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The Effect of Loneliness on Suicidal Ideation Mediated by Depression in Adolescents with Family Problems

Tisa Indriani Ginting
Universitas Sumatera Utara
Corresponding Author: Tisa Indriani Ginting tisameii@gmail.com

A R T I C L E I N F O

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A B S T R A C T

This study aims to analyze the effect of loneliness on suicidal ideation in adolescents with depression as a mediator variable. The study uses a quantitative approach with a correlational design through mediation regression analysis. The research subjects consisted of 125 adolescents aged 12–21 years who were selected using accidental sampling techniques. Data were collected using the UCLA Loneliness Scale, Beck Depression Inventory-II (BDI-II), and Beck Scale for Suicide Ideation (BSS), then analyzed using JASP software. The results of the analysis show that loneliness has a significant effect on suicidal ideation through depression. Depression was found to play a strong mediating role, contributing 85.9% to the variation in suicidal ideation ($R^2 = 0.859$; $p < 0.001$). These findings confirm that depression is an important psychological mechanism that explains the relationship between loneliness and suicidal ideation in adolescents. This study emphasizes the importance of early intervention focused on addressing loneliness and symptoms of depression to reduce the risk of suicide in adolescents.

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INTRODUCTION

Adolescence is a transition from childhood to adulthood. According to the WHO, adolescence is defined as the age range of 10-19 years. Hall (in Santrock, 2018) describes adolescence as a period of "storm and stress." The storm and stress period is a turbulent phase in adolescent development characterized by conflict and mood swings. Adolescents experiencing severe or prolonged stress may be vulnerable to mental health disorders such as anxiety, depression, eating disorders, or risky behaviors. Based on data from the 2018 Riskesdas in Indonesia, mental disorders or depression begin in adolescence (15-24 years) with a prevalence of 6.2% (Indonesian Ministry of Health, 2019). Stress is often an unavoidable problem in human life, especially for adolescents. This is due to the unstable emotional maturity of adolescents. Several factors that often trigger stress in adolescents, one of which is problems within the family. Ramadhani and Hetty (2019) in their research explain that family problems are a burden in itself for adolescents, thus impacting psychologically. Such as feelings of shame, sensitivity, and low self-esteem to withdrawal from the environment, insecurity, being unwanted or rejected by their parents, sadness and loneliness, anger, loss, guilt, and self-blame are the causes of family problems. The most serious consequences of psychological stress in adolescents include depression, anxiety disorders, suicidal behavior, substance abuse, and antisocial behavior tendencies. Based on WHO data in 2019, the suicide rate in Indonesia was 2.6 per 100,000 population.

Efforts to understand the process of suicidal ideation, Klonsky & May (2015) proposed the Three-Step Theory (3ST) of Suicide, which explains the stages leading to the emergence of suicidal ideation, followed by strong ideation and finally the urge that leads to a suicide attempt. In line with this theory, research by Evans, Hawton, Rodham & Deeks (2005), in Maulidya 2019), shows that 29.9% of adolescents have had thoughts of suicide (suicide ideation). Another study conducted by Pervin and Ferdowshi (2016) found that the strongest factors contributing to suicidal ideation are depression, hopelessness, and loneliness.

Depression is a very serious mental illness worldwide. Data reports that 800,000 cases of suicide are the result of depression (WHO, 2015). Depression can be caused by internal and external factors. In addition to depression, loneliness is also an important factor in increasing the risk of suicidal ideation in adolescents. The results of the 2007 Global School-based Student Health Survey (GSHS) show that the proportion of adolescents aged 13–15 years in Indonesia who feel lonely has doubled. From around 8.7 percent in 2007, it rose to 19 percent in 2023. The relationship between loneliness and depression in predicting suicidal ideation has been extensively studied in various studies. Several studies show that these two factors interact with each other in increasing the risk of suicide. Based on existing empirical evidence, this study aims to analyze how loneliness mediated by depression contributes to suicidal ideation in adolescents.

In addition to physiological variability, technical factors also impact ECG analysis. Signal quality is one of the major limitations in biosignal acquisition

(Campero Jurado et al., 2023). Muscle tremors, motion artifacts, and electrode shifts introduce noise, particularly when the subject changes posture. Without quantifying signal reliability, conclusions drawn from HRV may become questionable. This issue is especially relevant in wearable and remote-monitoring contexts.

LITERATURE REVIEW

Suicide

Wenzel, Brown, and Beck (2009) define suicidal ideation as all thoughts, images, beliefs, voices, or voices about the desire to end one's life. Many factors contribute to a person having suicidal ideation, one of which is depression. Based on Beck (1979), there are three main aspects of suicidal ideation, namely:

a. Desire for Death
b. Active Suicidal Desire
c. Preparation for Suicide

Wenzel, Brown, and Beck (2009) view the idea of suicide as the result of maladaptive thinking processes involving interactions between cognitive, emotional, and situational factors. Each factor does not work independently, but rather interacts to form a suicidal mode, which is an activated mental state that focuses the individual's attention on death as the only way out.

Depression

Beck (2016) explains that depression is when a person experiences sadness that can range from mild feelings, temporary sadness to deep despair and worry. According to Beck's cognitive theory (2016), depression can be classified into three levels of severity: mild, moderate, and severe, which are determined by the intensity of the cognitive, affective, and physical symptoms experienced by the individual. Beck (2016) states that the aspects of depression include cognitive, affective, and somatic aspects. In addition to reviewing the aspects of depression, Beck also adds the identification of depression symptoms, which are manifestations of complex interactions between cognitive distortions, affective changes, and maladaptive behaviors triggered by the activation of negative schemas.

Loneliness

Russell, 1996 (in Gierveld, 2006) defines loneliness not merely as the objective condition of "having no friends" or being "physically isolated," but rather as an individual's subjective perception of the quality and quantity of their social relationships. A person can feel lonely even when surrounded by people if their social relationships do not meet their emotional needs and expectations for support. According to Russell 1996 (in Gierveld, 2006), loneliness has several main interrelated aspects, namely: traits, social desirability, and depression. Russell also adds that loneliness in adolescents can be caused by internal and external factors.

Adolescence

According to Santrock (2018), adolescence is a transitional period of development from childhood to adulthood that includes several changes such as biological, cognitive, and socio-economic changes. The age range of

adolescence is divided into three stages: early adolescence (ages 12-15), middle adolescence (ages 15-18), and late adolescence (ages 18-21). According to Santrock (2018), adolescence has a number of characteristics that distinguish it from other stages of development, including biological, cognitive, and socio-emotional aspects. The development process occurs unconsciously and is strongly influenced by emotions.

Inter-Variable Dynamics

The relationship between loneliness, depression, and suicide ideation in adolescents is complex and mutually influential. Loneliness acts as an initial risk factor, depression acts as a mediator that reinforces the negative effects of loneliness, and suicide ideation becomes an extreme choice resulting from the accumulation of psychological burdens.

METHODOLOGY

Research Variables

In this study, there are three variables to be examined. The three types of variables are as follows:

Suicide Ideation

Suicide ideation is categorized as a dependent variable. Operationally, in this study, suicide ideation is measured using the Beck Scale for Suicide Ideation (BSS) developed by Beck (1979) and adapted by Kesuma et al. (2020), which covers three aspects, namely Desire for Death, Active Suicidal Desire, and Preparation for Suicide. The suicide ideation scale consists of 19 items, where each item is given a score of 0-2, resulting in a score range of 0-38. The higher the score an individual has, the higher the risk of suicidal thoughts. Conversely, the lower the score an individual has, the lower the risk of suicidal thoughts.

Depression

Depression is categorized as a mediating variable. The depression measurement tool used in this study is the Beck Depression Depression Inventory II (BDI II) scale, developed by Beck, Steer, and Brown (1996). This scale consists of 21 items with four response options for each item, scored from 0 to 3. The higher the score, the higher the respondent's level of depression. Conversely, the lower the score obtained, the lower the respondent's level of depression.

Loneliness

Loneliness is categorized as an independent variable in this study. Loneliness is a complex emotional state involving cognitive and affective dimensions, and is influenced by personality, situational, and cultural factors. Loneliness is measured using the UCLA Loneliness Scale developed by Russell (1996), and adapted by Harwanto et al. (2025). This scale consists of 20 items with 4 answer choices scored from 1 to 4, resulting in a total score range of 1 to 80. The higher the score obtained, the higher the respondent's level of loneliness. Conversely, the lower the score obtained, the lower the respondent's level of loneliness.

Research Population and Sample

The population used in this study were individuals aged 12-21 years (adolescent category). Referring to Roscoe's opinion (in Sugiyono, 2019), the minimum sample size for this study was 3 x 10 = 30. Based on this consideration, this study determined the sample size to be 100 respondents. This number is considered to have met the minimum recommended criteria and is deemed adequate to support the reliability of the statistical analysis used, namely mediation regression analysis.

Sampling Technique

The sampling technique used is non-probability sampling, which is a sampling technique used when not everyone in the population has the same opportunity to become a research subject. The sampling method used is accidental sampling. In practice, the number of samples collected reached 125 subjects, exceeding the initial limit set at 100 subjects. The characteristics of the research sample in this study are as follows:

a. Individuals aged 12-21 years
b. Have indications of problems that have the potential to cause loneliness, depression, and have had or are currently having suicidal ideation.

Data Collection Methods

Data was collected using a Likert scale measurement tool, namely: a suicide ideation scale consisting of score options between 0-2, a depression scale consisting of score options between 0-3, and a loneliness scale consisting of score options between 1-4.

Suicide Ideation Scale Blueprint

This study used a measuring instrument based on suicide ideation measured using the Beck Scale for Suicide Ideation (BSSI), which was adapted by Kesuma et al. (2020) and covers three dimensions, namely Frequency of Suicidal Thoughts, Intensity and Desire, and Plans and Preparations. The Scale for Suicide Ideation (BSSI) meets 10 assessment indices categorized as good fit, 2 assessment indices categorized as marginal fit, and 3 assessment indices categorized as not fit. Based on this, the BSS model can be considered a good fit. BSS has good internal validity, and each item represents the existing construct. The scale distribution is presented in Table 1.

Table 1. Blueprint Scale for Suicide Ideation

Aspect	Favorable	Unfavorable	Number
Desire for Death	5, 14, 19	0	12
Active Suicidal Desire	1, 2, 3, 4, 6, 7, 8, 9	0	3
Preparation for Suicide	10, 11,15, 18, 12, 13, 16, 17	0	4
Number		0	19

Depression Scale Blueprint

Depression is measured using the Beck Depression Inventory (BDI) and has been adapted by Ginting et al. (2013) to include three main dimensions,

namely Affective-Emotional, Cognitive, and Somatic-Motor. The distribution of the depression scale is presented in Table 2.

Table 2. Depression Scale Blueprint

Aspect	**Favorable**	**Unfavorable**	**Number**
Cognitive	13, 3, 14, 5, 6, 7, 8	0	7
Affective, Emotional	1, 2, 4, 9, 10, 11, 12	0	7
Somatics	15, 16, 17, 18, 19, 20, 21	0	7
	Number	**0**	**21**

Loneliness Scale Blueprint

Loneliness is measured using the UCLA Loneliness Scale. The distribution of the loneliness scale can be seen in Table 3.

Table 3. Loneliness Scale Blueprint

Aspect	**Favorable**	**Unfavorable**	**Number**
Traits	4, 13, 17	6, 9	5
Social desiberility	7, 8, 18	1, 5, 10, 15, 19	8
Depresion	2, 3, 11, 12, 14	16, 20	7
	Number	**0**	**20**

Data Analysis Method

Data analysis in this study used JASP version 16.0 for Windows software. The assumption tests that must be met before performing data analysis include:

Classical Assumption Test

a. Normality Test

Normality testing is used to determine whether variables are normally distributed within the normality distribution curve. Data can be said to have a normal distribution only if the skewness and kurtosis ratios are between –2 and +2.

b. Linearity Test

Linearity testing aims to determine the linearity of scores between independent and dependent variables by considering variance equality. Research data is said to have a linear correlation if the sig deviation from linearity >.05.

c. Multicollinearity Test

This test aims to examine the correlation of each independent variable with the decision. If the correlation value is > 0.80, there is a problem of multicollinearity; conversely, if the correlation value is < 0.80, there is no problem of multicollinearity. The multicollinearity test is expressed through the Variance Inflation Factor (VIF) value and the tolerance value.

d. Heteroscedasticity Test

In the heteroscedasticity test, if the variance of the residuals from one observation to another remains constant, it is called homoscedasticity with a

significance value <0.05, and if it differs, it is called heteroscedasticity with a significance value >0.05. A good model is one in which heteroscedasticity does not occur.

Mediation Regression Analysis

Mediation regression analysis is used to determine the extent to which loneliness (X) influences suicidal ideation (Y) through depression (M). The first stage is to test the total influence of the independent variables on the dependent variable. The second stage is to test the influence of the independent variables on the mediator variable. The third stage is the effect of the mediator on the dependent variable while controlling for the independent variable. The mediation model consists of three regression equations as follows (Baron & Kenny, 1986):

1. Equation 1 (effect of X on M): M=aX+e1
2. Equation 2 (effect of X on Y without mediator): Y=cX+e2
3. Equation 3 (effect of X on Y through M): Y=c'X+bM+e3

Explanation:

a = regression coefficient between variable X and M

b = regression coefficient between M and Y

c = direct effect of X on Y (without mediator)

c'= effect of X on Y after mediator is included e = error/residual

If c' (direct effect) is smaller than c (total effect), then it can be said that there is a mediating effect of variable M.

Research Implementation Procedure

This research was conducted in three stages, namely: the preparation stage, the data collection stage, and the data processing stage, as follows:

a. Preparation Stage

The preparation stage involved the researcher collecting various information, both theoretical and data-related, concerning the research objectives and variables to be studied, namely: suicide ideation, loneliness, and depression in adolescents.

b. Data Collection Stage

The data collection stage was conducted from November 10, 2025, to November 29, 2025, in collaboration with guidance counselors from several high schools in the city of Medan. The researchers obtained 21 students from Methodist High School 4, 35 students from Primbana High School, and 19 students from Methodist High School 2. In addition, the researchers also distributed the scale to a Telegram community consisting of a group of adolescents from "broken homes." The measurement tools were distributed via Google Forms to research subjects who met the characteristics.

c. Data Processing Stage

The collected data will then be processed using the JASP version 095.40 for Windows program, with the testing sequence starting from reliability testing, assumption testing, mediation significance testing, and hypothesis testing until the results in line with the objectives of this study are obtained.

RESULT AND DISCUSSION

Research Subject Description

Respondent characteristics presented include gender, age, and educational status. Respondent characteristic data was obtained through questionnaires and presented in the form of frequencies and percentages. Respondent characteristics are presented in Table 4.

Table 4. Respondent Characteristics

Age	Frequency	Percent	Valid Percent	Cumulative Percent
Early teens	22	17.6	17.6	17.6
Middle teenager	68	54.4	54.4	72.0
Late teens	35	28.0	28.0	100.0
Missing	0	0.0		
Total	125	100.0		

Based on the table of characteristics of the research respondents, it is known that the respondents in this study were predominantly middle-aged adolescents, which provides a general overview of the demographic background of the research subjects.

Research Data Categorization

The categorization of research subjects describes the general condition of each research variable. Data obtained from several items will produce hypothetical data consisting of the minimum and maximum total scores, as well as the mean and standard deviation. Empirical data is obtained from actual data or scores obtained based on scales completed by the research subjects. The research data is grouped based on the categorization criteria. Grouping is carried out as an attempt to place individuals into hierarchical groups along a continuum based on the attributes being measured.

Depiction of Loneliness in Adolescents

Depictions of loneliness in adolescents can be seen based on the mean, standard deviation, minimum, and maximum scores of the research subjects. The results of the analysis are shown in Table 5.

Table 5. Results of Descriptive Analysis of Loneliness Variables

Variable	Mean Empirik				Mean Hipotetik			
Loneliness	Min	Max	Mean	SD	Min	Max	Mean	Sd
	24	80	60.78	15.20	20	80	50	16.6

Based on the data presented in the table, it can be concluded that most respondents scored high on the variables studied, although there was still variation among respondents. Furthermore, to determine the high and low scores of the study subjects, categorization was conducted using the UCLA Loneliness Scale. The level of loneliness was categorized operationally, with a theoretical score range of three categories: low, medium, and high. The loneliness level categorization can be seen in Table 6.

Table 6. Respondent Loneliness Level Categorization

Categori	Score Range	Frequency (n)	Percentage (%)
Low	20–39	12	9.6

Currently	40–59	50	40.0
Tall	60-80	63	50.4
Total		125	100.0

The data presented in the table shows that 50% of the adolescent respondents in this study experienced high levels of loneliness. This condition indicates feelings of alienation, lack of social connectedness, and dissatisfaction with interpersonal relationships, which were predominantly felt by the respondents.

Description of Suicidal Ideation in Adolescents

Descriptions of loneliness in adolescents can be seen based on the mean, standard deviation, minimum, and maximum values of the study subjects. The results of the Loneliness Variable Analysis are shown in Table 7.

Table 7. Results of Descriptive Analysis of the Loneliness Variable

Variable	**Mean Empirik**				**Mean Hipotetik**			
Suicide Ideation	Min	Max	Mean	SD	Min	Max	Mean	Sd
	2	37	20.90	12.84	0	38	19	6.3

Based on the data presented, it is known that some respondents had high scores, although there were still respondents with low scores, as reflected in the fairly wide range of empirical scores. The categorization of suicidal ideation can be seen in Table 8.

Table 8. Categorization of Suicidal Ideation Levels

Categori	**Score Range**	**Frequency (n)**	**Percentage (%)**
Low	1–5	15	12.0
Currently	6–19	43	34.4
Tall	>20	67	53.6
Total		125	100.0

The categorization table shows that half of the respondents had high levels of suicidal ideation, reflecting the presence of quite serious suicidal thoughts or tendencies among the adolescents studied.

Description of Depression in Adolescents

Descriptions of loneliness in adolescents can be seen based on the mean, standard deviation, minimum, and maximum scores of the study subjects. The results of the analysis are shown in Table 9.

Table 9. Results of Descriptive Analysis of Depression Variables

Variable	**Mean Empirik**				**Mean Hipotetik**			
Depression	Min	Max	Mean	SD	Min	Max	Mean	Sd
	0	61	36.8	21.75	0	63	31.5	10.5

The data revealed that the distribution of respondents' scores was highly heterogeneous, resulting in significant differences between individuals in the levels of the variables studied. This scale consists of 21 items, each with four response options, scored from 0 to 3, resulting in a total score ranging from 0 to 63. Higher scores indicate greater severity of depressive symptoms. The categorization of the depression variables can be seen in Table 10.

Table 10. Categorization of Respondents' Depression Levels

Categori	Score Range	Frequency (n)	Percentage (%)
Not Depressed	0–13	25	20.0
Low	14–19	9	7.2
Currently	20–28	15	12.0
Tall	29–63	76	60.8
Total		125	100.0

Based on the data, it can be seen that the high prevalence of depression among respondents strengthens the role of depression as a mediating variable in this study, considering that high levels of depression can contribute to the emergence of suicidal ideation, especially in adolescents who also experience high levels of loneliness.

Classical Assumptions

The classical assumption tests in this study include tests for normality, linearity, multicollinearity, and heteroscedasticity.

a. Normality Test

The normality and linearity tests used Q-Q Plots of Standardized Residuals. A normal and linear distribution can be considered if the data appears to be spread around a straight diagonal line.

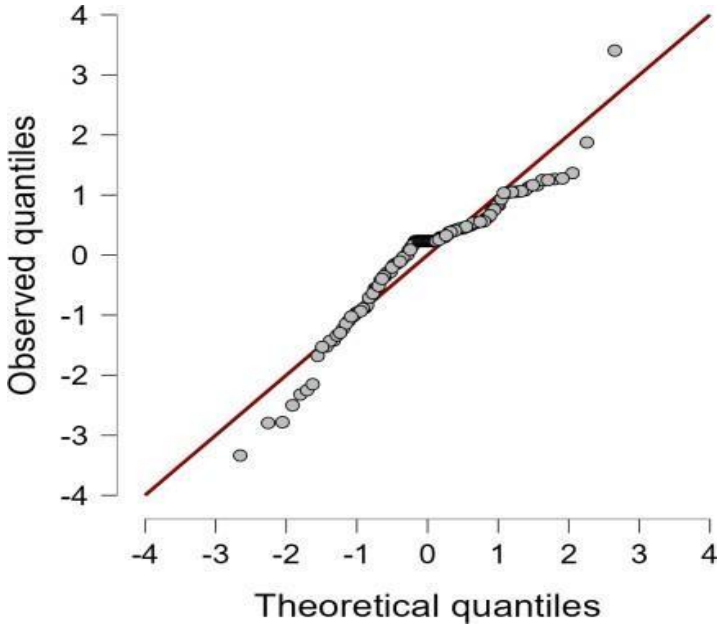

Figure 1. Standardized Residuals Plot

The points in the Q-Q plot of the Standardized Residuals are distributed around the diagonal line. Therefore, it can be concluded that the data in this study are normally and linearly distributed.

b. Multicollinearity Test

Multicollinearity testing in this study was conducted by examining the Tolerance and Variance Inflation Factor (VIF) values. The regression model was deemed free of multicollinearity if the Tolerance value was >0.10 and the VIF value was <10. The results of the multicollinearity test can be seen in Table 11.

Table 11. Results of VIF and Tolerance Analysis

Model	Unstandardized	Tolerance	VIF
sum depression	0.483	0.251	3.980
sum loneliness	0.104	0.251	3.980

Based on the data, the multicollinearity test results showed a Tolerance value of 0.251 (>0.10) and a VIF value of 3.980 (<10) for the loneliness and depression variables. These results indicate that there is no significant correlation between the independent variables in the regression model. Therefore, it can be concluded that this research model does not experience multicollinearity.

c. Heteroscedasticity Test

The heteroscedasticity test was conducted using a scatter plot between the residual and predicted values. A regression model is considered free of heteroscedasticity if the points on the scatter plot are randomly distributed, do not form a specific pattern, and do not systematically narrow or widen. The results of the heteroscedasticity test using a scatter plot are presented in the following figure.

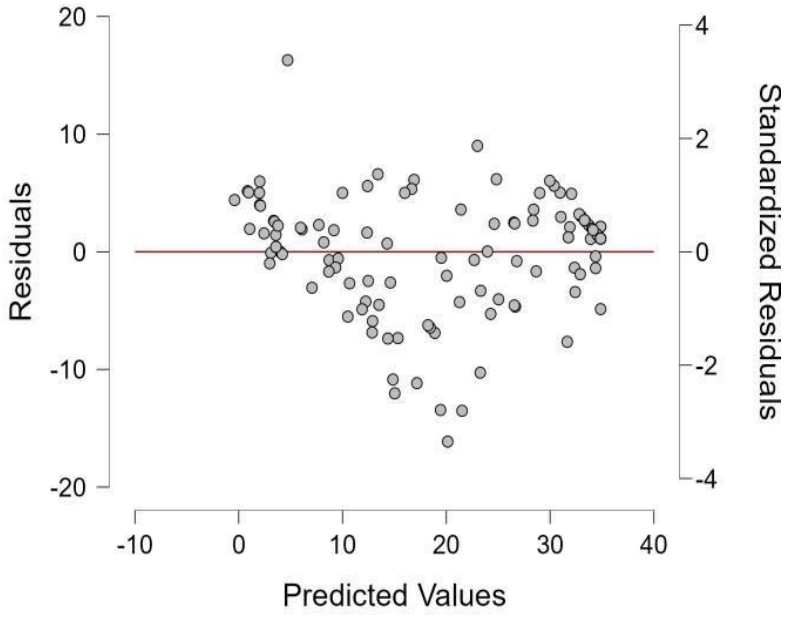

Figure 2. Scatter Plot of Residuals vs. Predicted Values

The results of the heteroscedasticity test using a scatter plot indicate a tendency for a specific pattern in the form of a distribution of residuals that is not completely random and tends to widen within a certain range of predicted values.

Hypothesis Testing
Direct Effect Testing

Table 12. Direct Effect Analysis

							95% Confidence Interval	
			Std. estimate	**Std. error**	**z-value**	**p**	**Lower**	**Upper**
depresi	→	suicide	0.818	0.061	13.366	< .001	0.698	0.938
loneliness	→	suicide	0.123	0.067	1.836	.066	-0.008	0.254
loneliness	→	depresi	0.865	0.022	38.504	< .001	0.821	0.909

Hypothesis 1: The Level of Loneliness Influences the Level of Depression in Adolescents with Family Problems

Based on the results of the direct effect hypothesis test, loneliness has a positive and significant effect on depression with a coefficient of .865 and p = < .001. Therefore, H3 is accepted, indicating that loneliness significantly influences depression.

Hypothesis 2: The Level of Depression Influences the Level of Suicide Ideation in Adolescents with Family Problems

Based on the results of the direct effect hypothesis test, depression has a positive and significant effect on suicide ideation with a coefficient of .818 and p = < .001. Therefore, H2 is accepted, indicating that depression significantly influences suicide ideation.

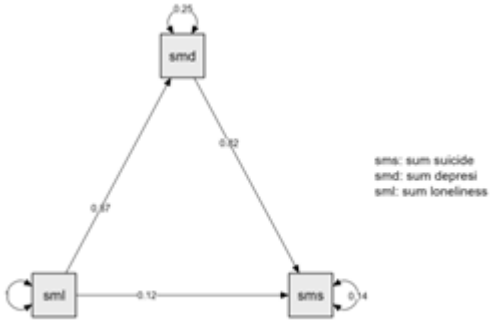

Figure 3. Results of the Direct Effect Test

From the figure above, it can be seen that the effect of depression on suicide ideation has a coefficient of 0.82, the effect of loneliness on suicide ideation has a coefficient of 0.12, and the effect of loneliness on suicide ideation has a coefficient of 0.87.

Hypothesis 3: The Level of Loneliness Influences the Level of Suicide Ideation in Adolescents with Family Problems

Before entering the mediating variable

Table 13. F-Score and Hypothesis Test

Model		Sum of Squares	df	Mean Square	F	P
M_1	Regression	14115	1	14114.59	274.9	< .001
	Residual	6315	123	51.34		
	Total	20430	124			

Based on the data, the F statistic value is 274.9 with a significance value of p < .001, thus rejecting H0. Overall, this indicates a significant effect of loneliness on suicidal ideation.

After Entering the Mediating Variable

Based on the results of the direct effect hypothesis analysis, loneliness on suicidal ideation has a coefficient value of .123 and p = .066 > .05. Therefore, H1 is rejected. This indicates that the direct effect of loneliness on suicidal ideation is not significant, meaning that adolescents who experience loneliness do not necessarily experience suicidal ideation.

Testing the Indirect Effect

Hypotheis 4: Depression Levels Mediate the Relationship between Loneliness and Family Problems in Adolescents

Table 14. Indirect Effects

									95% Confidence Interval	
					Std. estimate	Std. error	z-value	p	Lower	Upper
loneliness	→	depresi	→	Suicide ideation	0.708	0.057	12.46	< .001	0.597	0.820

The data table shows that the indirect effect of loneliness on suicide ideation has a coefficient of .708 and p < .001. Therefore, H4 is accepted. This indicates that depression has a fairly consistent and significant indirect effect on the relationship between loneliness and suicide ideation. This finding suggests that depression acts as a total mediator in the relationship between loneliness and suicide ideation.

R-Square Test

Table 15. R-Squared

	R^2
sum suicide	0.859
sum depresi	0.749

Based on the results of the structural model analysis using Jasp mediation analysis, the R^2 value for suicide ideation was .859. This indicates that in this model, the two variables, loneliness and depression, have a contribution of 85.9% to suicide ideation, while the remainder is explained by other factors not examined in this study. Furthermore, the R^2 value for depression was .749, which means that depression contributed 74.9% to suicide ideation. Based on these data, it can be concluded that the R^2 values for these two constructs are in the good category, so the model used has good explanatory power.

The results of the first hypothesis test confirmed that the second hypothesis was accepted, indicating that depression influences suicide ideation. This finding is consistent with the classic study by Beck, Kovacs, and Weissman (1979), which stated that depression is a major predictor of suicidal ideation. Research by Chen et al. (2010) also found that adolescents with high levels of depression have a significantly greater risk of suicidal ideation.

The results of the second hypothesis test indicate that if hypothesis 3 is accepted, loneliness influences depression. This finding is further supported by Chu et al. (2017) using the Interpersonal Theory of Suicide approach, which explains that feelings of social disconnection (thwarted belongingness) increase psychological vulnerability, mediated by depression, and ultimately lead to suicide ideation. When adolescents feel lonely, ongoing emotional distress arises. If this distress is not managed properly, it can develop into depression, as explained by Gvion and Apter (2012).

The results of the third hypothesis test indicate that loneliness has a direct effect on suicide ideation with a coefficient of .708 and $p < .001$. Thus, it can be concluded that the analysis results show that loneliness has a significant influence on suicide ideation. After the mediator variable was included, the coefficient of loneliness on suicide ideation was .123 and $p = .066$. This means that after depression was included as a mediator, the effect of loneliness on suicide ideation was no longer significant. This indicates that depression acts as a total mediator in the relationship between loneliness and suicide ideation.

The results of the fourth hypothesis test indicate that if hypothesis 4 is accepted, there is an influence of loneliness on suicide ideation mediated by depression in adolescents. This finding indicates that depression acts as a mediator in the relationship between loneliness and suicide ideation. These results align with research by Pervin and Ferdowshi (2016), which found that depression plays a role in the relationship between loneliness and suicidal ideation. Loneliness experienced by individuals leads to feelings of

worthlessness, social isolation, and hopelessness, which then develop into depression. This depressive state is the primary pathway to suicidal ideation. However, in their research, Pervin and Ferdowshi (2016) also added the variable hopelessness.

Adolescents who experience family problems and thus lack social support are at high risk of experiencing loneliness (Stravynski and Boyer 2001). Untreated loneliness can lead to depression in adolescents, especially those experiencing family problems. Depression causes individuals to experience feelings of worthlessness, hopelessness, and a loss of hope for the future. In adolescents, this condition is exacerbated by immature emotional regulation skills (Oppong et al., 2017). When depression is left untreated, adolescents tend to view suicide as a way out of their psychological suffering, as explained by Shneidman (in Leenaars, 2010), who stated that suicide is a response to unbearable psychological pain.

The high levels of loneliness, depression, and suicidal ideation among respondents in this study were due to the selection of respondents based on criteria for adolescents with problems who are potentially experiencing loneliness, depression, and who have or are currently experiencing suicidal ideation. This aligns with Russell's (1996) theory, which states that external factors that cause loneliness include environmental conditions and social situations, parental separation, family conflict, or lack of social support. This is also in line with Jin et al.'s (2025) theory, which states that conflict with parents is one factor influencing depression in adolescents. However, there are other factors related to the influence of suicidal ideation in adolescents that require further research, such as social support, family support, perceived bullying behavior, and academic stress.

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis and discussion of the influence of loneliness on suicide ideation, mediated by depression in adolescents, the following conclusions can be drawn:

1. Depression has a positive and significant effect on suicide ideation, indicating that depression is an important risk factor for the emergence of suicidal ideation in adolescents.
2. Loneliness has a positive and significant effect on depression, such that the higher the level of loneliness experienced by adolescents, the higher the level of depression they feel.
3. Loneliness has a significant effect on suicide ideation, indicating that adolescents who feel lonely are more likely to have suicidal thoughts. Furthermore, after depression was included as a mediator, the effect of loneliness on suicide ideation was no longer significant, indicating that depression acts as a total mediator in the relationship between loneliness and suicide ideation.
4. Loneliness has a positive and significant effect on suicide ideation through the mediation of depression. This indicates that depression acts

as a total mediator in the relationship between loneliness and suicide ideation.

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