

ORIGINAL ARTICLE

Analysis of factors related to adolescents' self-description regarding mental health in Kalimantan, Indonesia

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ABSTRACT

Introduction: A transition period is challenging for adolescents who often face developmental difficulties that can affect their mental health and well-being. Difficulty in self-description during this transitional phase increase the risk of mental and physical health problems. This study aims to determine the relationship between stress, anxiety, and depression with self-description among adolescents in East Kalimantan. **Methods:** A cross-sectional study was conducted in six high schools from December 2023 to February 2024, involving 361 respondents selected through purposive sampling. Adolescents aged 15–17 who met specific inclusion criteria were invited to participate. Participants completed self-administered questionnaires, including the Strengths and Difficulties Questionnaire (SDQ) for self-description and the Depression Anxiety Stress Scale (DASS-21) for mental health assessment. Data were analyzed using multiple linear regression. **Results:** The mean age of the 361 adolescents is 16.04 years, with 56.2% female, 62.9% having siblings, and 85.9% having parents as primary caregivers. Mental health conditions include severe depression (19.4%), severe anxiety (61.2%), and severe stress (12.7%). A total of 90.9% of the adolescents had abnormal self-description (mean = 27.60, SD = 6.04). Stress was significantly associated with self-description ($B = 0.13$, $SE = 0.05$, $p = 0.01$), while depression and anxiety are not related to it. The model explained 7.2% of the variance in self-description ($F = 9.22$, $p < 0.001$). **Conclusion:** These findings highlight stress as a critical factor influencing adolescents' self-description. Preventive measures to manage stress and promote mental health are crucial for improving adolescents' self-description and well-being.

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INTRODUCTION

Adolescent mental health issues are a serious global concern, as mental health disorders are the leading cause of the disease burden among adolescents (1,2). Adolescence is a period when depressive symptoms typically emerge, and life stress tend to exacerbate anxiety symptoms (3,4). Adolescents often exhibit signs of sadness and hopelessness, which are commonly associated with mental health problems such as depression, anxiety, and stress (5,6). Several studies on mental health issues among adolescents have been conducted in Indonesia (6), Germany (7), Malaysia (8), South Korea (9), China (10), Japan (11), and Saudi Arabia (12).

Psychologically, being in this transitional phase is challenging for young people, and they can face difficulties throughout the time, which can impact their mental health and well-being. When someone has experiences difficulty describing themselves in this transitional phase, they are at risk for mental and physical health problems (13). According to Kaligis (2021), mental illnesses ranging from psychosis to substance use disorders commonly occur in the early 20s (14). Older adolescents generally experience higher levels of panic and worry than their younger counterparts, with symptoms of anxiety and depression negatively impacting self-assessment (8).

Evaluation of the Mental Health System in Indonesia based on I-NAMHS findings, one in every three Indonesian adolescents has faced mental health challenges in the past year (15). Based on a preliminary study conducted at a psychiatric hospital from January to November 2021, 97 adolescents were hospitalized.

Based on those numbers, 68% showed symptoms such as excessive anxiety, insecurity, low self-esteem, depression, post-traumatic stress, and physical health problems. Additionally, 32% of adolescents reported using drugs, including narcotics, psychotropics, and other addictive substances, often as a coping mechanism for stress or emotional difficulties. Unfortunately, many signs or symptoms of these problems often go undetected early, resulting in inadequate treatment, as highlighted in the research by Davis and Leon (2022) (16).

Depression is often difficult to diagnose in adolescents, as it is often seen as part of the transition process rather than as a mental health issue that requires specialized treatment (16). Depression is a common and severe medical condition that negatively affects adolescents' feelings, thoughts, and action (17). Depression occurs when a person feels sad and disappointed due to change, loss, or failure and becomes a pathological condition when individuals are unable to adapt to the situation (11). Based on the results of research by Wicaksono et al. (2022), if depression is not detected, it can lead to decreased physical health, academic problems, impaired social relationships, the risk of substance abuse, worsening mental symptoms, and long-term impacts that interfere with the emotional and social development of adolescents (18).

In addition to an increase in depression, there is also a significant increase in anxiety among children and adolescents (19). Racine et al. (2021) noted that 11.6% of children and adolescents experienced anxiety symptoms before the pandemic (20). Anxiety and depression are often comorbid conditions that share many common contributing factors (6). Individuals diagnosed with adolescent anxiety disorders are likely to experience adverse mental health outcomes in adulthood, with a higher risk of depressive and anxiety disorders (7).

Stress is a psychological difficulty that is common to all age groups, and is particularly likely to occur in adolescents compared to other age groups (9). The prevalence of stress is increasing rapidly among adolescents, indicating that 14% of adolescents have mental health issues (21). This is reflected in a study in Saudi Arabia, which showed that most adolescents live in stressful turmoil and confirming that stress is a common mental health problem in adolescents (12).

Given the high prevalence of mental health problems during the adolescent transition and the current gaps in treatment, it is essential to take preventive measures to reduce depression, anxiety, and stress disorders (19). Adolescence is a critical period for developing healthy social and emotional habits that promote mental well-being (5). If left untreated, mental disorders during this stage can result in reduced academic performance, strained social relationships, increased risk of substance abuse, physical health problems, high-risk behaviors,

and hindered emotional development (14). To address these challenges, a holistic and collaborative approach is essential to bring about positive changes in adolescents' mental health. Recognizing the urgent need for adequate support, this study aimed to examine the relationship between depression, anxiety, and stress with self-description among adolescents experiencing mental health problems.

METHODS

Study Design and setting

This quantitative cross-sectional study was conducted in East Kalimantan, Indonesia. Six senior high schools were located in Samarinda City, Balikpapan City, and Kutai Kartanegara. Six schools were selected based on the number of students (more than 500). The data were collected between from December 2023 to February 2024.

Participants and sampling procedure

Based on the sample size calculated using the Raosoft sample size calculator and considering a dropout rate of 20%, the sample size was 361 (22). Respondents came from various schools: 50 respondents were from a health vocational high school, 70 respondents from vocational high school nineteen, 54 respondents from Bhakti Loa Janan vocational high school, 56 respondents from senior high school six, 70 respondents from vocational high school five, and 55 respondents from senior high school seven. The study resulted in 361 adolescents completing the questionnaire, with a total response rate of 100%. The purposive sampling method was used to select participants who met the characteristics aligned with the research objectives, ensuring the results represented the target population.

The researcher focused on adolescents and were 15-17 years old and were able to read and write in Indonesian, as the survey tool was provided in Indonesian, and who were registered high school students. Exclusion criteria included adolescents who were ill during data collection, had a confirmed diagnosis of a mental health disorder, were undergoing rehabilitation for substance use, or did not provide written consent or obtain permission from their parents/guardians to participate. Adolescents meeting the inclusion criteria were given a set of questionnaires to complete. The completion process was conducted with minimal supervision to maintain confidentiality and avoid external influences on the respondents' answers.

Study instrument

A set of questionnaires was used to answer the research objectives of this study.

Section A: Demographic questions included four questions regarding age, gender, only child, and primary caregiver.

Section B: Depression Anxiety Stress Scale (DASS-21),

which was validated and translated into the respondent's national language (Bahasa Indonesia). The DASS-21 is a standardized instrument for measuring the symptoms of depression, anxiety, and stress in clinical and non-clinical samples (23). The instrument consisted of 21 questions rated on a scale of 0 (never), 1 (sometimes), 2 (often), and 3 (always). The scores on the DASS-21 were multiplied by two to calculate the final score. The cutoff points for depression were 0-9 (normal), 10-13 (mild), 14-20 (moderate), 21-27 (high), and >28 (very high). The cutoff points for anxiety were 0-7 (normal), 8-9 (mild), 10-14 (moderate), 15-19 (high), and >20 (very high). The cutoff points for stress were 0-14 (normal), 15-18 (mild), 19-25 (moderate), 26-33 (high), and >34 (very high) (6,23). The DASS-21 was tested for validity and reliability with the results of Cronbach's alpha for the depression dimension ($\alpha = 0.77$), anxiety ($\alpha = 0.75$), and stress ($\alpha = 0.76$).

Section C: Self-description was measured using the Strengths and Difficulties Questionnaire (SDQ) instrument, which has been translated into Indonesian (24). The SDQ instrument was measured using a Likert scale with response options of 1 = Not True, 2 = Somewhat True, or 3 = true. There are 25 items comprising the following five subscales: hyperactivity/inattention, emotional problems, behavioral problems, problems with peers, and prosocial behaviour (25). A response scale was used for this purpose. For real difficulties, the cutoff scores for severity labels were as follows: 0-15 (Normal), 16-19 (Borderline), and 20-40 (Abnormal) (24,26). The Indonesian version of the SDQ questionnaire has passed validity and reliability tests (Cronbach's alpha > 0.78) (24).

Ethical consideration

The researcher has considered the potential mental health risks experienced by the respondents, especially those showing signs of depression, anxiety, and stress. The researcher has ensured that only respondents who meet the inclusion criteria will be included in the study. Respondents with a confirmed diagnosis of mental health disorders or those undergoing rehabilitation for drug abuse have been excluded from the outset through a strict screening process. During the data collection process, if any indications of previously unidentified mental health problems were detected, the researcher acts as a liaison, providing information to the school or parents/guardians while maintaining the confidentiality of the respondents' data in accordance with the principles of research ethics. The researcher recommended that respondents seek help from mental health professionals if necessary. Collaboration with relevant parties ensured that respondents received the required support; however, the researcher did not engage directly in medical interventions.

All information collected during the study has been kept confidential. Prior to the study, written consent

was obtained from the respondents and their parents or guardians. The ethics committee has approved this study to ensure that all procedures have adhered to applicable ethical standards and protected vulnerable participants. With these measures, the research has ensured that the respondents who participate are in safe conditions, meet the established inclusion criteria, and that their well-being has been maintained throughout the research process.

This study was approved by the Health Research Ethics Committee of the Health Polytechnic of the East Kalimantan Ministry of Health (reference number DP.04.001/7.1/07763/2023, May 26, 2023). This study was approved by the Research Ethics Committee (REC) of Universiti Teknologi MARA, with reference number REC/11/2023 (PG/FB/23), on December 7, 2023.

Data collection procedure

The researcher visited six schools in East Kalimantan, met with the principals, obtained their consent for data collection, introduced the purpose of the study, and distributed questionnaires to the principals. The procedure was to collect written consent from the parents, allowing their children to participate in the study. After obtaining written consent from the parents, the researcher distributed questionnaires to the students. The research explanation letter assured students that their participation was anonymous and voluntary.

Statistical analysis

Data analysis was conducted using Statistical Package for Social Sciences version 25.0. Descriptive analysis includes mean, standard deviation, minimum, maximum, and frequency distributions and percentage for each variable studied (depression, anxiety, stress, and self-description). Multiple linear regression analysis was used to examine the relationships between independent and dependent variables. The dependent variable was self-description, whereas the independent variables were depression, anxiety, and stress, and. The significance of the correlation was assessed when the p-value was less than 0.05. The simultaneous effect was evaluated by comparing the calculated F value and coefficient of determination.

RESULTS

As shown in Table I, three hundred sixty-one adolescents participated in this study, and the mean age of the respondents was 16.04 (SD = 0.77). In this study, most respondents were female (56.2 %). The prevalence of not being an only child was 62.9%, and most respondents had a parent as their primary caregiver (85.9 %).

Depression, Anxiety and Stress levels

Table II shows that the levels of depression, anxiety, and stress among the 361 respondents showed that most experienced significant mental health problems. For

depression, the most common categories were moderate (34.1%) and severe (19.4%), with a mean score of 18.2 and a standard deviation of 8.66. Anxiety was dominated by the severe category (61.2%), followed by the moderate category (18.6%), with a mean score of 22.14 and a standard deviation of 8.62. Regarding stress, most respondents were in the moderate (31.0%) and high (23.8%) categories, with a mean score of 22.82 and a standard deviation of 8.01. Only a small proportion was in the normal category, namely, 13.9% for depression, 1.9% for anxiety, and 16.6% for stress. These data reflect the most alarming level of anxiety among the three conditions.

Table I: Characteristics of research respondent (N=361)

Characteristic	n	%	Mean	SD
Age			16.04	0.77
15	102	28.3		
16	142	39.3		
17	117	32.4		
Gender				
Female	203	56.2		
Male	158	43.8		
Only Child				
Yes	134	37.1		
No	227	62.9		
Primary Caregiver				
Grandparent	9	2.5		
Parent	310	85.9		
Relative	13	3.6		
Self	29	8.0		

Table II: Level of Depression Anxiety and Stress Using the DASS-21 (N=361)

Depression Anxiety and Stress	Mean ± SD (Min-Max)	Frequency (n)	Percentage %
Depression	18.2 ± 8.66 (0-40)		
Normal		50	13.9
Low		58	16.1
Moderate		123	34.1
High		60	16.6
Severe		70	19.4
Anxiety	22.14 ± 8.62 (0-42)		
Normal		7	1.9
Low		10	2.8
Moderate		67	18.6
High		56	15.5
Severe		221	61.2
Stress	22.82 ± 8.01 (0-42)		
Normal		60	16.6
Low		57	15.8
Moderate		112	31.0
High		86	23.8
Severe		46	12.7

Level of Self-Description

Table III shows that self-description had a mean value of 27.6 and a standard deviation of 6.04. Prevalence

analysis showed that 90.9% of the adolescents experienced self-description conditions categorized as abnormal. Only 7.8% were in the borderline category, whereas only 1.4% had self-descriptions in the normal category. These results highlight that most adolescents in this sample faced challenges in describing themselves positively.

Table III: Level of Self-Description using the Strengths and Difficulties Questionnaire (SDQ) (N=361)

Variables	Mean ± SD (Min-Max)	Frequency (n)	Percentage (%)
Self-Description	27.60 ± 6.04 (12 – 44)		
Normal		5	1.4
Borderline		28	7.8
Abnormal		328	90.9

The relationship between stress, anxiety, and depression towards self-description

Based on the results of the multiple linear regression analysis in Table IV, stress was found to have a significant relationship with adolescents' self-description. The coefficient value of stress is B = 0.13 with a standard error (SE) of 0.05, and a p-value of 0.01 (p<0.05), which indicates that stress is significantly related to adolescent self-description. That is, the higher the stress level experienced by adolescents, the more their self-description is affected. In contrast, depression and anxiety did not show a significant relationship with self-description. Depression had a coefficient of B = 0.04, SE = 0.49, t-value = 0.92, and p-value = 0.35, while anxiety had a coefficient of B = 0.03, SE = 0.04, t-value = 0.80, and p-value = 0.42. The p-values for these two variables were greater than 0.05, indicating that there was no relationship between depression and anxiety and self-description.

Overall, this regression model explained 7.2% of the variation in self-description (R= 0.072), with an F-value of 9.22 and p-value < 0.001, indicating that this model was statistically significant, despite the stress variable being the most prominent in influencing adolescents' self-description.

Table IV: The differences in measures of stress, anxiety, and depression towards self-description (N=361).

Variable	DV: Self-Description				
	B (SE)	Beta	t-value	TOL, VIF	p-value
IV: Depression	0.04 (0.49)	0.06	0.92	0.53, 1.86	0.35
IV: Anxiety	0.03 (0.04)	0.05	0.80	0.56, 1.77	0.42
IV: Stress	0.13 (0.05)	0.18	2.37	0.44, 2.23	0.01

Initial model summary = 0.072 (7.2%), SE of the estimate = 5.84, F = 9.22, p < 0.001.

SE = Standard Error, B = unstandardised coefficients, Beta = standardised coefficients, DV = Dependent Variable, IV = Independent Variable, TOL = tolerance statistic, VIF = variance inflation factor value.

Note: *p < 0.05 is statistically significant.

DISCUSSION

This study investigated the relationship between depression, anxiety, and stress and self-description among adolescents with mental health problems. The findings revealed that stress has a significant association with self-description in adolescents. Adolescents with abnormal self-descriptions are more likely to experience mental health problems.

Among the three factors examined, stress demonstrated the strongest relationship with adolescents' self-descriptions compared to depression and anxiety. Higher levels of stress were associated with more abnormal self-descriptions. The stress experienced by adolescents comes from both internal and external sources, including academic pressure, family problems, peers, and social demands. Stress, often triggered by life's pressures and demands, has been shown to profoundly influence how adolescents perceive and assess themselves (27). Consistent with these findings, previous research, such as the study by Alharbi et al. (2019), also reported that high stress can lead to a decline in self-assessment quality among adolescents. Adolescents under higher stress levels tend to have more negative self-descriptions (12).

There was no significant relationship between depression and self-description among the adolescents in this study. Depression during adolescence is often undetectable, as indicated by a mean score of 18.2, reflecting a moderate level of depression. Adolescents often mask sadness and disappointment due to changes, losses, or failure (6). According to Wicaksono et al. (2022), undetected depression can lead to various adverse outcomes, including decreased physical health, academic difficulties, impaired social relationships, an increased risk of substance abuse, worsening mental health symptoms, and long-term effects that interfere with emotional and social development (18). Although depression is a serious mood disorder, it does not always directly influence how adolescents describe themselves. Research by Hards et al. (2023) found that adolescents who experience high levels of depression tend to have more negative self-descriptions and feel less valuable (28).

While this study did not examine factors such as social support, academic performance, and peer relationships, research by Furtjes et al (2023) highlighted the importance of considering these factors (7). In addition, Orchard and Reynolds (2018) found that depression in adolescents could impair concentration and decision-making, which may indirectly affect self-description (29). Depression has a complex and multidimensional impact on adolescents' self-description. Self-description can also act as a risk factor for developing depression. Abnormal self-description is one of the most common symptoms of depression among adolescents (30).

This is particularly significant during adolescence, a stage characterized by increased academic and social pressures, heightened engagement in social comparisons with peers, and the formation of self-identity (31).

The higher the level of anxiety exhibited, the more abnormal an adolescent's self-description tended to be. However, anxiety, as an emotional response to uncertainty or perceived threats, did not significantly influence on adolescent self-description in this study. These findings contrast with those of Ismail (2024), who showed a relationship between anxiety and abnormal self-description in adolescents (32). Adolescents with high levels of anxiety often develop negative self-perceptions, reflected in self-descriptions that are overly critical or filled with doubt (29). Anxiety can be conceptualized as an episodic emotional reaction characterized by negative feelings of consciously felt tension and worry (10). In addition, Zhang et al. (2023) found that cognitive behavioural therapy effectively reduced anxiety levels and increased positive self-descriptions in adolescents (33). Furthermore, Wang et al. (2021) highlighted the role of social and environmental factors in moderating the relationship between anxiety and self-description in adolescents (10). The results of this study suggest that strong social support and favorable interpersonal relationships can act as protective factors for adolescents, mitigating the negative impact of anxiety on their self-evaluations (34). The adolescent period can be described as a unique phase in life, characterized by increased self-exploration and changes in how adolescents perceive themselves (35). Self-description is one of the ten symptoms listed in the Diagnostic Criteria for Depression (DSM-5), and is often one of the most frequently reported symptoms of depression in adolescent clinical samples (28). Self-description, which refers to how adolescents describe themselves, is an integral part of their identity and can be influenced by various internal and external factors (13). Research conducted by Van der Aar (2018) found that adolescents' self-descriptions can be influenced by psychological factors, such as anxiety, depression, and stress, as well as social (social support, peer relationships) and environmental (peer relationships, school, home) factors (36). These findings highlight the importance of developing positive self-descriptions as part of efforts to improve adolescents' psychological wellbeing (37). Lagos's research highlights the role of psychological interventions in helping adolescents develop positive self-descriptions and build a strong sense of self (38). The results of this study suggest that cognitive behavioural therapy can effectively change negative thought patterns and beliefs underlying adolescents' self-descriptions (39).

It is important to understand the critical developmental phase of adolescence, particularly the age range of 15 to 17 years, within a psychological context (40). Adolescence and early puberty are often characterized

by immaturity in emotional regulation systems, leading to unstable emotional cycles (41). In late adolescence, emotions remain unstable, and self-regulatory systems continue to mature, resulting in emotional states that fluctuate between adult behavior and childish actions (42). The more complex challenges faced in late adolescence contribute to higher prevalence rates of stress (40). Therefore, it is important to strengthen the coping mechanisms during this stage (41).

The use of a cross-sectional survey design in this study has several limitations, one of which is its inability to establish cause-effect relationships between variables. However, since the study was conducted with a large sample of respondents with uniform characteristics (high school adolescents), the results are expected to reduce potential bias. In addition, this study contributes to the literature on risk factors for abnormal self-description in Indonesian adolescents.

CONCLUSION

The results of this study showed a strong and significant relationship between stress and self-description. However, anxiety and depression did not show a significant relationship with self-description among adolescents. Preventive efforts to manage stress and mental health promotion are needed to reduce negative perceptions of self-description. Nurses and mental health service providers need to increase mental health promotion efforts for adolescents in schools, families, and neighborhoods. Further research is needed to deepen the understanding of the causal relationship between depression, anxiety, stress, and self-description in Indonesia, with the aim of developing effective preventive measures to reduce the incidence of mental disorders among adolescents.

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