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Original Article

Analysis of Factors Affecting Adolescent Mental Health Based on Social Cognitive Theory (SCT)

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ABSTRACT

Background: Adolescent mental health is an emerging global concern, with nearly half of adolescents—about 46%—at risk of mental disorders, and 21% experiencing severe impairment. Based on Social Cognitive Theory, which highlights reciprocal interactions among environmental, behavioral, and cognitive factors, this study aimed to analyze factors influencing adolescent mental health.
Method: This quantitative cross-sectional study aimed to analyze factors influencing adolescent mental health. The research involved 112 adolescents from Gadungan Village, selected through non-probability (accidental) sampling, and was conducted in August 2025. Independent variables included environmental, behavioral, and cognitive factors, while adolescent mental health served as the dependent variable.
Results: The bivariate results indicate a significant relationship between environmental factors ($p < 0.001$), behavioral factors ($p < 0.001$), and cognitive factors ($p < 0.001$) and adolescent mental health. Based on the results of multiple linear regression, it was found that the most dominant factor affecting adolescent mental health was behavioral factors, with a value of $p < 0.001$. The adjusted R-square value was 50.5%, which means that the variables in this study were able to show the factors that influence the mental health of adolescents.
Conclusion: Excessive social media and technology use negatively affect well-being through social comparison, sleep disruption, and reduced face-to-face interaction. Adaptive coping and a healthy lifestyle mitigate distress and promote emotional and physical health. However, self-efficacy alone is insufficient without supportive environmental factors, reinforcing the SCT framework's emphasis on the interplay of personal, behavioral, and environmental determinants.

INTRODUCTION

Adolescent mental health represents a growing global concern, with the World Health Organization (WHO) estimating that one in seven adolescents aged 10–19 years experience mental disorders, primarily depression, anxiety, and behavioral problems, marking adolescence as a critical developmental stage that requires multisectoral action (Maravilla et al., 2025). The WHO emphasizes that childhood and adolescence are essential periods for shaping cognitive and socioemotional capacities that determine future mental health trajectories, as reflected in the *AA-HA!* guidelines. Similarly, UNICEF's *State of the World's Children 2021 (On My Mind)* highlights the need for investment, anti-stigma communication, and action within homes, schools, and health services (Podiya et al., 2025). In Indonesia, numerous studies indicate increasing rates of psychological distress among adolescents, including anxiety, academic pressure, and suicidal ideation (Yani et al., 2025).

According to Albert Bandura's *Social Cognitive Theory* (SCT), individual development results from reciprocal interactions among environmental, behavioral, and cognitive or personal factors, known as triadic reciprocal causation. Within the context of adolescent mental health, these interactions involve family and school environments, social media exposure, personal behavior such as coping mechanisms and lifestyle, and cognitive factors such as self-efficacy and optimism (Schmidt-Persson et al., 2024). Excessive screen and social media use have been linked to anxiety, depression, and behavioral problems through mechanisms such as low physical activity, poor sleep hygiene, and reduced face-to-face interaction (Dai & Ouyang, 2021). Conversely, high self-efficacy and optimism have been shown to strengthen resilience and psychological well-being among adolescents (Dian Harly et al., 2023; Maryam & Chusnah, 2025).

Socioeconomic disparities and limited access to supportive environments can further weaken adolescents' protective factors, increasing vulnerability to emotional and behavioral problems (Branje, 2018). Indonesian adolescents face multiple stressors such as bullying, academic pressure, and family conflict, with coping responses ranging from adaptive (physical activity, hobbies, spirituality) to maladaptive (withdrawal, self-harm, suicidal ideation). Schools thus play a strategic role in promoting adolescent mental health through literacy programs and collaborations with teachers, parents, and mental health professionals (Yunalia & Etika, 2020). A consistent and supportive social environment—particularly family support, positive communication, and access to resources—can serve as a critical buffer against psychological distress (Batubara et al., 2021).

Empirical findings across diverse contexts indicate that while personal factors such as self-efficacy are important, social and environmental determinants often exert stronger influence, particularly in rural settings (Moeis et al., 2023). Previous studies in Central Java and other regions of Indonesia reveal that poor family communication, low emotional regulation, and weak school connectedness are significantly associated with adolescent emotional and behavioral problems. These findings suggest that interventions should not only enhance individual self-competence but also strengthen family and community support systems. Therefore, this study—conducted among 112 adolescents in Gadungan Village, East Java—aims to analyze environmental, behavioral, and cognitive factors that support or hinder adolescent mental health within a rural Indonesian context.

METHODS

This study is a quantitative study with a cross-sectional design, which aims to analyze factors that support or hinder adolescent mental health. The population in this study were all adolescents in Gadungan Village and a sample of 112 adolescents. The sampling technique used was Non-Probability Sampling with the Accidental Sampling method. This study was conducted in the period of August

2025. The independent variables in this study were environmental factors, behavioral factors, and cognitive factors, while the dependent variable was adolescent mental health.

The data collection instruments consisted of a questionnaire on respondent characteristics; a questionnaire on environmental factors such as family, social media, peers, and school; a questionnaire on behavioral factors such as coping mechanisms, lifestyle, and technology use; a questionnaire on cognitive factors including self-efficacy, optimism, and information processing; and a mental health questionnaire (Kessler Psychological Distress Scale (K10)). The questionnaires were tested for validity with a value of ≥ 0.05 per item and reliability with a Cronbach's alpha value of ≥ 0.70; this proves that the questionnaires are valid and reliable. The researchers obtained permission to conduct the research, then found respondents and proceeded to conduct interviews. This study used primary data obtained by distributing questionnaires through interviews. The collected data were analyzed using Pearson's product-moment test, followed by multiple linear regression to determine the relationship between independent and dependent variables with a significance level of 5% ($p < 0.05$).

RESULTS

After researching 112 respondents, the characteristics of the respondents, environmental factors, behavioral factors, cognitive factors, and mental health of adolescents were described as follows:

Table 1. Characteristics of Adolescent Respondents

Characteristics	n	%
Gender		
Male	33	29.5
Female	79	70.5
Respondent Age		
15 Years	9	8.0
16 Years	41	36.6
17 Years	26	23.2
18 Years	36	32.2
Educational level of respondents		
Junior High School	7	6.3
Senior High School	105	93.7

Table 1 shows the characteristics of the respondents. The majority of respondents were 16 years old (36.6%), female (70.5%), and had a high school education (70.5%).

Table 2. Frequency Distribution of Dependent and Independent Variables

Characteristics	Mean	Median	Min	Max
Environmental factors	87.36	85.00	69	108
Behavioral factors	55.59	54.00	42	67
Cognitive factors	70.14	71.00	48	85
Adolescent mental health	74.87	76.00	58	88

Table 2 shows the distribution of each research variable, namely the mean value of the environmental factor variable (87.36), behavioral factor (55.59), cognitive factor (70.14), and adolescent mental health (74.87). The median value of the environmental factor variable (85.00),

behavioral factor (54.00), cognitive factor (71.00), and adolescent mental health (76.00). The minimum value of the environmental factor variable (69), behavioral factor (42), cognitive factor (48), and adolescent mental health (58). The maximum value of the environmental factor variable (108), behavioral factor (67), cognitive factor (85), and adolescent mental health (88).

The results of the relationship analysis, analyzing factors that support or hinder adolescent mental health, obtained from the results of the Pearson Product-Moment test are described as follows:

Table 3. Relationship between Factors Supporting or Inhibiting Adolescent Mental Health

Independent variable	Dependent variable	r value	p value*
Environmental factors	Mental health of teenagers	0.611	<0.001
Behavioral factors		0.689	<0.001
Cognitive factors		0.590	<0.001

Remaks: *significant statistic p<0,05

Based on the bivariate results, it was found that there was a relationship between environmental factors (p<0.001), behavioral factors (p<0.001) and cognitive factors (p<0.001) on adolescent mental health.

Table 4. Analysis of Factors Supporting or Inhibiting Adolescent Mental Health with Multiple Linear Regression

Independent variable	Dependent variable	t value	p value*	Adjusted R Square
Environmental factors	Mental health of teenagers	1.303	0.195	0.505
Behavioral factors		3.982	<0.001	
Cognitive factors		2.540	0.013	

Remaks: *significant statistic p<0,05

Based on the results of multiple linear regression, it was found that the most dominant factor influencing adolescent mental health was behavioral factors, with a p-value of <0.001. The adjusted R-square value showed 50.5%, which means that the variables in this study were able to indicate factors that influence adolescent mental health.

DISCUSSION

Environmental Factors

Healthy family functioning, characterized by attachment, cohesion, communication, and adaptability, correlates with lower internalizing symptoms in adolescents, while family dysfunction increases anxiety and lowers self-esteem (Farmakopoulou et al., 2024). Specifically, parental warmth is consistently understood as a protective factor against depression or anxiety, while excessive psychological control increases the risk of internalizing symptoms. Parental educational involvement is also associated with lower depressive symptoms, and parental emotional support can reduce psychological symptoms by increasing adolescents' self-efficacy—a mechanism consistent with the Social Cognitive Theory framework (Qian et al., 2024). Overall, the quality of family functioning and parenting practices (warmth, communication, monitoring) constitutes a “microenvironment” that directly shapes adolescents' psychological vulnerability or resilience.

Recent meta-analytic evidence suggests a small but consistent association between intensity of social media use and internalizing symptoms (depression or anxiety) in adolescents. Furthermore, a

large longitudinal study in early adolescence showed that increased time on social media predicted increased depressive symptoms over time, rather than the reverse, suggesting a causal direction of concern (Liu et al., 2024). Proposed mechanisms include sleep disturbances, negative social comparison, and exposure to cyberbullying; even short-term screen reduction trials indicate potential benefits on indicators of well-being. Therefore, family-school digital literacy, nighttime screen rules, and fostering socio-emotional competencies are key strategies for mitigating risk (Howard et al., 2025).

Within the framework of Social Cognitive Theory (SCT), adolescent mental health is influenced by the reciprocal interaction between personal (cognitive) factors, the environment, and behavior. However, in the rural context, the findings of this study indicate that behavioral factors are more dominant than environmental and cognitive factors. This dominance can be explained by several reasons. The daily behavior of adolescents in rural areas is directly related to their psychological condition. Physical activity, involvement in community social activities, sleep patterns, digital media use, and coping strategies chosen have been proven to be the main determinants of adolescents' emotional stability. Recent studies show that adaptive behaviors, such as regular physical activity and involvement in community activities, can reduce anxiety and depression levels in rural adolescents, even when environmental support or cognitive knowledge is limited (Wang et al., 2022). In other words, behavior is the most obvious mediator that affects mental health quality.

Limited access to information and mental health services in rural areas means that cognitive factors (knowledge, perceptions, beliefs) cannot be fully optimized. Although adolescents may understand the importance of maintaining mental health, the lack of counseling facilities or professional support means that their daily behavior becomes the main focus in coping with stress. This is in line with findings that in rural areas, adolescents tend to rely more on behavioral strategies such as work, social interaction, or religious activities rather than simply rational thinking to maintain their psychological well-being (Susanti et al., 2017).

Behavior serves as a tangible bridge between environmental and cognitive factors. For example, knowledge about how to reduce stress will only have an impact if it is manifested in concrete behaviors such as exercising, talking to friends, or participating in positive activities. Similarly, new environmental support is only effective if it is responded to with acceptance or participation by the adolescents themselves. Thus, behavior becomes the most dominant factor because it actualizes the influence of the environment and cognition into daily practice. Finally, these results reinforce the SCT premise that in settings with limited facilities, such as rural areas, adolescents' adaptive behavior is the strongest indicator of mental health. The practical implication is that mental health interventions in rural areas should emphasize the formation and strengthening of healthy behaviors, such as coping skills training, promotion of physical activity, and management of social media use, rather than simply increasing knowledge or relying on environmental support.

Behavioral Factors

Adolescent coping mechanisms, both adaptive (e.g., problem-solving, seeking social support, emotion regulation) and maladaptive (e.g., avoidance, coping through substance use, co-rumination, or isolation), are closely associated with changes in internalizing symptoms (depression or anxiety) (Susilo, 2019). Longitudinal studies and large surveys during the early phase of the pandemic found that adolescents who relied on adaptive coping strategies tended to maintain or improve mental well-being, while maladaptive coping was associated with increased symptoms of depression and anxiety (Basics et al., 2019). Furthermore, several studies have demonstrated a mediating or buffering role: coping acts as a mediator between environmental stressors (e.g., academic pressure, family conflict) and the intensity of emotional symptoms, meaning that interventions that teach adaptive coping can reduce the impact of stress on adolescent mental health (Qian et al., 2024).

Lifestyle, particularly physical activity, sleep patterns, and daily habits, influences adolescent mental health through biological (e.g., stress system regulation, neuroplasticity) and social (e.g., peer

interactions, school performance) pathways. Recent meta-analytic evidence suggests that physical activity interventions and participation consistently reduce symptoms of depression or anxiety and improve positive outcomes (self-esteem, social competence), although effects vary by intervention frequency, duration, and context (Setiawan et al., 2023). Conversely, sleep disturbances (insomnia, short sleep duration, social jet lag) are strongly associated with an increased risk of depression, anxiety, and decreased emotional regulation in adolescence; these relationships appear to be bidirectional, but evidence suggests a trend from sleep disturbances to increased risk of mood disorders. Therefore, lifestyle changes (increased physical activity, improved sleep habits, and reduced risky behaviors) represent potentially significant prevention and intervention targets for adolescent mental health (Nagata et al., 2025).

Technology use is a complex behavioral factor: its effects depend on quantity (screen time), quality (content type, active vs. passive), context (peer support vs. cyberbullying), and function of use (entertainment vs. coping). A large meta-analysis found a moderate positive association between problematic internet/smartphone use and symptoms of depression, anxiety, and decreased well-being. A family RCT (two-week screen time reduction) showed that limiting screen use can reduce internalizing symptoms and increase prosocial behavior in the short term, suggesting a possible partial causal effect: high screen use may contribute to mental health problems through sleep displacement, reduced physical activity, and exposure to harmful content. However, research also highlights ambivalence: some dimensions of media use (e.g., meaningful social communication) may support social coping for adolescents with early symptoms. The practical implication is that interventions should focus specifically on reducing problematic use and increasing supportive use rather than simply limiting screen time without context (Maya, 2021).

Cognitive Factors

Recent evidence suggests that social media exposure and engagement have a small but consistent positive correlation with internalizing symptoms (depression, anxiety) in adolescents, as demonstrated by a meta-analysis in JAMA Pediatrics (2024) incorporating >1 million adolescents, as well as a longitudinal study in JAMA Network Open (2025) in early adolescence. Furthermore, a supportive and safe school climate is associated with better emotional outcomes and higher academic achievement (Yani et al., 2025). Cross-national data (Kenya–Indonesia–Vietnam) from the National Adolescent Mental Health Surveys (NAMHS) also highlight patterns of social support: caregiver-focused support classes are less likely to seek help from friends/teachers/healthcare providers, a signal for strengthening support networks in schools and communities (Behr et al., 2025). Behavioral interventions such as physical activity have shown protective effects against adolescent depressive symptoms according to a recent umbrella review & meta-meta-analysis in JAACAP, reinforcing the role of an active lifestyle as a key promotive component. Meanwhile, high screen/social media exposure is associated with mental health and sleep problems in adolescents, emphasizing the importance of sleep hygiene, limiting screen time, and digital literacy as healthy coping strategies (Singh et al., 2025).

Recent evidence suggests that self-efficacy is negatively correlated with depressive or anxiety symptoms and can be enhanced through internet-based/behavioral interventions; changes in related cognitive-affective constructs were also observed in a meta-analysis of adolescent depression interventions. In Indonesia, qualitative findings from 2025 described adolescents experiencing academic, relationship, and stigmatizing stress and requiring validated coping support; I-NAMHS data and recent national studies reporting significant proportions of adolescents with depression and emotional disorders underscore the need for programs that strengthen self-efficacy beliefs, realistic optimism, and information-processing skills within families, schools, and communities.

Study Limitations

This study has several limitations: (1) the cross-sectional design does not establish causal relationships; (2) purposive sampling limits the generalizability of results; (3) uncontrolled confounders such as family history and genetic factors. Future research should consider longitudinal designs, more comprehensive measurements, and mixed-methods approaches to explore deeper socio-cultural determinants.

CONCLUSION

Cognitive factors such as self-efficacy and optimism are strong predictors of adolescent mental health, while environmental factors like family support and school climate serve as protective elements that strengthen resilience. Conversely, excessive social media use contributes negatively through social comparison and reduced direct interaction. Behavioral factors, including adaptive coping and a healthy lifestyle, play a dominant role in maintaining emotional well-being, especially in rural contexts. The interaction among these factors confirms the Social Cognitive Theory, emphasizing that cognitive, behavioral, and environmental elements are interrelated. Therefore, interventions should focus on enhancing self-efficacy and optimism through workshops, involving families and schools in providing emotional support, and promoting healthy social media habits. This study highlights that behavior is the most tangible aspect influencing adolescent mental health in rural settings, suggesting the need for behavior-based interventions aligned with local contexts.

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