included age, gender (female or male), location of participants during the lockdown (rural vs urban), and whether students were on the Green or Gold track.⁴

c. Analysis

We present descriptive and bivariate statistics to examine patterns of socioeconomic differences in student's learning experiences, achievement, and mental health distress during the COVID-19-related school lockdown. To examine the socioeconomic gradient of students most affected by the pandemic, we categorised outcomes by intersections of students' SES, gender, and location (rural vs urban). Of the total sample, 52.9% identified themselves as female and 54.3% were 17 years old or younger. Almost 47% of the sample was enrolled in the Gold Track. Additionally, 19.4% of the students reported living in a rural area during the school lockdown. Over half of the sample were from a high SES background (53.9%), with the rest from low SES households (42.5%).

¹ Measured on a 5-point scale (Very Poor – 1 to Very Rich – 5).

² Measured on a 5-point scale (None, Primary, Secondary, Post-secondary below degree; University degree).

³ Measured on a 5-point scale (Very Often – 1 to Never – 5).

⁴ Secondary school students in Ghana attend school in batches (Gold or Green track) at different times of the year. This was introduced to address increases in secondary school student enrolment following the introduction of free Senior High School Education in September 2017.

3. Findings

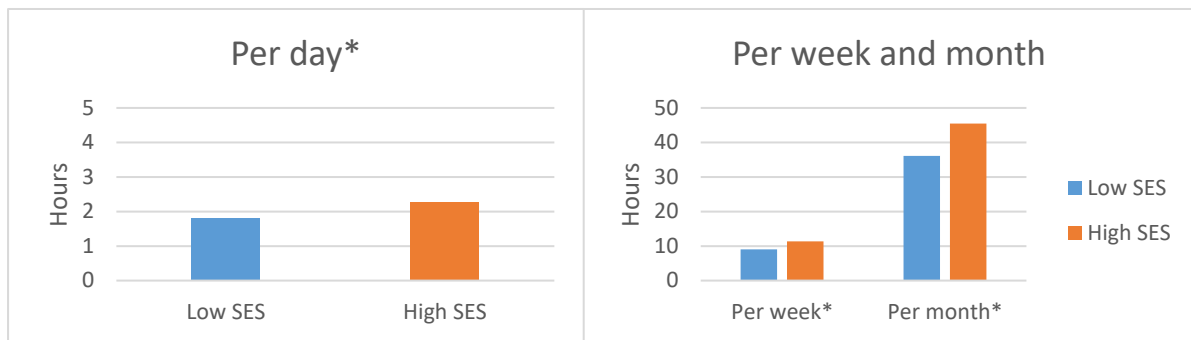
Learning opportunities during lockdown

In this section, we present findings on student’s learning experiences at home during the lockdown and how this differed across SES and demographic groups. The results cover the number of hours spent studying, quality of home learning environment, access to remote learning resources and use of these resources.

3.1. Number of hours students spent studying

Figure 1 shows that students from high SES backgrounds spent more time per day studying than peers from lower SES backgrounds. In general, students from a higher SES group spent an average of 2 hours and 17 minutes per day studying during the lockdown while their low SES peers spent 1 hour and 49 minutes. This equates to a difference of 2 hours and 21 minutes in a school week and 9 hours and 23 minutes in a school month.

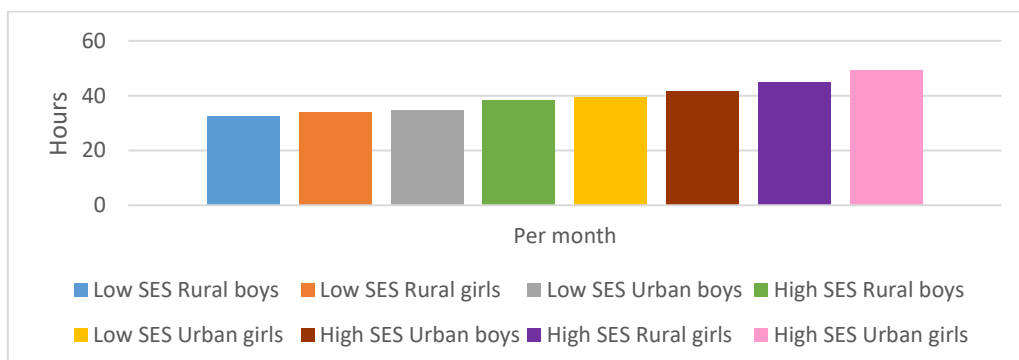
Figure 1. Mean of number of hours spent per day studying during lockdown by SES (n= 1416).



Note: Statistically significant at * $p < .001$.

Intersectional analysis (combining SES, gender, and location) indicates a socioeconomic gradient in hours spent studying during the lockdown. Low SES boys from rural areas spent the least time studying and high SES girls from urban areas spent the most (Figure 2). The difference between the top and bottom groups was about 17 hours per month. Overall, the two groups that spent more time studying per month were high SES girls from urban and rural areas. Similarly, the bottom two groups were low SES rural boys and girls. This indicates that, for students who spent more time studying during lockdown, there is an influence of SES and gender, irrespective of location. For students who spent less time studying, there is an influence of SES and location irrespective of gender.

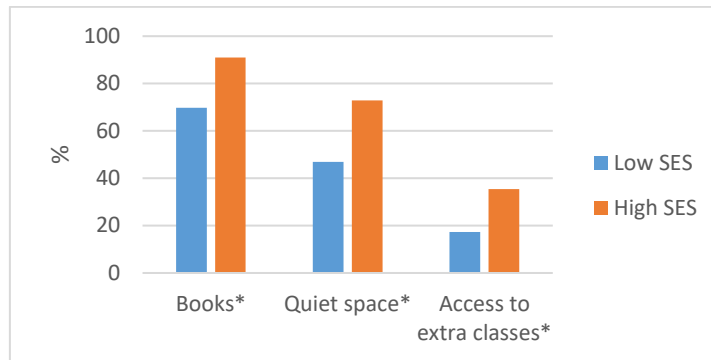
Figure 2. Socioeconomic gradient of number of hours spent studying per month during lockdown ($n_{low}=611$, $n_{high}=786$).



3.2. Quality home learning environment

Figure 3 shows significant inequalities in students' home learning environment during school closures. There were socioeconomic inequalities with respect to access to books (low SES – 69.8%; high SES – 91%), a quiet space for learning (low SES – 46.9%; high SES – 72.9%), and access to extra classes (low SES – 17.3%; high SES – 35.4%), The biggest difference between these two groups was access to a quiet space for learning (26 percentage point difference between low and high SES).

Figure 3. Proportion of students with quality home learning environment by SES.⁵

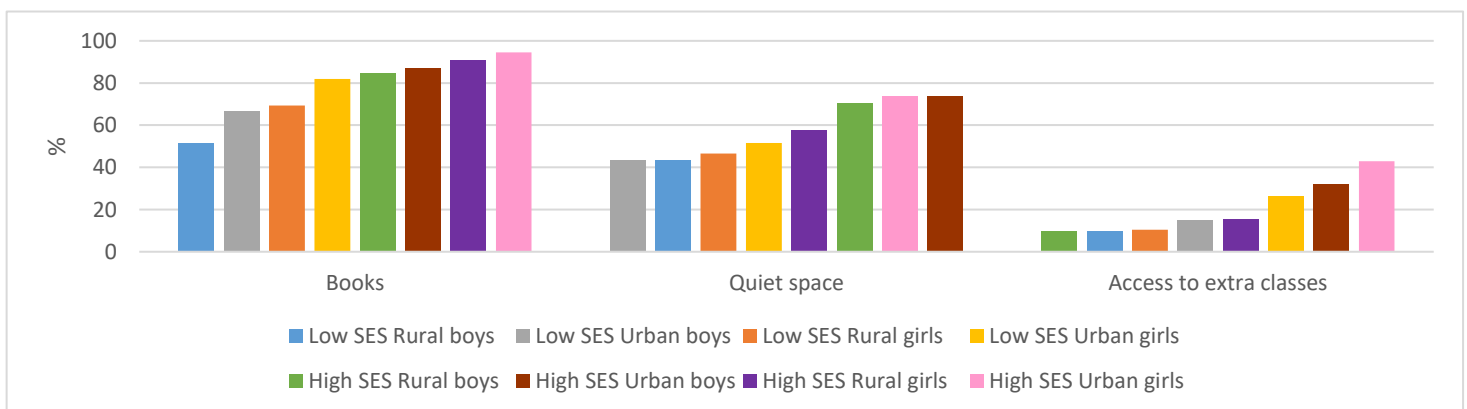


Note: Statistically significant at * $p < .001$.

Intersectional analysis of gender, location, and SES indicate a social gradient in access to a quality home learning environment during the school closures (Figure 4). Access to books seems to be mostly associated with gender and SES. Irrespective of location, low SES boys (in both rural and urban areas) reported lower access to books and higher SES girls (in urban and rural areas) reported greater access. This was a similar pattern for access to a quiet space to study, but only for the bottom two groups (i.e. low SES boys from rural and urban areas reporting lower access to a quiet space). With regard to a higher level of access, SES was the differentiator, with high SES boys and girls from urban areas reporting more access to a quiet space.

Socioeconomic gradient in having access to extra classes (private tuition) during the school closures seem to be influenced by complex set of factors. The groups with greatest access were high SES urban boys and girls, while those with the least access were boys in rural areas, irrespective of SES. The greater access reported by low SES urban girls over higher SES rural girls reflects the fact that extra tuition options tend to be more available in urban areas.

Figure 4. Socioeconomic gradient of students' home learning environment during lockdown.

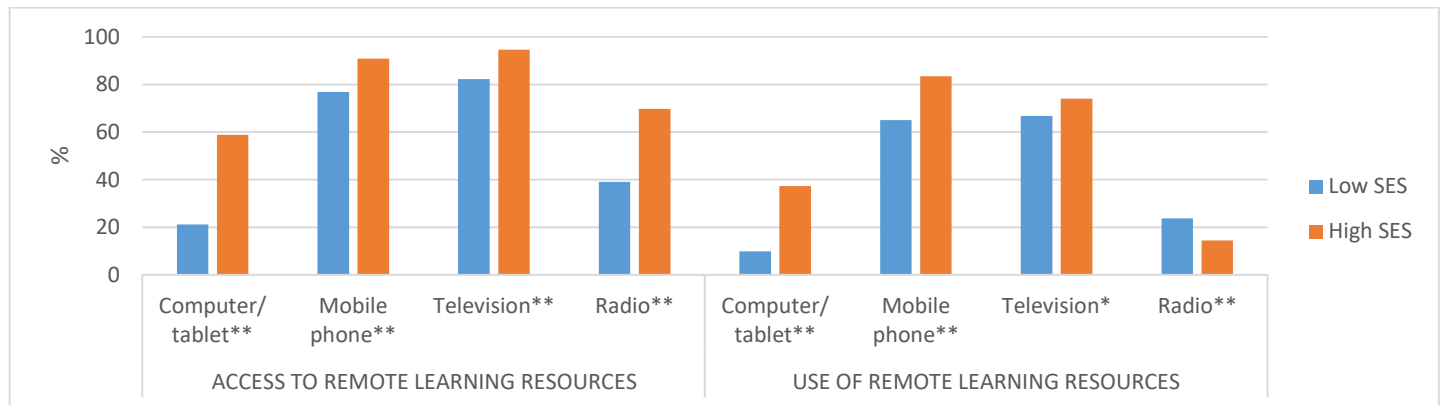


⁵ n for quality home environment: Dedicated space= 1417; Books= 1418; Quiet space= 1419; Access to extra classes= 1416.

3.3. Remote learning resources (Access and Use)

One of the aims of this study was to understand what remote learning resources were accessible to students during lockdown, as well as their usage of these resources. Figure 5 (left graph) indicates that students from high SES backgrounds reported higher access to remote learning resources, with the biggest SES-gap relating to access to computer or tablet (low SES- 21.2% vs high SES – 58.9%) and radio (low SES- 39% vs high SES – 69.7%). Although inequalities exist in access to mobile phones and television, the gap between high and low SES groups was much smaller. These two resources were also the predominant resources used by students to access remote learning.

Figure 5. Proportions of students with access to and use of remote learning resources by SES.⁶



Note: Statistically significant at * $p < .01$; ** $p < .001$.

Inequalities in access extended to inequalities in students' reports of using these resources for remote learning during school closures (Figure 5, right graph). Overall, television and computer/tablets were the most mentioned resources for both SES groups, with lower SES students less likely to use both resources for learning during the school closures than higher SES peers. Consistent with access gaps, high SES students were more than three times more likely to use computer or tablets for learning compared to low SES students (37.3% vs 9.9%, respectively). Radio was the only resource that students from lower SES backgrounds used more frequently during lockdown than students from higher SES.

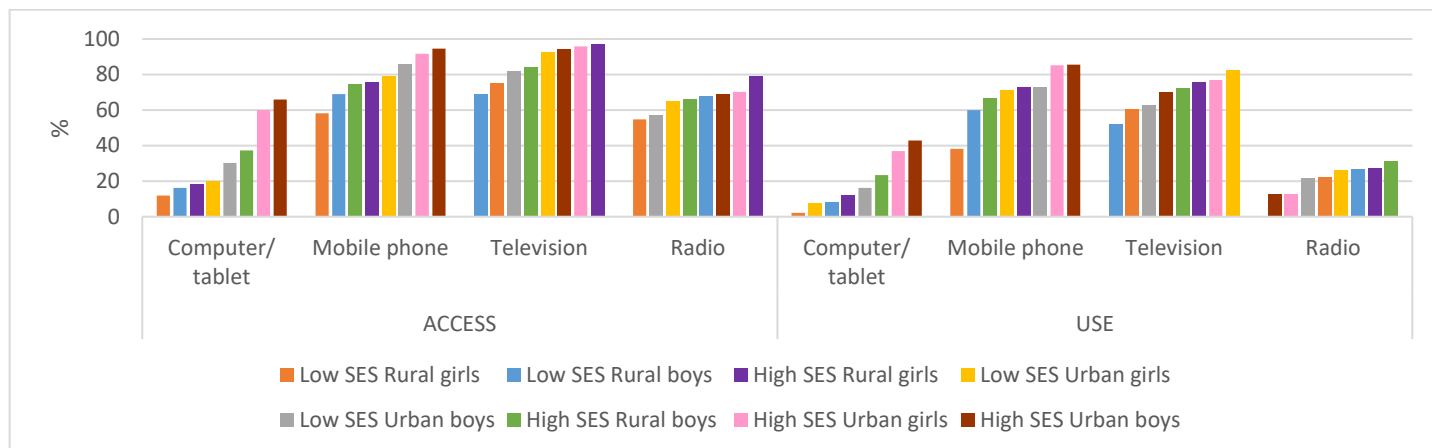
It is also interesting to understand that, when comparing both access and use, access to resources does not necessarily translate into usage of the same resources. This is particularly true for the case of radio, where students from high SES reported having more access to these resources. It may also reflect a greater choice of learning media being available to high compared to low SES students.

⁶ n for Access to remote resources: Computer/tablet= 1396; Mobile phone= 1414; Television= 1419; Radio=1401.

n for Use of remote resources: Computer/tablet= 1418; Mobile phone= 1418; Television= 1418; Radio= 1418.

Socioeconomic gradient analysis revealed differential influence of SES, gender and location in access to and usage of remote learning resources (Figure 6). When it comes to access to resources, the biggest difference between the top and bottom groups was in access to a computer/tablet, with about a 54 percentage point difference between groups (high SES urban boys = 65.9% vs low SES rural girls = 11.8%). But, when looking at the use of these resources, the greatest difference between top and bottom groups is seen in the use of mobile phones, with a 47.3 percentage point difference (high SES urban boys = 85.5% vs low SES rural girls = 38.2%). Overall, those resources dependent on internet access (tablet and mobile phones) were more differentiated by location, with radio being the only means of access to remote learning that was predominant among students in rural areas.

Figure 6. Socioeconomic gradient of access and use of resources during lockdown.⁷



⁷ n for Access to remote resources: Computer/tablet- low SES= 597 high SES=781; Mobile phone- low SES= 605 high SES= 790; Television- low SES= 610 high SES= 790; Radio- low SES=601 high SES= 782.

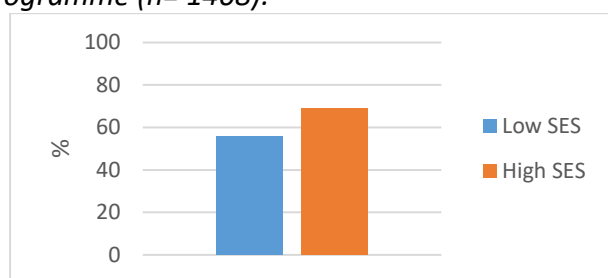
n for Use of remote resources: Computer/tablet- low SES= 610 high SES= 791; Mobile phone- low SES= 610 high SES= 791; Television- low SES= 610 high SES= 791; Radio- low SES= 610 high SES= 791.

3.4. National E-Learning Programmes

Participation in National E-Learning Programmes During Lockdown

Figure 7 reports on socioeconomic differences in access to national e-learning programmes during school closures. There was a 13.4 percentage point difference between low and high SES in their response to participating in these programmes.

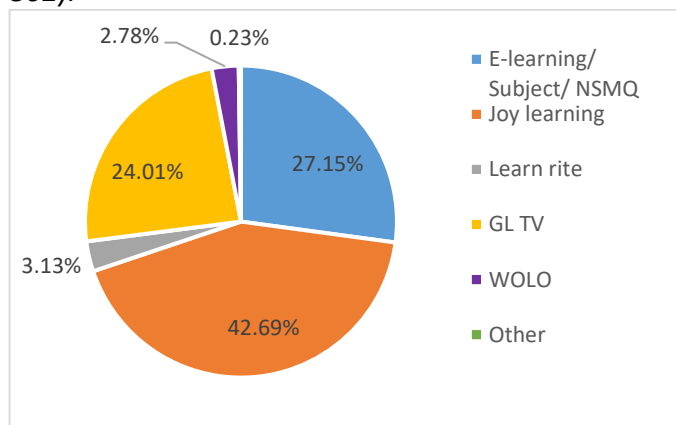
Figure 7. Proportion of students who reported participating in a national e-learning programme (n= 1408).



Note: Statistically significant at $p < .001$

Figure 8 shows the most common programmes students had access to. The majority of the students had access to Joy learning, followed by E-learning/ Subject/ NSMQ, and then GL TV.

Figure 8. Proportions of most common e-learning programmes students had access to (n= 862).

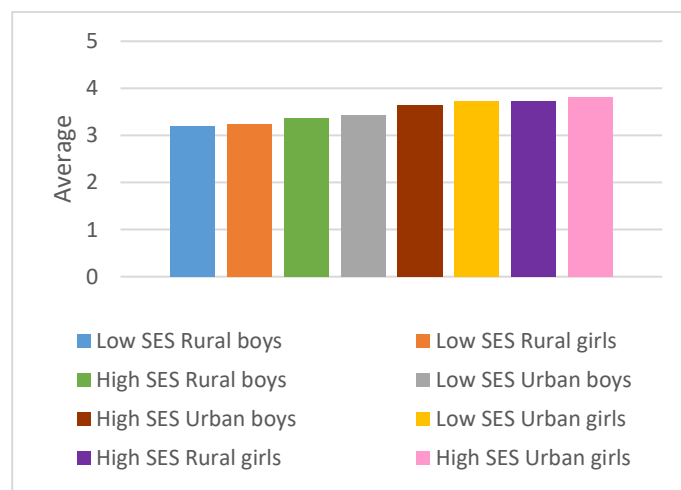


Perceived Benefits of National E-Learning Programmes During Lockdown

Participants who reported having access to e-learning programmes were also asked how beneficial they perceived these programmes to be. Figure 9 shows how useful the students found them

by gradient of socioeconomic characteristics. High SES urban girls were the group most likely to perceive them as beneficial with an average of 3.81 (on a 5-point scale, [1- not beneficial to 5 very beneficial]) with low SES rural boys perceiving the least benefit (average of 3.2 on the same 5-point scale). Overall, the perceived benefits of the e-learning programmes were stratified by gender. Except for low SES rural girls, all girls, on average, reported finding the programmes more beneficial than did boys from all other backgrounds.

Figure 9. Socioeconomic gradient of the average of perceived benefit of e-learning programmes ($n_{low}= 450$, $n_{high}=618$).



Note: This question was asked on a 5-point likert-scale (1-Not at all beneficial, 5- Very beneficial)

Barriers to Participating in E-Learning Programmes

Finally, students that reported not having access to e-learning programmes during lockdown were asked to say what barriers they faced. There were six main barriers reported by the participants (Figure 10). The top three barriers students mentioned were lack of resources, perceived usefulness of the learning provided, and being involved in domestic and economic activities which took time away from their education. Table 1 provides examples of some of the quotes from students for each of the barriers presented in Figure 10.

Figure 10. Proportions of students' reasons for not accessing e-learning programmes (n= 380).

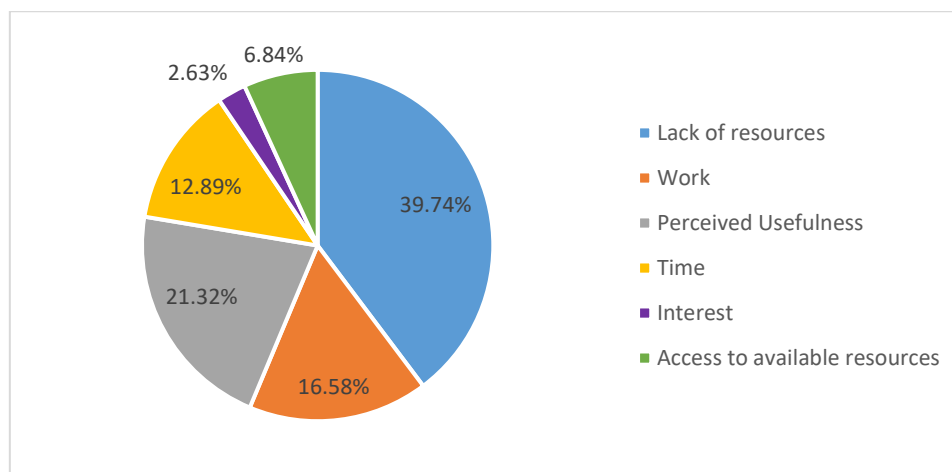


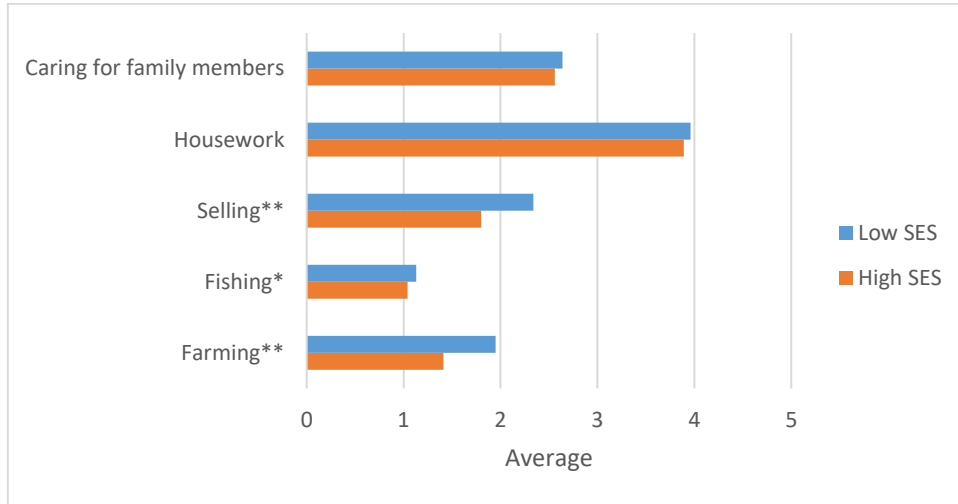
Table 1. Examples of quotes from students who did not had access to e-learning programmes.

Barriers	Quotes
Lack of resources	<i>"I don't have phone to get the access. We don't have TV in our house"</i> (Female, 18 years old)
Perceived usefulness	<i>"What the teacher taught was what we had learnt before the lockdown"</i> (Male, 17 years old)
Work	<i>"Because I was every day in the farm so I couldn't get much time to study the e-learning programme"</i> (Male, 18 years old)
Time	<i>"I was never on time for the programme"</i> (Female, 17 years old)
Access to available resources	<i>"Television in my home is for the whole family due to this I was not able to benefit in full"</i> (Female, 18 years old)
Interest	<i>"Because it was boring"</i> (Female, 17 years old)

3.5. Domestic and Economic activities

Figure 11 shows that students from lower SES backgrounds reported engaging in more domestic and economic activities than students from higher SES households. Housework seems to be the activity that students from both SES categories engaged in the most during the school closures, with a very small difference between both groups.

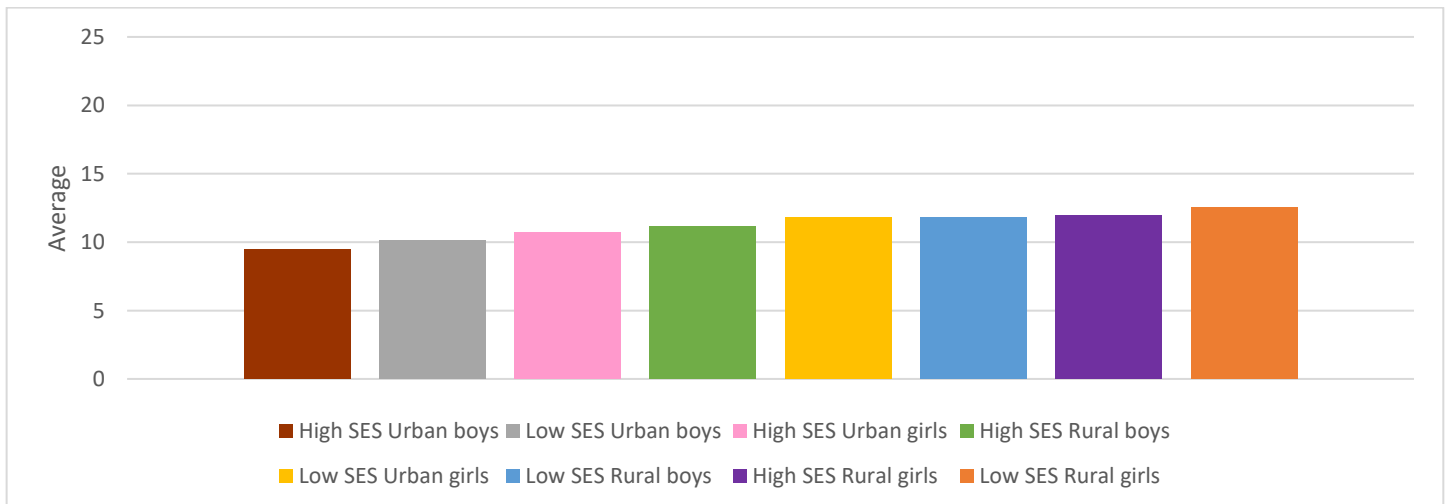
Figure 11. Degree to which students reported engaging in domestic and economic activities by SES.⁸



Note: Statistically significant at * $p < .01$; ** $p < .001$.

Analysis of socioeconomic gradient looking at all forms of work (Figure 13) shows that rural girls, irrespective of SES (both low and high SES), engaged in the greatest amount of domestic and economic activities, while urban boys, irrespective of SES, engaged in the least amount of work during the school closures.

Figure 12. Socioeconomic gradient of the degree to which students engaged with domestic and economic activities ($n_{low} = 594$, $n_{high} = 782$).⁹



⁸ Question referred to how frequently students engaged in domestic and economic activities. The scale ranged from 1 to 5 (1= Never, 5= Very often). $n_{Farming} = 1320$; $n_{Fishing} = 1301$; $n_{Selling} = 1330$; $n_{Housework} = 1351$; $n_{Caring} = 1326$.

⁹ Question referred to how frequently students engaged in domestic and economic activities. The scale ranged from 1 to 5 (1= Never, 5= Very often). All domestic and economic activities were combined through a sum and its average was calculated as result.

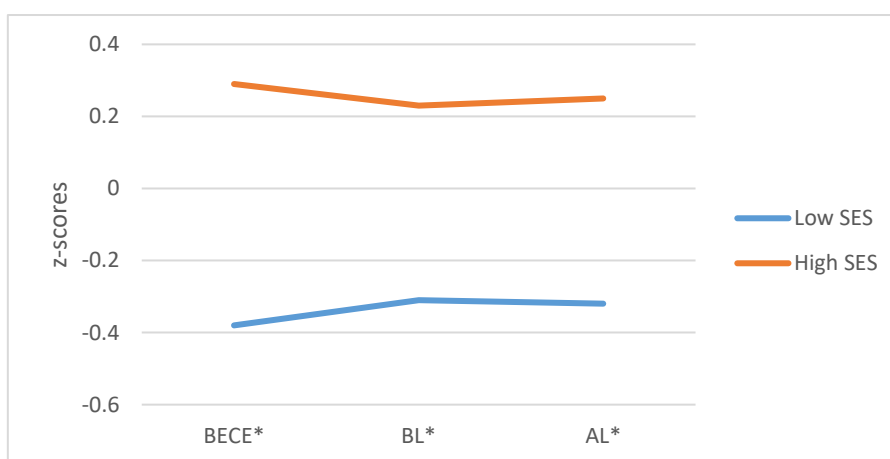
4. Findings

Trajectory of educational attainment

Figure 13 reports trends in student achievement before and after the school lockdown. Overall achievements were based on students' reported grades in English and Maths in a) Basic Education Certificate Examination (BECE); b) end of semester test right before the COVID-19 lockdown (BL); and c) scores on multiple choice test shortly after lockdown (AL) when schools reopened. We found significant correlations between reported grades and grades obtained from the multiple choice test. Grades were transformed into standard scores for comparability.

Overall, significant differences existed between children from high and low SES backgrounds before and after the school closures. Trends suggest that for students from high SES backgrounds, between BECE and before lockdown achievement seemed to be decreasing, while for students in low SES backgrounds the opposite was happening. This suggests the gap in achievement was decreasing between BECE and just before the lockdown. Although achievements appeared to almost plateau during the period of lockdown for low SES students, it rose slightly for high SES peers after the lockdown, leading to an increase in the SES gap.

Figure 13. Total educational attainment by SES.¹⁰



Note: Statistically significance at $*p < .001$.

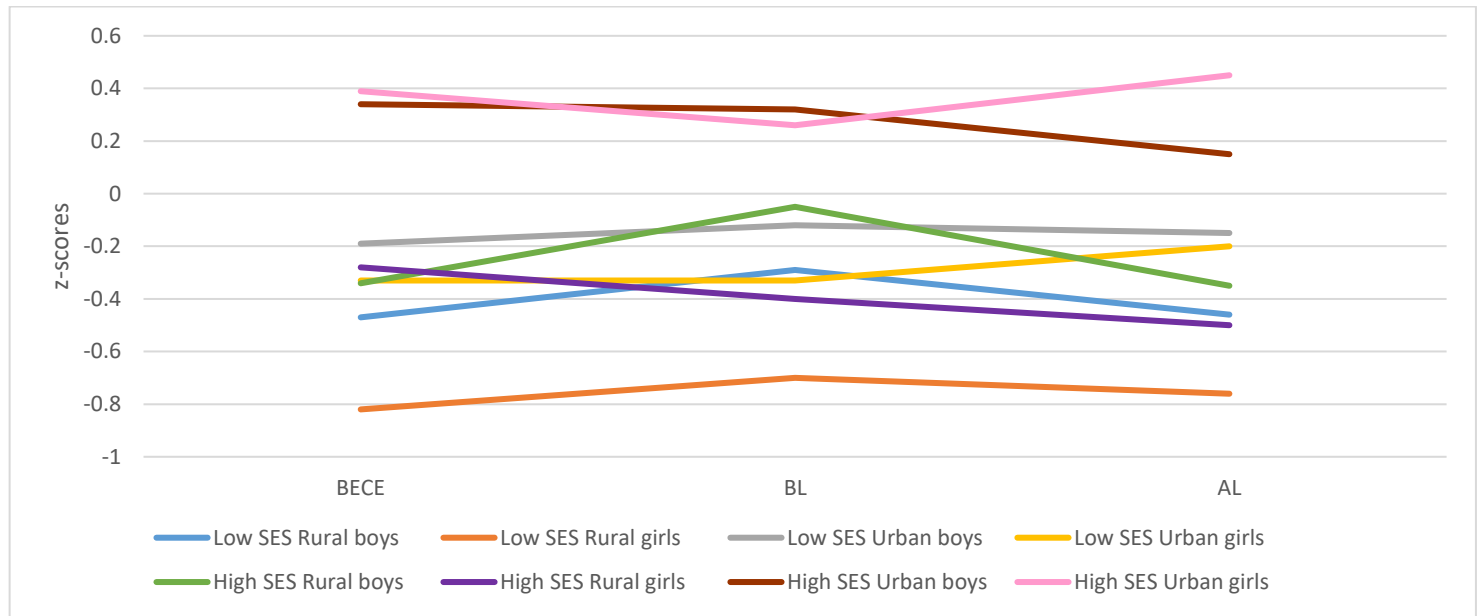
Intersectional analysis of gender, location, and SES indicated a more nuanced social gradient in the trajectory of achievement before and after the COVID-19 school closures (Figure 14). The only two groups that performed over the mean throughout the three time points were high SES urban boys and high SES urban girls. This speaks to the already known significant impact that SES and location has on educational attainment. Furthermore, for boys and girls the trajectory is different. After lockdown, boys' educational attainment decreased, whereas girls performed better when compared to the previous two time points.

On the other end of the spectrum, low SES rural girls had the lowest educational attainment throughout. Between Junior High School (BECE) and end of term examinations before the lockdown (BL), there was a small increase in their achievement, but this declined after schools reopened (AL). Additionally, students in rural areas (low SES boys, high SES boys and girls) witnessed a significant decline in scores after the lockdown contrary to an increasing trajectory before the lockdown (except for high SES rural girls).

¹⁰ BECE- Basic Education Certificate Examination (n= 1392); BL- Before Lockdown (n= 1291); AL- After Lockdown (n= 1427).

This contrasts with trends for low SES boys and girls in urban areas. While there was relative stability in the trajectory of achievement for low SES urban boys, there was a significant growth in achievement for low SES urban girls. Low SES urban girls almost catch up with their male peers and outperform other groups who performed better than them prior to the lockdown. In other words, geography played a significant role in the effect of COVID-19 on students' trajectory of achievement.

Figure 14. Socioeconomic gradient of achievement trajectories before and after the COVID-19 school closures.

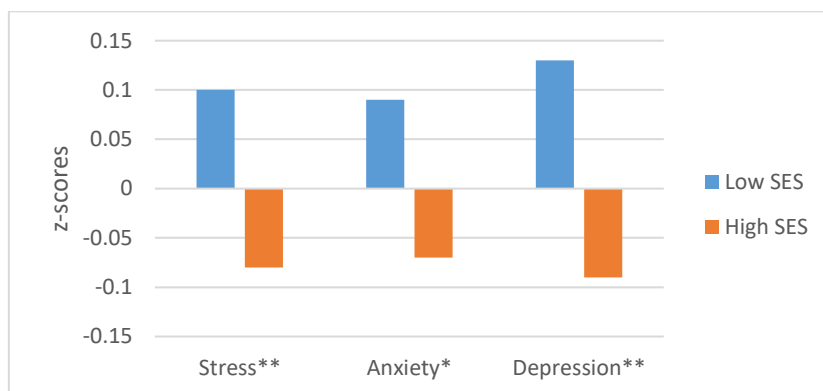


5. Findings

Mental health

Figure 15 reports on the mean scores for three mental health measures: household stress, anxiety, and depression. Students from lower SES backgrounds reported poorer mental health outcomes on all three measures (i.e. higher levels of stress, anxiety, and depression) compared to peers from high SES backgrounds.

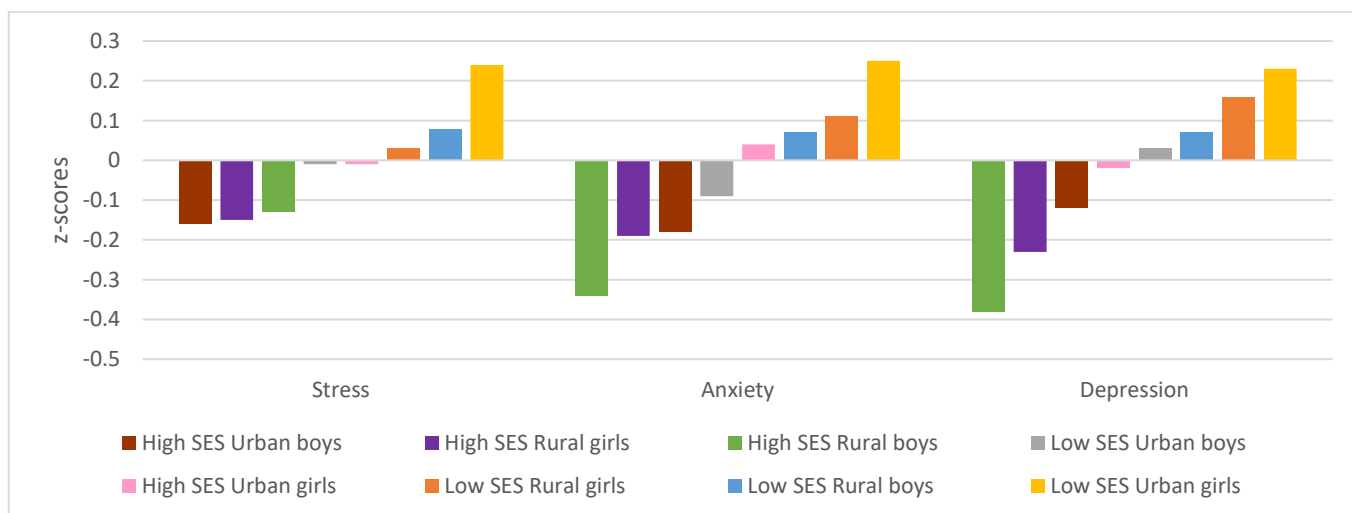
Figure 15. Mean stress, anxiety, and depression by SES ($n_{stress}=1401$; $n_{anxiety}= 1383$; $n_{depression}= 1385$).



Note: Statistically significant at * $p < .01$; ** $p < .001$.

Socioeconomic gradient analysis (Figure 16) indicates a predominant influence of SES on psychological distress. While the three groups reporting lower levels of psychological distress were from high SES backgrounds, the top three groups reporting higher level of distress came from low SES contexts. Overall, low SES urban girls reported the highest levels of household stress, anxiety, and depression. For anxiety and depression, this group was followed by low SES rural girls, while for household stress low SES rural boys were the second group reporting the highest levels. At the other end of the spectrum, high SES urban boys reported the lowest level of household stress, while the lowest levels for anxiety and depression were reported by high SES rural boys.

Figure 16. Socioeconomic gradient of mental health distress scores ($n_{low}= 602$, $n_{high}=783$).



6. Conclusion

This study explored the nature of socioeconomic disparities in senior high school students' learning experiences, educational achievement, and psychological distress during the COVID-19 related school closures. Adopting an intersectional approach, we examined the interaction of SES, gender, and location (rural or urban) to identify socioeconomic gradients. Overall, we found associations between students' SES and learning experiences, psychological distress during lockdown, and trajectory of educational outcomes. Consistent with other international studies (e.g., Allen & Wespieser, 2021; Dewa et al., 2020; UNICEF, 2020; Husselman et al., 2020), students from low SES households in our study reported the greatest number of difficulties during the COVID-19 related school lockdown. In the UK, research has concluded that students from high-income families spent 30% more time studying while at home and reported having more access to resources, when compared to low-income peers (Andrew et al., 2020). Differences in the number of hours spent studying was also reported for students registered for free school meals and those not in receipt of free meals (Green, 2020).

The trajectory of educational achievement also suggests an increase in SES-achievement gaps as a result of school closures, albeit with significant nuances. This latter finding provides crucial evidence on the actual impact of the school closures on inequalities in student achievement. International studies (e.g., Kuhfeld et al., 2020) and a study using historic data from Ghana (Sabates et al., 2021) have predicted learning loss and inequalities in student achievement due to the pandemic. Our results provide evidence in support of these projections, and add further awareness about the impact of SES on educational inequalities experienced as a result of COVID-19.

We were able to gain specific insight about which groups, according to a socioeconomic gradient, were facing greatest number of difficulties during the COVID-19 pandemic and, therefore,

require the greatest level of intervention post-pandemic. Findings on socioeconomic gradients showed that low SES rural boys and girls experienced the biggest disadvantages during lockdown. However, we also found an overall 'rural penalty' in the trajectory of achievement resulting from the school closures, with high SES rural girls and boys also showing significant declines in achievement over time. Specifically for educational achievement, low SES rural girls presented a pattern of concern, with low scores even pre-pandemic, making this group high risk and in need of urgent support to address the overall SES, location, and gender gaps.

a) Recommendations

The study revealed three major areas of inequality among students: learning experiences, educational achievement, and psychological distress based on SES. It is therefore recommended that urgent policies and interventions are put in place by the government to address the challenges faced by students. Such policies should adopt a systemic approach by creating partnerships between government, local authorities, schools, health and education boards in order to address some of the difficulties highlighted by this study.

Learning experiences

Students from lower SES backgrounds and rural areas reported less access to remote learning resources like computers or tablets (and consequently less use of these resources). Similarly, they reported having lower access to national e-learning programmes to mitigate school closures. To address these challenges and propel the nation to meet the emerging 21st century technological learning trends and, more specifically, issues relating to future unforeseen lockdowns, the government should put in place policies and interventions to ensure that e-learning facilities are easily accessible to all learners throughout the country. Regional and district education directorates should be funded to develop interventions for enhanced accessibility to e-learning at a local level. For instance, interventions

that aim to provide access to ICT (e.g., mobile phones, computers/tablets internet access and radio) to individual students from low SES backgrounds should be explored as a means of bridging the access gap.

Developing such interventions will: enable continuous rollout of e-learning activities to narrow access to extra tuition gaps, especially during school holidays; help all students to somewhat address gaps in learning during school closures; and build a resilient educational system in preparation for any future unexpected school closures. The Government and education authorities should exploit the potential of digital resources by adapting the existing learning curriculum to involve digital access. This should also be accompanied by digital training for teachers, and other school staff to improve their knowledge about what could be achieved by using different resources. The recently launched “*one teacher one laptop initiative*” by the Government of Ghana in 2021 offers an opportunity for achieving this goal. Similarly, attention should be paid to improved delivery of learning via mediums such as radio, commonly used by students in rural areas. To be effective, any policy and intervention should be accompanied by robust evaluations to assess whether all children are benefitting, and the extent to which such policies are closing socioeconomic gaps in learning.

Most importantly, efforts should be put in place to address inequalities in access to learning resources such as books when students are in school and at home. There should be enhanced funding by government for students living in poverty and schools in disadvantaged areas, in order to close the SES-gap in access to teaching and learning resources. Efforts to ensure all students and schools are resource-endowed should be a policy priority, with continuous monitoring to assess achievements against specific benchmarks.

Educational achievement

The trajectory of educational achievement suggests an increase in SES-achievement gaps as a result of school closures, albeit in a more nuanced way. Overall, low SES students (especially girls in rural areas), and high SES students in rural areas, experienced significant declines in achievement during the school closures. These groups should be

prioritised in any short-term efforts to mitigate the impact of the pandemic. In other words, while recent global efforts call for prioritising girls’ education to “build back better” after the pandemic (Global Partnership for Education, 2020; UK Government 2021), a more nuanced approach should be adopted to support most vulnerable learners irrespective of gender, as our report indicates that not all groups of girls are disadvantaged. Our call is more consistent with UNICEF’s notion of “building back equal” by focusing interventions on the most vulnerable (UNICEF, 2020).

A possible consequence of the school closures is increased levels of school dropout among students from disadvantaged backgrounds due to economic difficulties or challenges in keeping up with learning. We therefore recommend robust monitoring to identify and support groups of students who do not return to school after lockdown.

To mitigate the long-term negative impact of the pandemic on students, the government should develop a COVID-19 educational recovery strategy with a focus on addressing inequalities in educational outcomes and wellbeing. This policy should focus on national interventions to support immediate and longer-term educational recovery, and reduce inequality gaps and barriers to wellbeing. One example of shorter-term intervention adopted to close the pandemic related learning gaps around the world is tutoring (Education Endowment Foundation, 2020). However, for this to be successful, tutoring initiatives must attend to the peculiar barriers that prevent low SES students from engaging in tutoring (Education Endowment Foundation, 2020). Longer-term policy interventions should enable junior and senior high school students who do not pass high-stakes exams to get additional chances to prepare for and undertake these exams at no cost. Focus should also be placed on providing financial support for alternative pathways, such as technical and vocational training or employment. These efforts will not only lead to positive outcomes but also yield significant economic returns.

Mental health

Our findings also suggest a need to prioritise and attend to significant psychological distress experienced by students from low SES backgrounds. Girls from low SES backgrounds, and especially those in urban areas, reported high levels of stress, anxiety and depression. The government and other agencies should make addressing psychological distress and promoting mental wellbeing a key educational priority. There should be targeted funding for counselling services to support students in schools, as well as whole-school psychoeducational interventions to reduce stigma and improve mental wellbeing. School-based interventions should also address the distress caused by school closures and anxiety related to school performance that some students might be experiencing. Government should explore the possibility of nation-wide mental health actions like reducing stigma campaigns to normalise the discussion of such topics in schools. Furthermore, this could be achieved by investing in community-based interventions.

Community-based interventions that focus on actively engaging the community in reducing barriers associated with poverty and promoting mental wellbeing should be promoted. This means actively engaging communities in the learning process by for example, organising events in schools to discuss these issues to bridge the gap between school and communities. In this way, communities can start to feel invested in students' success and wellbeing. Finally, there should be funding to understand underlying causes of psychological distress among disadvantaged students and how to address barriers to promote longer term mental wellbeing among this group.

Key Findings

- There were significant socioeconomic (SES) inequalities in students' learning opportunities, mental health, and trajectory of educational achievement during the period of school closure.
- Low SES students spent less time studying, and had less access to digital resources, books, and extra classes. They also reported lower usage of these resources - except for the use of radio for remote learning.
- Low SES students reported higher engagement in domestic and economic activities, as well as higher levels of stress, anxiety, and depression.
- Analysis of students' trajectory of educational achievement suggest increases in the SES-achievement gap, albeit with significant nuances.
- Intersectional analyses of SES, gender, and location (rural or urban) indicate significant socioeconomic gradients in the impact of school closure on different sociodemographic groups.
- Low SES rural girls and boys reported the greatest number of difficulties during lockdown. In contrast, high SES urban boys and girls reported the lowest number of overall difficulties.
- Low SES rural girls had the lowest achievement trajectory, while high SES urban girls demonstrated increasing trajectory of achievement during the period of school closures.
- There was evidence of a 'rural penalty' in the trajectory of achievement resulting from the school closures, with high SES rural girls and boys showing significant declines in achievement over time, compared with low SES urban peers who demonstrated an increasing trajectory.

We recommend

- i. The government should develop a COVID-19 educational recovery strategy focused on addressing inequalities in educational outcomes and wellbeing to support immediate and longer-term educational recovery, and wellbeing.
- ii. Funding should be provided by the government and other agencies to enable students from disadvantaged backgrounds have access to books and ICT resources to close the SES-gap in learning resources.
- iii. There should be investment by government and other agencies to improve delivery of learning via mediums such as radio, commonly used by students in rural areas.
- iv. The government should develop a longer-term policy that enables junior and senior high school students who do not pass high-stakes exams to get additional chances to prepare for and undertake these exams at no cost.
- v. There should be provision and support by the government and other agencies for alternative pathways, such as technical and vocational training.
- vi. The government and other agencies should make addressing psychological distress and promoting mental wellbeing a key educational priority. For instance, there should be targeted funding for counselling services to support students in schools, as well as whole-school psychoeducational interventions to reduce stigma and improve mental wellbeing.
- vii. To close the inequality gap and achieve social justice, these policies and interventions should benefit the most disadvantaged students, that is, low SES students and especially those in rural areas.
- viii. Rigorous monitoring and evaluation of these interventions to ensure they benefit the most disadvantaged (e.g., low SES rural girls and boys) and address any longer-term consequences arising from the pandemic.

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