Budiarto, E., Astriana, A. & Kusuma, N. I. (2026)
Jurnal Keperawatan Soedirman – Vol 21, No 1 page 27-33
http://jos.unsoed.ac.id/index.php/jks/index

ORIGINAL ARTICLE

DIFFERENCES IN PSYCHOLOGICAL RESILIENCE AMONG ADOLESCENTS IN EARTHQUAKE-AFFECTED AREAS BASED ON GENDER, PARENTING STYLES, AND PSYCHOSOCIAL PROBLEMS

Eka Budiarto*, Astriana Astriana, Nur Intan Kusuma

Faculty of Health Sciences, Universitas Muhammadiyah Pekajangan Pekalongan, Jl. Raya Ambokembang No.8 Kedungwuni, Pekalongan, Central Java, Indonesia

Article Information
Received: 20 June 2025
Revised: 28 October 2025
Accepted: 25 February 2026

*Corresponding Author
Eka Budiarto
ekabudiarto4321@gmail.com

DOI
10.20884/1.jks.2026.21.1.16448

ABSTRACT

Resilience is crucial for adolescents, a vulnerable group that may suffer adverse effects from earthquakes. A large number of adolescents continue to experience stress and trauma as a result of such events. This study aimed to determine the differences in psychological resilience among adolescents based on gender, parenting style, and psychosocial problems. This quantitative research employed a cross-sectional design with a sample size of 232 participants. Simple random sampling was used, with the inclusion criteria targeting adolescents who resided in the earthquake-affected area, directly experienced the earthquake, and exhibited psychological impacts such as anxiety, fear, and excessive sadness. Adolescent resilience was measured using a modified version of the Brief Resilience Scale questionnaire. Data were analyzed using a three-way ANOVA with a 2x2x2 factorial design. The results showed that the average resilience score was 19.25 out of a maximum possible score of 30, suggesting that adolescent resilience remains considerably below its potential maximum. Psychological resilience among adolescents in earthquake-affected areas was not significantly influenced by gender ($p = 0.381$), parenting style ($p = 0.607$), or psychosocial problems experienced during the earthquake ($p = 0.331$). Therefore, adolescent resilience appears unaffected by these factors. However, further research is warranted to explore other potential influences, including coping mechanisms, decision-making skills, and stress management.

Keywords: *Adolescents; earthquake; psychological resilience*

ISSN : 1907-6637 **e-ISSN : 2579-9320**

BACKGROUND

The World Risk Report (2023) noted that 421 natural disasters occurred worldwide since 2022. This represents a 23% increase compared to the year2000. The types of disasters included droughts, floods, severe storm, tropical cyclones, forest fires, and winter storms (NOAA National Centers for Environmental Information, 2024). In Indonesia, there were 953 natural disasters in Indonesia in 2024. These disasters include floods, extreme weather events, landslides, forest fires, earthquakes, and volcanic eruptions (Annur, 2024).

Natural disasters are natural phenomena such as earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides (BPBD-ACEH, 2024). Indonesia's high risk of natural disasters is primarily due to its location between the Mediterranean and Pacific Rings of Fire. Additionally, Indonesia is situated at the convergence of three tectonic plates: the Eurasian, Pacific, and Australian plates. This unique geographical location makes Indonesia particularly vulnerable to natural disasters, including volcanic eruptions—with or without accompanying tsunamis—and earthquakes (Mu, Woen and Sylvia, 2020).

An earthquake is a vibration that occurs on the Earth's surface, caused by collisions between tectonic plates, active faults, volcanic activity, or rockfalls (BPBD-NTB, no date). Earthquakes typically occur in areas of high tectonic activity. Based on the records from the Meteorology, Climatology, and Geophysics Agency (BMKG), Indonesia experienced10,789

earthquakes of varying magnitudes and intensities in 2023. This number exceeds the annual average of approximately 7,000 earthquakes. BMKG recorded 219 significant earthquakes with magnitudes above 5.0 in 2023. Additionally, there were 10,570 smaller earthquakes with magnitudes below 5.0, and 861 earthquakes were felt by the public (Antara, 2024).

The regions in Indonesia with the highest earthquake and tsunami activity include Aceh, West Sumatra, Bengkulu, Lampung, Banten, West Java, DKI Jakarta, Central Java, Yogyakarta, East Java, Bali, West Nusa Tenggara, East Nusa Tenggara, Central Sulawesi, Southeast Sulawesi, South Sulawesi, North Maluku, Maluku, Biak, Papua, and East Kalimantan. One notable earthquake occurred in Batang Regency, Central Java, on July 7, 2024. The epicenter was located at coordinates 6.96°S, 109.74°E, located on land approximately 5 km southeast of Batang, at a depth of 6 km. This earthquake was classified as a shallow crustal event, resulting from local fault activity. Source mechanism analysis showed that the earthquake had a dextral strike-slip fault mechanism on the Pekalongan segment (BMKG, 2024).

The earthquake in Batang Regency caused significant damage to infrastructure in the affected areas. In addition, the psychological impact is a critical concern. Anxiety and fear resulting from earthquakes can persist for extended periods and may even lead to prolonged trauma and socio-economic challenges (Miswarti *et al.*, 2023). This proves that earthquake disaster management should not only focus on physical and infrastructural recovery but also prioritize to psychosocial mental health support to improve the wellbeing of victims and survivors. One effective approach is to strengthen internal capacity to improve resilience and the ability to recover from disaster impacts. Increasing this internal capacity requires fostering resilience (Saputra, Diponegoro and Urbayatun, 2023). Previous research has indicated that earthquakes are less likely to increase posttraumatic growth compared to flash floods (Warsini, Cahyani and Assyifa, 2022).

Resilience is an individual's ability to overcome difficult situations, unpleasant events, and life challenges. It is especially is important for adolescents, a vulnerable group that can be significantly affected by earthquakes. Previous research has shown that 25.4% of adolescents experience psychological disorders, with post-traumatic stress being the most common (Rahmadian, Furqon and Rusmana, 2016). Additionally, other studies indicate that 43.8% of adolescents living in earthquake- and tsunami-prone areas exhibit low resilience (Mailani, Mahathir and Sukarma, 2022).

Previous studies have found that resilience among adolescents following earthquakes is generally moderate (Niu, Jiang and Jiang, 2021). In general, psychological problems caused by earthquakes tend to diminish over time and increase resilience(Tuturea *et al.*, 2025). However, other study indicates that adolescent resilience after an earthquake may gradually increase, remain stable, or decrease (Chen *et al.*, 2022). Additionally, other studies show that high levels of resilience in adolescents are associated with greater growth up to10 years after trauma (Chen *et al.*, 2022). In fact, resilience serves as an important indicator of adolescents' overall well-being and their ability to recover from difficulties caused by disasters (Okuyama and Funakoshi, 2018).

The resilience of adolescents is influenced not only by negative experiences caused by disasters but also by factors such as age, gender, academic achievement, self-esteem, coping mechanisms, interpersonal skills, and preparedness for earthquakes (Niu, Jiang and Jiang, 2021). In addition to these factors, adolescent resilience is shaped by cultural and psychological factors (Niu, Jiang and Jiang, 2021). Previous studies have identified factors that enhance resilience, including optimism, self-confidence, social support, good social relationships, and parenting styles within the family (Lu *et al.*, 2020).

Psychological resilience in adolescents is particularly important in earthquake-prone areas, as earthquakes can cause serious psychological problems. The impact of earthquakes on adolescents may include anxiety, depression, negative self-concept, somatization, and hostility (Şam, Sever and Yüksel, 2025). Understanding resilience in adolescents necessitates research that distinguishes resilience based on factors that are currently immutable, such as gender and parenting style. These unchangeable factors at warrant investigation because an adolescent's current condition reflects experiences related to these factors that cannot be repeated. In addition, psychosocial factors are important to consider, as every adolescent may experience psychosocial problems as a long-term consequence of an earthquake. The purpose of this study was to assess the psychological resilience of adolescents in earthquake-prone areas and to determine the differences in psychological resilience among adolescents based on gender, parenting style, and psychosocial problems.

METHOD

Study design

This research employed a quantitative, cross-sectional design to examine the resilience of adolescents in earthquake-affected areas. It aimed to describe their resilience levels and identify differences based on various factors collected through this cross-sectional approach.

Population and sample

The research population consisted of adolescents living in the earthquake-affected area of Batang Regency. The study was conducted at SMP N 7 Batang, the school most affected by the earthquake, with a total enrollment of 552 students. The entire population had an equal opportunity to participate as research respondent and were invited to do so during the study. A total of 232 students were selected as respondents. This sample size was determined based on the research objectives and design, using the Slovin formula. From the initial population of 552, 232 students were randomly selected using a simple random sampling technique. Names drawn in the selection process were considered potential respondents. These potential respondents were provided with informed consent forms to participate, which they completed together with their parents at home and returned to the researchers the following day. All 232 selected students agreed to participate. A The inclusion criteria required adolescents to have lived in the earthquake area and to have directly experienced the earthquake. All randomly selected respondents met these criteria, and none declined participation. Consequently, no respondents were excluded from the study. The confidentiality of research data is guaranteed by the researchers. The research questionnaire uses only initials, not full names. The mental health interpretation results show that early detection data do not constitute a mental health diagnosis; therefore, adolescents exhibiting serious symptoms are referred to teachers for counseling.

Instruments

Adolescent resilience was measured using a modified Brief

Resilience Scale (BRS) questionnaire consisting of 6 statements related to sobriety, perseverance, independence, meaningfulness, and existential solitude. The original BRS includes six statements—three positively worded and three negatively worded—with response options ranging from strongly disagree to strongly agree. The modification involved expanding the questionnaire to 12 items by adding six statements created by reversing the wording of the original items (i.e., converting positive statements into negative ones and vice versa). Validity testing yielded correlation coefficients ranging from 0.508 to 0.866, and Cronbach's alpha values between 0.669 and 0.721, indicating acceptable reliability. The BRS results are typically categorized into three levels of resilience: low (< 3.00), normal (3.01–4.29), and high (> 4.30), based on the average score calculated by summing all item scores and dividing by six. However, this study did not use categorical classifications; instead, it employed continuous numerical scores to more accurately reflect adolescents' psychological resilience. Parenting styles were assessed using a checklist derived from adolescents' perceptions, with data characterized descriptively according to the researchers' framework. Psychosocial problems were evaluated by measuring anxiety symptoms, based on the Indonesian standard nursing diagnosis criteria for anxiety.

Data collection

Data collection was conducted by two researchers. The process began with an explanation of the study and a request for consent from prospective respondents to participate. Respondents who agreed were given a consent form to sign, with their identities recorded using initials and respondent codes. The researcher then explained how to complete the questionnaire and distributed it to the respondents. They accompanied the respondents while they filled out the questionnaire, providing clarification if any questions were unclear, without directing or influencing their answers. After completion, the researchers collected the questionnaires and checked them for completeness.

Data analysis

The data analysis used in this study involved calculating the percentage frequency distribution for gender, parenting styles, and experienced psychological impacts. For numerical data related to resilience, measures of central tendency—mean, median, and mode—were used. Further analysis was conducted using a three-way ANOVA to examine differences in adolescent resilience based on these factors. The three-way ANOVA was performed after confirming that the data met the assumptions of normality and homogeneity.

Ethical considerations

This research been approved by the Research Ethics Committee of the Research and Community Service Institute at Muhammadiyah Pekajangan University Pekalongan, as documented in letter number No.004/KEP-UMPP/I/2025.

RESULT

The research was conducted on respondents with an average age of 13.55 years. Of these, 54.7% were male adolescents, 68.5% of adolescents experienced democratic parenting, and 46.1% adolescents reported anxiety related to their condition during earthquakes. The results showed that the average resilience score was 19.25 out of a maximum possible score of 30.

Table 1. Adolescent Psychological Resilience Respondents in Earthquake Prone Areas

Variable	N	Mean	Min	Max	Std.Dev
Psychological Resilience	232	19.25	14	27	2.675

A total of 45,3% of respondents were female. Besides, 31.5% of adolescents reported experiencing a parenting style within their family other than democratic. Nearly 50% of respondents experienced anxiety, as shown in Table 2.

Table 2. Adolescent Gender, Parenting Styles, and Psychosocial Problems

Variables		N	%
Gender	Male	127	54.7
	Female	105	45.3
Parenting styles	Non-Democratic	73	31.5
	Democratic	159	68.5
Psychosocial Problems	Anxiety	107	46.1
	Non- Anxiety	125	53.9

The normality test for standardized residual yielded a p-value of 0.086 (>0.05), indicating that the residual is normally distributed. The homogeneity test produced a p-value of 0.770 (p >0.05), confirming the data variance is homogeneous. Therefore, the assumptions for the three-way ANOVA are satisfied.

The results of the three-way ANOVA indicated that the psychological resilience of adolescents in earthquake-affected areas was not significantly influenced by gender (p = 0.381), parenting style (p = 0.607), or psychosocial problems experienced during the earthquake (p = 0.331). More detailed analysis results are presented in Table 3. The interaction between independent variables is not discussed further in this study.

Table 3. The Differences in Psychological Resilience Among Adolescents Based on Gender, Parenting Styles, and Psychosocial Problems

Tests of Between-Subjects Effects							
Dependent Variable: Resiliensi							
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**	**95% CI**
Corrected Model	51.08	7	7.30	1.02	.418	.031	
Intercept	71444.76	1	71444.76	9990.29	.000	.978	
Gender	5.52	1	5.52	.77	.381	.003	-1.10-1.10
Parenting Styles	1.90	1	1.90	.27	.607	.001	-.96-.96
Psychosocial Problems	6.79	1	6.79	.95	.331	.004	-1.14-1.14
Gender * Parenting Styles	1.36	1	1.36	.20	.664	.001	18.22-20.52
Gender * Psychosocial Problems	31.43	1	31.43	4.40	.037	.019	17.86-20.64
Parenting Styles * Psychosocial Problems	1.03	1	1.03	.14	.705	.001	18.47-20.49

Tests of Between-Subjects Effects							
Dependent Variable: Resiliensi							
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**	**95% CI**
Gender * Parenting Styles * Psychosocial Problems	4.10	1	4.10	.57	.450	.003	17.77-20.59

DISCUSSION

Resilience among adolescents in earthquake disaster-prone areas shows that most adolescents have a moderate level of resilience, though it has not yet reached an optimal level. The resilience of these adolescents remains far from its maximum potential. According to the psychological resilience categorization results, 51.7% of adolescents exhibit normal psychological resilience, while 45.7% of adolescents demonstrate low resilience. Only 2.6% of adolescents have high psychological resilience. These results are in accordance with research by Mailani et al. which reported that 56.2% of adolescents living in earthquake and tsunami-prone areas possess good resilience, attributed to factors such as helping ability, adaptability, self-confidence, faith in God, hope, and social support (Mailani et al.. 2022). Although many adolescents have good resilience, significant portion still has low resilience.

The failure to achieve the maximum resilience score indicates that many adolescents in this region do not have optimal psychological resilience whenfacing life's challenges, particularly in an environment vulnerable to natural disasters like earthquakes. The six-month interval between the disaster and this study illustrates that the psychological impact of the disaster is still being experienced by adolescents, affecting their resilience levels. The time needed to achieve resilience after an earthquake varies and is influenced by multiple factors, including social support, adaptability, and individual beliefs (Khairulyadi & Nusuary, 2021).

As mentioned in this study, there were no differences in adolescent resilience based on gender, parenting style, or psychosocial problems experienced during the earthquake. This is because other factors influencing adolescent resilience are external reinforcing factors.

The results of this study were compared with previous research and found no difference in adolescent resilience based on age; however, there was a relationship between gender, parenting style, and adolescent resilience (Niu, Jiang and Jiang, 2021). Other studies indicate that parenting style is a significant predictor of resilience after adjusting for gender, age, number of siblings, and earthquake experience (Shi *et al.*, 2021). This finding suggests that factors that cannot be modified—namely gender and parenting style style—as well as actual problems caused by the earthquake, such as psychosocial problems, do not contribute to differences in adolescent resilience. The results of the researcher's observational analysis shows that adolescent resilience is influenced by coping mechanisms and social support, which enable adolescents to better manage themselves when facing conflicts encountered after an earthquake. In fact, strong resilience can protect adolescents from psychosocial problems caused by earthquakes, including depression, anxiety, and post-traumatic stress disorders (Gül, Özmen and Demirci, 2023).

Several factors can lead to low resilience in adolescents. One significant factor is the lack of effective coping strategies; adolescents who lack these skills tend to be more vulnerable to emotional distress and face greater difficulties in dealing with academic, social, or family problems. In addition, low social support —from family, friends, or the community—can exacerbate this condition. A lack of self-confidence and poor emotional regulation also contribute to low resilience, making it easier for adolescents to feel hopeless and struggle to recover from the failures or challenges (Wahyuni & Vidya Siti Wulandari, 2022). During the six-month post-disaster period, adolescents may continue to experience stress due to homelessness, changes in their neighborhood, or even the loss of family members. The inability to manage this stress further deteriorates their psychological resilience.

In addition, an unsupportive environment contributes to low resilience, especially when adolescents do not receive adequate support from family, friends, or the community. In some cases, democratic parenting—which is intended to build resilience—becomes less effective if adolescents lack opportunities to face real challenges (Nashori, 2021). During the six months following a disaster, social support becomes a crucial factor in rebuilding psychological resilience. Adolescents do not receive sufficient support from both family and community during this period, they are likely to experience difficulty in adjusting to new circumstances.

Low resilience in adolescents negatively impacts their mental health and overall well-being. Adolescents with low resilience are at a higher risk of developing psychological disorders such as anxiety, depression, and post-traumatic stress, particularly if they lack adequate support. Additionally, they are more likely to struggle with adapting to life challenges, including academic failure, social conflicts, and other traumatic events (Amelia, Aziz and Huda, 2024).

The younger age of adolescents (12-13 years old) may impact on their ability to manage stress. Psychological resilience, defined as an individual's ability to cope with and adapt to stress, adversity, or change, tends to vary more among younger adolescents (Wahyuni and Vidya Siti Wulandari, 2022). This variability is attributed to their ongoing development in managing emotions and handling pressure. Previous research shows that the younger a person is, the greater the challenges they face in building psychological resilience (Mangna and Valentina, 2024). Similarly, Nada et al. states that young age affects adolescents' ability to develop psychological resilience (Nada *et al.*, 2024). Additionally, studies show that younger adolescents are more suspectible to psychological problems such as anxiety and depression. Poor coping skills in this age group have been linked to an increased risk of emotional disorders (Akbar *et al.*, 2024).

Although the analysis showed no significant differences in psychological resilience based on gender, parenting style, or psychosocial problems, the researchers analyzed the characteristics of psychological resilience descriptively to explore its distribution across these variables. Low resilience was observed more frequently in males than in females. Several key factors may contribute to low resilience in boys including parenting practices, social environment, and skills in managing emotions and stress (Irfani and Mulyana, 2025). Generally, males are often socialized to suppress emotions and show resilience without openly expressing their feelings. Parenting that emphasizes traditional masculinity can inhibits

the development of healthy coping skills, resulting in ineffective adaptation mechanisms when faced with stress (Nashori, 2021). In addition, a social environment that expects men to be independent and self-reliant may discourage them from seeking emotional support, which can further reduce their resilience.

In disaster-prone areas such as Batang Regency, low resilience among adolescent boys may exacerbate the psychological impact of disasters. They are more vulnerable to trauma, anxiety disorders, and depression, especially if they lack adequate social support systems (Mailani, Mahathir and Sukarma, 2022). The six-month period from the onset of the disaster to the time of study is sufficient for adolescents to experience various psychosocial impacts of the disaster. During this period, their inability to manage stress and uncertainty can further deteriorate their mental and emotional well-being, especially if they do not have access to adequate psychological support or intervention services.

In contrast to women, who tend to have stronger social networks and are more open in expressing emotions, adolescent boys more often face pressure individually, increasing the risk of psychosocial problems (Umadiyan and Kalifia, 2024). Meanwhile, women can also experience low resilience, albeit in different contexts. Factors contributing to low resilience in women include social pressure related to gender roles, experiences of discrimination, and high expectations regarding their roles in family and society (Nashori, 2021). Women who experience pressure from social environments that restrict their roles may feel less in control of their lives, making them more vulnerable to stress and anxiety (Putri & Laeli, 2024). In addition, exposure to violence or other traumatic experiences can further diminish resilience in women.

Research shows that although the mean resilience of adolescent boys is slightly higher than that of girls (67.60 compared to 66.86), boys with low resilience are more prone to experiencing serious psychosocial problems, such as anxiety, excessive stress, and difficulty coping with life challenges (Wahyuni & Vidya Siti Wulandari, 2022). In the context of disasters, six months is a critical period for adolescents to adjust physical and psychological changes. Without adequate support during this time, the risk of developing long-term mental health disorders may increase.

Low resilience was found more frequently in adolescents raised with democratic parenting. A study found that the proper implementation of democratic parenting can increase resilience in adolescents (Octoviany et al.. 2024). However, in some cases, low resilience is observed more often in adolescents raised with democratic parenting than in those raised with permissive orauthoritarian parenting. This phenomenon can be explained by several factors.

Democratic parenting grants adolescent freedom and responsibility in decision-making. While this approach fosters independence, not all adolescents are ready to deal with pressure independently, which may lead to stress or confusion when facing challenges without parental support (Muslim et al., 2023). Adolescents raised with democratic parenting tend to be more open to emotions and self-reflection. This self-awareness is beneficial in the long term, but it can exacerbate anxiety or stress if not supported by effective coping strategies (Nashori, 2021).

Meanwhile, permissive and authoritarian parenting styles also affect adolescent resilience. In permissive parenting, parents tend to give freedom without clear boundaries. This lack of structure can cause adolescents to struggle with discipline when facing challenges, which over time may reduce their resilience because they are less accustomed to overcoming difficulties independently (Andiyaman et al., 2022).

Authoritarian parenting, characterized by strict rules and high levels of control, can make adolescents more accustomed to pressure but less flexible in independently solving problems. While they may develop resilience in certain situations, they often struggle to adjust when required to make decisions without guidance, which can negatively impact their overall resilience (Hasibuan et al.. 2024).

In disaster-prone areas, as demonstrated in the study by Mailani et al. study in Padang City, external factors such as a challenging environment also play a role in shaping adolescent resilience. Approximately 37% of adolescents living in these areas exhibit low levels of resilience (Mailani et al.. 2022). This suggests that although democratic parenting may enhance resilience, environmental stressors in high-risk areas can further challenge adolescents' psychological resilience. The duration of the disaster until this study was conducted was approximately six months, suggesting that adolescents with low resilience may still be in the phase of adaptation to post-disaster conditions. During this period, they may face difficulties managing the stress and trauma caused by the disaster, especially if they have not yet developed effective coping strategies. In addition, an environment that has not fully recovered may create further psychological stress, exacerbating their low resilience.

Accordingly, generally supports the development of adolescent resilience more effectively than permissive or authoritarian parenting, certain conditions can still result in low resilience within this parenting style—particularly if adolescents are not adequately prepared to face challenges independently. Therefore, a balanced approach to parenting is essential, including the cultivation of effective coping skills, enabling adolescents to better deal with various situations (Nashori, 2021).

This research is by the methodology employed, with only a narrow exploration of factors affecting adolescent resilience. Additionally, the study relied solely on descriptions of parenting styles within the characteristic questionnaire. The interaction between independent variables is not discussed further in this study. However, the large sample size is an advantage in this study. Further research is needed to conduct a more in-depth analysis of other predictors of adolescent resilience.

CONCLUSION AND RECOMMENDATION

The resilience score achieved was only 19.25, indicating that further efforts are needed to reach the maximum score of 30. Strong resilience is necessary for adolescents living in earthquake-affected areas. Comprehensive strategies are required to improve adolescents' psychological resilience, including providing social support, offering stress management training, developing problem-solving skills, and increasing adaptability to changes in the social environment.

Implications for nursing and mental health in schools and communities highlight the need for early mental health screening of adolescents following an earthquake mitigate its impact on their psychological well-being. Additionally, educational programs aimed at enhancing adolescents' coping skills are essential, including the provision of stress

management techniques and system for seeking first aid in psychological emergencies. These stress management interventions should encompass both individual and group-based approaches, incorporating peer support. Parental involvement is crucial in improving adolescents after an earthquake by adapting parenting practices to meet their evolving needs. Parents, as primary caregivers, require education on adolescent mental health in disaster contexts and on family parenting strategies that promote psychological resilience. Furthermore, schools can also collaborate with health services to provide referrals for students experiencing severe mental health problems. To support this, schools should establish clear referral policies through the school health unit to the nearest community health center, tailored to the school's location.

The psychological resilience of adolescents in earthquake-affected areas was not influenced by gender, parenting style, or psychosocial problems experienced during the earthquake. Therefore, future research can explore other factors believed to influence psychological resilience in adolescents, such as coping mechanisms, decision-making skills, and stress management. In addition, efforts must be made to enhance the resilience of adolescents in earthquake-affected areas by leveraging social support from family, friends, and schools as external factors that strengthen their resilience.

REFERENCES

Akbar, N. A., Aulia, N. F., Ratna, R., Kusnanda, B., Halida, A. N., Psikologi, F., & Surabaya, U. N. (2024). The Effect of Social Support on Emotional Resilience in Students at State Junior High School 26 Surabaya (Pengaruh Social Support terhadap Resiliensi Emosional pada Siswa SMP Negeri 26 Surabaya). *Jurnal Ilmiah Psikologi*, *6*(2), 112–121.

Amelia, N., Aziz, A. R., & Huda, N. (2024). The Relationship Between Resilience and Emotional Mental Health in Adolescents (Hubungan Resiliensi dengan Kesehatan Mental Emosional pada Remaja). *NURSE: Journal of Nursing and Health Science*, *2*(2), 124–132. https://doi.org/10.15408/nurse.v2i2.36514

Andiyaman, M., Rakhmawati, D., & Widiharto, C. (2022). The Relationship between Millennial Parenting Styles and the Resilience of Seventh Grade Students at SMP Negeri 33 Semarang (Hubungan Pola Asuh Orang Tua Milenial dengan Resiliensi Siswa Kelas VII SMP Negeri 33 Semarang). *G-Couns: Jurnal Bimbingan Dan Konseling*, *7*, 130–136. https://doi.org/10.31316/gcouns.v7i01.4384

Annur, C. M. (2024). *The number of natural disasters in Indonesia from January 1 to July 2, 2024 (Data Jumlah Bencana Alam di Indonesia pada 1 Januari-2 Juli 2024)*. https://dataindonesia.id/varia/detail/data-jumlah-bencana-alam-di-indonesia-pada-1-januari2-juli-2024

Antara. (2024). *This is the average number of earthquakes in Indonesia per year (Ini jumlah rata-rata banyaknya gempa di Indonesia dalam setahun)*. https://www.antaranews.com/berita/4191750/ini-jumlah-rata-rata-banyaknya-gempa-di-indonesia-dalam-setahun

BMKG. (2024). *Review of Ground Shaking Caused by the Batang Earthquake in Central Java on July 7, 2024 (Ulasan Guncangan Tanah Akibat Gempabumi Batang Jawa Tengah 7 Juli 2024)*. https://www.bmkg.go.id/berita/?p=ulasan-guncangan-tanah-akibat-gempabumi-batang-jawa-tengah-7-juli-2024&lang=ID&tag=ulasan-guncangan-tanah

BPBD-ACEH. (2024). *Understanding Earthquakes, Types, Causes, Effects, and How to Deal with Earthquakes (Pengertian Gempa Bumi, Jenis-Jenis, Penyebab, Akibat, dan Cara Menghadapi Gempa Bumi)*. https://bpbd.bandaacehkota.go.id/2018/08/05/pengertian-gempa-bumi-jenis-jenis-penyebab-akibat-dan-cara-menghadapi-gempa-bumi/

BPBD-NTB. (n.d.). *Earthquake (Gempa Bumi)*. https://bpbd.ntbprov.go.id/pages/gempa-https://bpbd.ntbprov.go.id/pages/gempa-bumi#:~:text=Kebanyakan gempa Bumi disebabkan dari,ditahan lagi oleh pinggiran lempengan

Chen, X.-Y., Liu, X., Shi, X., Chen, H., & Fan, F. (2022). Psychological resilience and posttraumatic growth in adolescent survivors of earthquake: A 10-year cohort study. *Journal of Psychiatric Research*, *155*, 331–337. https://doi.org/https://doi.org/10.1016/j.jpsychires.2022.09.021

Gül, M. K., Özmen, S., & Demirci, E. (2023). After the 2023 Earthquake in Turkiye : An Assessment of Post-Earthquake Psychological Resilience in Children and Adolescents - A Systematic Review. *J Clin Pract Res*, *45*(6), 539–548. https://doi.org/10.14744/cpr.2023.14633

Hasibuan, R. T., Daman, D., Sasmiyarti, S., & Fitriana, D. (2024). The Impact of Strict Parenting on Children's Psychological Development (Dampak Pola Asuh Strict Parents terhadap Perkembangan Psikologis Anak). *Journal on Education*, *7*(1), 3903–3916. https://doi.org/10.31004/joe.v7i1.6982

Irfani, A. N., & Mulyana, A. (2025). The Dynamics of Parental Resilience in Dealing with Cases of Violence Against Children by Domestic Workers (Dinamika Resiliensi Orang Tua Dalam Menghadapi Kasus Kekerasan Terhadap Anak Oleh Asisten Rumah Tangga). *Jurnal Parenting Dan Anak*, *2*(2), 1–17.

Khairulyadi, H., & Nusuary, F. M. (2021). Community Resilience After the Earthquake Disaster in Pidie Jaya Regency (Resiliensi Masyarakat Pasca Bencana Gempa Bumi di Kabupaten Pidie Jaya). *Jurnal Ilmiah Mahasiswa FISIP Unsyiah*, *6*(2), 1–11. www.jim.unsyiah.ac.id/Fisip

Lu, Y., Yang, D., Niu, Y., Zhang, H., Du, B., & Id, X. J. (2020). Factors associated with the resilience of Tibetan adolescent survivors five years after the 2010 Yushu earthquake. *PLoS One*, *15*(4), 1–17. https://doi.org/10.1371/journal.pone.0231736

Mailani, F., Mahathir, & Sukarma, Y. (2022). Resilience of Adolescents Living in Areas Prone to Earthquakes and Tsunamis in Padang City (Resiliensi Remaja yang Tinggal di Daerah Rawan Bencana Gempa Bumi Dan Tsunami di Kota Padang). *Jurnal Penelitian Kesehatan Suara Forikes*, *13*(November), 208–211.

Mangna, N. K. K., & Valentina, T. D. (2024). Adolescent Resilience in Orphanages. *Humanitas*, *8*(1), 78–92.

Miswarti, M., Maidawilis, M., Gusni, J., Eni, R., & Hasmita, H. (2023). Mental Health Care for Disaster Victims (Penanganan Kesehatan Jiwa pada Korban

Bencana). *Jurnal Pengabdian Masyarakat Indonesia*, *2*, 212–222. https://doi.org/10.55606/jpmi.v2i2.2403

Mu, M., Woen, A., & Sylvia, C. (2020). Grouping Natural Disaster Data Based on Region, Time, Number of Victims, and Facility Damage Using the K-Means Algorithm (Pengelompokkan Data Bencana Alam Berdasarkan Wilayah, Waktu, Jumlah Korban dan Kerusakan Fasilitas Dengan Algoritma K-Means). *Jurnal Media Informatika Budidarma*, *4*, 744. https://doi.org/10.30865/mib.v4i3.2213

Muslim, M. R. R., Maharghyo, I. D., & Yuliani, L. (2023). Democratic Parenting Styles in Enhancing the Independence of Young Children (Pola Asuh Demokratis Oleh Orang Tua Dalam Meningkatkan Kemandirian Anak Usia Dini). *Journal of Community Education*, *11*, 51–57. https://journal.unsika.ac.id/index.php/joce/article/download/9180/4010/26389

Nada, S. Q., Shifa, R. N., Hikmah, S., Jl, A., No, W., Ngaliyan, K., Semarang, K., & Tengah, J. (2024). Strategies To Increase Resilience Through Positive Affirmations On Adolescents Of Al-Hikmah Orphanage (Strategi Meningkatkan Resiliensi Melalui Afirmasi Positif Pada Remaja Panti Asuhan Al-Hikmah). *Karya Nyata: Jurnal Pengabdian Kepada Masyarakat*, *1*(4), 152–160.

Nashori, F. (2021). *Resilience Psychology (Psikologi Resiliensi)*. Universitas Islam Indonesia.

Niu, Y., Jiang, N., & Jiang, X. (2021). Factors related to the resilience of Tibetan adolescent survivors ten years after the Yushu earthquake. *International Journal of Disaster Risk Reduction*, *65*, 102554. https://doi.org/https://doi.org/10.1016/j.ijdrr.2021.102554

NOAA National Centers for Environmental Information. (2024). *National Centers for Environmental Information*. https://www.ncei.noaa.gov/access/billions/state-summary/US

Octoviany, C., Winoto, H., Andriono, T., & Wahyoedi, S. (2024). The Influence of Democratic Parenting on the Resilience of Elementary School Children in Overcoming Bullying in Denpasar (Pengaruh Pola Asuh Demokratis Orang Tua Pada Ketahanan Anak Sekolah Dasar Mengatasi Perundungan Di Denpasar). *Jurnal Satya Widya*, *40*(1), 49–61. https://doi.org/10.24246/j.sw.2024.v40.i1.p49-61

Okuyama, J., & Funakoshi, S. (2018). Longitudinal characteristics of resilience among adolescents: A high school student cohort study to assess the psychological impact of the Great East Japan Earthquake. *Psychiatry and Clinical Neurosciences*, *72*, 821–835. https://doi.org/10.1111/pcn.12772

Putri, A. E., & Laeli, S. (2024). Building Resilience Throughout Life: Strategies for Coping with Challenges and Stress (Membangun Resiliensi Sepanjang Rentang Kehidupan : Strategi Menghadapi Tantangan dan Tekanan). *Karimah Tauhid*, *3*(6), 6846–6854.

Rahmadian, A. A., Furqon, S. Y. L. N., & Rusmana, N. (2016). Prevalence of PTSD and Characteristics of Post-Traumatic Stress Symptoms in Children and Adolescents Affected by Natural Disasters (Prevalensi PTSD dan Karakteristik Gejala Stress Pazcatrauma pada Anak dan Remaja Korban Bencana Alam). *Edusentris, Jurnal Ilmu Pendidikan Dan Pengajaran*, *3*(1), 1–17.

Şam, M., Sever, G., & Yüksel, H. Y. (2025). Earthquake effects on youth : understanding psychological challenges and support needs. *BMC Psychology*, *13*(72).

Saputra, A., Diponegoro, A., & Urbayatun, S. (2023). Resilience Among Survivors After the Lombok Earthquake (Resiliensi Pada Penyintas Pasca Gempa Bumi Lombok). *Psyche: Jurnal Psikologi*, *5*(2), 203–233. https://doi.org/10.36269/psyche.v5i2.1362

Shi, X., Wang, S., Wang, Z., & Fan, F. (2021). The resilience scale : factorial structure , reliability , validity , and parenting-related factors among disaster-exposed adolescents. *BMC Psychiatry*, *21*(145), 1–9.

Tuturea, L.E. *et al.* (2025). Long-term mental health trajectories after the Great East Japan Earthquake: a systematic review. *European journal of psychotraumatology*, 16(1), p. 2592408. Available at: https://doi.org/10.1080/20008066.2025.2592408

Umadiyan, S., & Kalifia, A. D. (2024). Differences in Emotional Responses Between Female and Male Adolescents to Factors Causing Depression (Perbedaan Respon Emosional Antara Remaja Perempuan Dan Laki-Laki Terhadap Faktor-Faktor Penyebab Depresi). *Gudang Jurnal Multidisiplin Ilmu*, *2*(1 SE-Articles), 293–296. https://doi.org/10.59435/gjmi.v2i1.245

Wahyuni, E., & Vidya Siti Wulandari. (2022). Adolescent Resilience and Its Implications for the Need to Develop Self-Help Books (Resiliensi Remaja dan Implikasinya Terhadap Kebutuhan Pengembangan Buku Bantuan Diri). *INSIGHT: Jurnal Bimbingan Konseling*, *10*(1), 78–88. https://doi.org/10.21009/insight.101.10

Warsini, S., Cahyani, H. E., & Assyifa, H. (2022). Factors That Affect the Posttraumatic Growth of Flash-Flood. *Jurnal Keperawatan Soedirman*, *17*(1), 14–21. https://doi.org/10.20884/1.jks.2022.17.1.5216