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SCHOOL CLOSURES AND CHILDREN'S EDUCATIONAL PROBLEMS DURING PANDEMIC IN AZAD JAMMU AND KASHMIR

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Abstract
The COVID-19 pandemic significantly disrupted school education in unprecedented ways. This study aims to examine the challenges faced by children due to school closures during the pandemic. The primary objective was to identify the factors that negatively impacted the educational performance of schoolchildren. The study was conducted in two public schools in Mirpur, Azad Jammu and Kashmir (AJK), using a quantitative research design with a cross-sectional approach. Data was collected through a questionnaire with a sample of 405 students, selected using a convenience sampling technique. Our findings revealed a range of issues affecting students' performance, with regression analysis identifying key predictors of poor educational outcomes. These included a lack of technology, inadequate skills, limited internet access, issues with marking and grading, and increased stress. Consequently, students' academic performance was severely impacted. Our findings challenge the views of Conole (2007), Hannon (2008), Reid (2012), and Dahlberg (2004), who did not account for the extent of educational disruption observed. It is strongly recommended that the Ministry of Education (MoE) develop and implement preparedness programs to better address such crises in the future.

INTRODUCTION

Globally, pandemics resulted into lockdowns, quarantines, and social distancing to combat transmission and impede accelerated spread. COVID-19 overwhelmingly affected the functioning of education system across the globe (García & Weiss, 2020; Pokhrel & Chhetri, 2021). Schools were closed and educational activities were suspended to save schoolchildren from the threat of novel virus (Tadesse & Muluye, 2020; Tarkar, 2020). This situation equally prevailed in developed and developing nations where educational activities were primarily closed. Although, lockdown strategies proved effective to curtail spread of transmission, however complete lockdown was not efficient in the long run. Thus, educational activities were shifted to online mode to continue teaching and learning (Buonsenso et al., 2021; Maqsood et al., 2021). It is pertinent to mention here that education system of developed nations is well equipped with modern technology that coped with the prevailing situation of pandemic in schools. Nonetheless, education system of developing countries was ill-prepared and lacked core infrastructure to cope with the pandemic situation (Engzell, Frey, & Verhagen, 2021; Onyema et al., 2020). These studies revealed that absence of modern technology and school infrastructure were major obstacles to develop a sustained and effective mechanism to provide a safe and secure learning environment that support children at schools during pandemic. Similarly, there was no preparedness to evaluate the impacts of such a deadliest pandemic. Moreover, Ma et al. (2021) argued that new experience was a challenge to transform educational activities online without prior strategies and planning for most of the developing nations. Likewise, the incapacitated school children,

confronted pandemic, were unable to cope with the online educational activities readily. Ali (2020) stated that educational performance and leaning skills of the school children affected badly. It is noteworthy to explain that public schools deficient in modern technology and infrastructure negatively impacted the performance of children as compared to their on-campus performance. Besides, several other factors disrupted the performance of school children in public schools. These include, internet connectivity, teachers' training, syllabus issues, and availability of materials. Research revealed that many school children in public schools were extremely deficient in technology and do not even own laptops and cell phones to connect with their teachers for the classes (Buonsenso et al., 2021; Kuhfeld et al., 2020; Onyema et al., 2020). They emphasized that technology is the major factor of achieving better educational outcomes from online learning. Like other developing countries, technology is inaccessible to the schoolchildren in public sector schools in Pakistan (Adnan et al., 2020). Beyond technology, several other associated factors affect the performance of school children, i.e. infrastructure and internet connectivity (Mumtaz, Saqulain, & Mumtaz, 2021; Abdullah, Usmani, & Shoaib, 2023). Ali et al. (2020) highlighted that sudden transition of online learning posed many challenges to the school systems of Pakistan. Rehman and Khan (2021) added that schools were not equipped with online learning technology mode that further affected their educational performance.

Study Context: Like other countries, lockdowns were also enforced in Pakistan to curtail the transmission of pandemic (Khan & Ahmed, 2021; Ullah & Ali, 2022). Though it proved affective to slow down the spread, however it was not an appropriate solution in the long run (Haider, Gul, Anwar, Tehseen, & Iqbal, 2021 Abdullah, & Ullah, 2022). For instance, pandemic affected the enrolment of school children ranged from primary to secondary level of school. This increased ratio of out of school children reached to almost 30 million accounting 44 percent of above-mentioned age group (PSLM, 2018). As school system of Pakistan is inadequate to cope with the online mode of learning (Akram, Aslam, Saleem, & Parveen, 2021; Abdullah, Habib, & Gillani, 2021). Thus, for remote learning, primarily television broadcast was started for the school children (Gul & Khilji, 2021). Here, standard environment for online learning was home based where quality of interaction varies depending upon the teacher-student access to technology and network (Gul, Tahir, & Ishfaq, 2023). Despite efforts, there is substantial learning loss of children due to heterogenous quality of education. As children from poor households are vulnerable due to inadequate use of technology, i.e. laptops and cell phones (Mumtaz, Mohamed, Haseeb, & Ansari, 2022). Above all, low parenting education further adds fuel to the fire (Qazi, Sharif, & Akhlaq, 2024). As a result, children face low level of learning and schooling increasing out of school children. Noor et al. (2020) stated that traditional mode of teaching is practiced in schools without preparedness to mitigate such crisis. Similarly, Maqsood et al. (2021) added that technologically deficient Pakistan was not capable to deal with such a huge crisis. Mumtaz et al. (2021) highlighted some common factors of student' performance including low grades (Fatonia et al., 2020), stress and anxiety (Abdullah & Shoaib, 2021), marking criteria (Khattar, Jain, & Quadri, 2020), and internet connectivity issues (Ali, 2020). Furthermore, Fatonia et al. (2020) revealed that online learning negatively impacted grades of school children. In addition, students were unable to access the material shared that affected learning skills (Baticulon et al., 2021; Abbasi et al., 2016). It is important to mention that many studies have been conducted on this issue in developing countries. However, students' perspective regarding the academic performance and usage of technology is ignored area in the context of Mirpur, Azad Jammu and Kashmir (AJK), Pakistan. It is, thus, attempted to examine the nexus of school closure and online learning problems of school children during the pandemic.

Literature Review

Research has been conducted on previous health crises of Spanish Flue, H1N1, and Ebola pandemics across the globe (Bhadoria, Gupta, & Agarwal, 2021; Hanson-DeFusco, 2020; Maalouf, Mdawar, Meho, & Akl, 2021). These studies revealed the impacts of pandemics on school education of children. However, COVID-19 crisis has substantial effects on learning loss of the children in public school. In response, many studies analysed the impacts of

pandemics on the schoolchildren and their achievements the world over (Donohue & Miller, 2020; Engzell, Frey, & Verhagen, 2021; Abdullah et al., 2015). Similarly, Khan and Ahmed (2021) highlighted the issues of school children in Pakistan. They found a substantial decrease in learning achievements of children in public schools.

According to Barrot, Llenares, and Del Rosario (2021), COVID-19 wreaked havoc across the world and education has been hit hard. The school closure affected the school education while reducing the instructional learning time that badly impacted the performance of school children and, hence, created a disparate learning condition for students (Grewenig, Lergetporer, Werner, Woessmann, & Zierow, 2021).

Tadesse and Muluye (2020) unveiled that the COVID-19 pandemics threatened elementary schools to shut down and use alternative modes of online learning. Abrupt transition to online learning raised several issues that affected the school education. Dutta and Smita (2020) added that a well-designed online learning mechanism may lead to the students' enhanced learning, increased motivation, and satisfaction. They also stated that online learning can produce the robust outcomes than the face-to-face learning. However, pandemics negatively affected the performance and learning skills of the schoolchildren in developing countries (Cattan et al., 2021).

Transition to online learning has raised several concerns and questions to the educational system of the developing countries (Abdullah & Shoaib, 2021; Adnan & Anwar, 2020; Ahmad, Shoaib, & Abdullah, 2021). Primarily, infrastructure of school was not equipped with the modern technology. Similarly, teachers-students access to technology and connectivity issues further added vulnerabilities to school children without electronic gadgets and proper training to cope this transition readily. Similar findings are given by Engzell et al. (2021). They asserted that one of the significant factors influencing the students' performance was not having the learning environment and sense of belongings and students were distracted due to home-based learning environment. Further, students feel less connected without support of teacher. Additionally, students from poor families and poor parenting education remained absent from online classes. Ultimately, absence of classroom experience suffered the children during the school closure (Dorn, Hancock, Sarakatsannis, & Viruleg, 2021; Tsolou, Babalis, & Tsoli, 2021).

Research conducted on quality of online learning in schools of developing countries showed that preparedness strategies lacked to mitigate the impacts of pandemics (Pokhrel & Chhetri, 2021; Toquero, 2020). They also argued that infrastructure in public schools was not compatible for the online learning and acceptance of online mode was also a challenge to teachers and students. As majority of students and teachers had concerns about the quality of the online learning. Besides, a home-based learning environment was also a challenge for the students from poor families deficient in technology and poor parenting as well (Goudeau, Sanrey, Stanczak, Manstead, & Darnon, 2021; Khalique, Ramayah, Hina, & Abdullah, 2020).

Azhari and Fajri (2021) stated that school children faced numerous problems in learning during the pandemics. They highlighted that online learning produced inequalities through heterogeneous quality of education by making the students more vulnerable in class participation. They in line with Tadesse and Muluye (2020) argued that students in remote areas lack access to phones and laptops while poor parenting further increased risk of learning loss of children. By the same token, familiarity of teachers with technology also posed threats to the transmission of educational skills to schoolchildren. Rehman and Khan (2021) added that homebased learning was challenge to the children to meet their education goals. It is further differentiated by Adnan and Anwar (2020). They asserted that students perform better on campus rather than online. Putra et al. (2020) conducted a study on learning loss of children. They also emphasized that learning loss of poor students is one of major concern in such a homebased learning environment. They disagreed that concept of remote learning of television (TV) broadcast by stating that people do not have access even to TV for the learning of their children. Thus, inequalities are produced during online learning.

The online learning in public schools has several complexities. For example, learning skills of students are affected. Besides gadgets, Onyema et al. (2020) found issues of connectivity a major hurdle in class

participation. Students having network issues mainly rely on the mode that how to access the material shared from nearby students and teachers. So, major concern of school children was lack of participation due to network issues coupled with ineffective ways of accessing learning materials. Ali (2020) asserted that disrupted ongoing class deprived students to actively participate in the learning process. She also stated that long term online classes negatively affected their reading, writing, listening, and speaking skills including participation and increased low learning capacity. Surkhali and Garbuja (2020) conducted a study on issues of students during pandemics. They also spotlighted that online learning affects the capabilities of students in general and school children in particular. Mumtaz et al. (2021) added that assignment skills have been badly affected despite having gadgets and connectivity, they are unable to materialize the learning (Noor et al., 2020).

Tadesse and Muluye (2020) revealed that, in Pakistan, performance of school children was badly affected due to the lack of facilities during online learning. Besides technology and infrastructure, schoolchildren faced issues of paper marking and grades by mentioning the issues of results received on declaration. Similarly, Tarkar (2020) further added that result and marking criteria was poorly designed and strategized that raised several other concerns of students, community, and experts. In addition, Pokhrel and Chhetri (2021) stated that students were unsatisfactory against grades and paper checking and marking criteria. König et al. (2020) asserted in their study that children who performed well in schools (on campus) faced maladjustments to coping with online education. Thus, school children were unable to learn the skills. Another important aspect identified by the researchers was stress faced by children due to the low grades and paper marking issues (García & Weiss, 2020; Muhammed et al., 2015). They also found that students face anxiety, tension, and stress due to the ineffectiveness of their learning modes.

Theoretical framework: This study is informed by three orientation models of online education technology given by Conole (2007), Hannnon (2008) and Reid (2012). This model emphasizes the instrumental adaptation of educational technology, i.e. pedagogical, organizational, and technological focus. This model describes that teachers equipped with pedagogic skills engage students and perform in-line with prevailing situations. Moreover, infrastructure in schools has a key role in familiarizing the teachers and students with such a situation. Besides, familiarity with technology increases the effectiveness of online learning as given by Dahlberg (2004). He made divisions of using artifacts and social contexts. In addition, Dahlberg also viewed technology adaptation as the basic factor in transmission of education to further accelerate the outcomes.

Conceptual Framework

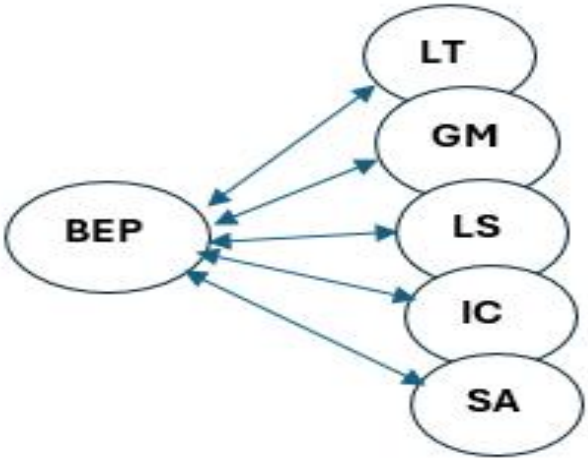

Figure: Conceptual Framework

We conceptualized this study and constructed the following conceptual framework.

Dependent Variable

Bad Educational Performance (BEP)

Independent Variables

Lack of Technology (LT)
Grades and Marking (GM)
Learning Skills (LS)
Internet Connectivity (IC)
Stress and Anxiety (SA)

Hypothesis-1

There is association between bad educational performance and use of technology, grading and marking issues, learning skills, internet connectivity, and stress and anxiety.

Hypothesis-2

The bad educational performance is due to the lack of technology, grading system and marking issues, learning skills, internet connectivity, and stress and anxiety.

The variables are shown in the following table:

Research Methodology

This research is informed by the epistemological cannons of positivistic research. Epistemology is concerned with providing the ground for producing knowledge in an adequate and legitimate way (Maynard, 1994). Positivism sets out to predict and measure reality in an objective way (Sukamolson, 2007). A quantitative research design was used, and a cross-sectional research method was employed. The quantitative research design aims to discover how people feel, act and respond in a different way (Nardi, 2018). Cross-sectional research measures the outcomes and exposures of participants involved in the study (Brannen, 2005). The population is taken from two secondary public schools, i.e. one girls and boys each, from Mirpur, AJK. We selected these two public schools due to the highest strength of students ranged from class 6-10. The total population of children was 796. In girls' school, 381 children were enrolled studying from class 6-10 while in boys' school, 415 children were enrolled for the similar class range. By applying the Taro Yamane[1] formula, a sample of 405 students was determined for the study. The convenient sampling technique was used because it was difficult to find students in the classes on the defined days during the third wave of pandemic. The data was collected by using a questionnaire on the four-point Likert scale. The questionnaire was translated into Urdu for the students. The reliability of the instrument was checked by using Cronbach's Alpha, which ranged from 0.72 to 0.93 and to overall 0.88. Finally, the questionnaire was pretested, and omissions were removed. Data was collected from school children from 20 October 2020 to 30 November 2020. The data was transformed on the excel sheets and then converted into statistical package for the social sciences (SPSS), 20.00 version. Moreover, the collected data was analyzed by calculating frequency distribution of demographic variables. Chi-square test and multiple regression were applied to the hypotheses. The results of the hypotheses were tabulated and interpreted. Prior permission to conduct this research was taken from the Ethical Institutional Review Board (IRB) of the university. Moreover, the Directorate of Education endorsed the permission of IRB and allowed the researchers to collect data.

Findings

Socio-demographic characteristics

The sociodemographic consists of the socio and demographic characteristics of the respondents discussed in this study. These include sex, age, class, and residence. These characteristics provide valuable information regarding the respondents of the study.

[1] https://www.classgist.com/sample-size-calculator.aspx

Table 1
The demographic characteristics of the school children

No.	Demographic Variables	Referents	Count	Percentage
1		Girls	195	48
	Sex	Boys	210	52
		Total	405	100.0
2	Age	10-12	281	69.4
		13-15	105	25.9
		16 and above	19	4.7
		Total	405	100.0
3	Class	6^{th}	90	22.22
		7^{th}	94	23.20
		8^{th}	82	20.24
		9^{th}	68	17.0
		10^{th}	71	18.0
		Total	405	100.0
4	Residence	Rural	178	44.0
		Urban	227	66.0
		Total	405	100.0

Table 1 showed the demographic information of the school children. In this study, 195 girls and 210 boys participated. The age bracket of students is distributed as; 69.4 percent students fall in age bracket 10-12 years, 25.9 percent in 13-15 years, and 4.7 percent were found above than 16 years of age. The students belonged to five different classes, i.e. from class 6^{th} to 10^{th}. As 22.22 percent belonged to class 6^{th}, 23.20 percent class 7^{th}, 20.24 percent class 8^{th}, 17 percent class 9^{th} and 18 percent from class 10^{th}. The distribution of students according to the residence is also shown in the table, as 44 percent belonged to rural and 66 percent to urban areas.

Hypotheses Testing

Hypothesis-1: There is association between bad educational performance and lack of technology, grading and marking, learning skills, internet connectivity, and stress and anxiety.

Table 2
Chi-Square statistical test (dependent variable = bad educational performance)

No.	Variable/s	Pearson value	df	P-value
i	Use of Technology	213.543[a]	8	.000
ii	Grades	223.123[a]	6	.000
iii	Stress	283.344[a]	6	.000
iv	Marking	301.184[a]	6	.000
v	Learning Skills	210.321[a]	8	.000
vi	Internet	299.134[a]	6	.000

Total number of observations (n) = 405

Table 2 shows the association of bad educational performance with different variables. We found that lack of technology is highly significant ($p<0.000$) revealing negative impacts on the performance of schoolchildren. Similarly, low grades are also highly significant, indicating bad educational performance. Similar findings are given by Adnan and Anwar (2020). They stated that performance is affected by unfamiliarity with the technology disturbing the grades of students. The effects on grades are also highly significant to bad educational performance of school children. Here, our study findings are assertions of Faisal, Jobe, Ahmed, and Sharker (2021), who also identified students' low grades due to online education. Findings further showed that bad educational performance is significantly associated with the marking issues of school children endorsing the findings of Fatonia et al. (2020). They

criticized the marking criteria devised during the pandemics because it produces inequalities. The association between bad educational performance and learning skills is also significantly construing the students' learning loss. Wang et al. (2020) also argued that learning skills of school children less likely grow due to online learning. Likewise, internet connectivity has a significant association with performance. Similar findings are given by Wargadinata et al. (2020). They found that students' performance in schools is affected by the bad internet connectivity. Based on the above findings, it is argued that educational performance has a strong association with the lack of technology, low grades, stress and anxiety, marking issues, low learning skills and internet connectivity (Agormedah et al., 2020; Onyema et al., 2020; Tanveer et al., 2020). Thus, we assert that online learning affects the educational performance of school children.

Hypothesis-2: The bad educational performance is due to the lack of technology, grades and marking issues, low learning skills, internet connectivity, and stress and anxiety.

Table 3

An OLS multiple regression predicting educational performance of school children (standard errors and parameter estimates)

Sr. No.	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
I	Technology	1.021	.012	1.231	9.016	.000
Ii	Grades	1.120	.013	1.0 24	7.613	.000
Iii	Stress	.213	.019	2.123	10.983	.000
Iv	Marks	.223	.017	1.214	8.043	.000
V	Learning Skills	-.146	.025	-.236	-13.766	.000
Vi	Internet	-.210	.021	-.360	-15.374	.000
	(Constant)	2.012	.053		19.821	.000
R Square = .510, Adjusted R Square = .510, df = 8				F = 109.361, Sig. = .000		
Total number of observations (n) = 405						

Table 3 revealed the determinants of bad educational performance of school children. It showed the most significant values, significance level 0.000, in each category of the analysis. The significant values highlighted the bad educational performance of the school children. The regression analysis showed that performance is affected by technology. The school children's educational achievements suffered because they were not familiar with the use of modern technology during online learning. Similar findings are given by Adnan and Anwar (2020). They argued that students' performance is strongly linked with efficient use of technology during online learning. Our findings revealed that school children's grades were negatively affected. Results of study conform to the argument of Farooq, Rathore, and Mansoor (2020). They conducted study on effects of online learning and stated that students' grades are badly affected. Similarly, results showed that the students were not satisfied with the marking criteria of teachers. It further influenced their grades and, hence, performance. Like many other scholars, Pokhrel and Chhetri (2021) also asserted that school children were not pleased by the marking criteria devised during pandemics. Besides, learning loss was also reported. These findings were aligned with the argument of Zai and Akhunzada (2020) and Tanveer et al. (2020) who unanimously noted low learning skills among school children due to online learning. Moreover, network issues caused disruption of educational activities that affected the performance of school children. Simamora (2020) found internet connectivity a major issue of learning loss during online learning. Due to these interrelated issues, school children suffered from stress and anxiety (Faisal et al., 2021; Tang et al., 2020). It is concluded that predictors of bad educational performance are lack of technology, grades, marks, learning loss, internet connectivity and stress and anxiety.

Discussions

Research showed that online educational activities were alternatively commenced in schools to curtail the spread of pandemics across the globe (Aboagye, Yawson, & Appiah, 2021; Adnan & Anwar, 2020; Shoaib & Abdullah, 2020). Like other countries, Pakistan also shifted educaitonal activties to online mode (Anwar, Khan, & Sultan, 2020). However, educational system of Pakistan has neither preparedness nor planning to shift education system to e-learning (Ali, 2020). It is pertinent to mention here that due to multiple factors at institutional and structural level, it was not easy task to adopt e-learning. The findings of our study are supported by the results of Adnan and Anwar (2020) and Ali (2020). They identified similar issues in Pakistan. They also found that educational performance of school children is badly affected due to lack of technology during online learning. Our study findings conflict with three orientation models of online education technology. As, Conole (2007), Hannnon (2008) and Reid (2012) emphasized the interplay of teacher, syllabus, technology, and organizational integrate online learning. While findings of our study revealed that neither teacher, nor technology, syllabus and infrastructure supported the online learning in Pakistan. Similar findings of many studies support our results (Agormedah et al., 2020; Baticulon et al., 2021; Tanveer et al., 2020). Similarly, Dahlberg's (2004) assertions were also in contrast to our study findings. We found that lack of modern technology is a primary agent of educational performance of school children. Besides, network connectivity influencing the connection between teacher and students leaving the lasting imprints on grading and marking, and learning skills while adding stress and anxiety to the school children (Khattar et al., 2020; Lukong et al., 2020). In the light of the above results, we noted that the lack of technology is the major factor that further affects the educational performance of school children. Here again we do not agree with the argument of Conole (2007), Hannnon (2008) and Reid (2012) and Dahlberg (2004), that interrelations of the technology, teacher, organization, and pedagogy support the educational outcomes of students. Our findings do not substantiate the three orientation models of online education in the present purview of online learning educational performance of school children during pandemics in Pakistan. It is thus revealed that the educational performance of school children is badly affected amidst the pandemics.

Conclusion

We found many factors responsible for the educational performance of school children during pandemics. As educational performance of school children is greatly influenced by lack of technology. Besides, internet connectivity further worsened the educational performance of school children. Due to the new mode of teaching, they were unable to understand and learn the skills. Similarly, low learning skills affected the children's grades, and they were not satisfied with devised marking mechanism. These issues also affected their psychological wellbeing, and they suffered from stress and anxiety. It is, thus, concluded that the school children's educational performance is badly affected due to online learning during pandemics in Pakistan. We do not substantiate the argument of Conole (2007), Hannnon (2008), Reid (2012) and Dahlberg (2004) because there is non-interplay of technology, infrastructure, teacher training and pedagogical issues in public schools of Pakistan. It is highly recommended to the Ministry of Education (MoE) to initiate the preparedness training programs in schools, both with teachers and students, to cope with any forthcoming crisis.

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