



Research Article

Determinants of Adolescent Mental Health in Drought-Affected Sragen: A Cross-Sectional Study

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ABSTRACT

Traumatic experiences and life stress experienced by adolescents in areas affected by drought disasters can lead to various complaints, particularly concerning mental health, and even reducing their quality of life. This study aims to identify risk factors for mental health disorders in adolescents in drought-affected areas. Method: This research method is an analytical survey with a cross-sectional design. The sample of this study was 70, according to the inclusion criteria. Data collection used a questionnaire. Univariate data analysis to determine the frequency of each variable and bivariate analysis using chi-square to determine the relationship between variables. Mental health is the dependent variable, while the independent variables are age, self-concept, parenting, peer support, and bullying victims. Result: The results of the study: there is a relationship between gender (p value: 0.000), self-concept (p value: 0.001), peer support, (p value: 0.000), authoritarian parenting (0.012) and bullying (p value: 0.002). Conclusion: factors that influence adolescent mental health are gender, self-concept, peer support, authoritarian parenting styles and bullying victims with gender having the strongest relationship.

INTRODUCTION

Drought causes physical environmental degradation, impacts food yields, and reduces clean water supplies, leading to job losses and displacement. This is a risk factor for anxiety and depression in adolescents

(Luong et al., 2021). The various changes that occur in adolescence lead to numerous pressures, problems, and demands. Support from those closest to them and a conducive environment are essential for adolescents to grow and develop

effectively (Fatwasari et al., 2021). Unfortunately, not all teenagers grow up in a conducive environment. Teenage depression is a growing issue in response to climate change, especially when adolescents' fragile mental health makes them highly susceptible to depression during climate change. This negatively impacts their subsequent developmental milestones (Majeed & Lee, 2017).

The three main mental health disorders associated with catastrophic disasters in most studies are generalized anxiety disorder, depression, substance use disorder, adjustment disorder, and post-traumatic stress disorder (PTSD), with a prevalence of 5.8–87.6%. Increased mental health disorders due to disasters occur in those with lower socioeconomic status, previous experience, knowledge of family members as victims, and high levels of damage (Keya et al., 2023). Reported experiences of mental health problems in individuals affected by drought include worry, hopelessness, isolation and suicidal thoughts and behaviors (Varshney et al., 2023).

Sragen Regency falls into the high drought risk category in Indonesia. Based on the District/City Disaster Risk Index, Sragen Regency has a score of 18.34. In the risk index, the level of disaster risk is assessed based on its constituent components: hazard, vulnerability, and government capacity to deal with disasters (W. Adi et al., 2023). Gilirejo Baru Village is the youngest village in Sragen Regency and is affected by drought almost every year. Gilirejo Baru Village received assistance in the form of wells, but in 2024 it still experienced drought because the water in the assistance wells also dried up (Wasita, 2024).

Adolescents living in disaster-affected areas tend to experience mental health disorders due to economic difficulties or challenges in accessing other resources. Additionally, adolescents also experience stress due to the loss of property or family members.

Furthermore, adolescents in disaster areas may feel they have lost control over the situation, which can trigger feelings of helplessness and despair. The loss of support from intact families, environmental changes, family conflicts, and changes in economic status cause adolescents to experience mental health disorders (Abunyewah et al., 2023).

Previous systematic review studies have shown that disasters impact individual mental health, with the three main mental illnesses being anxiety, depression, and PTSD (Brown, 2024). It has become a general finding that drought brings prolonged economic and social impacts to a community. However, exploration of mental health as an impact of drought has not been extensively studied (Abunyewah et al., 2023). There is limited research on adolescent mental health due to climate change-related disasters, as previous research has focused more on adults (Auchincloss et al., 2024). Parenting styles, gender, parental marital status, and history of bullying are significantly associated with emotional mental health disorders in adolescents at SMA Negeri 1 Limboto, with parenting style being the most influential factor in adolescent emotional mental health disorders (Abas, Boekoesoe and Tarigan, 2023). Research on determinant factors related to the occurrence of post-disaster emotional and behavioural disorders, particularly drought, is still very limited in Indonesia. (Abas et al., 2023; Abunyewah et al., 2023; Auchincloss et al., 2024; Keya et al., 2023). The results of preliminary data collection on adolescents in Gilirejo Baru village show that there are currently problems of anxiety and stress due to drought conditions that occur annually, as well as concerns about being unable to continue schooling due to family economic constraints. This research aims to identify risk factors for adolescent mental health disorders in drought-affected areas. The benefit of this research is to serve as a reference for schools affected by drought

disasters to strengthen adolescent mental health. The researchers formulated the research question: What are the determinant factors of adolescent mental disorders in drought disaster areas in Gilirejo Baru Village, Miri Sub-district, Sragen Regency?

METHOD

This research method is an analytical survey with a cross-sectional design. The study was conducted in selected drought-affected subdistricts of Sragen Regency, SMP N 3 Miri in Gilirejo Baru village. Data was carried out in April 2025. The study population consisted of all students of SMP N 3 Miri Sragen who met the inclusion criteria, namely: (1) having resided in Gilirejo Baru Village for at least one year, (2) being present during the data collection period, and (3) voluntarily agreeing to participate and completing the questionnaire. Based on these criteria, a total of 70 students were included in the study using a purposive sampling technique. The research instrument was a questionnaire. Data analysis was conducted univariately to determine variable frequencies, whilst bivariate analysis was performed using the chi-square test due to the categorical nature of the data. After conducting the chi-square test and finding significant relationships, Cramér's V was used to assess the strength of association between categorical variables (Field, 2018).

The standard interpretation of Cramer's V is based on degrees of freedom or the number of rows and columns. A degree of freedom of 1 indicates a weak association at 0.1, moderate at 0.3, and strong at 0.5 (Kim, 2017). The independent variables in this research are age, gender, authoritarian parenting style, self-concept, peer support, and bullying. The questionnaire for emotional and behavioural disorders in adolescents uses the Self-Reporting Questionnaire-20. The SRQ-20 is a self-report questionnaire used to detect non-specific emotional or mental disorders. This

questionnaire consists of 20 questions answered with either 'yes' or 'no' responses. The total score is obtained by summing the 'yes' answers. This study uses a threshold where mental health is considered poor if the score is 8 or higher. This questionnaire was not subjected to validity testing as it is a standardised questionnaire that has already been validated on adolescent samples (Safitri and Widodo, 2024). The self-concept questionnaire uses the Self-Concept Clarity Scale. The Self-Concept Clarity Questionnaire is a measurement tool used to assess how clearly individuals understand themselves. This questionnaire is designed to measure the extent to which a person has a consistent and clear understanding of their identity, beliefs, values, and unique characteristics as an adolescent. The self-esteem or self-assessment questionnaire uses the Rosenberg Self-Esteem Scale (RSES) with 10 questions. This research has been registered with the Ethics Committee of Universitas 'Aisyiyah Surakarta under registration number 427/IV/AUEC/2025 and applies ethical principles such as anonymity, beneficence, and respect for others.

RESULTS

Gilirejo Baru Village is the newest village in Sragen Regency, located in Miri District and has quite difficult access, only reachable through the Andong or Kemusu areas in Boyolali Regency. This village, like several other villages in Miri District, is also affected by drought due to the prolonged dry season. Administratively, Gilirejo Baru falls within Miri District. According to data from the Sragen Central Statistics Agency in 2020, the population of this village was 2,723. The north, south, and east sides of the village directly border the Kedung Ombu Reservoir.

The following are the results of the frequency distribution based on age, gender, self-concept, authoritarian parenting style, peer support and bullying victims.

Table 1. Frequency distribution of students at SMPN 3 Miri

Category	Frequency	Percentage
Age		
Early Adolescent (10-13 years old)	13	18.6
Middle Adolescent (14-17 years old)	57	81.4
Gender		
Boy	31	44.3
Girl	39	55.7
Mental Health		
Good	22	31.4
Not good	48	68.6
Self Concept		
Positive	31	44.3
Negative	39	55.7
Authoritarian parenting style		
High	28	40
Low	42	60
Peer Support		
Good	20	28.6
Not Good	50	71.4
Victims of Bullying		
Low	26	37.1
High	44	62.9

Source: Primary Data, 2025

The respondents of this study were mostly middle-aged teenagers (14-17 years old), female, had poor mental health, negative self-concept, low authoritarian parenting patterns, had little peer support and most were victims of bullying.

Table 2. Bivariate analysis of dependent and independent variables

Characteristics and behavior	Mental Health		p value	Cramer's V value
	Good	Not Good		
Age				
Early	3	10	0.472	
Middle	19	38		
Gender				

Boy	18	13	0.000	0.512
Girl	4	35		
Self Concept				
Positive	16	15	0.001	0.338
Negative	6	33		
Authoritarian parenting style				
High	4	24	0.012	0.302
Low	18	24		
Peer Support				
Good	13	7	0.000	0.457
Not Good	9	41		
Victims of bullying				
High	8	36	0.002	0.371
Low	14	12		

Source: Primary Data, 2025

DISCUSSION

The results show that the majority of adolescents are in their middle teens (aged 14-17 years). This is because the target of this study was 8th and 9th graders. Characteristics of middle adolescents include a tendency to need friends, self-love, comfort with friends who have the same or similar characteristics (a tendency to seek out circles that match their personality), and still being unstable or changeable (Haryanti et al., 2016). The majority of adolescents at SMPN 3 Miri are female. This is consistent with research with a sample of 11,110 that found that there were more females aged 13-15 than males. This research found that there is a relationship between gender and mental health adolescent. Anxiety, depression, and social difficulties are more common in girls than in boys. This is mostly because girls are raised under a variety of social and familial limitations. Additionally, they have low self-esteem in relation to their appearance and body image (Meng, 2023). Girls experience emotional mental health disorders more often than boys. Hormonal factors and a

more intense stress response in girls have been identified as causes (Abas et al., 2023). The majority of students at SMPN 3 Miri have low self-concept. This is in line with the results of research conducted at SMPN 12 Makasar, where 62.3% of students had low self-concept. Self-concept is a person's view of their own character and abilities, interactions with others and their environment, the value of experiences, and goals and desires. Self-concept includes abilities, character, attitudes, life goals, needs, and appearance. (Hidayat et al., 2024) A person with a negative self-concept will always feel afraid and fail, afraid to take risks, lack motivation to learn, and be unable to take responsibility for what has been done. The majority of authoritarian parenting styles are less authoritarian.

Authoritarian parenting is a parenting style that forces children to obey the rules and forces children to comply with parental wishes. This research is in line with research in 198 early adolescent of MTs NU Trate Gresik that authoritarian parenting has an influence on psychological well-being in early adolescence. From the results of the regression coefficient value of minus, namely -0.019, it can be said that authoritarian parenting has a negative effect on psychological well-being in early adolescence. Authoritarian parenting has a negative impact on mental health, including lowering psychological well-being, increasing anxiety, and lowering self-esteem (Ananda Fitri et al., 2024). Authoritarian parenting tends to make children less confident, less creative, and shy (Farah et al., 2019).

Most students at SMPN 3 Miri are victims of bullying. This is consistent with research conducted on students at Kebonsari 2 Junior High School regarding bullying. The data demonstrates that the educational environment is rife with bullying behavior. Bullying perpetrators and victims are generally within the same age group, meaning they are within the same peer group. Bullying involves deliberate actions

by the perpetrator against the victim, intended to harass a weaker individual (Suib & Safitri, 2022).

Bullying experienced during childhood is a negative experience that negatively impacts mental health later in life. Longitudinal research shows that victims of bullying in childhood and adolescence are more likely to experience anxiety disorders, panic attacks, depression, and even suicide attempts. Individuals who are victims of bullying have higher levels of methylation in the serotonin transporter gene, resulting in a decreased cortisol response. This higher methylation level is associated with a lower cortisol response. This effect may link childhood bullying victimization to later vulnerability to stress. (Swartz & Bhattacharya, 2017; Ye et al., 2023).

Despite providing valuable insights into the determinants of adolescent mental disorders in drought-affected areas of Sragen, this study has several limitations. First, the cross-sectional design limits. The observed associations represent conditions at a single point in time and may not reflect temporal or causal dynamics. Second, limited sample size may restrict the representativeness of the study population

CONCLUSION AND RECOMMENDATION

The chi-square test results obtained a p-value <0.05, which means there is a relationship between gender, self-concept, authoritarian parenting, peer support, and bullying victims and the most powerful relationship is gender. There is no relationship between age and adolescent mental health, indicated by a p-value >0.05. Suggestions for further research include longitudinal design and increasing the number of samples so that the results can be more generalized, as well as advanced analysis with multivariate analysis to be able to predict adolescent mental health based on the determinants that influence it.

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