



## The Correlation Between Depression and Self-Harm Behavior in Teenagers – A Systematic Narrative Review

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**Abstract:** Aim of this study is to determine the correlation of self-harm behavior and depression. This research used an observational analytic using the method of systematic review based on cross-sectional, longitudinal and cohort researches about depression and self-harm on teenagers.

Four studies are included in this research and show that depression is correlated to self-harm behavior in teenagers. The severity of depression correlates with self-harm and the greater the depressive symptoms, the greater self-harm behavior outcome as well. Increased severity of self-harm is associated with higher levels of depression and also self-harm itself can act as a trigger for depression on teenagers. A study shows that there is an association between gender and self-harm. However, there is another study that stated there is no association between gender and self-harm in teenagers.

In conclusion there is a correlation between depression self-harm behavior in teenagers.

**Keywords:** *Correlation, Depression, Self-Harm Behavior, Teenagers, Systematic Review*

### I. INTRODUCTION

According to WHO, approximately 30 million people worldwide regardless of their age suffered from depression whose prevalence in 2015 increased by more than 18% compared to 2005[1]. Depression was reported to be the ninth foremost cause of mental disorders in all teenagers[2]. Depression is a well-known mental disorder, characterized by persistent sadness and a loss of interest in activities that one would usually enjoy, accompanied by a disturbance to carry out daily activities, for at least two weeks[1]. At its worst, the severe form of depression might provoke the generation of suicidal ideation. Suicide is a way of purposely ending their own lives, is categorized as a sign of self-harm. Nearly 800.000 people died owing to suicide each year. Consequently, suicide became the second common cause of death among 15-to 29-year-olds people[3].

Self-harm behavior was commonly described, with some studies showing that up to 13- 23% of individuals have committed this behavior during their lifetime. Individuals with a tendency to perform self-harm behavior may have depression, other mental disorders such as anxiety, or without a clinical diagnosis. It has been considered that 62.000 teenagers died in 2016 due to self-harm behavior[4].

A major cause for someone doing self-harm behavior is usually depression. While other causes such as a way to avoid suicide. The environment also plays a role related to stress or trauma, and anxiety also can cause self-harm behavior[5]. Depression was found to be the principal factor correlated with the repetition of self-harm behavior [6]. However, another study suggests that not everyone having depression behaves in self-harm practice and those having self-harm behavior are not depressed[7].

Furthermore, the significance of knowing the correlation between depression and self-harm is important for awareness and preventive action for future self-harm behavior. Therefore, the present study aimed to investigate the correlation between depression and self-harm behavior since there are two different theories regarding the correlation between depression and self-harm behavior.

### II. METHOD

This research study design is an observational analytic using the method of systematic review based on cross-sectional, longitudinal and cohort researches about depression and self-harm on teenagers. The population of this research is teenagers from research articles using primary data about depression and self-harm behavior in teenagers from PubMed, Science Direct and Google Scholar with the criteria included are 1) Primary data of descriptive and analytic studies 2) Free full research articles 3) Research articles published from 2016-2021 4) Research articles in English 5) Research articles using the sample of teenagers 6) Research articles with subjects who were raised by both parent 7) subjects who don't have hereditary mental illness 4) subjects who don't have anxiety. Abstracts or

inaccessible Research articles, research articles with no authors available, research articles with subjects who are on medications, research articles with subjects who are using alcohol and/or drugs were excluded from this systematic review. The keywords for finding the articles are “Teenagers”, “Self-Harm”, “Intervention/Observation”, “Depression”, and “Qualitative”. The collected data will be processed using PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) Method[8].

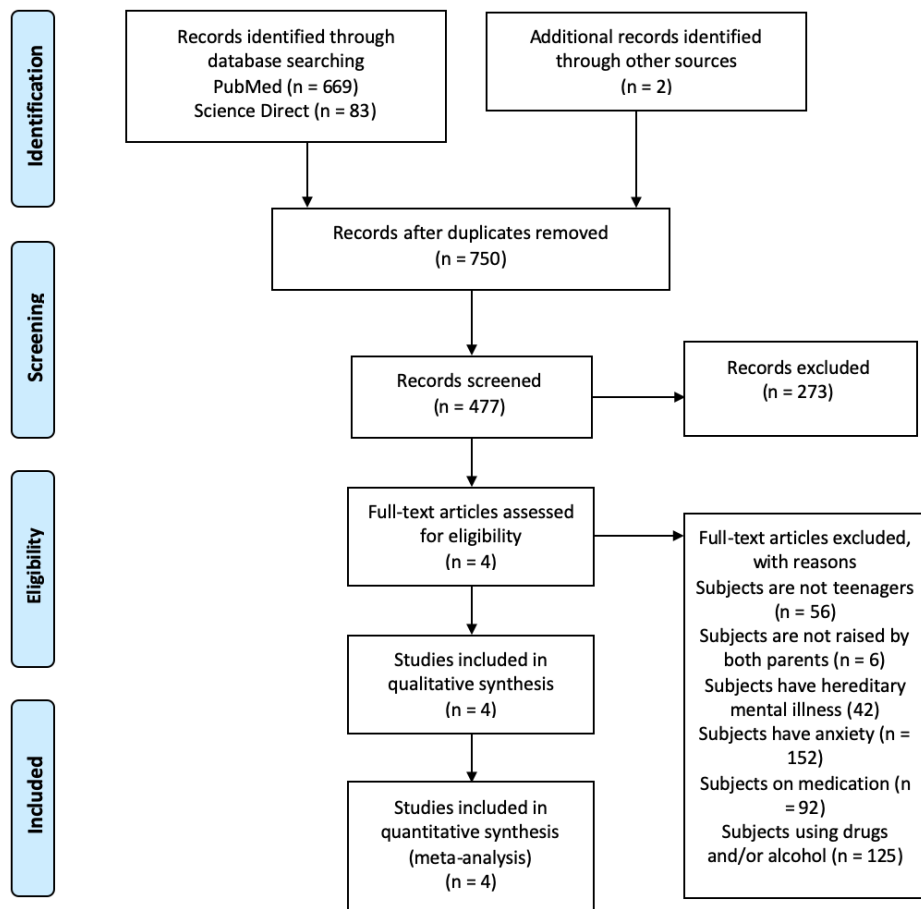


Figure 1 PRISMA flow diagram

### III. RESULT

From 752 research articles that were found, 2 articles were eliminated after finding duplications using Mendeley app. Then, 477 research articles were obtained after excluding records. After eliminating based on the inclusion and exclusion criteria, 4 research articles were obtained and included for this research. The general characters from the studies used in this systematic review can be seen in Table 1 and the statistical outcome of the studies can be seen in Table 2.

**Table 1** General Character of Various Studies Used in This Study

No	Title	Location	Subject of Research	Sample Size	Result
1	Deliberate self-injury functions and their clinical correlates among adolescent psychiatric inpatients	Poland	Psychiatric inpatients aged 13-17 years old.	60	There is strong correlation between self-harm functions and the severity of depressive symptoms in the study. The depressive symptoms co-exist with an increased importance of intrapersonal functions of self-harm behaviors. Severe depression correlates with four of the self-harm functions: affect regulation, establishing interpersonal boundaries, self-punishment, breaking out of dissociative states.
2	Perceived Body Discrimination and Intentional Self-Harm and Suicidal Behavior in Adolescence	Australia	Teenagers aged 14-15 years old	2946	Depressive symptoms, among other factors including BMI (body mass index) category and sociodemographic as a control of discrimination, was associated with an approximately twofold increased risk of self-harm and suicidal behaviour.
3	Does Mental Well-Being Protect against Self-Harm Thoughts and Behaviors during Adolescence? A Six-Month Prospective Investigation	Scotland	Teenagers aged 15-17 years old	1045	Teenagers with better mental well-being are unlikely reported of thinking or engaging in self-harm during the six-month follow-up period of the study. Additionally, these relationships persisted when controlling for gender and depressive symptomatology. Gender and the severity of depression are a strong predictors of self-harm.
4	The Depressive Symptoms, Resourcefulness, and Self-Harm Behaviors of Adolescents	Southern Taiwan	Teenagers aged 12-18 years old	140	There is no significant gender difference of depressive symptoms in elementary school students. However, there is a gender difference of depressive symptoms in adults, with female reported greater depressive symptoms than male. There is no association between self-harm behaviour in teenagers and gender. This study revealed that there is a significant and positive association between depressive symptoms and self-harm behaviors. Teenagers with higher depressive symptoms has greater self-harm behavior.

**Table 2** Statistical Outcome of The Studies

No	Title	Variable	Statistical Outcome
1	Deliberate self-injury functions and their clinical correlates among adolescent psychiatric inpatients	Self-harm measurements used The Inventory of Statements about Self-Injury (ISAS). For examining the relationship between the severity of depressive symptoms and self-harm, the study divided self-harm into 5 functions, which are affect regulation, interpersonal boundaries, self-punishment, anti-dissociation and marking distress. Depression measurements used The Child Depression Inventory (CDI). The study used four subscales which are dysphoria, self-depreciation, social problems and biological dysregulation. A score above 11 indicates mild depressive symptoms and a score above 19 indicates severe depression.	The average age was 15.48 among 9 males and 51 females. Correlation analysis by Pearson's $r$ coefficients of 4 subscales of depressive symptoms and 5 self-harm functions shows that dysphoria is correlates with interpersonal boundaries ( $p < 0.01$ ), self-punishment ( $p < 0.01$ ), and marking distress ( $p < 0.01$ ); self-depreciation correlates with affect regulation ( $p < 0.05$ ), interpersonal boundaries ( $p < 0.01$ ), self-punishment ( $p < 0.01$ ), anti-dissociation ( $p < 0.01$ ); social problems correlate with affect regulation ( $p < 0.01$ ) and self-punishment ( $p < 0.05$ ); biological dysregulation correlates with affect regulation ( $p < 0.01$ ), interpersonal boundaries ( $p < 0.05$ ), self-punishment ( $p < 0.05$ ) and anti-dissociation ( $p < 0.05$ ). The total of correlation between depressive symptoms correlates with four of self-harm functions which are affect regulation, interpersonal boundaries, self-punishment and anti-dissociation, all of them with $p < 0.01$ .
2	Perceived Body Discrimination and Intentional Self-Harm and Suicidal Behavior in Adolescence	Self-harm measurements are by asking the participants four-item questions and one additional question about intentional self-harm and suicidal behavior. The answer are yes (1) or no (0). The score ranged from 0-4 and were recoded into any reported attempts (1) and no reported attempts (0). Depression measurements used Short Mood and Feelings Questionnaire. There are 13 items questions which answered by 1 = true, 2 = sometimes 3 = not true which later recoded to a scale that ranged from 0 (not true) to 2 (true). The total score ranged from 0-26, then converted to z-scores.	Among 2,948 total sample, 1,524 were identified as male and 1,424 were identified as female. Logistic regression predicting the self-harm behavior from weight discrimination showed that for the predictors of thoughts about self-harm, the $p$ -values for depressive symptoms are $p < 0.01$ and for the predictors of self-harm behavior, the $p$ -values for depressive symptoms are also $p < 0.01$ . $p$ -values of female and the correlation with self-harm thoughts is $p < 0.01$ and self-harm behavior is $p < 0.01$ .
3	Does Mental Well-Being Protect against Self-Harm Thoughts and Behaviors during Adolescence? A Six-Month Prospective Investigation	Self-harm measurements used one question taken from Child and Adolescent Self-Harm in Europe (CASE) survey. The participants were asked to describe their most recent experience of self-harm to determine if they met the CASE definition of self-harm. Depression measurements used The 7-item Depression Subscale of the Hospital Anxiety and Depression Scale (HADS). The total scores are calculated by summing all responses.	Out of 1045 Teenagers, 28.5% ( $n = 298$ ) had thought about harming themselves. Within that subgroup, 37.6% ( $n = 112$ ) had thought about self-harm but never actually done it while the other 62.4% ( $n = 186$ ) had progressed into doing self-harm. 17.8% ( $n = 186$ ) had done self-harm. At the 6-month follow-up period, 16.2% ( $n = 92$ ) had thought about self-harm and 50% ( $n = 46$ ) who considered self-harm had actually done self-harm. The Spearman correlational coefficients for depression and self-harm behavior showed $p < 0.001$ . Associations between depressive symptomatology, defeat, internal entrapment, external entrapment, self-harm thoughts and self-harm behaviors were positive and significant (all $p$ -values $< 0.001$ ).
4	The Depressive Symptoms, Resourcefulness, and Self-Harm Behaviors of Adolescents	Self-harm measurements used 42 items from The Inventory of Screening Self-Injurious Behavior (ISSB). The total score ranged from 0-168, the higher the total score, the higher the frequency of self-harm behaviors. Depression measurements used 20 questions from The Chinese version of the Center for Epidemiological Studies Depression Scale (CES-D). the total score ranged from 0-60. A score 0-28 defined as normal (no depression), 29-48 defined as depression-prone and $\geq 49$ defined as meeting the criteria for a clinical diagnosis of major depression.	The average age was 15.47 years among 57 male and 83 female. The study showed a mean depression score of 15.52 (SD = 9.03) and an index score of 25.87 which indicates a low level of depressive symptoms. There was no significant differences in depressive symptoms in relation to the demographic of the samples. The mean score for self-harm was 37.13 (SD = 22.58) and an index score of 22.13 which indicates a low probability of self-harm behaviors. The associations between depressive symptoms and self-harm behaviors showed $p < 0.001$ .

The overall studies consisted of 4,191 samples, age ranging from 12 to 18 years old, 1,590 were identified as male and 1,558 were identified as female, the rest has no data about the remaining number between male and female. It was shown that 232 from the total sample were identified to have done self-harm behavior. However, there was no data about the total sample who were identified to have depression.

For measuring self-harm behaviour, the measurements that were used in the studies are The Inventory of Statements about Self-Injury (ISAS), four-item questions and one additional question about intentional self-harm and suicidal behavior, one question taken from Child and Adolescent Self-Harm in Europe (CASE) survey and 42 items from The Inventory of Screening Self-Injurious Behavior (ISSB).

For measuring depression, the measurements that were used in the studies are The Child Depression Inventory (CDI), Short Mood and Feelings Questionnaire, The 7-item Depression Subscale of the Hospital Anxiety and Depression Scale (HADS) and 20 questions from The Chinese version of the Center for Epidemiological Studies Depression Scale (CES-D).

All studies revealed that there is correlation between depression and self-harm behavior, with 2 of them with  $p$ -value  $< 0.01$ , and 2 of them showed the  $p$ -value  $< 0.001$ . There is also a stronger correlation between female and self-harm behaviour with the  $p$ -value  $< 0.01$ .

The studies showed that severe depression correlates with four self-harm functions which are affect regulation, establishing interpersonal boundaries, self-punishment, breaking out of dissociative states. Depression, BMI and sociodemographic factors as a control of discrimination are associated with Self-harm behavior. It was revealed that there is a low level of depressive symptoms and low probability of self-harm behaviour in a sample of study by Yang et al., 2017[9], however, the data showed that there is a correlation between depressive symptoms and self-harm behaviour.

## IV. DISCUSSION

### 4.1 Depression

In a research in Taiwan that consisted of teenagers aged 12-18 years old, showed that there was a low level of depressive symptoms among the samples[9]. In comparison, a research in high school students in Bengkulu, Indonesia showed a moderate level of depression among the samples, with the number of female was higher than male[10]. The result of female are more likely to be depressed also supported by a research in New Zealand, which may be due to male hide their depressive symptoms in behavioral problems instead of internal distress or due to that female's assessment are more accurate on the self-report scales[11]. In another research, there was a high prevalence of depression in a teenagers aged 11-17 years old in a research in Germany with female has a higher symptoms of depression than male[12].

The differences of the outcome of depression in different countries may be explained because of the cultural differences. The culture and its society of a country can impact an individual's mental health and the availability of health access. Some countries may have better access for screening the mental health but also have a lower access to get the mental health treatment. This can affect the statistic outcome. Less developed countries may have less infrastructure for data collection of depression and some cultures may also don't recognize depression as an illness. They may have a high cultural stigma against depression and other mental illness and thus may be refused to get a professional help. Another thing, wealthier countries may have a higher rates of depression among the population. This suggests as a result of increased rates of substance use as a comorbidity of depression. Living in Western society also linked with higher anxiety that contribute to the prevalence of depression[13].

The findings of depression in teenagers are explained in a theory by Radziwillowicz & Lewandowska (2017)[14]. During the depression course, at least three systems become disrupted, nervous, immune, and endocrine systems. Immune system activation is the responsible mechanism underlying the release of cytokines produced by the immune system cells. These released cytokines change brain neuronal activity, influencing sleep patterns, cognitive functions, appetite, and the activity of the hormonal axis involving limbic, hypothalamic, pituitary, and adrenal. In terms of describing the occurrence of dysregulation during a depressive episode, recent proposed pathogenic models rely on two interpretations: the hypothesis of monoamine and its emphasis on neurotransmission dysfunction, both serotonergic and noradrenergic pathway; and the related hypothesis involving pycsoneuroendocrine role, which explains the malfunction of the limbic, hypothalamic, pituitary, and adrenal axis[14].

### 4.2 Self-Harm Behavior

In a research done by Yang et al. (2017)[9], it was found that there is no correlation between self-harm behaviour in teenagers and gender. This is also found in a research of Korean teenagers aged 13-15 years old[15], a research in Belgium and Netherlands with the sample consisted of teenagers aged 12-19 years old[16], and a research in secondary schools in New Zealand [17]. These findings are contrary to the research done by Russell et al. (2020)[18] where they stated that gender, along with the severity of depression, are correlated with self-harm behavior. This also supported by a research in a sample collected from Italy, Netherlands and United states, where there is a difference in gender, which female is more likely to engage self-harm than male[19]. Also a research of community sample in western Canadian city, shows that female is more likely to engage in self-harm than male and it may be related to different socialization patterns between female and male[20]. Additionally, in the early years of teenagers, female is reported has a higher rate of engaging in self-harm behaviour than male. This may be due to the higher susceptibility of mood disorders in early puberty of female[21].

The most reported ways of self-harm behavior are skin cutting, scratching and needle sticking, in a research consisted of university students. On the same research, it was separated between the risk factors in female and male. In female, the risk factors of self-harm behavior consisted of dissociation, insecure paternal attachment, childhood sexual abuse and maternal & paternal emotional neglect. Meanwhile, in male it was reported that the risk factors of self-harm behavior are similar like in female with dissociation as a strong predictor. Childhood separation is reported to be the most important predictor of self-harm behavior in male. Additionally, physical abuse is also accountable for doing self-harm behavior, along with sexual abuse[22].

The forms of self-harm behavior are varied, such as experiencing separate, individual experiences and subjective affective states that precede the behavior. Generally, these are commonly associated with particularly stressful, painful experiences that might be coming from one's childhood period. There are some main groups categories: associated with coping and survival; related to self; handling mechanism in dealing difficult personal experiences; associated with self-punishing and perceiving oneself as a victim; those that set interpersonal relationships. The following are among the most significant of these functions: affect control (emotional arousal relieving perceived as feeling tension, fear, or anger); focusing the pain (emotional distress transformation to be physical symptoms); enhancing the individual sense of autonomy and control; freeing from dissociative condition and restoration of the sense of reality; opportunity to take care of oneself; self-punishment (individuals which were ever convinced about their worthlessness or "defect", favor to treat self-harm behavior as a decent punishment, and self-harm behavior generated from self-depreciation does not become a conflict with internal values, instead it might be experienced as egosyntonic); punishing others and influencing them. An essential role of self-harm behavior in the latter process: expressing individual experience toward another; re-enacting trauma; purification; punishing individual oppressor; coping mechanism on confusions brought about by individual sexuality. Without the presence of skills in constructing good coping mechanisms for difficult personal experiences, self-harm is

done as the way out according to their point of view. It shifts to an influential part of individual life providing for a diversity of needs, and thus it becomes a habitual behaviour and something that is hard to break off[14].

### 4.3 Correlation Between Depression and Self-Harm Behavior in Teenagers

In a research by Radziwillowicz & Lewandowska (2017)[14], it is stated that the severity of depression correlates with self-harm, this also supported by a research by Yang et al. (2017)[9], that the greater the depressive symptoms, the greater self-harm behaviour outcome as well and in a research by Sutin et al. (2018)[23], that depression is correlated to self-harm behavior. It is also stated that there is a significant positive correlation between depression and self-harm behavior, as reported in a study by Russell et al. (2020)[18]. In comparison, there is also a correlation between depression and self-harm in research of a CASE study in European countries—Belgium, England, Hungary, Ireland, the Netherlands and Norway—and Australia of 14-17 years old, where it is stated that increased severity of self-harm is associated with higher levels of depression and also self-harm itself can act as a trigger for depression[24].

A meta-analysis study showed that in Asia, the lifetime and 12-month prevalence of self-harm behaviour is found to be the highest. This is explained by how Asian children and teenagers are more exposed to academic-related stress from the competitiveness in their education system. Poor grades is also reported as a cause of depression and anxiety that leads to self-harm behavior in Asian teenagers[25].

These findings are supported by a theory of a depression mechanism that is directly implicated in the self-harm behavior process, which is the generation and release of opioid peptides (beta-endorphins), working as a pain reliever and a mood enhancer through decreasing negative affect. Therefore, it seems that both depressive symptoms and self-harm behavior yield a neurobiochemical foundation. Self-harm behavior utilizes this general mechanism to control the affect and this regulating function might strengthen self-harm behavior, at the same time. The purpose of doing it for those who do self-harm behavior is to avoid having negative emotions, which seemed to be similar to the coping mechanism to deal with depression or alleviate the frustration stemming from biological dysregulations[14].

Depression is a mood disorder identified by the evidence of depressed mood, anhedonia, and anergia which is linked with poorer mental well-being and subsequently increased the risk of self-harm thoughts and behavior. Teenagers with better psychological well-being are not likely to develop ideation or even doing self-harm behavior[18].

Depressive symptoms severity, such as self-depreciation and biological dysregulation are correlated with greater importance of self-harm behavior functions, including affect regulation, building interpersonal borders, self-punishment, disengaging from dissociative states. Conversely, depression is markedly correlated only with affected self-punishment and regulation if it manifested in social problems[14].

In a qualitative study in Australia, the teenagers with depression felt like their life quality went down. In consequence, they contemplated or even attempted to do self-harm or suicide. This was believed because of the suffer that they feel from their depression and their perceptions of others may react to their condition[26]. A participant of another qualitative study in Australia felt the urge of doing self-harm because she felt guilty due to the feeling of not worthy of being depressed because she had a family in a good condition and she was not having any problems compared to others[27]. Another qualitative study with British participants revealed that self-harm, in any way, resulting a calm feeling and to avoid feeling painful emotional conditions. "it helps me to calm down or it helps me to cope." stated by the participant, Susan, aged 15 years old with depression and history of doing self-harm for more than 2 years. Another participant of the study stated that "it's a way of trying to get emotions out: some people do it to calm down." said Natalie, a 15 years old girl with depression and history of doing self-harm for more than 2 years[28].

Moreover, there is a bidirectional correlation between self-harm behavior and depression which is only proved in females and not in males. Hierarchical regression analysis among females revealed that after controlling for self-harm behavior, depression prognosticated self-harm behavior. On the contrary, after controlling for depression, self-harm behavior predicted depression. Higher levels of one of these variables at a given time are correlated with increasing the other variable levels over time. Meanwhile, the simultaneous analyses noted that higher depression levels predispose to increased self-harm behavior level in the next year. In contrast, higher self-harm behavior levels predispose to increased depression in the next year. This apparently infers the possibility of depression and self-harm behavior to enter into a self-generating "vicious cycle". Increases in one variable are going to increase the other one and vice versa. In males, there was only evidence of unidirectional correlation, where depressive symptoms being a predictor of increased self-harm behavior a year later. These theories suggest that self-harm behavior has a different meaning and function in females and males[29].

## V. CONCLUSION

Based on these studies, it can be concluded that all of the research that is used for this study supported that there is a correlation between depression and self-harm behavior and female is more likely to have depression than male. There is also a different theory about the outcome of self-harm behavior between two genders.

## REFERENCES

- [1] W. H. Organization, "Depression: Let's Talk" says WHO, As Depression Tops List of Causes of Ill Health." .
- [2] W. H. Organization, "Adolescent mental health." .
- [3] W. H. Organization, "Suicide." .
- [4] H. Fore, "UNICEF: 'An open letter to the world's children,'" *EPA Sect. Suicidol. Suicide Prev.*
- [5] N. Tracy, "Causes of Self-Injury, Self-Harm, Self-Mutilation," *HealthyPlace.*
- [6] K. Hawton, S. Kingsbury, K. Steinhardt, A. James, and J. Fagg, "Repetition of deliberate self-harm by adolescents: the role of psychological factors," *J. Adolesc.*, vol. 22, no. 3, pp. 369–378.
- [7] Healthtalk, "Depression and Low mood." .
- [8] D. Moher, A. Liberati, J. Tetzlaff, D. G. Altman, and T. P. R. I. S. M. A. Group, "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement," *PLoS Med.*, vol. 6, no. 7, p. 1000097.
- [9] F.-Y. Yang, C. Y. Lai, C.-F. Yen, Y.-Y. Hsu, and J. A. Zauszniewski, "The Depressive Symptoms, Resourcefulness, and Self-Harm Behaviors of Adolescents.," *J. Nurs. Res.*, vol. 25, no. 1, pp. 41–49, Feb. 2017.
- [10] H. Fuspita, H. Susanti, and D. Eka Putri, "The influence of assertiveness training on depression level of high school students in Bengkulu, Indonesia," *Enfermería Clínica*, vol. 28, pp. 300–303.
- [11] M. Crowe, N. D. Ward, B., and M. Roberts, "Characteristics of adolescent depression," *Int. J. Ment. Health Nurs.*, vol. 15, no. 1, pp. 10–18.
- [12] S. Bettge, N. Wille, C. Barkmann, M. Schulte-Markwort, and U. Ravens-Sieberer, "Depressive symptoms of children and adolescents in a German representative sample: results of the BELLA study," *Eur. Child Adolesc. Psychiatry*, vol. 17, no. S1, pp. 71–81.
- [13] PulseTMS, "Depression Rates From Around the World. Pulse TMS." .
- [14] W. Radziwiłłowicz and M. Lewandowska, "Deliberate self-injury functions and their clinical correlates among adolescent psychiatric inpatients. Funkcje zamierzonych samookaleczeń i ich kliniczne korelaty wśród młodzieży hospitalizowanej psychiatrycznie," *Psychiatr. Pol.*, vol. 51, no. 2, pp. 303–322.
- [15] W. K. Lee, "Psychological characteristics of self-harming behavior in Korean adolescents," *Asian J. Psychiatr.*, vol. 23, pp. 119–124, 2016.
- [16] L. Claes, K. Luyckx, I. Baetens, M. Ven, and C. Witteman, "Bullying and Victimization, Depressive Mood, and Non-Suicidal Self-Injury in Adolescents: The Moderating Role of Parental." .
- [17] J. A. Garisch and M. S. Wilson, "Prevalence, correlates, and prospective predictors of non-suicidal self-injury among New Zealand adolescents: cross-sectional and longitudinal survey data," *Child Adolesc. Psychiatry Ment. Health*, vol. 9, no. 1.
- [18] K. Russell, S. Rasmussen, and S. C. Hunter, "Does Mental Well-Being Protect against Self-Harm Thoughts and Behaviors during Adolescence? A Six-Month Prospective Investigation," *Int. J. Environ. Res. Public Health*, vol. 17, no. 18, p. 6771.
- [19] M. Giletta, R. H. J. Scholte, R. C. M. E. Engels, S. Ciairano, and M. J. Prinstein, "Adolescent non-suicidal self-injury: a cross-national study of community samples from Italy, the Netherlands and the United States.," *Psychiatry Res.*, vol. 197, no. 1–2, pp. 66–72, May 2012.
- [20] A. Laye-Gindhu and K. A. Schonert-Reichl, "Nonsuicidal Self-Harm Among Community Adolescents: Understanding the 'Whats' and 'Whys' of Self-Harm," *J. Youth Adolesc.*, vol. 34, no. 5, pp. 447–457.
- [21] K. Hawton and L. Harriss, "The Changing Gender Ratio in Occurrence of Deliberate Self-Harm Across the Lifecycle," *Crisis*, vol. 29, no. 1, pp. 4–10.
- [22] K. L. Gratz, S. D. Conrad, and L. Roemer, "Risk factors for deliberate self-harm among college students," *Am. J. Orthopsychiatry*, vol. 72, no. 1, pp. 128–140 10 1037 0002-9432 72 1 128.
- [23] A. R. Sutin, E. Robinson, M. Daly, and A. Terracciano, "Perceived Body Discrimination and Intentional Self-Harm and Suicidal Behavior in Adolescence," *Child. Obes. (Print)*, vol. 14, no. 8, pp. 528–536.
- [24] N. Madge *et al.*, "Psychological characteristics, stressful life events and deliberate self-harm: Findings from the child & adolescent self-harm in Europe (CASE) study," *Eur. Child Adolesc. Psychiatry*, vol. 20, no. 10, 2011.
- [25] K.-S. Lim *et al.*, "Global Lifetime and 12-Month Prevalence of Suicidal Behavior, Deliberate Self-Harm and Non-Suicidal Self-Injury in Children and Adolescents between 1989 and 2018: A Meta-Analysis," *Int. J. Environ. Res. Public Health*, vol. 16, no. 22, p. 4581 10 3390 16224581.
- [26] T. V McCann, D. I. Lubman, and E. Clark, "The experience of young people with depression: a qualitative study," *J Psychiatr Ment Heal. Nurs*, vol. 19, no. 4, pp. 334–40.
- [27] S. E. Hetrick, A. Subasinghe, K. Anglin, L. Hart, M. A., and J. Robinson, "Understanding the Needs of Young People Who Engage in Self-Harm: A Qualitative Investigation," *Front. Psychol.*, vol. 10, no. 2916.
- [28] W. Crouch and J. Wright, "Deliberate Self-Harm at an Adolescent Unit: A Qualitative Investigation," *Clin. Child Psychol. Psychiatry*, vol. 9, no. 2, pp. 185–204 10 1177 1359104504041918.
- [29] L. G. Lundh, M. Wångby-Lundh, M. Paaske, S. Ingesson, and J. Bjärehed, "Depressive Symptoms and Deliberate Self-Harm in a Community Sample of Adolescents: A prospective Study"," *Depress. Res. Treat.*