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Research

Social support and mental health outcomes in palestinian children victims of bullying and cyberbullying during the covid-19 pandemic: an exploratory investigation

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Abstract
Background Studies have shown that COVID-19 negatively impacted mental health by increasing depression and anxiety. Additionally, bullying might deteriorate children's psychological functioning. Nevertheless, social support has been studied as a positive buffer for mental well-being.
Objectives Thus, our study aimed to examine the consequences of the COVID-19 outbreak on children's mental health when they are a victim of bullying and cyberbullying. Moreover, we tested the effect of social support as a mediating variable. A sample of 141 children (63 boys and 78 girls) 9 to 13 years old (M = 10.31, SD = 2.26) who reported having experienced bullying participated in the research. All were Palestinians living in Israel, attending primary schools.
Methods Data was collected using the following measures, the Multidimensional Bullying Victimization Scale (MBVS), the Adolescents Cyber-Victimization Scale (CYBVICS), the Strengths and Difficulties Questionnaire (SDQ), a questionnaire measuring the effect of COVID-19 on mental health outcomes, the Revised Child Anxiety and Depression Scale (RCADS), and the Multidimensional Scale of Perceived Social Support (MSPSS). Structural equation modelling was applied to test the association between variables and mediating effects.
Findings A positive correlation between Fear of COVID-19 and traditional bullying, cyberbullying, depression, and anxiety were found. Moreover, social support was negatively correlated with traditional forms of bullying and cyberbullying. Also, statistically significant differences between traditional bullying, cyberbullying, depression, and parents' difficulties emerged from parental marital status.
Conclusions findings might help victims of bullying by training teachers and guiding parents to construct intervention plans to empower the social networks of children victims.

Keywords Mental health · Depression · Anxiety · Bullying · Cyberbullying · Social support · Covid-19

1 Introduction

The onset of the COVID-19 pandemic in 2020 brought about significant disruptions worldwide, impacting various aspects of people's lives and exacerbating existing societal challenges [1]. Among these, the effects on children's mental well-being have been particularly pronounced, with isolation and quarantine measures contributing to heightened risks of anxiety, depression, and stress [2, 3, 4]. Additionally, the abrupt changes brought about by the

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pandemic, including school closures and increased domestic violence, have further compounded these challenges for children [5, 6].

Bullying, both traditional and cyberbullying, has emerged as a concerning phenomenon during the pandemic, with shifts in patterns observed [7]. While traditional forms of bullying decreased, cyberbullying witnessed a surge, facilitated by increased reliance on online platforms for education and social interaction [8, 9, 10]. This trend has been especially pronounced among vulnerable populations, such as Arab students in Israel, who face unique challenges exacerbated by educational disparities and limited digital resources [11, 12].

Research indicates a complex interplay between COVID-19-related fears, experiences of bullying, and mental health outcomes among children [13]. Understanding these dynamics is crucial for developing effective interventions and support systems. Social support emerges as a key mitigating factor, with strong relationships with caregivers, teachers, and peers shown to buffer against the adverse effects of bullying and stress [14, 15, 16].

The existing literature provides valuable insights into the impacts of the COVID-19 pandemic on children's mental health and experiences of bullying, particularly cyberbullying. However, there is a gap in understanding these dynamics within specific demographic contexts, such as Palestinian children living in Israel, and the unique challenges they face, including disparities in digital access and resources. By focusing on this population, our study aims to address this gap and provide nuanced insights into how cultural, social, and technological factors intersect to shape experiences of victimization and perpetration during the pandemic.

Furthermore, while the initial shock of the pandemic may have subsided, its effects continue to reverberate in various aspects of society. Understanding the enduring impacts of COVID-19-related fears, experiences of bullying, and mental health outcomes remains crucial for informing ongoing interventions and support systems. By elucidating these dynamics and examining the mediating role of social support, our study seeks to contribute to the growing body of literature on the long-term effects of the pandemic on children's well-being.

Publishing data related to the COVID-19 pandemic remains relevant even after several years due to the lasting repercussions of this global crisis. The insights gained from studies conducted during this period can inform not only immediate responses but also long-term strategies for mitigating the impacts of similar crises in the future. Therefore, providing a rationale for the continued importance of this data underscores the enduring significance of our findings and strengthens the manuscript by contextualizing its relevance within the broader discourse on pandemic-related research.

1.1 Theoretical underpinnings and social support framework

This study is grounded in social support theories, particularly the buffering hypothesis, which posits that supportive social networks can mitigate the negative impact of stressful events. In the context of bullying and the COVID-19 pandemic, social support from caregivers, teachers, and peers can serve as a protective factor that alleviates the psychological distress associated with victimization and fear [17]. High levels of social support can enhance coping strategies, foster resilience, and reduce the likelihood of internalizing problems like anxiety and depression [18]. Existing literature suggests that social support can regulate negative feelings in social contexts, buffering children against the adverse effects of bullying and stress [14, 16]. During the quarantine, increased parental involvement and protection from cyberbullying were shown to contribute to children's mental well-being [19]. This study adopts this perspective to explore how social support may mediate the relationship between COVID-19-related fears, bullying experiences, and mental health outcomes among Palestinian children in Israel. Given the unique sociopolitical and cultural context of this population, the study also considers how disparities in access to social resources may influence the effectiveness of social support as a protective factor.

1.2 The study

This research seeks to understand the interplay between COVID-19-related fears, bullying, and mental health outcomes in Palestinian children in Israel. It aims to address several key questions: How do COVID-19-related fears and experiences of traditional and cyberbullying interact to impact these children's mental health? To what extent does social support mitigate the relationship between bullying, COVID-19-related fears, and mental health outcomes? How do cultural, social, and technological factors intersect to shape the experiences of victimization and mental health

during the pandemic? Additionally, what role do disparities in digital access and resources play in the prevalence and impact of cyberbullying within this demographic?

Based on the research questions and theoretical framework, the study is guided by the following hypotheses:

H1 COVID-19-related fears will be positively associated with adverse mental health outcomes, such as anxiety and depression. This hypothesis is grounded in previous findings that highlight the psychological impact of the pandemic on children [3, 4, 20].

H2: Experiences of traditional bullying and cyberbullying will be positively correlated with negative mental health outcomes. This hypothesis aligns with research indicating a link between childhood bullying and adverse mental health consequences [21, 22].

H3: Social support will mediate the relationship between COVID-19-related fears and mental health outcomes. High levels of social support are expected to reduce the negative impact of pandemic-related fears on mental health, consistent with findings that strong relationships with caregivers, teachers, and peers can buffer against stress [16, 18].

H4: Social support will mediate the relationship between bullying (both traditional and cyberbullying) and mental health outcomes. Children with higher levels of social support are expected to show lower levels of anxiety and depression, even if they have experienced bullying. This hypothesis is based on the idea that social support can regulate negative feelings and mitigate the adverse effects of victimization [14, 23].

By examining these hypotheses, the study aims to provide a structured and nuanced understanding of how COVID-19-related fears, bullying, and social support intersect to affect mental health outcomes. This approach offers insights into these dynamics within the specific sociopolitical context of Palestinian children in Israel, informing culturally sensitive support and intervention strategies.

2 Method

2.1 The context

Arab Palestinian students in Israel live within a unique and complex sociopolitical context that affects their educational and social experiences. As a minority group in a predominantly Jewish state, they often encounter systemic inequalities, including disparities in educational resources, social services, and economic opportunities [24]. Schools attended by Arab Palestinian students generally receive less funding than those in Jewish communities, leading to larger class sizes, outdated educational materials, and fewer extracurricular activities. Additionally, these students frequently face linguistic and cultural barriers, as Hebrew is the primary language of instruction and state affairs, which can result in feelings of marginalization and exclusion from the broader Israeli society.

The societal challenges faced by Arab Palestinian students are further compounded by.

political tensions and conflict in the region. The broader Israeli-Palestinian conflict can foster an environment of stress, fear, and uncertainty. This ongoing tension affects the mental health and well-being of Palestinian children and contributes to their sense of vulnerability [25]. Within the school environment, Arab Palestinian students may also experience discrimination and bullying based on their ethnic and cultural identity, adding to the challenges they face daily. These experiences of bias and exclusion can lead to a heightened sense of social isolation, impacting their mental health and academic performance [26].

The COVID-19 pandemic exacerbated these challenges for Arab Palestinian students. Nationwide school closures and the sudden shift to online learning posed significant obstacles, particularly given the digital divide within the Arab community in Israel. Many Arab Palestinian families have limited access to digital devices, stable internet connections, and other technological resources essential for effective remote learning. This disparity in access to online education has widened the educational gap between Arab Palestinian students and their Jewish peers, further entrenching existing inequalities [27].

Beyond the academic challenges, the pandemic introduced additional stressors, including economic strain, health fears, and social isolation. Many Arab Palestinian families already face economic hardships, and the pandemic led to increased financial instability due to job losses and reduced income. The fear of COVID-19 and its health implications added another layer of anxiety, particularly in communities where healthcare resources are less accessible. Social distancing and quarantine measures also restricted students' interactions with peers and extended family members, crucial sources of social support for this community [28].

Furthermore, the combination of pandemic-related fears, economic uncertainty, and limited social support networks heightened the risk of mental health issues such as anxiety, depression, and stress among Arab Palestinian students. Isolation from school environments meant that students were also less protected from bullying, both traditional and cyberbullying, as they spent more time online. The complex interplay of these factors—sociopolitical marginalization, educational inequities, digital divide, and pandemic stress—creates a multifaceted context that deeply affects the mental well-being of Arab Palestinian students in Israel.

2.2 Participants

We recruited one hundred forty-one participants from 9 to 13 years old; they all were Arab Palestinian-Israeli children living in highly urbanized villages who were victims of bullying; 63 were males, and 78 were females. Of them, 61 were in fourth grade, 33 were in fifth grade, and 47 were in sixth grade from different primary schools. School counselors, informed about students who were victims of bullying and cyberbullying in the selected schools, compiled a list and recruited them in collaboration with the class educators. Inclusion criteria comprised that participants were Palestinians, native Arab speakers, and victims of bullying. Furthermore, the sample included children who underwent harassment at school, with special education or had conflicts with peers, each having a high risk of being bullied.

2.3 Measures

All items were translated and back-translated from the original English version to Arabic and pilot-tested by a panel of ten Arab professionals recognized as experts in psychology, counselling, and social work. These professionals evaluated the clarity and relevance of the questions, their adherence to cultural standards, and translation. After completing the translated draft, an independent expert English editor back-translated the questionnaires into English. According to their comments, the translated version was then pilot-tested among 70 participants and further refined for clarity.

Multidimensional Bullying Victimization Scale (MBVS): The MBVS is a bullying victimization scale for adolescents. It includes three subscales, direct bullying, indirect, and evaluative. It is made of 24 statements; 11 Direct Bullying items, which evaluate experiencing bullying in a personal, direct, and face-to-face manner; 6 Indirect Bullying items, which assess experiences of bullying through other people or other mediums; and 7 Evaluative bullying items, which evaluate experiences of bullying that are judgmental or negatively evaluating a person's traits or attributes [29]. The child needs to rate the items indicating how often each item is accurate and how often it happened to him/her, by ranging from 0 = "never" to 3 = "very often". The adaptation of the Multidimensional Bullying Victimization Scale (MBVS) to the Israeli/Arab context involved tailoring the scale's content and language to align with the cultural and linguistic nuances of Palestinian adolescents living in Israel. This process included consultations with local experts and community members to ensure relevance and sensitivity to the unique experiences of bullying victimization within this demographic group. Additionally, adjustments were made to account for specific manifestations of bullying behavior prevalent in the Israeli/Arab context, thereby enhancing the scale's appropriateness for use in this population. In this study, Cronbach's alpha indicated appropriate internal consistency ($\alpha = 0.915$).

Adolescents Cyber-Victimization Scale (CYBVICS): The CYBVICS is a self-report adolescent Cyber-Victimization Scale designed to assess the adolescent's experience as a victim of cyberbullying within the past 12 months. Participants rate the items on a scale from 1 = "never" to 5 = "Many times (more than 10)". It consists of 18 items covering both direct and indirect cyber-victimization. Direct items encompass experiences of being cyber-victimized involving direct verbal attacks and social-type behaviors, while indirect items include experiences such as image manipulation, creation of false profiles, hacking, and identity theft [30]. The CYBVICS scale was adapted to the Israeli/Arab context by ensuring cultural relevance and sensitivity through consultations with experts and community members, as well as linguistic and contextual adjustments to better capture the experiences of cyber-victimization among Palestinian adolescents living in Israel. Cronbach's alpha for reliability was $\alpha = 0.896$.

Strengths and Difficulties Questionnaire (SDQ): The SDQ is a parent or self-reported questionnaire designed to provide a brief behavioral screening of the child's behavior over the last six months or the current school year. Following Goodman et al.'s [31] recommendation, we administered the questionnaire for self-completion. Participants rate each item as "Not True," "Somewhat True," or "Certainly True." It comprises 25 items, with 11 items assessing strengths and 14 items assessing difficulties. These items are categorized into five scales. Emotional Symptoms (items: 3, 8, 13, 16, 24) reflects feelings of anxiety, depression, and overall emotional well-being. This scale is pertinent for understanding the child's emotional state and potential mental health concerns. Conduct Problems (items: 5, 7, 12, 18, 22) evaluates behaviors such as aggression, rule-breaking, and defiance. It provides insight into the child's ability to adhere to social norms and manage impulses. Hyperactivity (items: 2, 10, 15, 21, 25) assesses restlessness, impulsivity, and difficulty in maintaining attention. This scale helps identify potential attention-deficit/hyperactivity disorder (ADHD) symptoms or related behavioral challenges. Peer Problems (items: 6, 11, 14, 19, 23) examines difficulties in forming and maintaining relationships with peers. Understanding peer interactions is crucial for assessing social functioning and potential socialization issues. Prosocial Behavior (items: 1, 4, 9, 17, 20) measures positive behaviors such as kindness, helpfulness, and cooperation. This scale provides insights into the child's interpersonal skills and ability to engage positively with others. The subscales offer a comprehensive overview of the child's behavior and social-emotional functioning, aiding in the identification of strengths, difficulties, and areas requiring intervention or support [32]. In this study, Cronbach's alpha indicated appropriate internal consistency ($\alpha = 0.771$).

Fear of Covid19 scale (FCV-19S): The FCV-19S measure is a self-report questionnaire designed to measure the effect of the COVID-19 period on mental health outcomes; depression (items 11 to 17), anxiety (items 6 to 11), and stress (items 1 to 5). Participants indicate how much the statement applied to them over the past week, from 0 "never" – 3 "almost always". Cronbach's alpha was robust ($\alpha = 0.891$) [1].

The Revised Child Anxiety and Depression Scale (RCADS): The RCADS is a youth self-report questionnaire. It includes 47 items which are divided into six subscales. Separation Anxiety Disorder (items: 5, 9, 17, 18, 33, 45, 46)measures fears and worries related to being separated from caregivers, which can manifest as clinginess or refusal to attend school. Social Phobia (items: 4, 7, 8, 12, 20, 30, 32, 38, 43) assesses the fear of social situations or being judged by others, which may lead to avoidance behaviors or distress in social settings. Generalized Anxiety Disorder(items: 1, 13, 22, 27, 35, 37) evaluates excessive worry across different aspects of life, such as school performance, family matters, or personal safety. Panic Disorder (items: 3, 14, 24, 26, 28, 34, 36, 39, 41)focuses on sudden and intense episodes of fear, often accompanied by physical symptoms like rapid heartbeat or shortness of breath. Obsessive–Compulsive Disorder (items: 10, 16, 23, 31, 42, 44) examines intrusive thoughts and repetitive behaviors that individuals engage in to alleviate anxiety or prevent perceived harm. Major Depressive Disorder (items: 2, 6, 11, 15, 19, 21, 25, 29, 40, 47) gauges symptoms such as persistent sadness, loss of interest in activities, changes in appetite or sleep patterns, and feelings of worthlessness or guilt. These subscales provide a detailed picture of the emotional struggles experienced by young individuals, facilitating a thorough assessment of their mental well-being.

The participants need to answer how often each of these things happens to him/her by rating from 0 "never" to 3 "always" [33]. Cronbach's alpha showed indicated high internal consistency ($\alpha = 0.958$).

Multidimensional Scale of Perceived Social Support (MSPSS): The MSPSS have 12 items that assess social support; family support (items 3, 4, 8, and 11), friends support (items 6, 7, 9 and 12), and other significant support (items 1, 2, 5 and 10). It is a self-report in which the participant needs to indicate how they feel about each item, from 1 (Very Strongly Disagree) – 7 (Very Strongly Agree), and "4" is Neutral [34]. In our study, the Multidimensional Scale of Perceived Social Support (MSPSS) was employed to assess social support from one specific dimension: family support. This dimension was chosen to explore the influence of familial support on children's mental health outcomes amidst the COVID-19 pandemic and experiences of bullying. The MSPSS's rigorous psychometric properties and focus on measuring perceived social support made it an appropriate instrument to gauge the crucial role of family support in mitigating mental health challenges during challenging times. In our study, Cronbach's alpha was excellent ($\alpha = 0.948$).

2.4 Procedures

The research was conducted in November 2021 during the third school lockdown, which persisted until June, focusing on children who were victims of bullying in three elementary schools. One of the coauthors of this study met with each of the school principals to explain the purpose of the research, the methodology, and the importance of their participation. The principals were asked for permission to contact the school counselors, children, and their parents.

Once the school principals agreed, the researcher met with the counselors of each school to explain the research purpose and methodology further. The counselors were provided with demographic variables forms and study instruments. Electronic forms were sent to parents via a WhatsApp link by the educators of the 4th, 5th, and 6th classes. For parents who did not complete the electronic forms, paper forms were distributed. Additionally, one of the coauthors requested that counselors send the forms to the parents of children who experienced harassment, were in special education programs, or had conflicts with peers.

2.5 Ethics approval and consent to participate

The study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Before starting the data collection, written parental and school approval was obtained. The research was approved by the An-Najah National University Institutional Review Board (IRB) prior to data collection. After receiving parental informed consent, each child was assigned a user number to complete the survey. Children who agreed to participate filled out the questionnaires electronically, with some completing them at home and others at school. Special accommodations were made for children who could not complete the questionnaire under standard conditions, especially those who were COVID-19 patients, isolated, or had reading difficulties.

No rewards or incentives were provided to the participants in this study.

2.6 Data analysis

A correlational design was used to examine the effect of COVID-19 on mental health outcomes among children who are victims of bullying. Social support was imputed as a mediating variable using SPSS Statistics 28 statistical package. Multiple Analysis of Variance (MANOVA) was run to determine the effects of independent categorical variables on multiple continuous dependent variables concerning demographic participants' features; gender, age, grade, and parent's marital status (married, divorced, widow). Pearson correlation coefficient was calculated to measure the linear correlation between the variables.

Structural equation modeling (SEM) was performed using AMOS28 to test the study's conceptual model, with social support as a mediating variable (see. Figure 1). Key assumptions were checked:

Sample size was adequate with 141 participants. Normality was confirmed as skewness and kurtosis values were within acceptable ranges. Linearity was verified through scatterplots, showing linear relationships between variables. Multicollinearity was ruled out, with VIF values below 5 and tolerance levels above 0.2. Homoscedasticity was indicated by residual plots showing constant variance. Independence of errors was confirmed by a Durbin-Watson statistic close to 2. Model fit indices, including CFI and TLI (> 0.90), and RMSEA and SRMR (< 0.08), indicated a good fit. Reliability was high, with Cronbach's alpha values of 0.771 for the SDQ and 0.948 for the MSPSS.

These checks validated the assumptions, enabling us to proceed with SEM analysis.

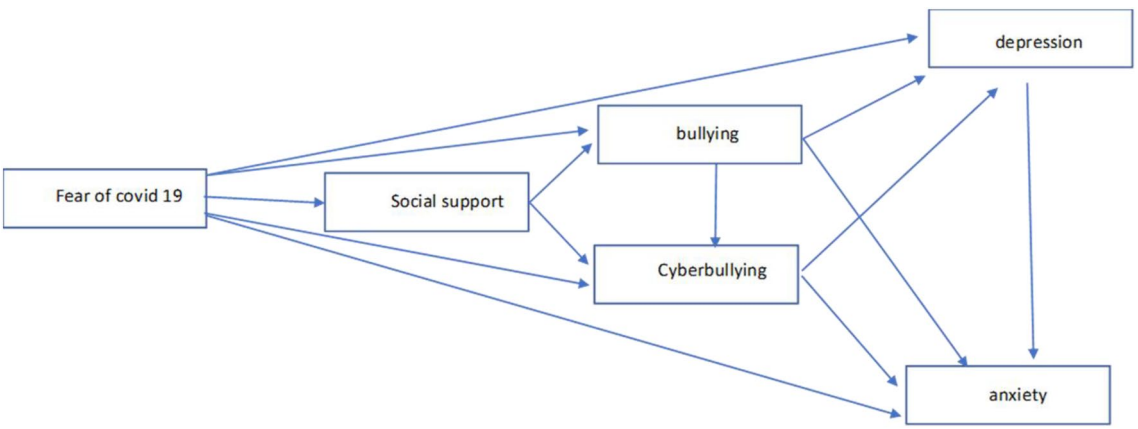

Fig. 1 Conceptualized model of fear of COVID-19 on depression and anxiety, and the mediating role of social support, bullying and cyberbullying

In our data analysis, we used a one-dimension scale for social support to enhance statistical efficiency and simplify interpretation, as it provides a comprehensive measure of overall perceived support with high reliability. This approach also reduced multicollinearity and ensured a good model fit, as evidenced by robust fit indices (CFI = 0.95, GFI = 0.96, NFI = 0.97, RFI = 0.96, IFI = 0.98, TLI = 0.95, RMSEA = 0.057).

Path coefficients in the SEM were reported with their respective 95% confidence intervals, ensuring the precision and reliability of the estimates. These confidence intervals provide a range within which the true path coefficients are expected to fall, giving a clearer understanding of the relationships between variables.

2.7 Findings

Table 1 includes descriptive statistics about traditional bullying, cyberbullying, depression, anxiety, social support, family support, friend support, significant other support, parent's child difficulties report, and fear of COVID-19 on mental health. Results indicated that participants had lower scores on traditional bullying, cyberbullying, depression, anxiety, and fear of COVID-19 compared to the means of the original measures. Conversely, they reported higher scores on social support, family support, friend support, and significant other support. Additionally, participants' parents reported lower scores on the child difficulties questionnaire relative to the measure's mean.

The Pearson product-moment correlation coefficient was computed to assess the relationship between variables; traditional bullying positively correlated with cyberbullying ($r = 0.619$, $p < 0.001$), fear of COVID-19 ($r = 0.269$, $p = 0.001$), depression ($r = 0.384$, $p < 0.001$), anxiety ($r = 0.360$, $p < 0.001$), parent marital status ($r = 0.320$, $p < 0.001$). In addition, cyberbullying positively correlated to depression ($r = 0.304$, $p < 0.001$), anxiety ($r = 0.217$, $p < 0.001$), while negatively correlated with social support ($r = -0.179$, $p < 0.001$), significant other support ($r = -0.244$, $p < 0.001$). Moreover, fear of COVID-19 positively correlated to depression ($r = 0.345$, $p < 0.001$), anxiety ($r = 0.394$, $p < 0.001$), Social support ($r = 0.166$, $p < 0.001$), family support ($r = 0.176$, $p < 0.001$), parent marital status ($r = 0.218$, $p < 0.001$). Also, depression positively correlated with anxiety ($r = 0.698$, $p < 0.001$) and parent marital status ($r = 0.382$, $p < 0.001$). Furthermore, anxiety positively correlated with social support ($r = 0.225$, $p < 0.001$), family support ($r = 0.194$, $p < 0.001$), parent marital status ($r = 0.274$, $p < 0.001$). Also, social support was strongly and positively correlated to family support ($r = 0.900$, $p < 0.001$), friend support ($r = 0.910$, $p < 0.001$), and other significant support ($r = 0.933$, $p < 0.001$). Finally, family support is strongly and positively correlated to friend support ($r = 0.708$, $p < 0.001$) and other significant support ($r = 0.774$, $p < 0.001$). Also, friend support is strongly and positively correlated to other significant support ($r = 0.780$, $p < 0.001$). (See Table 2).

The structural equation modeling (Fig. 2) identified fear of COVID-19 as a predictor; traditional bullying, cyberbullying, and social support as mediating variables; and depression and anxiety as outcome variables. The model demonstrated that fear of COVID-19 positively correlated with traditional bullying, cyberbullying, depression, and anxiety. In contrast, social support showed a negative correlation with traditional bullying and cyberbullying.

These findings underscore the significant mediating role of social support. Specifically, the presence of robust social, family, friend, and significant other support networks appears to mitigate the adverse effects of bullying and psychological distress. Higher levels of social support were associated with lower levels of bullying, which in turn, were linked to reduced depression and anxiety.

The model exhibited favorable fit indices, indicating robust support for the proposed relationships within the data (CFI = 0.95, GFI = 0.96, NFI = 0.97, RFI = 0.96, IFI = 0.98, TLI = 0.95, RMSEA = 0.057). These results underscore the significance

Table 1 Descriptive statistics for research variables (N = 141)

Variable	Mean	S.D	Min	Max	Range	Variance
Bullying	0.2417	0.33612	0.00	2.13	2.13	0.113
Cyber-bullying	1.1706	0.34475	1.00	3.44	2.44	0.119
fear of COVID-19	0.5420	0.57746	0.00	2.79	2.79	0.333
Depression	0.5440	0.54055	0.00	3.00	3.00	0.292
Anxiety	0.8582	0.72565	0.00	3.00	3.00	0.527
Social support (total)	5.2063	1.74041	1.00	7.00	6.00	3.029
Family support	5.6489	1.80153	1.00	7.00	6.00	3.246
Friend support	4.6560	1.94053	1.00	7.00	6.00	3.766
Significant other support	5.3138	1.96587	1.00	7.00	6.00	3.865
Parent report	0.6618	0.23409	0.32	1.52	1.20	0.055

Table 2 : Correlation between the variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Bullying	1	0.619[a]	0.269[a]	0.384[a]	0.360[a]	−0.156	−0.136	−0.144	−0.147	0.320[a]
2. Cyber-bullying		1	0.156	0.304[a]	0.217[a]	−0.179[b]	−0.139	−0.106	−0.244[a]	0.129
3.Fear of Covid-19			1	0.345[a]	0.394[a]	0.166[b]	0.176[b]	0.153	0.129	0.218[a]
4. Depression				1	0.698[a]	0.033	0.065	−0.015	0.042	0.382[a]
5. Anxiety					1	0.225[a]	0.194[b]	0.141	0.281[a]	0.274[a]
6. Social support						1	0.900[a]	0.910[a]	0.933[a]	0.051
7. Family support							1	0.708[a]	0.774[a]	0.012
8. Friend support								1	0.780[a]	0.035
9. Significant other support									1	0.090
10. Parent support										1

[a]Correlation is significant at the 0.01 level (2-tailed). [b]Correlation is significant at the 0.05 level (2-tailed)

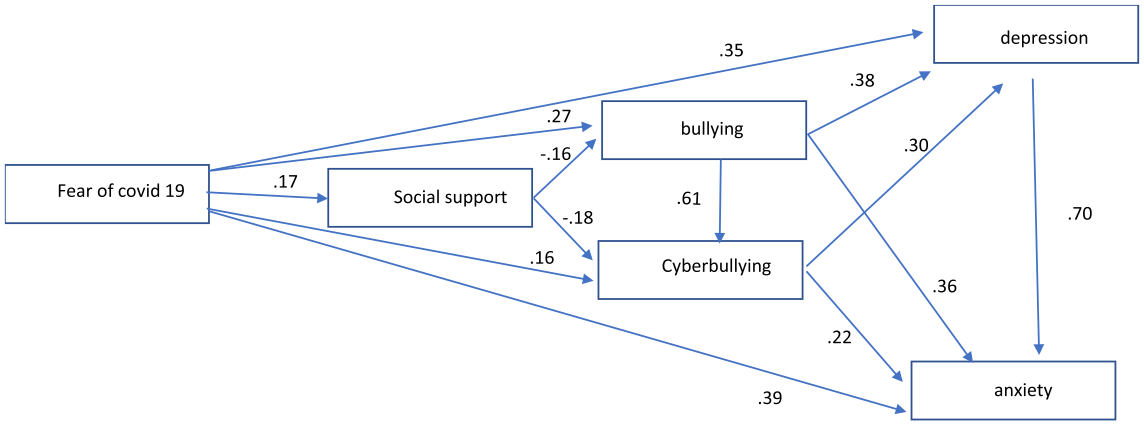

Fig. 2 Structural equation modeling of fear of COVID-19 on depression and anxiety, and the mediating role of social support, bullying and cyberbullying

of cultivating robust support networks to mitigate the adverse psychological effects of fear and bullying, ultimately fostering the overall mental well-being of participants.

3 Discussion

This study aimed to investigate the impact of COVID-19 on the mental health of Arab Palestinian children who are victims of bullying and cyberbullying in Israel, with social support serving as a mediating factor.

The findings revealed a positive correlation between bullying, cyberbullying, and mental health outcomes, specifically depression and anxiety. These results align with prior research, indicating that childhood bullying is predictive of adverse mental health consequences [21, 22]

In our findings, bullied children showed a significantly risk of developing anxiety and depressive disorders [23]. his outcome is explicable by the distress inflicted upon targeted children by bullying, encompassing physical, psychological, social, or educational harm [35]. These adverse experiences can significantly impact their mental well-being, particularly given the unwelcome nature of bullying. Moreover, aggressive behaviors among school-aged children often entail a real or perceived power imbalance, exacerbating psychological distress in victims.Additionally, bullying can instigate short-term conflicts wherein individuals employ strategies like aggression, capitulation, or withdrawal to address toxic relationships [36]. Consequently, due to recurrent, unwelcome aggressive behaviors, victims of

bullying may adopt ineffective coping mechanisms and form unhealthy connections with others, potentially resulting in depressive and anxious symptoms.

The results of our study indicated that fear of COVID-19 significantly impacts mental health outcomes, such as increasing levels of stress, anxiety and depression. In fact, fear of COVID-19 has been associated with high scores on depression, anxiety, post-traumatic stress disorder, stress, and psychological distress, as reported in previous studies conducted in China, the United States, Turkey, Spain, Italy, Denmark, Iran, and Nepal [37]. The COVID-19 pandemic has imposed significant burdens on children due to sudden and unexpected disruptions in schooling, social activities, daily routines, separation from caregivers, loss of family members, economic strain, and instances of domestic violence [5, 6]. Our findings suggest that these sudden changes may have increased children's risk of developing psychological symptoms [5]. Additionally, according to ([38]Arzi and Sabag [40], children may have experienced emotional distress and anxiety in response to the existential threat posed by the pandemic. Fear, stress, and anxiety can be transmitted from parents to children [39]. It is noteworthy that COVID-19 restrictions have limited children's activities and social interactions, potentially increasing their vulnerability to depressive symptoms [20].

Moreover, our study suggests that the negative impact of COVID-19 on mental health outcomes may be attributed to the novelty of COVID-19 as a major global health threat for children. Consequently, the perception of a safe world is challenged, potentially placing children at risk of developing anxiety symptoms due to their limited cognitive ability to process and comprehend complex information [40].

This study found that children who are victims of harassment at school report low scores for traditional bullying and cyberbullying. Additionally, they exhibit lower levels of mental distress, including fear of COVID-19, depression, and anxiety, while they report fewer difficulties on the child difficulties scale. These results may be attributed to reduced exposure to perpetrators at school due to quarantine and social distancing measures implemented during the pandemic. Furthermore, the lockdown may have encouraged children to engage in creative activities, acquire new skills and hobbies, participate in indoor games, music, sports, reading, or spend quality time with elders, thus mitigating the negative impacts of bullying and psychological distress [24].

Interestingly, the study found that children who reported low scores for traditional bullying and cyberbullying exhibited lower levels of mental distress, including fear of COVID-19, depression, and anxiety. This could be attributed to reduced exposure to perpetrators at school due to quarantine and social distancing measures. The lockdown may have encouraged children to engage in creative activities, acquire new skills and hobbies, and spend quality time with family, thus mitigating the negative impacts of bullying and psychological distress [24].

Additionally, children who reported low scores on bullying, cyberbullying, and mental health outcomes scored high in social support, including family, friend, and other support. Perceived social support regulates negative feelings in social contexts [21]. During the quarantine, increased parental involvement and protection from cyberbullying contributed to children's mental well-being [19].

Unexpectedly, children with widowed or divorced parents reported higher scores of mental health problems, which aligns with findings that children in unstable or adverse environments are more prone to traditional and cyberbullying victimization and mental health issues [41, 43].

The current study has several limitations that provide avenues for future research. Firstly, there was variability in the completion of questionnaires, with some children filling them out at home and others at school. This discrepancy in completion environments may have introduced bias or affected the reliability of the data, highlighting the need for standardized questionnaire administration methods in future studies.

Secondly, the recruitment process relied on school counselors in consultation with class educators, potentially leading to a biased sample. Additionally, the inclusion criteria encompassed various experiences such as being victims of bullying or cyberbullying, undergoing a boycott, having special education needs, or experiencing conflicts with peers. However, there was no pre-test to ascertain whether participants had indeed experienced bullying, suggesting the possibility of misclassification.

Thirdly, the research procedures were disrupted by the outbreak of war between Israel and Gaza in the occupied Palestinian territories. These traumatic events may have significantly impacted the mental health of participating children, prompting the researcher to halt the study and delete data collected during the conflict period.

Lastly, the research data relied on translated scales, which have not been validated in a Palestinian sample. This introduces potential issues related to cultural and linguistic differences, underscoring the importance of validating assessment tools in the target population.

Addressing these limitations in future research endeavors will enhance the validity and generalizability of findings in understanding the complex dynamics of bullying, mental health, and conflict-related stressors among children in similar contexts.

The unique context of Palestinian children in Israel adds a crucial dimension to this study. These children often live in an environment marked by sociopolitical tension, systemic discrimination, and limited access to resources, all of which can intensify the negative impacts of bullying and the pandemic on their mental health. They face challenges related to their minority status, including cultural marginalization and socio-economic disparities, which may exacerbate feelings of vulnerability and stress. The compounded effects of this sociopolitical context mean that Palestinian children in Israel may experience bullying and the fear of COVID-19 more acutely than children in other settings. This study is significant because it not only examines the psychological impacts of bullying and the pandemic but also considers how these are amplified by the unique pressures faced by Palestinian children, offering a nuanced understanding that can inform culturally sensitive support and intervention strategies..

4 Conclusion

This study delves deep into the intricate psychological impact of COVID-19 on the mental well-being of children facing bullying and cyberbullying in Arab Palestinian communities within Israel. It illuminates the significant hurdles these children face while also highlighting the crucial role of social support in navigating this intricate dynamic. Going beyond mere correlation, this research lays the groundwork for future explorations into the nuanced experiences of bullying victims.

The implications of these findings reverberate far beyond academic circles, striking a chord with educators, policymakers, clinicians, and community leaders alike. Educators are urged to undergo specialized training to recognize and address the psychological fallout of bullying, especially amid the pandemic's disruption. They're called upon to cultivate inclusive classrooms and integrate social-emotional learning to nurture resilience and empathy among students.

Policymakers are tasked with prioritizing mental health resources in schools, ensuring adequate support from professionals, and mandating robust anti-bullying initiatives. Crafting tailored emotional intervention plans for bullying victims, sensitive to the unique sociocultural context, is imperative [42, 44].

Clinicians must possess a keen awareness of the intertwined challenges of bullying and pandemic-induced stress. They should adopt family-based therapeutic approaches, empowering parents with tools to support their children's mental health. Facilitating support groups can foster solidarity among families navigating similar challenges [43, 45].

Community involvement is paramount, with organizations collaborating to offer extracurricular activities fostering positive peer interactions and safe havens for bullied children. Public awareness campaigns can rally collective action against bullying and nurture empathy within the community [44].

Digital safety education is critical amidst the surge in cyberbullying incidents. Schools and organizations must provide workshops on online safety and recognition of cyberbullying, with enhanced support systems for victims [45].

In essence, this study underscores the urgent need for a holistic, collaborative approach to address the mental health challenges faced by bullied children, particularly amidst the COVID-19 pandemic. Through partnerships between educators, policymakers, clinicians, and communities, we can forge a path toward a more supportive and resilient environment for vulnerable children in Palestinian communities within Israel.

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Data availability Due to the sensitive nature of the data and the population involved, data availability will be granted only upon reasonable and justifiable request to the authors.

Code availability Please contact the corresponding author for any requests for any study materials including codes.

Declarations

Competing interests The authors declare no competing interests.

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