

## RESEARCH ARTICLE

# Mental health of adolescents and the support of psychosocial resources during and after the COVID-19 pandemic

Lam Thi Le<sup>1</sup>, Le Thi Thuy Nga<sup>2\*</sup>, Adi Fahrudin<sup>3</sup>, Binh Thanh Nguyen<sup>4</sup>, Dung My Le<sup>5</sup>

<sup>15</sup>*The University of Danang, University of Science and Education, Vietnam, 459 Ton Duc Thang Street, Hoa Khanh Ward, Da Nang, Viet Nam.*

<sup>2</sup>*Trade Union University, Vietnam, 169 Tay Son Street, Kim Lien Ward, Hanoi, Vietnam. (ORCID: 0009-0000-1130-9060)*

<sup>3</sup>*Universitas Esa Unggul, Jakarta, 11510, Indonesia.*

<sup>4</sup>*Hanoi National University of Education, Vietnam.*

**\* Corresponding author:** Le Thi Thuy Nga; Ngaltt@dhcd.edu.vn

## ABSTRACT

This study investigates the mental health of adolescents in Da Nang City, Vietnam, during and after the COVID-19 pandemic, focusing on the protective effects of psychosocial resources. A cross-sectional survey was conducted with 1,262 students aged 12-17 using the Strengths and Difficulties Questionnaire (SDQ-25), the Multidimensional Scale of Perceived Social Support (MSPSS), and a supplementary emotion questionnaire. Results revealed substantial improvements in emotional well-being as society transitioned to the “new normal”. Negative emotions such as fear, loneliness, and anxiety significantly declined, while positive affect increased. Regression analyses indicated that family and peer support, along with adolescents’ confidence in social competence, played crucial roles in reducing psychological distress and promoting recovery. The findings underscore the family’s central role in emotional resilience and highlight the importance of strengthening psychosocial support systems for adolescents in post-crisis contexts.

**Keywords:** Mental health; adolescents; psychosocial resources; family support; peer support; self-confidence; COVID-19 pandemic

## 1. Introduction

*The COVID-19 Context and Adolescent Mental Health:* The COVID-19 pandemic represented one of the most severe global crises of the twenty-first century, profoundly affecting physical health, economic stability, and psychosocial well-being<sup>[1]</sup>. Children and adolescents groups undergoing rapid cognitive and emotional development were particularly vulnerable to the psychological consequences of prolonged uncertainty and social disruption<sup>[2,3]</sup>. The abrupt transition to online learning, restrictions on physical activity, and the breakdown of social routines disrupted adolescents’ sense of normalcy and belonging. These conditions fostered heightened levels of anxiety, fear, loneliness, and depressive symptoms<sup>[4-7]</sup>. Emerging research has consistently reported that these effects extended beyond the acute crisis phase, producing lingering emotional

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and behavioral challenges among young people worldwide<sup>[8,9]</sup>. Such findings call for closer attention to the psychological recovery process among adolescents and the factors that facilitate their emotional resilience.

*Negative Emotions as Immediate Consequences of the Crisis:* Empirical studies across various cultural settings have documented unprecedented increases in anxiety, depression, and stress among adolescents during pandemic lockdowns<sup>[10,11]</sup>. Contributing factors included academic pressure, family financial strain, disrupted daily routines, and continuous exposure to negative information through social media<sup>[6]</sup>. In Vietnam, the prevalence of adolescent mental health problems before and during the pandemic ranged from 12% to 40%<sup>[12,13]</sup>. Even after infection rates subsided, many adolescents continued to experience fatigue, poor concentration, and persistent anxiety<sup>[14,15]</sup>. Negative emotions, though natural reactions to stress, can impede cognitive processing and adaptability when prolonged, increasing the risk of mental disorders<sup>[16]</sup>. However, individual differences in emotional recovery suggest that certain adolescents possess protective psychosocial resources factors that buffer against stress and promote resilience<sup>[17,18]</sup>.

*Psychosocial Resources as Protective Factors:* Psychosocial resources encompass internal and external assets that enhance individuals' capacity to cope with stress. Internal resources include self-esteem, autonomy, coping efficacy, and resilience, while external resources involve supportive relationships with family, peers, teachers, and communities<sup>[19,20]</sup>. During periods of crisis, these resources serve as emotional "shock absorbers," helping adolescents regulate negative emotions and maintain psychological balance. In post-pandemic contexts, the presence of such resources becomes critical for adolescents' reintegration and well-being. Family and peer support, in particular, play decisive roles in promoting emotional stability and reducing the long-term psychological sequelae of the pandemic<sup>[21]</sup>.

*The Case of Da Nang, Vietnam:* Da Nang City, one of Vietnam's most affected localities during the COVID-19 pandemic, experienced multiple lockdowns and school closures between 2020 and 2021<sup>[22]</sup>. These disruptions exerted heavy pressure on adolescents' psychological health. Similar to global trends<sup>[23,24][9]</sup>, local reports highlighted increased stress, loneliness, and family tension among students<sup>[7][25]</sup>. Economic instability further compounded these effects, revealing gaps in community mental health support.

Based on the research background, the present study examines:

1. How did adolescents' emotional experiences and mental health change during and after the COVID-19 pandemic?
2. What role did psychosocial resources, particularly family and peer support played in promoting recovery and emotional stability?

## 2. Literature review

A growing body of literature has documented the multifaceted impact of the COVID-19 pandemic on adolescent mental health. Studies across diverse cultural contexts have consistently reported elevated rates of psychological distress, including anxiety, depression, and social withdrawal, during the pandemic<sup>[24], [4], [26]</sup>.

*Global Evidence on Adolescent Mental Health During COVID-19:* Internationally, adolescents exhibited marked increases in emotional distress during lockdowns. For example, studies in China and Italy found high rates of anxiety, fear, and loneliness due to home confinement and disrupted schooling<sup>[3], [6]</sup>. Similarly, research in Europe and Latin America reported that the absence of direct peer interaction led to significant declines in perceived social connectedness and well-being<sup>[27,28]</sup>. Meta-analyses further confirm these patterns, revealing that depressive and anxiety symptoms among adolescents globally doubled during the pandemic compared to

pre-pandemic levels [29]. These findings underscore that mental health deterioration among youth was a worldwide phenomenon, with long-lasting repercussions even after the easing of restrictions.

**Psychosocial Support and Resilience:** The literature also emphasizes the buffering effects of psychosocial resources. Masten (2001) describes resilience as “*ordinary magic*” the capacity of individuals to maintain stability despite adversity [18]. Similarly, Hobfoll’s (1989) Conservation of Resources Theory posits that individuals strive to retain and protect valuable resources, personal, social, and material, that help mitigate stress [17]. In this framework, psychosocial resources such as family cohesion, peer companionship, and self-efficacy act as protective buffers that counterbalance the effects of crisis exposure.

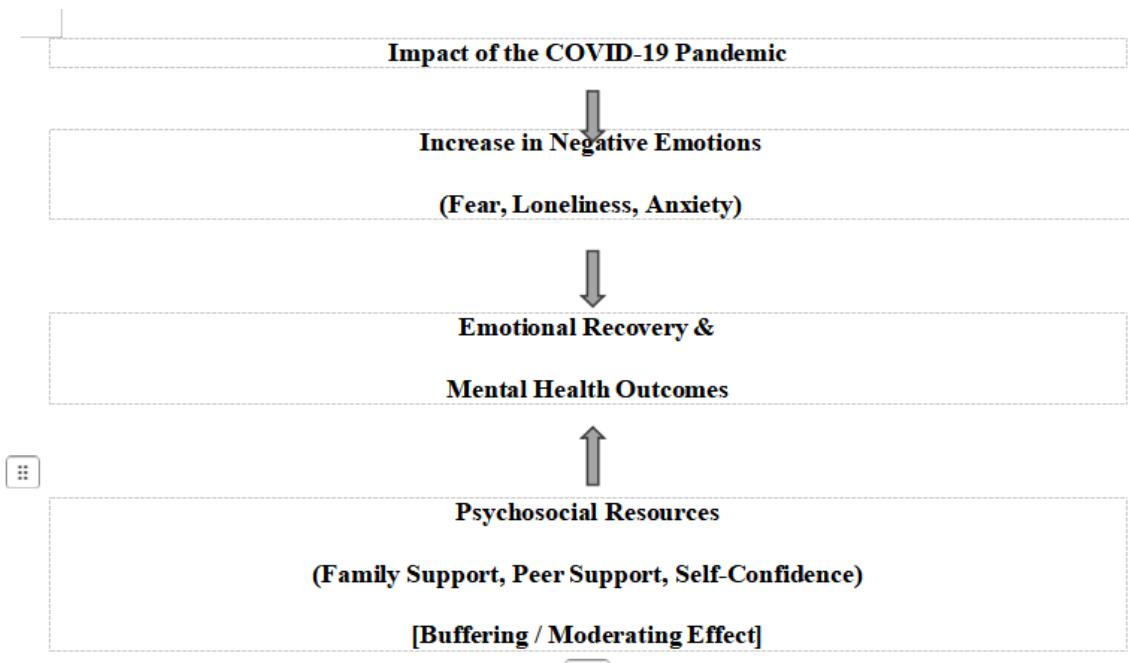
Empirical findings support these theoretical claims. Family and peer support have been shown to predict lower levels of depression and anxiety among adolescents [5],[30]. Social support also enhances adolescents’ confidence in managing emotions, reduces loneliness, and promotes post-crisis recovery [31].

**Research Gaps and the Vietnamese Context:** Despite global attention, empirical evidence from low- and middle-income countries, including Vietnam, remains limited. Previous Vietnamese studies primarily focused on adult populations or healthcare workers, leaving adolescent populations underexplored. Given Vietnam’s collectivist culture, where family plays a dominant role in emotional socialization, examining psychosocial support mechanisms within families and schools becomes particularly relevant.

This study, therefore, extends international literature by providing context-specific insights into the emotional recovery and mental health of Vietnamese adolescents following COVID-19, emphasizing the moderating roles of family and peer support.

### 3. Theoretical framework

The present research draws on two interrelated theoretical perspectives: (1) Masten’s (2001) Resilience Theory, which emphasizes individuals’ adaptive capacity to recover from adversity through both internal and external protective resources; and (2) Hobfoll’s (1989) Conservation of Resources Theory, which conceptualizes psychological stress as a response to the threat or loss of valued personal and social resources [17,18]. Within this framework, pandemic-related stressors are assumed to increase adolescents’ negative emotional responses, including fear, loneliness, and anxiety. Psychosocial resources comprising family support, peer support, and adolescents’ self-confidence are conceptualized as protective factors that buffer and moderate the impact of these negative emotions on emotional recovery and mental health outcomes. By strengthening coping efficacy and fostering a sense of belonging, these resources are expected to mitigate psychological distress and facilitate emotional recovery in the post-pandemic context. Accordingly, the framework guided the study’s hypotheses, positing that adolescents with stronger psychosocial resources would exhibit greater emotional recovery and lower levels of mental health difficulties following the COVID-19 pandemic.



**Figure 1.** Conceptual framework illustrating the buffering role of psychosocial resources in the relationship between pandemic-related negative emotions and adolescents' emotional recovery and mental health outcomes.

## 4. Methodology

### 4.1. Research design and participants

A cross-sectional quantitative design was employed. Data were collected approximately 18 months after Da Nang lifted its COVID-19 lockdown restrictions. Given ongoing safety measures, an online self-administered survey was distributed to students in grades 6 -12 across public schools in Da Nang. A total of 21 public schools across the seven districts of Da Nang city were invited to participate, of which 10 schools agreed, yielding a school-level response rate of 47.6%. The participating schools were purposively selected to ensure balanced geographic representation across all districts.

The survey link was distributed through teachers at participating schools, inviting all eligible students to take part voluntarily. Due to the open distribution of the online questionnaire, the exact number of students invited could not be determined; therefore, a student-level response rate was not calculated.

In total, 1,262 adolescents participated (45.3% male; 54.7% female; mean age = 15.25 years, SD = 1.85). Lower secondary students accounted for 49.3% of the sample, while upper secondary students represented 50.7%. Participation was voluntary, and the sampling approach was consistent with ethical research practices in Vietnam.

### 4.2. Measurement instruments

#### Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al was used to assess perceived support from family and peers<sup>[32]</sup>. The scale consists of two subscales, each containing four items, rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). In the present study, the MSPSS demonstrated strong internal consistency, with Cronbach's  $\alpha$  values of 0.901 for Family Support and 0.874 for Peer Support.

## Strengths and Difficulties Questionnaire (SDQ-25)

Mental health was assessed using the 25-item Strengths and Difficulties Questionnaire (SDQ-25) developed by Goodman<sup>[33]</sup>. The Vietnamese version of the SDQ-25 showed acceptable reliability in previous research<sup>[34]</sup>. The total difficulties score was calculated by summing 20 items after reverse-scoring the positively worded items, with higher scores indicating greater psychological difficulties. In this study, the SDQ-25 demonstrated good internal consistency (Cronbach's  $\alpha = 0.789$ ).

## Emotional Experience Questionnaire

A supplementary measure examined 11 emotions five positive (joy, inspiration, tolerance, positivity, enthusiasm) and six negatives (fear, loneliness, anxiety, sadness, discomfort, irritability). Respondents indicated which emotions they experienced during and after the pandemic. Open-ended items invited elaboration on causes of fear, sadness, loneliness, and anxiety.

### 4.3. Data analysis

Quantitative data were analyzed using SPSS 20. Descriptive statistics summarized emotional patterns, while multiple regression analyses tested the predictive effects of psychosocial resources on mental health outcomes. Statistical significance was set at  $p < .05$ . Qualitative responses were examined through thematic content analysis.

### 4.4. Ethical considerations

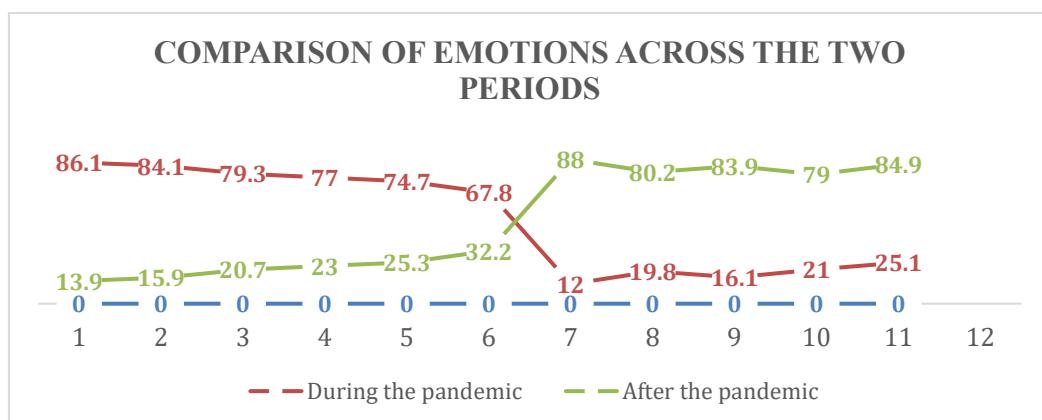
The study followed the Declaration of Helsinki (2013) and UNICEF/UNESCO ERIC Guidelines<sup>[35]</sup>. Parental consent and adolescent assent were obtained. Participation was voluntary, anonymous, and confidential. All data were securely stored, and participants could withdraw at any time.

## 5. Findings

### 5.1. Emotional shifts during and after the pandemic

Descriptive results revealed a pronounced emotional transformation between 2020 and 2023. During lockdown, negative emotions predominated boredom (86.1%), fear (84.1%), loneliness (79.3%), and anxiety (77%). In contrast, post-pandemic data indicated that positive emotions such as joy (88%), enthusiasm (80.2%), and positivity (83.9%) became dominant.

These results suggest a clear pattern of emotional recovery as social life resumed. The findings mirror international evidence indicating that emotional well-being improved gradually after restrictions were lifted<sup>[36]</sup>.



**Figure 2.** Emotional Shifts During and After the Pandemic

## 5.2. Adolescent mental health post-pandemic

The average SDQ total difficulties score was 13.46 (SD = 5.88), reflecting moderate psychological health. About 59% of respondents fell within the normal range, while 14.7% were borderline and 26.1% at risk. Both internalizing and externalizing problems were present at similar rates (20–21%), suggesting partial recovery consistent with trends in other countries<sup>[37]</sup>.

## 5.3. Psychosocial Resources: The role of family and peer support

Mean scores for perceived family support (M = 19.70), peer support (M = 19.05), and self-confidence in social competence (M = 25.66) reflected moderate to high support levels. These findings highlight that despite pandemic-related disruptions, adolescents maintained social connectedness and self-confidence.

Regression models demonstrated that both the duration and intensity of negative emotions predicted higher mental health difficulties ( $p < .001$ ). Conversely, family and peer support were significant negative predictors of psychological distress, with family support exerting the strongest protective effect ( $\beta = -.237$ ,  $p < .001$ ). (see Table 1)

**Table 1.** The Impact of Social Support on the Mental Health of Adolescents

Model	Independent variable	Beta	T-test	p
1	Fear	Friends	-.138	-4.248
		Family	-.237	-7.309
		Adj R-square = .181	F= 70.771	p<.001
2	Loneliness	Friends	-.129	-3.999
		Family	-.222	-6.871
		Adj R-square = .185	F= 72.431	p<.001
3	Worry	Friends	-.123	-3.786
		Family	-.242	-7.510
		Adj R-square = .184	F= 72.319	p<.001
4	Sadness	Friends	-.139	-4.303
		Family	-.216	-6.634
		Adj R-square = .185	F= 72.479	p<.001

Qualitative data corroborated these results. Students who did not feel lonely during lockdowns frequently cited emotional closeness and communication with family and friends as key reasons for their stability.

“I never felt lonely because my friends checked on me, and my family always cared for me.” (Student #69)

“I didn’t feel lonely since my parents and siblings were always by my side.”  
(Student #84)

## 6. Discussion

This study highlights the critical role of psychosocial resources, particularly family and peer relationships, in shaping adolescents’ emotional recovery in the aftermath of the COVID-19 pandemic. Both quantitative and qualitative findings converge to indicate that adolescents with stronger family connections and peer support experienced fewer mental health difficulties. These results are consistent with global evidence demonstrating that close familial relationships can buffer adolescents against stress and loneliness<sup>[30,31]</sup>.

In Vietnam's collectivist cultural context, where family bonds are traditionally emphasized, family involvement appears to play a particularly important role in sustaining adolescents' emotional stability. However, the findings also reveal an important nuance: only approximately one-third of adolescents reported feeling comfortable sharing personal concerns with their families. This suggests that the mere availability of family support may be insufficient when open communication and emotional attunement are limited, even within culturally close-knit households.

From an educational perspective, these findings underscore the importance of school-based mental health initiatives that actively engage families rather than focusing exclusively on individual students. Schools can function as critical mediating spaces by fostering parent-adolescent communication, enhancing parental emotional literacy, and strengthening collaboration among teachers, school counselors, and families. In parallel, peer-based interventions such as peer support groups or mentoring programs may further enhance adolescents' sense of belonging and emotional safety within the school environment.

At the policy level, the results highlight the need for integrated mental health strategies that extend beyond clinical services to encompass family- and school-centered preventive approaches. Educational policies should prioritize the systematic incorporation of psychosocial support programs within school systems, particularly during post-crisis recovery periods. Investment in training educators and school-based social workers to identify emotional distress and to cultivate supportive peer and family networks may contribute to more sustainable improvements in adolescent mental health outcomes.

The COVID-19 pandemic has had lasting effects on the mental health of children and adolescents, extending beyond the acute crisis phase. Although levels of negative emotions such as fear, sadness, and loneliness declined in the post-pandemic period, their psychological imprint remains evident, underscoring the pandemic as a critical stress test for existing mental health care systems. The findings highlight the central role of psychosocial resources particularly family support in promoting adolescents' emotional recovery. Both quantitative and qualitative results indicate that strong and stable family relationships significantly reduce loneliness and anxiety and contribute to more favorable mental health outcomes after the pandemic.

These results point to the need for a more integrated and preventive mental health approach that moves beyond individual-level interventions. Strengthening coordination among families, schools, and community services, while prioritizing early support for vulnerable adolescents, is essential. In the Vietnamese context, culturally responsive strategies that reinforce family capacity and communication are especially important.

Overall, the study emphasizes that families function as a crucial foundation for adolescent recovery following large-scale crises. Enhancing family-based psychosocial support represents a key pathway toward fostering resilience and long-term mental well-being among young people.

## **7. Limitations and future research**

This study's cross-sectional design restricts causal interpretation. Self-report data may also be subject to recall and social desirability biases. Moreover, the study focused on one urban area Da Nang which limits generalizability across Vietnam's diverse regions. Future longitudinal and mixed-method studies should explore how psychosocial resources evolve over time and interact with broader cultural and socioeconomic variables.

## **8. Practical implications**

Findings have practical relevance for educators, policymakers, and social workers. Schools should incorporate structured mental health programs emphasizing emotional literacy, peer mentoring, and family

engagement. Family-based interventions such as parenting workshops on communication and stress management can further strengthen resilience among adolescents. Community and school partnerships should also integrate culturally sensitive counseling services to sustain adolescents' post-crisis recovery.

## 9. Conclusion

The COVID-19 pandemic profoundly disrupted adolescents' emotional lives, but recovery is possible through robust psychosocial support. Family and peer relationships function as vital emotional anchors, protecting adolescents from prolonged psychological harm. As Vietnam and other nations continue to rebuild after COVID-19, mental health initiatives should prioritize reinforcing these relational resources to foster a generation of resilient, emotionally balanced youth.

## Author Contributions

Conceptualization, Lam Thi Le and Adi Fahrudin; Methodology, Dung My Le; Data analysis, Lam Thi Le; Writing original draft, Lam Thi Le, Le Thi Thuy Nga; Writing review & editing, Binh Thanh Nguyen and Adi Fahrudin. All authors have read and approved the final manuscript.

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## Conflict of interest

The authors declare no conflict of interest

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