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The Impact of the COVID-19 Pandemic on Schoolchildren's Mental Health

جائحة كورونا وعلاقتها بالصحة النفسية لدى الطفل المتمرّس

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Abstract:

The COVID-19 pandemic has caused unprecedented disruptions in education globally, with prolonged school closures and shifts to remote learning. This study examines the relationship between the pandemic and mental health among primary schoolchildren in Mostaganem, Algeria. Data collected from 42 fifth-grade students using validated scales reveal a significant negative correlation between pandemic severity and children's psychological well-being. The findings highlight the urgent need to prioritize mental health services for children, emphasizing that pandemics impact psychosocial well-being as much as physical health. The study calls for comprehensive support programs and further research to address the long-term psychological effects on children during and after such crises.

Keywords: COVID-19 pandemic; mental health; schoolchildren; psychological well-being; educational disruption; child mental health services.

المخلص:

تهدف الدراسة الحالية إلى تناول موضوع جائحة كورونا وعلاقتها بالصحة النفسية لدى الطفل المتدرس دراسة تقييمية، ولتحقيق هذا الهدف اعتمدنا على المنهج الوصفي، وتكونت عينة الدراسة من 42 طفل متدرس بالمرحلة الابتدائية للسنة الدراسية 2020-2021، كما اعتمدنا على الأدوات التالية لجمع البيانات والمتمثل في مقياس جائحة كورونا من إعداد أحمد رضا ومقياس الصحة النفسية للأطفال من إعداد محمود مصطفى، ولمعالجة البيانات المتحصل عليها اعتمدنا على برنامج (SPSS V.25) وذلك من خلال الاستعانة بمجموعة من الأساليب الإحصائية، وقد توصلت الدراسة إلى النتيجة التالية: توجد علاقة دالة إحصائية بين جائحة كورونا وبالصحة النفسية لدى الطفل المتدرس. الكلمات المفتاحية: جائحة كورونا، الصحة النفسية، الطفل المتدرس..

1. INTRODUCTION

The outbreak of the Coronavirus disease of 2019 (COVID-19) has profoundly disrupted educational systems worldwide, leading to the large-scale closure of schools and universities. On March 16, 2020, governments in 73 countries announced school closures, including 56 nationwide shutdowns and 17 regional closures. As a result, more than 421 million learners worldwide were directly affected, while localized school closures placed an additional 577 million learners at risk. According to UNESCO (2020), school and university closures due to the spread of COVID-19 left 1 in every 5 students worldwide out of school. Efforts to curb the pandemic through non-pharmaceutical interventions—such as social distancing and self-isolation—forced closures at all

educational levels in at least 61 countries, including primary, secondary, and tertiary institutions. During the 2009 H1N1 influenza pandemic, several countries also implemented school closures as a preventive measure, showing some localized success such as in Oita, Japan, where the number of student infections decreased. Nonetheless, research has suggested that school closures alone do not significantly reduce overall infection rates (Cauchemez et al., 2009; Jackson et al., 2013).

Children across the globe experienced severe educational disruptions during the COVID-19 pandemic, as schools struggled to cope with cycles of closure and reopening, shifting—when possible—to online learning models. Yet, the most

disadvantaged children were disproportionately affected, as emergency measures deepened existing inequalities. While school closures during health crises are not new—especially in developing contexts—the COVID-19 pandemic was unique in scale, affecting nearly all children simultaneously and globally. Poor and vulnerable students were the hardest hit, prompting the United Nations to call for continuity of education and the safe reopening of schools whenever possible (United Nations, 2020).

By late March 2020, the situation escalated into one of the most severe educational crises in modern history. The pandemic had already disrupted the learning of more than 1.6 billion children and young people in 161 countries, representing nearly 80% of school-enrolled students worldwide (UNESCO, 2020; World Bank, 2020). Educational institutions thus became among the most affected sectors, as governments urgently searched for alternative modes to sustain learning. Numerous initiatives emerged to transform digital applications into distance learning platforms. Within a short time, traditional education had to adapt to unprecedented demands: accommodating massive numbers of learners at all levels and rethinking the philosophy, aims, curricula, and delivery modes of education. This abrupt transformation was facilitated by rapid technological advancements, which in turn called for renewed reflection on possible future scenarios for education in the context of the pandemic and beyond (Zhao, 2020).

Although remote learning is not a novel concept—it has been practiced for decades in various developed countries—it became an urgent necessity in times of crisis, particularly during

epidemics that require social distancing. However, sudden transitions to distance learning also had significant implications for student well-being, with studies drawing attention to the negative effects on children's mental health (Loades et al., 2020).

I. LITERATURE REVIEW

Mental health programs in schools aim to address concerns related to psychological, social, and health issues that significantly affect students' learning and performance. These challenges intensified during the COVID-19 pandemic, as children struggled with the devastating consequences of learning disruptions, deteriorating mental well-being, and sudden behavioral changes. Such changes were often triggered by loss, grief, or separation from loved ones—for example, the death of a close family member or the loss of important friendships (Loades et al., 2020).

In modern history, children—and humanity more broadly—had not faced a large-scale threat comparable to the COVID-19 pandemic, which began with the first reported case in Wuhan, China, in December 2019. Since then, millions of lives have been lost to the virus in unprecedented numbers. The pandemic prompted global restrictions, widespread lockdowns, and extraordinary disruptions to children's and families' daily lives. Previous studies on natural and man-made disasters underscore that while material, social, and economic well-being are immediately affected, the psychological consequences are often long-term and remain insufficiently recognized (Pfefferbaum & North, 2020). This discrepancy is particularly visible in countries lacking a trained mental health workforce, where challenges are further exacerbated by high illiteracy rates,

stigma surrounding mental illness, low awareness, and limited recognition of the importance of promoting children's psychosocial well-being (Patel et al., 2018).

Unlike other disasters, COVID-19 did not damage physical infrastructure but instead deeply impacted children's social and emotional well-being, sense of security, and relationships. The pandemic generated collective psychological, financial, and health-related stress that exceeded the coping capacities of many young people worldwide (Fegert et al., 2020). Nonetheless, the degree of impact varied among children, depending on individual resilience, personality factors, the extent of trauma exposure, personal losses, and the availability of social and familial support. Extensive research on past disasters confirms that their psychological effects endure over time, manifesting as heightened stress, anxiety, hopelessness, irritability, depression, substance abuse, grief, domestic conflicts, and intimate partner violence (Masten&Motti-Stefanidi, 2020). Among protective factors, parental support, empathy, and care emerged as the most critical in enabling children to cope with adversity (Prime, Wade, & Browne, 2020).

I.1- Conceptual Definitions:

- COVID-19 Pandemic: The global health crisis caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). In this study, the impact is measured by children's responses to a questionnaire assessing the psychological effects of COVID-19, with scores ranging from 15 to 45.

- Mental Health: Defined as a state of complete physical, psychological, and social well-being, not merely the absence of illness or impairment (World Health

Organization, 2018). In this study, it is measured through children's responses to a mental health scale, with scores ranging from 20 to 100.

- Schoolchild: A child enrolled in primary education aged between 9–11 years, specifically grade five students during the 2020/2021 academic year.

I.2- Research Question:

- Is there a relationship between the COVID-19 pandemic and schoolchildren's mental health?

I.3. Hypothesis

- There is a statistically significant relationship between the COVID-19 pandemic and mental health among schoolchildren.

I.4. Significance of the Study

This study derives its importance from addressing one of the most pressing and contemporary issues: the relationship between the COVID-19 pandemic and schoolchildren's mental health. This topic is not only academically relevant but also critical for public health. Given the pandemic's negative impact on both physical and psychological well-being, and the extreme vulnerability of children due to prolonged school closures, examining these outcomes contributes to essential knowledge in education, psychology, and child development.

I.5. Objective of the Study

- To examine the relationship between the COVID-19 pandemic and the mental health of schoolchildren.

II. METHODOLOGY

A descriptive correlational design was adopted to explore the relationship between perceived pandemic impact and mental health levels among schoolchildren.

II.1. Study Sample and Location

The main study included a randomly selected sample of 42 fifth-grade schoolchildren from Mostaganem during

the 2020/2021 school year. They were selected randomly, with an equal distribution of gender: 21 males and 21 females, each representing 50% of the sample.

II.2.Delimitations of the Study

- **Spatial delimitation:** The field study was conducted at KheirEddine Primary School, Mostaganem.

- **Temporal delimitation:** The fieldwork was carried out between January 12, 2021, and March 17, 2021.

- **Human delimitation:** The study sample consisted of 42 fifth-grade primary students from Mostaganem during the 2020/2021 school year.

II.3.Instruments and their Psychometric Properties

To conduct the study, two validated scales were employed:

II.3.1. COVID-19 Pandemic Scale (Ahmed Reda):

The study employed the **COVID-19 Pandemic Scale** developed by Ahmed Reda as the primary tool for collecting accurate data. The instrument consisted of 15 items. Responses were scored on a three-point Likert scale, as follows:

Table 1

Scoring of the COVID-19 Pandemic Scale

Response option	Score
Disagree	1
Neutral	2
Agree	3

II.3.1.1. Psychometric Properties of the COVID-19 Pandemic Scale

- **Validity:** To ensure the validity and objectivity of the study, the internal consistency of the items was examined. Item–total correlations were calculated, and results are presented in the following table.

Table 2

Item–Total Correlations of the COVID-19 Pandemic Scale

Item	Correlation coefficient	Sig.	Item	Correlation coefficient	Sig.
01	0.601**	0.000	09	0.911**	0.000
02	0.908**	0.000	10	0.875**	0.000
03	0.866**	0.000	11	0.899**	0.000
04	0.802**	0.000	12	0.899**	0.000
05	0.844**	0.000	13	0.908**	0.000
06	0.918**	0.000	14	0.869**	0.000
07	0.855**	0.000	15	0.921**	0.000
08	0.755**	0.000			

The correlation coefficients ranged from 0.601 to 0.921. All coefficients were statistically significant at the 0.01 level, indicating strong internal consistency.

- **Reliability:** The reliability of the scale was tested using Cronbach's Alpha.

Table 3

Cronbach's Alpha for the COVID-19 Pandemic Scale

Scale	Number of items	Cronbach's Alpha
COVID-19 PandemicScale	15	0.856

The coefficient of 0.856 indicated high reliability. Thus, the scale was deemed valid and reliable for application on the main study sample.

II.3.2. Mental Health Scale (Mahmoud Mostafa):

The **Mental Health Scale**, developed by Mahmoud Mostafa, was utilized to measure children's mental health. It consists of 20 items, based on a review of theoretical literature and previously designed instruments in this field. Responses were rated on a five-point Likert scale:

Table 4

Scoring of the Mental Health Scale

Response option	Score
StronglyDisagree	1
Disagree	2
Neutral	3
Agree	4
StronglyAgree	5

II.3.2.1. Psychometric Properties

- **Discriminant Validity** was assessed using extreme group comparison.

Table 5

Discriminant Validity of the Mental Health Scale

Group	N	Mean	SD	T-test	Sig.
Upper group	08	80.45	14.00	4.328	0.000
Lower group	08	30.52	03.56		

Since the significance value was 0.000, which is below the 0.01 threshold, the scale demonstrated a high ability to differentiate between high and low responses.

- **Reliability** was tested using Cronbach's Alpha, as follows:

Table 6

Cronbach's Alpha for the Mental Health Scale

Scale	Number of items	Cronbach's Alpha
Mental Health	20	0.878

The coefficient of 0.878 confirmed strong reliability, establishing that the scale was valid and suitable for the main study.

III. HYPOTHESIS RESULTS

The study hypothesized that: "There is a statistically significant relationship between the COVID-19 pandemic and children's mental health."

Table 7

Pearson Correlation Between the COVID-19 Pandemic and Mental Health

Variables	r	Sig.
COVID-19 Pandemic × Mental Health	-0.859	0.000

The Pearson correlation coefficient was **-0.859**, with a significance value of **0.000**, indicating a negative statistically significant relationship at the 0.01 level. This

supports the research hypothesis, suggesting that the more severe the perceived impact of the pandemic, the poorer the levels of children's mental health, and vice versa. Accordingly, the null hypothesis was rejected.

IV. DISCUSSION

The findings of this study revealed a statistically significant relationship between the COVID-19 pandemic and the mental health of schoolchildren. Despite efforts by healthcare providers worldwide to preserve citizens' mental well-being during the pandemic, statistical evidence points to a considerable rise in the number of children experiencing severe psychological problems. These difficulties have often been so intense that parents were compelled to seek emergency hospital care for their children under the age of 18. This outcome aligns with data reported by the U.S. Centers for Disease Control and Prevention (CDC), which examined emergency department (ED) visits across 47 states—covering approximately three-quarters of EDs in the United States—between January and October 2020, during the height of the pandemic (Leeb et al., 2020).

The report indicated sharp increases in mental health-related visits. For children aged 5–11 years, there was a 24% rise in emergency mental health visits, whereas adolescents aged 12–17 years experienced a 31% increase compared to the previous year. Although a temporary decline was observed in March and April 2020—following the initial lockdowns and transition to remote schooling—the numbers escalated sharply thereafter. Researchers believe that the actual figures are much higher, as many critical cases are managed outside hospitals.

For children, the psychological burden was particularly pronounced due to disrupted routines. School closures, suspension of sports and recreational activities, and restricted contact with peers and relatives contributed to heightened anxiety, stress, and depressive symptoms (Golberstein, Wen, & Miller, 2020). Although digital interventions and tele-counseling provided some support, they could not substitute for face-to-face interaction with peers or trained professionals.

Interestingly, researchers noted that children in developed countries reported greater psychological deterioration than those in many developing countries. In highly industrialized societies, children's socialization was heavily dependent on structured environments such as schools, sports clubs, and childcare centers. By contrast, in many regions of the Global South, children maintained access to informal neighborhood play and close family connections, mitigating the psychological toll of prolonged lockdowns (Singh et al., 2020).

Moreover, the concept of children's mental health extends beyond the absence of disorders. It is a multidimensional construct encompassing physical, psychological, and social well-being. Mental health in children is best understood as a balanced state in which children can meet developmental needs, cope with everyday stressors, and function productively within family, school, and community contexts (World Health Organization, 2018). Disrupting this balance—such as through the radical lifestyle changes enforced during the pandemic—may produce psychological effects comparable to those seen following wars or natural disasters,

undermining children's sense of safety and stability (Fegert et al., 2020).

The findings of this study are consistent with international research highlighting the long-term risks of crises on child and adolescent mental health. Reported consequences include heightened anxiety, depression, post-traumatic stress, family conflict, and increased vulnerability to domestic violence (Pfefferbaum & North, 2020). Importantly, individual differences play a key role: some children demonstrate resilience by adapting to digital learning and structured home routines, whereas others—especially those with pre-existing vulnerabilities—are at heightened risk of serious psychological disorders.

Conclusion

This study firmly establishes the existence of a statistically significant inverse relationship between the COVID-19 pandemic and the mental health of schoolchildren. As the severity and duration of the pandemic increased, children's psychological well-being declined notably, reflecting a broader global trend impacting young populations during this unprecedented crisis. The findings highlight that pandemics should not be viewed solely as physical health emergencies but must also be recognized as profound psychosocial challenges with far-reaching consequences for children's emotional and mental development.

Beyond immediate health risks, the pandemic's impact on education, social interaction, routine, and family dynamics has significantly contributed to increased anxiety, stress, depression, and other mental health issues among children. These results emphasize the critical importance of holistic health

approaches that integrate mental health support alongside physical health considerations during global crises.

Additionally, the study underscores the imperative to prioritize the mental health infrastructure within educational and community settings, ensuring that children have access to timely and effective psychosocial interventions. This is particularly urgent in contexts such as Algeria, where educational disruptions and limited mental health resources compound vulnerabilities. The data call for sustained policy attention to mitigate long-term psychological effects, enhance resilience, and support children's overall well-being as part of comprehensive pandemic recovery efforts.

In conclusion, safeguarding children's mental health amidst and beyond pandemics is essential for promoting healthy development, educational success, and social stability. Future research and interventions must continue to explore culturally sensitive and accessible strategies to bolster mental health support tailored to the diverse needs of children affected by such crises.

Recommendations

Based on the findings, the study proposes the following:

1. **Strengthening post-pandemic child mental health services:** Mental health care for children should be prioritized in educational and community settings following the COVID-19 pandemic.
2. **Conducting further research:** Additional studies should investigate the broader impact of COVID-19 on children's psychological development,

resilience, and academic performance in diverse sociocultural contexts.

3. **Developing mental health support programs:** Comprehensive psychosocial programs should be implemented to support children, including in-school counseling services, family guidance, and online interventions tailored to post-crisis recovery.

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