

The Role of Rumination as a Mediator of Psychological Distress Relationships and Nonsuicidal Self-Injury Behavior in Adolescent Victims of Bullying

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Abstract

Nonsuicidal self-injury (NSSI) is the deliberate destruction of body tissue without suicidal intent. NSSI occurs a lot in adolescents. Bullying is the most common factor in adolescents who commit NSSI. The impact of other than NSSI on adolescent bullying victims is psychological distress. Previous research stated that psychological distress can cause NSSI behavior needs to be mediated by a variable, one of the variables that can be related is rumination. This study aims to determine the role of rumination as a mediator of the relationship between psychological distress and NSSI behavior in adolescent bullying victims. The study design is non-experimental. Participants were adolescents aged 16–21 years, experienced bullying, self-harm within 12 months (n=60). The sampling technique used is non probability sampling. The instrument of this study was K10 for psychological distress ($\alpha=.86$). Ruminative Response Scale (RRS) for rumination ($\alpha=.75$) and Inventory of Statement About Self Injury (ISAS) for NSSI behavior ($\alpha=.83$). Results showed that rumination does not mediate the relationship of distress and NSSI in adolescent victims of bullying. However, psychological distress correlated and have a role in the emerge of rumination and NSSI in adolescent bullying victims. ANNOVA test showed that distress, rumination and NSSI were highest in participants with a high frequency of bullying. Therefore, it is important to intervene reduce psychological distress in adolescents and take preventive action and education related to the impact of bullying.

Introduction

The act of self-harm without suicidal intent committed by individuals is a phenomenon that occurs throughout countries and has different percentages (Cipriano et al., 2017; Fadhila & Syafiq, 2020; Muehlenkamp et al., 2012). In Indonesia, there are 1,018 people or equivalent to 36.9% who have injured themselves (Thesalonika & Apsari, 2021). This is also reinforced by the results of interviews conducted with psychologists in the Ibunda community, which stated that of the 50 clients handled, there were 20 clients who did NSSI. Then, in China and Mexico there are 23.2% and 18.56% (Benjet et al., 2017; Liang et al., 2014). This indicates that the NSSI phenomenon occurs quite often both in Indonesia and abroad.

Several previous studies have mentioned different terminology regarding individuals who self-injure without suicidal intent, namely NSSI (*Nonsuicidal Self-Injury*), *Deliberate Self-Harm*, *Self-Mutilative Behavior*, and *Self-Injurious Behavior* (David Klonsky et al., 2003; Gratz, 2001; Muehlenkamp & Gutierrez, 2004; Nock & Prinstein, 2004). However, the most commonly used terminology is NSSI (Nock et al., 2006). NSSI is defined as the destruction of body tissues without suicidal intent (Favazza et al., 1993). Gratz (2001) further defines NSSI as deliberate, direct and self-inflicted destruction of body tissue without suicidal intent as well

as for socially disapproved purposes. NSSI itself has been included in the DSM V and has 6 criteria that must be met to diagnose individuals (American Psychiatric Association, 2013).

Nock (2010) states that there are several methods used by individuals to perform NSSI, including scratching, scraping the skin until it bleeds, burning the skin, inserting objects under the skin (e.g. pins), *cutting*, hitting themselves, biting themselves, gouging wounds and pulling hair. Typically, individuals use more than one method to self-harm (Klonsky et al., 2014). The results of Kharsati & Bhola (2015) research show that, the most commonly used method is *self-hitting* and followed by *cutting* and scraping the skin. The part of the body that is often injured by individuals who perform NSSI is the wrist, followed by the legs and lower abdomen (Victor & Klonsky, 2018).

The prevalence of NSSI is prevalent among adolescents and decreases with age (Brager-Larsen et al., 2022; Brown & Plener, 2017). In America, it is known that 30.8% of 64671 adolescents engage in NSSI behavior (Monto et al., 2018). In Indonesia, 3.9% of adolescents do NSSI (Asyafina & Salam, 2022). NSSI that occurs in adolescents can be caused by various factors, namely, *bullying, adverse childhood experiences, behavioral problems, physical disabilities, female gender, mental disorders* (Wang et al., 2022). However, bullying is the most common factor in adolescents who carry out NSSI (Arifin et al., 2021; Waals et al., 2018; Wu et al., 2023). Bullying occurs in early adolescence and 84% of children in Indonesia have experienced bullying (Borualogo & Gumilang, 2019; Wu et al., 2023). It is known that all forms of bullying, both those that occur in cyberspace and bullying that occurs directly in the form of physical, verbal and social exclusion, can be a risk factor for adolescents to injure themselves (Lereya et al., 2015; Yu et al., 2020).

Bullying experienced by adolescents has a negative impact on their psychological condition, because basically the psychological growth of adolescents is also influenced by the social environment (Kim, 2020). The negative impact of bullying is characterized by the emergence of significant psychological distress and even persists long after the bullying has long stopped (Swartz & Bhattacharya, 2017; Zwierzyńska et al., 2013; Lereya et al., 2015; Tiwari & Deshpande, 2020; Ilyas et al., 2021; Tarafa et al., 2022). Psychological stress, in fact, does not only result from bullying events experienced, many other things such as severe illness, academic problems, disputes with parents, conflicts with parents, academic problems (Kamijo & Yukawa, 2018). However, one of the causes of stress and a problem that occurs a lot and causes the impact of psychological stress on adolescents is bullying (Arhin et al., 2019). In addition, of the 342 participants in Kamijo and Yukawa (2018) study, 28% chose bullying as the most stressful event. Bullying gives individuals bad experiences resulting from repeated aggressive actions, where in this situation the victim experiences an imbalance of power which means they cannot defend themselves (Sourander et al., 2007). This ultimately makes adolescent victims of bullying have more mental health problems (Tarafa et al., 2022).

Psychological distress itself is defined as a state of emotional suffering characterized by depressive symptoms such as (loss of interest, sadness and hopelessness) and anxiety such as (anxiety and feelings of tension) as well as severe stress (Arvidsdotter et al., 2016). These symptoms may be related to somatic symptoms such as (insomnia, headaches, lack of energy) that tend to vary between cultures (Kirmayer, 1989). According to research by Li et al. (2022) who examined the relationship between psychological stress and NSSI on adolescents with *Major Depressive Disorder*, explained that psychological distress has a significant indirect relationship with NSSI and the relationship is mediated by *suicidal ideation* variables. In addition, research by Richmond et al. (2017) which examines mediator variables such as *cognitive reappraisal* and *expressive suppression* of the relationship between psychological

stress and NSSI in students, shows that these two mediator variables mediate the relationship between stress and NSSI.

Xiao et al. (2022) examined psychological stress and NSSI in students when COVID-19 conditions found that the relationship between psychological stress and NSSI was mediated by *sleep disorder* variables. Jiao et al. (2022) examined stress and NSSI in students during COVID-19 conditions, showing that the relationship between the two variables was mediated by sleep quality. Based on these four studies, it can be concluded that the link between psychological distress and NSSI is limited to the student population and students, as well as adolescents with clinical diagnoses, carried out in China and Australia and is widely associated with COVID-19 conditions. In addition, it can be concluded that psychological distress is indirectly related to NSSI, where between the two variables there is an independent variable that mediates the relationship of stress with NSSI. Furthermore, Jiao et al. (2022) in their study advised subsequent researchers to examine rumination variables as mediators against the relationship between psychological stress and NSSI. The results of the study of Kim et al. (2019) stated that rumination is an important mediator variable because rumination underlies the development of problems in individuals. This is because, rumination will make individuals tend to repeatedly focus on the problem at hand, causing excessive psychological stress by showing symptoms such as sadness, loss of interest, hopelessness, anxiety and stress (Nagy et al., 2022).

Rumination refers to a mode of responding to distress that involves repetitive thinking and passive focus on distress symptoms and the possible causes and consequences of those symptoms in the absence of involvement in active coping (Nolen-Hoeksema et al., 2008). Rumination has two subtypes: *brooding* (focusing on negative moods associated with past or current situations) and *reflection* (attempts to understand the causes of negative moods) (Nolen-Hoeksema et al., 2008). Based on the research of Polanco-Roman et al. (2015), both subtypes of rumination can be related to negative behavior of individuals. Adolescence itself becomes a risk factor for individuals to ruminate, which will make adolescents focus on internal situations such as writing or talking repeatedly about negative experiences they experience (Jose & Brown, 2008).

According to Buelens et al. (2019) in a longitudinal study on adolescent participants, psychological distress has a relationship with rumination, where an increase in psychological distress will be followed by an increase in rumination in response to the stress. Research conducted by Michl et al. (2013) in adolescents and early adulthood states that stress and rumination occur when there is a gap (*discrepancies*), where negative events can create a difference between the desired state and the current state, causing individuals to rumination in response to the condition (Martin & Tesser in Michl et al., 2013). The *discrepancies* occur because adolescents experience bullying which ultimately causes psychological distress to be present as the current state and contrary to the state desired by the individual, which is to be happy (Michl et al., 2013). If *discrepancies* continue to occur, then the stress that arises from the condition will make individuals continue to rumination in response to this and as an effort to eliminate it (Chu et al., 2018).

In addition to rumination having a relationship with psychological distress, it is also known that rumination also has a relationship with NSSI (Selby et al., 2013; Tonta et al., 2022; Nagy et al., 2022). Rumination creates cognitive discomfort that makes the individual injure himself or herself as an ineffective but rapid coping strategy, available in a short time, easy to perform and not causing severe physical injury (Selby et al., 2013). In addition, individuals injure themselves to eliminate these annoying cognitive discomforts by distracting them from thoughts related to distress generated by the unpleasant behavior received, in this case bullying

(Selby et al., 2013). This is also in accordance with the research of Hooley et al. (2020) where adolescents injure themselves to quickly escape from difficulties in life they are experiencing.

Several previous studies have examined rumination as a mediator. Neyshabouri et al. (2020) examined rumination as a mediator for PTSD and *self-injury* in army participants. Miranda et al. (2013) examined rumination and *hopelessness* as mediators for *perceived emotion dysregulation* and suicidal ideation in participants of *emerging adulthood*. Arrivillaga et al. (2022) examined rumination as a mediator for psychological distress and *problematic smartphone use* (PSU) in adolescents. Hasking et al. (2019) examined rumination with NSSI and suicidal ideation. The four studies prove that rumination is a mediator for variables such as *self-injury and PTSD*, *perceived emotion dysregulation* and *suicidal ideation*, psychological distress and PSU (*problematic smartphone use*).

Jiao et al. (2022) examined stress and NSSI with *sleep quality* as a mediator. Jiao et al. (2022) suggest rumination to be investigated as a mediator in further studies. Liao et al. (2022) examined *neuroticism*, NSSI as well as mediating effects of emotion regulation and depression. Liao et al. (2022) suggested participants with adolescent age to be studied in the next study considering that the participants used in the study were college students. Richmond et al. (2017) examined psychological distress and NSSI as well as mediation of *cognitive appraisal*, *expressive suppression* and *rumination* in early to late adult college students. Richmond et al. (2017) stated that only rumination did not mediate stress and NSSI in its participants. However, the results of Richmond et al.'s (2017) study are different from previous studies that stated that rumination mediates stress with NSSI in student participants (Nolen-Hoeksema et al., 2008). However, this can be due to differences in participants, where rumination tends to occur in adolescence or younger age (Jose & Brown, 2008). In addition, Richmond et al. (2017) used RTSQ (*Ruminative Thought Style Questionnaire*), where the measuring instrument tends to measure neutral rumination and may only be negative rumination as related to NSSI (Tanner et al., 2014).

Related to the description above, it can be concluded that if adolescents have psychological distress, the more intense the rumination will be carried out and, in the end, will affect the involvement in NSSI behavior or in other words, rumination is associated with high levels of psychological stress which is ultimately related to NSSI behavior. This research is important to do on adolescents who experience bullying, because they tend to be less comfortable to tell stories and fear the repercussions if they disclose the bullying event experienced. This condition can lead adolescents to dangerous behavior, so it is necessary to further determine the link between psychological distress caused by bullying and NSSI behavior mediated by rumination. This research is also important to do in order to clarify the differences in the results of research conducted by Richmond et al. (2017) with previous research and is also important to do on the advice of Jiao et al. (2022) and Liao et al. (2022).

This study is expected to be useful information for the field of clinical psychology and also a reference for future researchers if they want to examine similar variables or with similar participants. In addition, this research is also useful for related institutions to anticipate bullying actions carried out so that adolescents do not commit NSSI. In addition, it is also related to how to deal with adolescents who have already done NSSI so as not to continue to worse things, as stated in the research of Pradipta et al. (2021), that NSSI can be the cause of individuals attempting suicide. Based on the description above, this study hypothesizes that rumination acts as a mediator in the relationship between psychological distress and NSSI behavior in adolescent victims of bullying.

Methods

Participants

The criteria for the study participants were adolescents aged 16-21 years, had experienced bullying either in the form of verbal, physical, *cyber* (social media) or relational and had self-harmed within 12 months. The sampling technique used in this study was *purposive sampling*.

Research Design

This study used a quantitative approach with a *non-experimental* design. *Non-experimental* design refers to the depiction of existing phenomena without manipulating conditions or giving special treatment to influence participant responses and no manipulation of independent variables (Sugiyono, 2016). This explanation is in accordance with this study, where researchers only measured participant behavior using questionnaires without giving special treatment beforehand to participants.

Measurement

The measuring instruments used in this study are ISAS (*The Inventory of Statement About Self Injury*) from Klonsky and Glenn (2009) to measure NSSI (*Non suicidal Self-Injury*), K10 from the results of the validation study Kinanthi et al. (2022) to measure psychological distress and RRS (*Ruminative Response Scale*) from Treynor et al. (2003) to measure rumination. In order for participants to fit the research criteria, participants were asked to answer several questions first. The questions are, "*have you ever experienced bullying*", "*What type of bullying have you experienced?*", "*frequency of bullying*", "*when was the last time you were bullied*", "*when was the last time you hurt yourself*". All use of measuring instruments in this study has received approval from the *author* and has been translated into Indonesian with the help of *experts* who have a background in clinical psychology.

The Inventory of Statement About Self Injury (ISAS) to measure NSSI is made in two parts, namely part I to measure NSSI behavior and part II to measure NSSI function (Klonsky & Olino (2008); Klonsky & Glenn, 2009). However, this study will only use part I because it aims to see NSSI behavior only. Part I consists of 12 self-harm behaviors (*self-hitting, hair pulling, pinching, cutting, biting, wound picking, severe scratching, rubbing skin, burning, needle sticking, carving, swallowing chemicals*) (Klonsky & Olino, 2008). Five additional questions assess descriptive and contextual factors, including age of onset, experience of pain during NSSI, whether NSSI is performed alone or around others, time between self-harm urges and actions, and whether individuals want to stop themselves (Klonsky & Olino, 2008). Part I basically has no scoring way to facilitate statistical analysis. However, based on validity studies by Pérez et al. (2021), part I can be scored on a 5-point likert scale (1= None, 2= 1-6 times, 3= 7-14 times, 4= 15-24 times, 5= >25 times). This is because the 5-point likert scale tends to have better validity and reliability than using a 3- or 4-point likert scale (Pérez et al., 2021). Internal consistency for ISAS part I is in good category with *Cronbach's alpha* .85 (Kim et al., 2019). The results of reliability tests conducted in this study showed *Cronbach's alpha* obtained was .83.

K10 validation results of Kinanti et al. (2022) were used to measure psychological distress. This measuring instrument was first made by Kessler et al. (2002) using the *Item Response Theory* (IRT) method. This measuring instrument has 10 items and uses a *likert* scale of 0 (never) to 4 (always at all times). In addition, all items have a total score range of 0-40, where the lower the score, the lower the psychological stress possessed by the individual, and vice versa, the higher the score, the higher the psychological stress possessed by the individual (0-5 *low distress*, 6-11 *moderate distress*, 12-19 *high distress*, 20-40 *very high distress*) (Gulliver

& Flower, 2022; Tran et al., 2019). *Item K10* reads like (*In the past 4 weeks, about how often did you feel tired out for no good reason, In the past 4 weeks, about how often did you feel nervous*). In a study conducted by Tran et al. (2019) in Indonesia, it was stated that the internal consistency of the K10 measuring instrument was in the good category, with *Cronbach's alpha* .89. The results of reliability tests conducted in this study showed *Cronbach's alpha* obtained was .86.

RRS (*Ruminative Response Scale*) abridged version created by Treynor et al. (2003) is used to measure rumination. RRS is a measuring instrument that has 2 components in it, namely *brooding* (1,3,6,7,8) and *reflection* (2,4,5,9,10) with a total of 10 items and each component has 5 items (Treynor et al., 2003; Gu et al., 2020). This measuring instrument uses a *Likert scale* of 1 (*never*) to 4 (*always*), representing how often individuals ruminate. Scores are calculated by summing answers, where higher scores indicate a high level of rumination (Hoff & Muehlenkamp, 2009; Gu et al., 2020; Horváth et al., 2023). *RRS item* reads, *brooding* (*Think what am I doing to deserve this?*) and *reflection* (*Analyze recent events to try to understand why you are depressed*). In the study of Treynor et al. (2003), the internal consistency of this measuring instrument is in the good category with *Cronbach's alpha* .85. In addition, in a study conducted by Yusainy (2017) it is known that this measuring instrument has internal consistency with *Cronbach's alpha* .74. The results of reliability tests conducted in this study showed *Cronbach's alpha* obtained was .75.

Research Settings and Equipment

The entire data collection process in this study takes place from May 19 to June 2, 2023. Offline research data collection was carried out at State High Schools and State Vocational Schools in Jakarta. In addition, data collection is also carried out online through the *Zoom Meeting platform*. The equipment needed in this study is a questionnaire that has been printed on paper, pens and laptop *devices* or gadgets.

Research Procedure

Data collection in this study was carried out online and offline (*Paper and Pencil*). Online data collection is carried out by filling out a questionnaire in the form of a *google form*, where the filling will be supervised using a *zoom meeting* between the researcher and one participant only. Before online data collection was carried out, researchers distributed posters to recruit participants through social media *Instagram*, *Twitter* and *Facebook*. Offline data collection is carried out by visiting the school that the researcher is going to, namely one SMA & SMK located in the Jakarta area. Before data collection was carried out at school, researchers asked for permission first by sending a letter requesting permission from Tarumanegara University to the principal to carry out data collection.

Before participants complete the questionnaire, they are required to read the participant's information section and sign informed *consent*. All information about the research, such as data confidentiality and others have been poured into the participant information sheet. The questionnaire in this study consisted of three measuring instruments to measure NSSI, rumination and psychological distress. A questionnaire that has a more sensitive nature, namely ISAS to measure NSSI is placed at the end to reduce resistance in participants. The time needed by participants to fill out this questionnaire is 15-30 minutes. To minimize the negative effects that occur in participants as a result of filling out the questionnaire, researchers do *Square Breathing* and provide *Positive Affirmation* so that participants are in good condition after filling out the questionnaire. In addition, participants were also given information about the place of psychological consultation that they could reach if there were still unpleasant feelings

after filling out the questionnaire and *rewards* in the form of snacks. The entire research process has received ethical approval from the Faculty of Psychology, Tarumanagara University.

Data Analysis Techniques

All statistical tests in this study used *IBM SPSS Statistic 25.0*. The statistical tests used in this study are reliability testing, descriptive statistics, normality, linearity, multicollinearity, heteroscedasticity, correlation and regression to determine the relationship between the three variables. Furthermore, to see the effect of mediation, a test will be carried out with the SPSS PROCESS 4.2 plug-in from Hayes.

Results and Discussion

In this study, the number of participants obtained was 161 people with the number analyzed as many as 60 people, while those who were not analyzed were 101 people. This is because 101 other participants did not meet one of the three criteria of study participants, namely adolescents aged 16-21 years, had been bullied and carried out NSSI in the last 12 months.

Participant Demographic Data

All participants in this study amounted to 60 people, with the majority of participants being women (70.0%). The average participant was at the age of 17, and had a recent junior high school education (80.0%).

Table 1. Participant Demographic Data (n=60)

Data		Frequency	Percentage
Gender	Woman	42	70.0%
	Man	18	30.0%
Age	M=17.28 SD=0.993		
	16-17 Years	43	71.7%
	18-19 Years	11	18.3%
	20-21 Years	6	10.0%
Recent Education	JUNIOR	48	80.0%
	SMA	12	20.0%

Psychological picture of participants

Participants in this study experienced more than one type of bullying (45.2%), as well as participants experienced a low frequency of bullying (28.3%). In addition, the experience of bullying experienced by the majority of participants >1 years with a percentage (50%).

The majority of participants had NSSI onset at age 14 and last had NSSI 1 month ago (53.3%). The duration of NSSI performed is less than 1 hour (60%) and sometimes feel physical pain when doing NSSI (58.3%). In addition, the majority of participants had a desire to stop doing NSSI (70%).

Table 2. Overview of Research Participants

Data		Frequency	Percentage
Types of Bullying	Physical	5	8.3%
	Verbal	16	26.7%
	Relationship	11	18.4%
	Cyber	1	1.7%
	>1 Bullying	27	45.2%

Frequency of Bullying	Low	17	28.3%
	Keep	33	55.0%
	Tall	10	16.7%
Last Bullied	1 Week	12	20.0%
	1 Month	8	13.4%
	6 Months	6	10.0%
	1 Year	4	6.7%
	>1 Year	30	50%
Onset NSSI	M=14.77 SD=2,012		
	9-12 Years	8	13.4
	13-16 Years	43	71.6%
	17-19 Years	9	15%
Last time doing NSSI	Last 1 Month	32	53.3%
	Last 4 Months	16	26.7%
	Last 8 Months	5	8.3%
	Last 12 Months	7	11.7%
Duration of performing NSSI	<1 Hour	36	60%
	>1 Day	3	5.0%
	1-3 Hours	12	20%
	3-6 Hours	4	10%
	6-12 Hours	3	5%
Do you feel physical pain when doing NNSI?	Yes	9	15%
	Not	16	26.7%
	Sometimes	35	58.3%
Do you have the urge to quit?	Yes	42	70%
	Not	18	30%

Overview of Research Variables

The description of research variables was used to categorize research participants based on psychological distress, rumination and NNSI variables. The description of variables carried out in this study, using a hypothetical mean with three categories, namely low, medium and high. The low category is participants who have scores below *the mean* and standard deviation ($x < (\text{mean} - 1\text{SD})$), the medium category is participants with scores between the lower limit and upper limit scores $((\text{mean} - 1\text{SD}) < x < (\text{mean} + 1\text{SD}))$ and the high category, namely the participants' scores above the mean and standard deviation $((\text{mean} + 1\text{SD}) < x)$.

The results showed that, in the psychological stress variable, the majority of participants were in the high category (50.0%) and followed by the low category (40.0%). In the rumination variable, the majority of participants were in the medium category (50.0%) and followed by the high category (45.0%). In addition, it can be seen that in the NNSI variable, the majority of participants were in the low category (70.0%), followed by the medium category (25.0%). More details can be seen in (Table 2).

Table 3. Categorization of participants (Psychological Distress, Rumination, NNSI)

Variable	Category	Number of Participants	Percentage of Participants
Psychological distress	Low	6	10.0%
	Keep	24	40.0%

	Tall	30	50.0%
Rumination	Low	3	5.0%
	Keep	30	50.0%
	Tall	27	45.0%
NSSI	Low	42	70.0%
	Keep	15	25.0%
	Tall	3	5.0%

Normality Test

In this study, normality testing was carried out using *unstandardized residual* values to be tested with the assumption of the *Kolmogorov Smirnov test*. It is known that data is said to be normal when it meets the significance value ($p > 0.05$) (Azwar, 2015). Based on the results obtained the significance value shows ($p = 0.87$), this indicates that the data from the three research variables are normally distributed.

Linearity Test

The linearity test aims to see whether the regression line between the independent variable and the bound variable forms a straight line or not (Sugiyono, 2016). The results of the linearity test can be seen in the *deviation from linearity column* with a significance value ($p > 0.05$). Based on the test results, a result was obtained ($p = .454$) which indicates that NSSI forms a linear line with psychological stress and rumination. More details can be seen in (Table 3).

Table 3. Linearity Test (Psychological Distress, Rumination, NSSI)

	Mean	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	(Combined)	1263.517	19	66.501	1.274	.253
	Linearity	299.458	1	299.458	5.736	.021
	Deviation From Linearity	964.058	18	53.559	1.026	.454

Sig. >0.05

Multicollinearity Test

Multicollinearity indicates the existence of a linear relationship between independent variables, which can cause error results (*schema*) when wanting to see the extent to which each independent variable can be used to understand a dependent variable response in a statistical model (Shresta, 2020). The value limit for multicollinearity testing refers to (*the collinearity tolerance* value is 0-1 and the VIP value is <10) (Liao et al., 2022). Based on the results of testing between psychological stress and rumination variables on NSSI, a *collinearity tolerance* value of .631 and a VIP value of 1,586 were obtained. This indicates that there is no *multicollinearity problem* between variables.

Heteroscedasticity Test

Heteroscedasticity is an error that occurs in the regression equation model, where this condition causes the results of the regression model to be inefficient (Andriani, 2017). In this study, the detection of heteroscedasticity will be carried out using the *Breusch Pagan Godfrey* test (BPG). The significance value that must be met to be declared free from heteroscedasticity is ($p > 0.05$).

In this study, a significance value was obtained ($p = .159$), this indicates that there is no heteroscedasticity problem in this study. More details can be seen in (Table 4).

Table 4. Heteroscedasticity Test (Psychological Distress, Rumination, NSSI)

ANOVAa				
	Df	Mean Square	F	Sigb
Regression	2	17198.999	1.896	.159
Residuals	57	9069.813		
Total	59			

Note: (a) Dependent Variable: NSSI, (b) Independent Variable: (Constant), Psychological Distress, Rumination

Correlation Test

The correlation test will be performed with *pearson correlation* because the data is normally distributed. The results of the correlation test showed that psychological distress had a positive relationship with NSSI in adolescent victims of bullying ($r = .382, p < 0.01$). In addition, psychological distress also has a positive relationship with rumination in adolescent victims of bullying ($r = .608, p < 0.01$). It is also known that rumination is positively correlated with NSSI in adolescent victims of bullying ($r = .299, p < 0.05$). According to Sugiyono (2016), the level of psychological distress relationship with NSSI and the level of rumination relationship with NSSI are at low levels. In addition, the level of psychological distress and rumination relationships is at a strong level. More details can be seen in (Table 5).

Table 5. Correlation Test (Psychological distress, Rumination, NSSI)

No	Variable	M	SD	1	2	3
1	Psychological distress	25.38	7.614	1		
2	Rumination	28.40	5.406	.608**	1	
3	NSSI	21.93	7.537	.382**	.299*	1

Note: * $p < 0.05$, ** $p < 0.01$.

Regression Test and Mediation

Based on regression tests, it was found that psychological distress had a positive regression to rumination ($R^2 = .369, \beta = .431, p < 0.001$), this indicated that psychological distress had a role of 36.9% in the emergence of rumination in adolescent victims of bullying, while 63.1% was influenced by other factors. In addition, it is known that psychological distress has a positive regression with NSSI ($R^2 = .147, \beta = .377, p < 0.01$), which indicates that high psychological distress has a role of 14.7% in the emergence of NSSI behavior in adolescent victims of bullying, while the other 85.3% is influenced by other factors. However, it turns out that results were obtained if rumination did not significantly regress with NSSI, where regression values showed ($R^2 = .152, \beta = .147, p > 0.05$), this indicates that rumination does not play a role in the emergence of NSSI behavior in adolescent victims of bullying. More details can be seen in (Table 7).

Table 6. Regression Test (Psychological Distress, Rumination, NSSI)

Variable	R	R ²	t	β	Sig.
Psychological Distress - Rumination	.608	.369	5.827	.431	.000

Psychological distress - NSSI	.382	.147	3.145	.377	.002
Ruminaisi - NSSI	.299	.152	.691	.147	.492

Mediation testing in this study will be carried out with the SPSS PROCESS 4.2 plug-in from Hayes according to the *bootstrap* method (5000 samples) with model 4. The results show that *the direct effect* obtained is .314 with a range of *Confidential Interval* (CI) (95% CI .009 – .618). In addition, the results also showed that *the indirect effect* obtained was .063 with a CL range of (95% CI -.079 – .271). Based on the results obtained in the *indirect pathway*, it can be seen that CI includes a value of 0, so it can be concluded that rumination does not mediate the relationship between psychological distress and NSSI in adolescent victims of bullying. More details can be seen in (Table 8).

Table 7. Mediation Test (Psychological Distress, Rumination, NSSI)

Line	β	Effect	ONE	CL 95%	
				LL	CL
(a) Psychological Distress - Rumination	.431		.074	.283	.579
(b) Rumination - NSSI	.147		.214	-.280	.576
(c) Psychological Distress - NSSI	.377**		.120	.137	.618
(c') Psychological Distress – Rumination – NSSI	.314*		.152	.009	.618
(ab) Indirect		.063	.089	-.079	.271
Direct		.314	.152	.009	.618

Note: * $p < 0.05$, ** $p < 0.01$. LL: Lower Level, UP: Upper Level

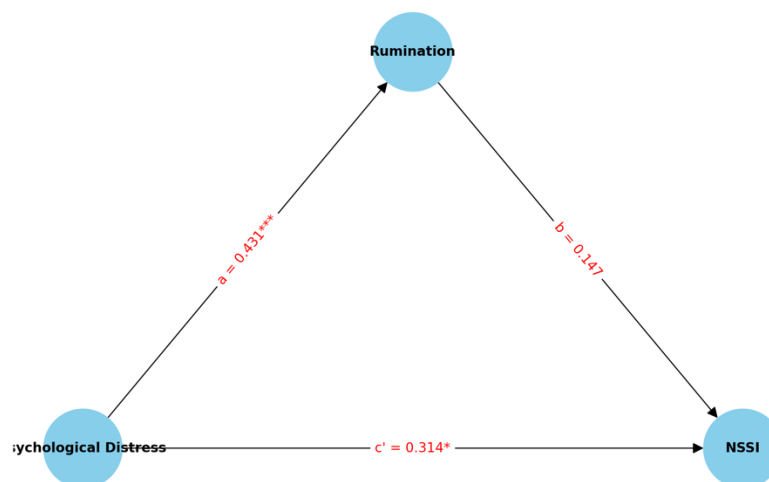


Figure 1. Influence of psychological distress on NSSI values: Mediation diagram through rumination in female victims of bullying

Based on Widhiarso (2010), path a is a rumination regression with stress as a predictor, while path b, is an NSSI regression with rumination as a predictor. Then, path c is an NSSI regression with psychological distress as a predictor, while c' is an NSSI regression with psychological distress and controlling rumination as a predictor. Therefore, it can be concluded that, a variable can be said to be a perfect mediator if pathways a, b, c are significant, while path c' is insignificant. A variable is said to be a partial mediator if the path a,b,c,c' is significant.

Referring to the figure above, it can be reiterated that rumination does not mediate the relationship between psychological distress and NSSI, because the c' pathway is significant.

Difference Test

Different tests were conducted to see the differences in the three variables based on the characteristics of the study participants. In this study, *independent t-test* will be used if demographic data has only two categories, while *One-Way ANOVA* will be used if demographic data has more than two categories. Based on the results of the difference test, there were significant differences in the variability of psychological stress on demographic data (gender, age and frequency of bullying) and on rumination variables and NSSI on (frequency of bullying).

Based on the results of the difference test, it was found that there was a significant difference in sex demographic data on the psychological stress variable with $t(58) = 2.50, p < 0.05$, where stress was higher in participants with female sex ($M = 26.92, SD = 6.82$). In addition, significant differences were found between age and psychological stress variables with $F(2.57) = 3.39, p < 0.05$, where stress was higher in participants aged 20-21 years ($M = 32.33, SD = 5.39$). Then, there was also a significant difference in the demographic data on the frequency of bullying on the psychological stress variable, with a value of $F(2.57)=13.28, p<0.001$, also found a significant difference in the frequency of bullying on the rumination variable with a value of $F(2.57)=3.87, p<0.05$. In addition, there was a significant difference in the frequency of bullying against the NSSI variable with a value of $F(2.57)=4.69, p<0.05$. As for the significant differences in the three variables on the frequency of bullying, the highest was found in the high frequency of bullying ($M = 33.20, SD = 4.29$; $M=32.40, SD=5.96$; $M=28.20, SD=9.61$).

Table 8. Different Tests (Psychological Distress, Rumination, NSSI) on Demographic and Psychological Data of Participants

Variable	Data		Mean	SD	t	F	Sig.
Psychological distress	Gender	Woman	26.92	6.82	2.50		.015
		Man	21.77	8.32			
	Age	16-17	24.16	7.11		3.39	.040
		18-19	26.36	8.85			
		20-21	32.33	5.39			
	Frequency of Bullying	Low	27.52	6.72		13.28	<.001
		Keep	21.90	6.71			
		Tall	33.20	4.29			
Rumination	Frequency of Bullying	Low	28.35	5.11		3.87	.026
		Keep	27.21	4.93			
		Tall	32.40	5.96			
NSSI	Frequency of Bullying	Low	20.35	4.91		4.69	.013
		Keep	20.84	7.20			
		Tall	28.20	9.61			

Note: * $p<0.05$, ** $p<0.01$

This study aims to look at the role of rumination as a mediator against the relationship of psychological distress and NSSI behavior in adolescent victims of bullying. In this study, several results were obtained. First, psychological distress had a significant association with rumination and NSSI in adolescent victims of bullying ($r = 0.608, p < 0.01$; $r = 0.382, p < 0.05$). Second, there is a role between psychological distress and rumination and NSSI in

adolescent victims of bullying ($\beta=0.431, p<0.01$; $\beta=0.377, p<0.05$). Third, the results of mediation tests found that rumination did not act as a mediator for psychological distress relationships and NSSI in adolescent victims of bullying (95% CI -.079 – .271). Fourth, the results of the difference test showed that there were significant differences in sex ($p<0.05$) and age ($p<0.05$) in the psychological stress variable, as well as the frequency of bullying in the psychological stress variable ($p<0.001$), rumination ($p<0.05$) and NSSI ($p<0.05$).

The first finding showed that, the higher the psychological stress in adolescent victims of bullying, the higher the rumination performed. In addition, the higher the psychological stress in adolescent victims of bullying, the higher the individual's involvement in NSSI behavior. The findings of this study are also in accordance with the results of research by Buelens et al. (2019) and Michl et al. (2013), that the high level of psychological stress will be followed by an increase in rumination in response to stress experienced by individuals. In addition, this finding is also supported by Richmond et al. (2017), Ganaprakasam et al. (2021), Meng et al. (2022), which states that psychological stress is related to NSSI, the more stressed the individual, the higher the involvement in NSSI behavior.

The second finding shows that psychological distress makes individuals experience emotional suffering, which in turn can contribute to and predict the presence of NSSI rumination and behavior in adolescent victims of bullying. The results of this study are in accordance with the research (Richmond et al. 2017; Li et al., 2022; Jiao et al., 2022). In the research of Michl et al. (2013), the role of distress towards rumination in adolescent victims of bullying can be explained by the presence of *discrepancies*. Gaps are formed due to negative events experienced by adolescents, namely bullying. Bullying causes psychological distress in adolescents, where psychological distress is considered as a current state that is contrary to the state desired by the individual, namely being happy (Michl et al., 2013). If the gap continues to occur, then individuals will ruminate in response to the psychological stress conditions they experience and as an effort to eliminate the stress (Chu et al., 2018). Individuals who respond to stress with rumination cause cognitive discomfort and make their negative mood increase and last longer than they should (Selby et al., 2013; Nagy et al. 2022; Tonta et al., 2022). Then, the role of distress towards NSSI is supported by research results (Houben et al., 2017; Meng et al., 2022). In accordance with *the emotional cascade model* theory, the presence of high psychological distress will make individuals have negative feelings or intense unpleasant feelings, and NSSI exists as a distraction strategy to rapidly reduce the individual's intensive negative feelings, leading to relief and even increasing positive feelings, in this case adolescent victims of bullying.

The third finding showed that rumination did not mediate the association between psychological distress and NSSI behavior in adolescent victims of bullying. The results of this study are in line with the research of Richmond et al. (2017), where rumination was not proven as an intermediary relationship between stress and NSSI but only *cognitive reappraisal* and *expressive suppression* variables were proven to be mediators. The mediation results also show that distress and NSSI are significant in *direct* relationships, which is still supported in part because other studies have not only found *indirect* but also *direct relationships* between psychological stress and NSSI behavior (Buser et al., 2019; Bock et al., 2021; Jiao et al., 2022). The unproven rumination as a mediator can be caused because the measurements used to measure rumination in this study, include positive rumination, where according to Tanner et al. (2013) each component of rumination has a different contribution. As is known, the rumination measuring instrument used in this study is a measuring instrument that includes two components, *reflection* and *brooding*. It turns out that based on the latest research from Nuharini & Musabiq (2019), *reflection* is described as an adaptive component where

individuals will gain understanding as well as insight and calm related to the stressful events they experience. Brooding is described as a maladaptive component where individuals with this component tend to think about past events in detail and repeatedly, cannot adjust the difference between current and desired circumstances and have excessive regret, causing individuals to be attached to stressors and experience high psychological stress (Nuharini & Musabiq, 2019). This is also in accordance with the statement of Treynor et al. (2003), that rumination measuring instrument items on *reflection* (*write down what you are thinking and analyze it*) refer to the active involvement of individuals in problem solving to relieve symptoms of stress, otherwise items on *brooding* (*think what am I doing to deserve this*) refers to the passive comparison of a person's current situation with their desired situation.

The explanation in the previous paragraph is in accordance with the results of the correlation test between rumination and NSSI in this study, where the correlation obtained is in the low category, namely, ($r = 0.299, p < 0.05$). *This is because there is still a reflection component in the measurement used.* The previous statement, again supported by the results of research Treynor et al. (2003) that in longitudinal analysis, it turns out that *brooding* is more correlated with stress than *reflection*, thus indicating that negative rumination (*brooding*) is needed to create stressful conditions can lead to individual involvement in eliciting NSSI behavior (Treynor et al., 2003). This becomes appropriate when returning to the motivation of individuals to do NSSI, namely because they have cognitive discomfort, so they will do NSSI as a coping strategy that is practical, short and does not cause great physical injury (Selby et al., 2013). Although in the research of Polanco-Roman et al. (2015), stated that *brooding* and *reflection* can be related to negative behavior in individuals, based on recent research Burke et al. (2018), it is stated that the high level of brooding rumination in individuals is closely related to involvement in NSSI behavior. The reason researchers still treat rumination measuring instruments as unidimensional, because given that previous research journals treated these measuring instruments as unidimensional constructs, making this study use total scores to conduct analysis of rumination (Tait et al., 2014; Burke et al., 2018; Gu et al., 2020)

In addition, it may explain why rumination has not been shown to mediate because the smaller number of participants compared to the number of participants fits the theoretical model for examining NSSI, rumination and distress. In previous studies, it was known that the majority of participants used ranged from 200-400 participants (Richmond et al., 2017; Buser et al., 2019; Bock et al., 2021; Jiao et al., 2022; Liao et al., 2022; Li et al., 2022). The number of participants who are less than the theoretical model has the possibility to be able to influence the results of the study, which is related to the lack of statistical power so that it is not enough to answer the main research question and results that are not statistically significant may be due to inadequate samples (Andrade, 2020). In addition, what can explain the lack of evidence of rumination as a mediator because the majority of participants in this study had a low frequency of bullying, perhaps only participants with a high frequency of bullying can prove rumination as a mediator. The existence of this assumption, then a different test was carried out on the three research variables where a significant difference was found between the frequency of bullying to the variables of stress, rumination and NSSI.

The fourth finding showed that there were significant differences between the variables of stress on gender, age, frequency of bullying and variables of rumination on the frequency of bullying and the NSSI variable on the frequency of bullying. In the stress variable, it was found that the female sex has a higher stress than men, where the results are in accordance with the study (Viertiö et al., 2020). The high level of psychological stress in women can be caused by several things, namely, related to the way women assess a problem is more stressful than men, in addition to the presence of specific stressors such as gender violence, events related to

physical, emotional involvement with those around them compared to men and hormonal factors (Ptacek et al., 1994; Klonoff et al., 2000; Nolen-Hoeksema, 2001). This is in accordance with the brief content of female participants who stated that she often gets bullied about physical, where she often gets unkind names related to her physique. In addition, it was found that the highest psychological distress occurred in participants aged 20-21 years, where the age was in the late adolescent stage or had entered the stage of *emerging adulthood* (Matud et al., 2020; Condinata et al., 2021).

The high stress at this stage can be caused by a major transition related to social roles in their lives where they must start entering college or even start looking for work (Matud et al., 2020). Of course, with the history of bullying they experience, it can worsen the state of stress conditions of individuals who are at that stage. Then, psychological distress, rumination and NSSI were found to be highest in adolescents who experienced bullying with a high frequency. This can again be explained by the presence of gaps (*discrepancies*) that will form distress and rumination. *Discrepancies* start with negative events, namely bullying. If bullying occurs in a very frequent frequency, then this can make the gap even greater so that the individual can have high stress and rumination as well (Michl et al., 2013). If the gap is getting bigger, then the stress is higher and the rumination is done more often and, in the end, can make individuals do NSSI to reduce discomfort (Selby et al., 2013).

This study has the advantage that the intended participants are very specific, namely adolescents who have experienced bullying, have had NSSI for a period of 12 months and aged 16-21 years. Of course, these criteria are different from previous studies that targeted participants with general criteria, namely students or students (Richmond et al., 2017; Bock et al., 2021; Jiao et al., 2022, Liao et al., 2022). In addition, there are other test results that can be used as additional analysis, so that it can be one of the answers to why rumination does not mediate. In addition, another advantage is that this study also uses *the* Hayes process to see the effect of mediation. The drawback of this study is that it was conducted on a small sample so that the research hypothesis is not proven. In addition, participants in this study had varying degrees of rumination so that measuring instruments were not enough to detect rumination as mediators. Furthermore, the drawback of this study is that it uses a rumination measuring instrument that includes two components, namely negative and positive so that it cannot measure what it wants to measure, in this case related to rumination which can cause individuals to do NSSI.

Therefore, for future research, it is expected to be able to use samples according to theoretical models in previous journals or use the G*Power application to obtain accurate sample estimates. In addition, in the next study, it is expected to conduct mediation tests in terms of the results of rumination categorization. Then, subsequent studies can also control for demographic variables that are proven to have significant differences, namely gender, age and especially on the frequency of bullying. It would be better if future studies divided two groups, namely participants who had a low and high frequency of bullying.

With regard to the rumination measuring instrument used in this study, it would be better if the next study focuses on brooding rumination only. In addition, it is also recommended to test the validity again of the RRS (*Ruminative Response Scale*) measuring instrument because there are still differences in treating this measuring instrument, whether it is unidimensional or multidimensional or can be treated both. This can be seen in research conducted by Gu et al. (2020), Burke et al. (2018) and Tait et al. (2014) where *brooding* and *reflection* were used in the study as a single measuring instrument to measure rumination in individuals who perform NSSI, while Xavier et al. (2017) only use *brooding* only. Finally, future research is expected to clarify whether the relationship between stress and NSSI is mediated by full or partial

rumination. The practical advice carried by this study is that practitioners or schools can focus on how to reduce psychological distress in students so that stressful conditions do not lead children to rumination and involvement in NSSI behavior. In addition, it is urged to schools or educators to be able to provide education about the dangers and effects of bullying and how steps can be taken by students if they become victims of bullying.

Conclusion

Referring to the results of the analysis, the hypothesis of this study was rejected. Researchers did not find any role for rumination as a mediator in the relationship of psychological distress and NSSI behavior in adolescent victims of bullying. However, researchers found that stress correlated and predicted rumination and NSSI in adolescent victims of bullying and there were significant differences in the frequency of bullying on stress, rumination and NSSI variables.

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References

- Andrade, C. (2020). Sample size and its importance in research. *Indian Journal of Psychological Medicine*, 42(1), 102–103.
https://doi.org/10.4103/IJPSYM.IJPSYM_504_19
- Andriani, S. (2017). Uji Park Dan Uji Breusch Pagan Godfrey Dalam Pendeteksian Heteroskedastisitas Pada Analisis Regresi. *Al-Jabar: Jurnal Pendidikan Matematika*, 8, 63–72.
- Arhin, D. K., Oppong Asante, K., Kugbey, N., & Oti-Boadi, M. (2019). The relationship between psychological distress and bullying victimisation among school-going adolescents in Ghana: A cross-sectional study. *BMC Research Notes*, 12(1).
<https://doi.org/10.1186/s13104-019-4300-6>
- Arifin, I. A., Soetikno, N., & Iriani Dewi, F. R. (2021). Kritik Diri Sebagai Mediator Pada Hubungan Konsep Diri dan Perilaku Nonsuicidal Self-Injury Remaja Korban Perundungan. *Versi Cetak*, 5(2), 317–326.
<https://doi.org/10.24912/jmishumsen.v5i2.9973>
- Arrivillaga, C., Rey, L., & Extremera, N. (2022). Psychological distress, rumination and problematic smartphone use among Spanish adolescents: An emotional intelligence-based conditional process analysis. *Journal of Affective Disorders*, 296, 1–8.
<https://doi.org/10.1016/j.jad.2021.09.021>

- Arvidsdotter, T., Marklund, B., Kylén, S., Taft, C., & Ekman, I. (2016). Understanding persons with psychological distress in primary health care. *Scandinavian Journal of Caring Sciences*, 30(4), 687–694. <https://doi.org/10.1111/scs.12289>
- Asyafina, N., & Salam, N. E. (2022). Fenomena Mahasiswa Pelaku Self Harm di Kota Pekanbaru. *Jurnal Pendidikan Tambusai*, 6(3), 13930–13936. <https://www.suara.com/>
- Baetens, I., Claes, L., Onghena, P., Grietens, H., Van Leeuwen, K., Pieters, C., Wiersema, J. R., & Griffith, J. W. (2014). Non-suicidal self-injury in adolescence: A longitudinal study of the relationship between NSSI, psychological distress and perceived parenting. *Journal of Adolescence*, 37(6), 817–826. <https://doi.org/10.1016/j.adolescence.2014.05.010>
- Benjet, C., González-Herrera, I., Castro-Silva, E., Méndez, E., Borges, G., Casanova, L., & Medina-Mora, M. E. (2017). Non-suicidal self-injury in Mexican young adults: Prevalence, associations with suicidal behavior and psychiatric disorders, and DSM-5 proposed diagnostic criteria. *Journal of Affective Disorders*, 215, 1–8. <https://doi.org/10.1016/j.jad.2017.03.025>
- Bock, R. C., Berghoff, C. R., Baker, L. D., Tull, M. T., & Gratz, K. L. (2021). The Relation of Anxiety to Nonsuicidal Self Injury Is Indirect Through Mindfulness. *Mindfulness*, 12(8), 2022–2033. <https://doi.org/10.1007/s12671-021-01660-2>
- Borualogo, I. S., & Gumilang, E. (2019). Kasus Perundungan Anak di Jawa Barat: Temuan Awal Children's Worlds Survey di Indonesia. *Psympathic : Jurnal Ilmiah Psikologi*, 6(1), 15–30. <https://doi.org/10.15575/psy.v6i1.4439>
- Brager-Larsen, A., Zeiner, P., Klungsøyr, O., & Mehlum, L. (2022). Is age of self-harm onset associated with increased frequency of non-suicidal self-injury and suicide attempts in adolescent outpatients? *BMC Psychiatry*, 22(1). <https://doi.org/10.1186/s12888-022-03712-w>
- Brown, R. C., & Plener, P. L. (2017). Non-suicidal Self-Injury in Adolescence. In *Current Psychiatry Reports* (Vol. 19, Issue 3). Current Medicine Group LLC 1. <https://doi.org/10.1007/s11920-017-0767-9>
- Buelens, T., Luyckx, K., Gandhi, A., Kiekens, G., & Claes, L. (2019). Non-Suicidal Self-Injury in Adolescence: Longitudinal Associations with Psychological Distress and Rumination. *Journal of Abnormal Child Psychology*, 47(9), 1569–1581. <https://doi.org/10.1007/s10802-019-00531-8>
- Burke, T. A., Anne McArthur, B., Daryanani, I., Abramson, L. Y., & Alloy, L. B. (2018). Latent classes of trait affect and cognitive affective regulation strategies are associated with depression, non-suicidal self-injury, and well-being. *Journal of Affective Disorders*, 225, 180–187. <https://doi.org/10.1016/j.jad.2017.08.015>
- Buser, T. J., Pertuit, T. L., & Muller, D. L. (2019). Nonsuicidal Self-Injury, Stress, and Self-Differentiation. *Adulthoodspan Journal*, 18(1), 4–16. <https://doi.org/10.1002/adsp.12065>
- Chu, X. W., Fan, C. Y., Liu, Q. Q., & Zhou, Z. K. (2018). Rumination Mediates and Moderates the Relationship between Bullying Victimization and Depressive Symptoms in Chinese Early Adolescents. *Child Indicators Research*, 12(5), 1549–1566. <https://doi.org/10.1007/s12187-018-9596-6>

- Cipriano, A., Cella, S., & Cotrufo, P. (2017). Nonsuicidal self-injury: A systematic review. In *Frontiers in Psychology* (Vol. 8, Issue NOV). Frontiers Media S.A. <https://doi.org/10.3389/fpsyg.2017.01946>
- Condinata, F., Satiadarma, M. P., Tommy, P., & Suyasa, Y. S. (2021). *Psychological Distress among Emerging Adults: A Descriptive Study*. <https://doi.org/10.1037/0003>
- David Klonsky, E., Thomas Oltmanns, M. F., & Turkheimer, E. (2003). Deliberate Self-Harm in a Nonclinical Population: Prevalence and Psychological Correlates. In *Am J Psychiatry* (Vol. 160, Issue 8). <http://ajp.psychiatryonline.org>
- Fadhila, N., & Syafiq, M. (2020). Pengalaman Psikologis Self Injury Pada Perempuan Dewasa Awal. *Jurnal Penelitian Psikologi*, 3, 167–184.
- Favazza, A. R., Richard, M. P. H., & Rosenthal, J. (1993). Diagnostic Issues in Self-Mutilation. In *Hospital and Community Psychiatry* (Vol. 44, Issue 2).
- Ganaprakasam, C., Humayra, S., Nachiappan, S., Karunaharan, S., & Abidin, B. (2021). Psychological Distress as a Predictor of Non-Suicidal Self Injury among Adolescents. *Turkish Journal of Physiotherapy and Rehabilitation*, 32(3), 25140–25155.
- Gratz, K. L. (2001). Measurement of Deliberate Self-Harm: Preliminary Data on the Deliberate Self-Harm Inventory 1. In *Journal of Psychopathology and Behavioral Assessment* (Vol. 23, Issue 4).
- Gu, H., Ma, P., & Xia, T. (2020). Childhood emotional abuse and adolescent nonsuicidal self-injury: The mediating role of identity confusion and moderating role of rumination. *Child Abuse and Neglect*, 106. <https://doi.org/10.1016/j.chiabu.2020.104474>
- Hasking, P., Boyes, M. E., Finlay-Jones, A., McEvoy, P. M., & Rees, C. S. (2019). Common Pathways to NSSI and Suicide Ideation: The Roles of Rumination and Self-Compassion. *Archives of Suicide Research*, 23(2), 247–260. <https://doi.org/10.1080/13811118.2018.1468836>
- Hoff, E. R., & Muehlenkamp, J. J. (2009). Nonsuicidal Self-Injury in College Students: The Role of Perfectionism and Rumination. *Suicide and Life-Threatening Behavior*, 39(6), 576–587. <https://doi.org/10.1521/suli.2009.39.6.576>
- Hooley, J. M., Fox, K. R., & Boccagno, C. (2020). Nonsuicidal self-injury: Diagnostic challenges and current perspectives. In *Neuropsychiatric Disease and Treatment* (Vol. 16, pp. 101–112). Dove Medical Press Ltd. <https://doi.org/10.2147/NDT.S198806>
- Horváth, Z., Demetrovics, O., Paksi, B., Unoka, Z., & Demetrovics, Z. (2023). The Reflective Functioning Questionnaire–Revised– 7 (RFQ-R-7): A new measurement model assessing hypomentalization. *PLoS ONE*, 18(2 February). <https://doi.org/10.1371/journal.pone.0282000>
- Houben, M., Claes, L., Vansteelandt, K., Berens, A., Sleuwaegen, E., & Kuppens, P. (2017). The emotion regulation function of nonsuicidal self-injury: A momentary assessment study in inpatients with borderline personality disorder features. *Journal of Abnormal Psychology*, 126(1), 89–95. <https://doi.org/10.1037/abn0000229>
- Ilyas, S., Khawar, R., Bajwa, R. S., & Sheraz, A. (2021). Psychological Distress in Relation To Bullying/Victimization at Secondary School. *Journal of Pakistani Psychiatric Society*, 18(1), 1–7.
- Jiao, T., Guo, S., Zhang, Y., Li, Y., Xie, X., Ma, Y., Chen, R., Yu, Y., & Tang, J. (2022). Associations of depressive and anxiety symptoms with non-suicidal self-injury and

- suicidal attempt among Chinese adolescents: The mediation role of sleep quality. *Frontiers in Psychiatry*, 13. <https://doi.org/10.3389/fpsy.2022.1018525>
- Jose, P. E., & Brown, I. (2008). When does the gender difference in rumination begin? Gender and age differences in the use of rumination by adolescents. *Journal of Youth and Adolescence*, 37(2), 180–192. <https://doi.org/10.1007/s10964-006-9166-y>
- Kamijo, N., & Yukawa, S. (2018). The role of rumination and negative affect in meaning making following stressful experiences in a Japanese sample. *Frontiers in Psychology*, 9, 371036.
- Kharsati, N., & Bhola, P. (2015). Patterns of non-suicidal self-injurious behaviours among college students in India. *International Journal of Social Psychiatry*, 61(1), 39–49. <https://doi.org/10.1177/0020764014535755>
- Kim, K. M. (2021). What makes adolescents psychologically distressed? Life events as risk factors for depression and suicide. *European Child and Adolescent Psychiatry*, 30(3), 359–367. <https://doi.org/10.1007/s00787-020-01520-9>
- Kim, S., Kim, Y., & Hur, J. W. (2019). Nonsuicidal self-injury among Korean Young adults: A validation of the Korean version of the inventory of statements about self-injury. *Psychiatry Investigation*, 16(4), 270–278. <https://doi.org/10.30773/pi.2019.01.23>
- Kirmayer, L. J. (1989). Section D Cultural Variation in The Response to Psychiatric Disorder and Emotional Distress. In *Sm. Sci. Med* (Vol. 29, Issue 3).
- Klonoff, E. A., Landrine, H., & Campbell, R. (2000). Sexist Discrimination May Account For Psychiatric Symptoms Well-Known Gender Differences In. In *Psychology of Women Quarterly* (Vol. 24). Cambridge University Press.
- Klonsky, D. E., Victor, S. E., & Saffer, B. Y. (2014). Nonsuicidal Self-Injury: What We Know, and What We Need to Know. *The Canadian Journal of Psychiatry*, 59(11), 565–568. <https://doi.org/10.1177/070674371405901101>
- Klonsky, E. D., & Olino, T. M. (2008). Identifying Clinically Distinct Subgroups of Self-Injurers Among Young Adults: A Latent Class Analysis. *Journal of Consulting and Clinical Psychology*, 76(1), 22–27. <https://doi.org/10.1037/0022-006X.76.1.22>
- Lereya, S. T., Copeland, W. E., Costello, E. J., & Wolke, D. (2015). Adult mental health consequences of peer bullying and maltreatment in childhood: Two cohorts in two countries. *The Lancet Psychiatry*, 2(6), 524–531. [https://doi.org/10.1016/S2215-0366\(15\)00165-0](https://doi.org/10.1016/S2215-0366(15)00165-0)
- Li, R., Wang, Y., Huo, L., Hospital, G. H., Lu, S., Li, P., Zhu, F., Su, L., & Zhou, Y. (2022). Mediating effects of suicidal ideation in the relationship between psychological distress and non-suicidal self-injury among adolescents with major depressive disorder: The roles of sex and urban-rural status. <https://doi.org/10.21203/rs.3.rs-1852442/v2>
- Liang, S., Yan, J., Zhang, T., Zhu, C., Situ, M., Du, N., Fu, X., & Huang, Y. (2014). Differences between non-suicidal self injury and suicide attempt in Chinese adolescents. *Asian Journal of Psychiatry*, 8(1), 76–83. <https://doi.org/10.1016/j.ajp.2013.11.015>
- Liao, C., Gu, X., Wang, J., Li, K., Wang, X., Zhao, M., & Feng, Z. (2022). The Relation between Neuroticism and Non-Suicidal Self-Injury Behavior among College Students: Multiple Mediating Effects of Emotion Regulation and Depression.

- Matud Pilar, M., Díaz, A., Bethencourt, J. M., & Ibáñez, I. (2020). Stress and psychological distress in emerging adulthood: A gender analysis. *Journal of Clinical Medicine*, 9(9), 1–11. <https://doi.org/10.3390/jcm9092859>
- Meng, L., Qu, D., Bu, H., Huo, L., Qi, L., Yang, J., Zheng, T., Du, X., He, K., Wang, Y., & Zhou, Y. (2022). The Psychosocial Correlates of Non-suicidal Self-Injury Within a Sample of Adolescents With Mood Disorder. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.768400>
- Michl, L. C., McLaughlin, K. A., Shepherd, K., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence in early adolescents and adults. *Journal of Abnormal Psychology*, 122(2), 339–352. <https://doi.org/10.1037/a0031994>
- Miranda, R., Tsypes, A., Gallagher, M., & Rajappa, K. (2013). Rumination and hopelessness as mediators of the relation between perceived emotion dysregulation and suicidal ideation. *Cognitive Therapy and Research*, 37(4), 786–795. <https://doi.org/10.1007/s10608-013-9524-5>
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67–72. https://doi.org/10.4103/aca.ACA_157_18
- Monto, M. A., McRee, N., & Deryck, F. S. (2018). Nonsuicidal self-Injury among a representative sample of US adolescents, 2015. *American Journal of Public Health*, 108(8), 1042–1048. <https://doi.org/10.2105/AJPH.2018.304470>
- Muehlenkamp, J. J., & Gutierrez, P. M. (2004). An Investigation of Differences Between Self-Injurious Behavior and Suicide Attempts in a Sample of Adolescents. *Suicide and Life-Threatening Behavior*, 34(1), 12–23. <https://doi.org/10.1521/suli.34.1.12.27769>
- Muehlenkamp, J. J., Claes, L., Havertape, L., & Plener, P. L. (2012). International prevalence of adolescent non-suicidal self-injury and deliberate self-harm. In *Child and Adolescent Psychiatry and Mental Health* (Vol. 6). <https://doi.org/10.1186/1753-2000-6-10>
- Myklestad, I., & Straiton, M. (2021). The relationship between self-harm and bullying behaviour: results from a population based study of adolescents. *BMC Public Health*, 21(1). <https://doi.org/10.1186/s12889-021-10555-9>
- Nagy, L. M., Shanahan, M. L., & Seaford, S. P. (2022). Nonsuicidal self-injury and rumination: A meta-analysis. In *Journal of Clinical Psychology* (Vol. 79, Issue 1, pp. 7–27). John Wiley and Sons Inc. <https://doi.org/10.1002/jclp.23394>
- Nasrah, Jasruddin, & Tawil, M. (2017). Pengembangan Perangkat Pembelajaran Fisika Berbasis Pendekatan Contextual Teaching and Learning (CTL) Untuk Memotivasi Dan Meningkatkan Hasil Belajar Fisika Peserta Didik Kelas VIII SMP Negeri 1 Balocci Pangkep. *Journal Pendidikan Fisika*, 5(2), 235–248.
- Neyshabouri, M. D., Dolatshahi, B., & Mohammadkhani, P. (2020). PTSD symptoms and self-injury behaviors among Iranian soldiers: the mediator roles of rumination and social support. *Cogent Psychology*, 7(1). <https://doi.org/10.1080/23311908.2020.1733333>

- Nock, M. K. (2010). Self-Injury. *Annual Review of Clinical Psychology*, 6, 339–363. <https://doi.org/10.1146/annurev.clinpsy.121208.131258>
- Nock, M. K., & Prinstein, M. J. (2004). A functional approach to the assessment of self-mutilative behavior. *Journal of Consulting and Clinical Psychology*, 72(5), 885–890. <https://doi.org/10.1037/0022-006X.72.5.885>
- Nock, M. K., Joiner, T. E., Gordon, K. H., Lloyd-Richardson, E., & Prinstein, M. J. (2006). Non-suicidal self-injury among adolescents: Diagnostic correlates and relation to suicide attempts. *Psychiatry Research*, 144(1), 65–72. <https://doi.org/10.1016/j.psychres.2006.05.010>
- Nolen-Hoeksema, S. (2001). Gender differences in depression. In *Current Directions in Psychological Science* (Vol. 10, Issue 5, pp. 173–176). Blackwell Publishing Inc. <https://doi.org/10.1111/1467-8721.00142>
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking Rumination. *Perspectives on Psychological Science*, 3(5), 400–424. <https://doi.org/10.1111/j.1745-6924.2008.00088.x>
- Nuharini, H. F., & Musabiq, S. A. (2020). *The Roles of the Brooding and Reflective Subtypes of Rumination on Psychological Distress in First-Year Undergraduates at the Universitas Indonesia*.
- Nurul, F., Atika, I. &, & Ariana, D. (2022). *Hubungan Perceived Social Support dengan Perilaku Non-suicidal Self-Injury pada Remaja*. <http://e-journal.unair.ac.id/index.php/BRPKM>
- Plener, P. L., Allroggen, M., Kapusta, N. D., Brähler, E., Fegert, J. M., & Groschwitz, R. C. (2016). The prevalence of Nonsuicidal Self-Injury (NSSI) in a representative sample of the German population. *BMC Psychiatry*, 16(1). <https://doi.org/10.1186/s12888-016-1060-x>
- Plener, P. L., Schumacher, T. S., Munz, L. M., & Groschwitz, R. C. (2015). The longitudinal course of non-suicidal self-injury and deliberate self-harm: A systematic review of the literature. In *Borderline Personality Disorder and Emotion Dysregulation* (Vol. 2, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s40479-014-0024-3>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. In *Journal of Applied Psychology* (Vol. 88, Issue 5, pp. 879–903). <https://doi.org/10.1037/0021-9010.88.5.879>
- Polanco-Roman, L., Jurska, J., Quiñones, V., & Miranda, R. (2015). Brooding, Reflection, and Distraction: Relation to Non-Suicidal Self-Injury versus Suicide Attempts. *Archives of Suicide Research*, 19(3), 350–365. <https://doi.org/10.1080/13811118.2014.981623>
- Pradipta, P. A., Satiadarma, M. P., & Subroto, U. (2021). Hubungan Nonsuicidal Self-Injury (Nssi) Dengan Acquired Capability For Suicide: Studi Meta-Analisis. *Jurnal Muara Ilmu Sosial, Humaniora, dan Seni*, 5(2), 590–599. <https://doi.org/10.24912/jmishumsen.v5i2.11726>
- Ptacek, J. T., Smith, R. E., & Dodge, K. L. (1994). Gender Differences in Coping with Stress: When Stressor and Appraisals Do Not Differ. *Personality and Social Psychology Bulletin*, 20(4), 421–430. <https://doi.org/10.1177/0146167294204009>

- Richmond, S., Hasking, P., & Meaney, R. (2017). Psychological Distress and Non-Suicidal Self-Injury: The Mediating Roles of Rumination, Cognitive Reappraisal, and Expressive Suppression. *Archives of Suicide Research*, 21(1), 62–72. <https://doi.org/10.1080/13811118.2015.1008160>
- Selby, E. A., Anestis, M. D., Bender, T. W., & Joiner, T. E. (2009). An Exploration of the Emotional Cascade Model in Borderline Personality Disorder. *Journal of Abnormal Psychology*, 118(2), 375–387. <https://doi.org/10.1037/a0015711>
- Selby, E. A., Franklin, J., Carson-Wong, A., & Rizvi, S. L. (2013). Emotional cascades and self-injury: Investigating instability of rumination and negative emotion. *Journal of Clinical Psychology*, 69(12), 1213–1227. <https://doi.org/10.1002/jclp.21966>
- Sourander, A., Jensen, P., Rönning, J. A., Niemelä, S., Helenius, H., Sillanmäki, L., Kumpulainen, K., Piha, J., Tamminen, T., Moilanen, I., & Almqvist, F. (2007). What is the early adulthood outcome of boys who bully or are bullied in childhood? The Finnish “from a boy to a man” study. *Pediatrics*, 120(2), 397–404. <https://doi.org/10.1542/peds.2006-2704>
- Sugiyono. (2016). *Statistika untuk Penelitian*. Bandung: Alfabeta.
- Swartz, M. S., & Bhattacharya, S. (2017). Victimization of persons with severe mental illness: a pressing global health problem. In *World Psychiatry* (Vol. 16, Issue 1, pp. 26–27). Blackwell Publishing Ltd. <https://doi.org/10.1002/wps.20393>
- Tait, R. J., Brinker, J., Moller, C. I., & French, D. J. (2014). Rumination, Substance Use, and Self-Harm in a Representative Australian Adult Sample. *Journal of Clinical Psychology*, 70(3), 283–293. <https://doi.org/10.1002/jclp.22025>
- Tanner, A. K., Hasking, P., & Martin, G. (2014). Effects of Rumination and Optimism on the Relationship Between Psychological Distress and Non-Suicidal Self-Injury. *Prevention Science*, 15(6), 860–868. <https://doi.org/10.1007/s11121-013-0444-0>
- Tarafa, H., Alemayehu, Y., Bete, T., & Tarecha, D. (2022). Bullying victimization and its associated factors among adolescents in Illu Abba Bor Zone, Southwest Ethiopia: a cross-sectional study. *BMC Psychology*, 10(1). <https://doi.org/10.1186/s40359-022-00967-6>
- Thesalonika, & Apsari, N. C. (2021). Perilaku Self-Harm atau Melukai Diri Sendiri yang Dilakukan Oleh Remaja. *Focus: Jurnal Pekerjaan Sosial*, 4(2), 213–224.
- Tiwari, S., & Deshpande, S. (2020). A study to assess the effect of stressful life events on psychological distress levels of participants living in an urban area. *Journal of Family Medicine and Primary Care*, 9(6), 2730. https://doi.org/10.4103/jfmpe.jfmpe_96_20
- Tonta, K. E., Boyes, M., Howell, J., McEvoy, P., Johnson, A., & Hasking, P. (2022). Modeling pathways to non-suicidal self-injury: The roles of perfectionism, negative affect, rumination, and attention control. *Journal of Clinical Psychology*, 78(7), 1463–1477. <https://doi.org/10.1002/jclp.23315>
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination Reconsidered: A Psychometric Analysis. In *Cognitive Therapy and Research* (Vol. 27, Issue 3).
- Victor, S. E., & Klonsky, E. D. (2018). Understanding the social context of adolescent nonsuicidal self-injury. *Journal of Clinical Psychology*, 74(12), 2107–2116. <https://doi.org/10.1002/jclp.22657>

- Viertiö, S., Kiviruusu, O., Piirtola, M., Kaprio, J., Korhonen, T., Marttunen, M., & Suvisaari, J. (2021). Factors contributing to psychological distress in the working population, with a special reference to gender difference. *BMC Public Health*, 21(1). <https://doi.org/10.1186/s12889-021-10560-y>
- Waals, L., Baetens, I., Rober, P., Lewis, S., Van Parys, H., Goethals, E. R., & Whitlock, J. (2018). The NSSI Family Distress Cascade Theory 17 Psychology and Cognitive Sciences 1701 Psychology. *Child and Adolescent Psychiatry and Mental Health*, 12(1). <https://doi.org/10.1186/s13034-018-0259-7>
- Wang, Y.-J., Li, X., Ng, C. H., Xu, D.-W., Hu, S., & Yuan, T.-F. (2022). Risk factors for non-suicidal self-injury (NSSI) in adolescents: A meta-analysis. <https://doi.org/10.1016/j>
- Wu, N., Mo, J., Wen, A., Ou, H., Gu, W., Qiu, Y., Yuan, L., & Lan, X. (2023). Longitudinal Relationship between Bullying Victimization and Non-Suicidal Self-Injury among Chinese Adolescents: The Buffering Roles of Gratitude and Parental Autonomy Support. *International Journal of Environmental Research and Public Health*, 20(2), 1440. <https://doi.org/10.3390/ijerph20021440>
- Xiao, J., Wang, R., Hu, Y., He, T., Ruan, Z., Chen, Q., & Peng, Z. (2022). Impacts of the psychological stress response on nonsuicidal self-injury behavior in students during the COVID-19 epidemic in China: the mediating role of sleep disorders. *BMC Psychology*, 10(1). <https://doi.org/10.1186/s40359-022-00789-6>
- Yu, C., Xie, Q., Lin, S., Liang, Y., Wang, G., Nie, Y., Wang, J., & Longobardi, C. (2020). Cyberbullying Victimization and Non-suicidal Self-Injurious Behavior Among Chinese Adolescents: School Engagement as a Mediator and Sensation Seeking as a Moderator. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.572521>
- Yusainy, C. Al. (2017). Feeling Full or Empty Inside? Peran Perbedaan Individual dalam Struktur Pengalaman Afektif. *Jurnal Psikologi*, 44(1), 1. <https://doi.org/10.22146/jpsi.18377>
- Zwierzynska, K., Wolke, D., & Lereya, T. S. (2013). Peer victimization in childhood and internalizing problems in adolescence: A prospective longitudinal study. *Journal of Abnormal Child Psychology*, 41(2), 309–323. <https://doi.org/10.1007/s10802-012-9678-8>.