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Depressive Symptoms among Self-Harming Adolescents

Slavka DEMUTHOVA¹, Zuzana ROJKOVA²

Abstract

Self-harming behaviour is commonly present in adolescent age. As a high-risk behaviour, it is often linked to depression. However, the correlation between these two variables has scarcely been studied. The presented study on a sample of 1,117 adolescents aged from 11 to 19 (mean age 15.56) compares the occurrence of depressive symptoms (measured by the CDI questionnaire) in self-harming and non-self-harming individuals, it investigates whether there is a correlation between the intensity of self-harm (measured by a modified SHI questionnaire) and depressive symptoms on a sample of self-harming adolescents, as well as explores the specificities of the correlation in terms of the age and sex of the subjects. The results showed that the occurrence of depressive symptoms: 1/ is significantly higher ($p = 0.000$) among self-harming individuals compared to non-self-harmers, particularly in female subjects, 2/ significantly correlates with the intensity of self-harm in the group of self-harming adolescents ($p = 0.000$), and 3/ it decreases with age among self-harming female subjects. The conclusions point to a need for the clarification of the relationship between depressive symptoms and self-harming behaviour (presence and direction of causality) and to the consequences in clinical practice.

Keywords: *Self-harm, depressive symptoms, adolescents, gender, age.*

1. Introduction

Self-harming behaviour belongs to the very frequent forms of high-risk behaviour in adolescence. Its prevalence (in particular as the result of a lack of a standardised definition – Demuthova & Demuth, 2019a) ranges from very low values, such as 4.1% (Portzky et al., 2008) or 7.2% (Gonzales-Forteza et al., 2005) through 10% (Hawton et al., 2012) or 20.3% (Swahn et al., 2021) up to such heights as 47% (Dyl, 2008) or 69% (Hallab & Covic, 2010). In many countries, research is currently being carried out aimed at self-harming adolescents, focusing not only on the definition of the term “self-harm” (Buresova, 2016), but also its forms (Demuthova & Demuth, 2019b; Whitlock et al., 2006), motivations (Demuthova & Demuth, 2019c; Glenn & Klonsky, 2010), and gender and age specificities (Demuthova & Doktorova, 2019; Laye-Gindhu & Schonert-Reichl, 2005). One major area of research is the observation of links between self-harming and other clinical-psychological or psychiatric conditions, not only in order to create a more accurate definition of self-harm (a differential diagnosis in case of similar symptoms), but also

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in the context of comorbidity with other conditions and mental disorders/difficulties.

In this context, self-harm is often identified as a symptom of other conditions, for example: autism (Maddox et al., 2017), mental retardation (van den Bogaard, 2018), suicide attempts (Brent, 2011), and borderline personality disorder (Goodman et al., 2017) or in subjects with the history of sexual abuse (Cyr et al., 2005). It is often linked with depressive symptomatology and anxiety (Lundh et al., 2011; Muehlenkamp & Gutierrez, 2007; Tilton-Weaver et al., 2019). Depression and depressive symptoms themselves are mentioned in studies into self-harm in many contexts (see: Santens et al., 2018; Stallard et al., 2013; Tuisku et al., 2009; Yang et al., 2017). Hankin and Abela (2011) classify depressive symptoms as proximal factors that differentiate self-harming youths from non-self-harming youths; Nixon et al. (2002) found that adolescents used self-harming behaviour as a coping strategy for depressive feelings; Barrocas et al. (2015) in their study reported that adolescents with depression showed more intense and more stable self-harm than adolescents without depressive symptoms. On the other hand, there are studies that show that self-harm may appear alone, without symptoms of depression or any other clinical diagnoses, and may accompany problems of the non-clinical adolescent population (Buresova, 2016; Swannell et al., 2014; Wang et al. 2018). Therefore, it is uncertain how often, and to what extent, self-harming behaviour among adolescents is linked to depression and depressive symptoms, how close the link might be and what might be its specificities, e.g., in respect to the intensity of this risk behaviour, age, or sex.

2. Objective

The goal of the research is to explore:

- the prevalence of depressive symptoms in the population of self-harming adolescents;
- the difference in the prevalence of depressive symptoms in the population of self-harming and non-self-harming adolescents;
- the connection between the level of depressive symptoms and the level of self-harm;
- the presence of depressive symptoms among self-harming adolescents with regard to gender (a) the difference in the prevalence of depressive symptoms in the population of self-harming adolescents by gender; b) the link between the level of depressive symptoms and the level of self-harming behaviour with regard to gender);
- the link between the level of depressive symptoms and age in self-harming adolescents.

3. Methods

3.1. Participants and Procedure

The research sample consisted of 1,272 Slovak adolescents (aged 11-19) who attend primary or secondary schools. The data was collected anonymously and all subjects (and their legal guardians) gave informed consent for participation. 1,272 participants took part in our research; 155 (12.19%) questionnaires were excluded

because of missing data. Finally, 1,117 participants were included in the analysis (65.4% female; mean age = 15.56; st. dev. = 1.45). 546 participants (48.9%) met the criteria set for self-harm.

3.2. Measures and Statistical Analysis

The data was collected using a questionnaire, which included:

- basic demographical and personal data (age, sex);
- Self-Harm Inventory (SHI) (Sansone & Sansone, 2010) adjusted to the sample of adolescents that assessed twenty different forms of self-harm. The modified version reaches good internal consistency ($\alpha = 0.809$ – Demuthova & Doktorova, 2019). SHI measures the extent of self-harming behaviour (the intensity of each form is expressed on a scale from 0 to 3) as well as it classifies each adolescent into a group of self-harmers and non-self-harmers. The classification is based on the fact whether the subject reports either the occurrence of one type of self-harming behaviour repeatedly (frequency 2 & 3) or the subject executes self-harming behaviour in various ways. The overall SHI-score could range from 0 (all twenty items scored “0”, a frequency of “never”) to 60 points (all twenty items scored “3”, a frequency of “often”);

- a standardized scale for the self-assessment of depressive symptoms in children and youths, the Children’s Depression Inventory (CDI – Kovacs, 1998), that consists of 27 statements that quantify depressive symptoms and the extent of their presence on a scale of 0-1-2 points. The questionnaire measures the current state of the participant on five subscales – bad mood, interpersonal problems, inefficiency, anhedonia and a negative attitude towards oneself, with the total gross score ranging from 0 to 54 points. The questionnaire also includes norms for the Slovak population.

For the data analysis, IBM SPSS 27 program was used setting the statistical significance threshold (α) to the level 0.05. As the variables of the gross CDI score, SHI and age did not exhibit a normal distribution (sig. of the Shapiro-Wilk Test = 0.000), non-parametric tests were used for the analyses.

4. Results

4.1. The Prevalence of Depressive Symptoms in the Population of Self-Harming Adolescents

The existence of norms for the Slovak version of the CDI questionnaire allows a comparison of the scores of self-harming adolescents with the average population and thus objectively analyse the measured level of depressive symptoms. In the CDI questionnaire, self-harmers had an average gross score of 18.93 (st. dev.=8.55), which is statistically significantly higher (sig. of the One-Sample Test = 0.000) than the norm (mean value = 8.7) (Kovacs, 1998). Based on the norms for the Slovak population for the CDI questionnaire, only 13% (N=71) of self-harming adolescents scored values that were lower or equal to the average for the population. 69.3% of self-harming boys and 77.8% of self-harming girls scored above the mean for the population (above the 75th percentile). Moreover, 9.5% of

boys and 24.5% of girls were higher than the 97th percentile.

4.2. The Difference in the Prevalence of Depressive Symptoms in the Population of Self-Harming and Non-Self-Harming Adolescents

The group of self-harming adolescents exhibited a statistically significantly higher score in CDI than the group of non-self-harming participants (see Table 1). A detailed analysis aimed at specific forms of depressive symptoms (bad mood, interpersonal problems, inefficiency, anhedonia and a negative attitude towards oneself) showed that the self-harming adolescents scored statistically significantly higher in all subscales (2-tailed asymp. sig. in the Mann-Whitney U-Test = 0.000) than the group of non-self-harmers.

Table 1. Mann-Whitney U-Test of the differences in CDI-score between the groups of self-harmers and non-self-harmers

	CDI			
	N	Mean rank	U	Asymp. sig. (2-tailed)
Self-harmers	546	707.45	74,830.5	0.000
Non-self-harmers	571	417.05		
Total	1,117			

4.3. The Link between the Level of Depressive Symptoms and the Level of Self-Harming Behaviour

The differences in the level of depressive symptoms measured by the CDI between the groups of self-harming and non-self-harming adolescents indicate that depressive symptoms may be linked to self-harm. This correlation was verified by Spearman's Correlation Test, which revealed that the level of self-harm in adolescents statistically significantly ($p < 0.000$), with a medium intensity, and positively (Spearman's $\rho = 0.513$) correlates with the level of depressive symptoms (Figure 1).

Fig. 1. Non-parametric Spearman's Rank Order correlation between CDI and SHI scores in the group of self-harmers

4.4 The Presence of Depressive Symptoms among Self-Harming Adolescents with Regard to Gender

A) The difference in the Prevalence of Depressive Symptoms in the Population of Self-Harming Adolescents by Gender

Mann-Whitney U-test showed statistically significant differences (Asymptotic 2-tailed Sig.=0.003) in the occurrence of depressive symptoms between genders in the sample of self-harmers. The prevalence of depressive symptoms in women (Mean Rank=286.47) was higher than in men (Mean Rank=241.64) (Figure 2).

Fig. 2. Mann-Whitney U-test of the differences in the prevalence of depressive symptoms by gender in the group of self-harming adolescents

B) The Link Between the Level of Depressive Symptoms and the Level of Self-Harming Behaviour with Regard to Gender

The values of the coefficients from the Spearman's Correlation Test that describe the correlation between the level of depressive symptoms and self-harm for female subjects (0.510) and separately for male subjects (0.426) reveal that the correlation was moderate but statistically significant ($p=0.000$) in both groups. From the correlation values a slightly tighter correlation can be seen in female subjects; however, the effective size of the difference between the two correlations (Cohen's test) is small ($q=0.108$) (Lenhard & Lenhard, 2016).

4.5 The Link Between the Level of Depressive Symptoms and Age in Self-Harming Adolescents

The correlation between the age of the subjects and the occurrence of depressive symptoms in the group of self-harmers individuals was at the boundary of significance (Spearman's $\rho=-0.085$; sig.=0.046). No such correlation was observed among the non-self-harming study participants (sig.=0.086). The further

analysis looked at the characteristics of this correlation among the self-harmers, separately for male and female subjects (Table 2).

Table 2. Correlation between depressive symptoms and age (Spearman's Rank-Order Correlation Test) in self-harmers

	Total		CDI score Females		Males	
	Correlation coefficient	Sig.	Correlation coefficient	Sig.	Correlation coefficient	Sig.
Age	-0.085	0.046	-0.144	0.004	0.016	0.844
N	546		388		158	

It is apparent that the number of depressive symptoms decreases with age, to a statistically significant degree, among female subjects. However, no correlation was observed between age and the level of depressive symptoms in self-harming men ($p=0.844$).

5. Discussion

The collected data clearly shows that depressive symptoms are relatively common among self-harming adolescents. Several authors have pointed to the link between depression and self-harming behaviour (e.g. Cavazos-Rehg et al., 2017; Knorr et al., 2016; Parker et al., 2005; Vergara et al., 2019), but the cause and effect relationship between these two problems is still not fully understood. A possible reason may be that self-harm is concomitant symptom or a consequence of depression (Hankin & Abela, 2011), but at the same time, self-harming behaviour is usually considered to be a major predictor of the later occurrence of depression (Burke et al., 2015). At the moment, it is not quite clear whether depression and depressive symptoms are specific to, or a cause of self-harm, or whether they are just an expression of the associated mental problems (Hack & Martin, 2018). To be able to answer this question more unambiguously, it may be appropriate to initiate longitudinal studies that investigate the occurrence and correlation between depressive symptoms/depression and self-harming behaviour in the long-term.

Almost 10% of self-harming male subjects and as many as a quarter of self-harming female subjects had a very high score for symptoms of depression (above the 97th percentile). Although it is impossible to clearly determine whether these participants suffer from depression (CDI measures the current state; it would be necessary to repeat and supplement the measures in order to diagnose depression), this score is alarming. It may be assumed that there is high occurrence of depressive disorder in the population of self-harmers, and in this context, it appears appropriate to suggest that the depressive symptoms be monitored in cases of adolescents who self-harm as part of the clinical practice. The high level of depressive symptoms (above the 97th percentile) was more prevalent among self-harming female than male subjects. It is necessary to note in this context that women are more prone to suffer from depression and depressive symptoms.

A close link between the occurrence of depressive symptoms and self-

harming behaviour was also revealed in the analysis of this correlation. The value of the correlation coefficient and the level of significance confirm that the presence of depressive symptoms increases with the intensity of self-harm. Once again, the question is whether frequent and more intensive self-harm leads an individual to an even more negative experience and a consequent increase in depressive symptoms, or whether self-harm is a maladaptive coping strategy used to deal with difficulties resulting from depression and a depressive mindset (symptoms) (Nixon et al., 2002).

A possible interpretation is suggested by the finding that the occurrence of depressive symptoms among self-harmers decreases with age. It is self-evident that the intensity of depressive symptoms does not gradually increase, quite the opposite. Thus, it is possible that a depressive mindset leads individuals to search for coping strategies to alleviate it, and self-harm is one of such strategies. Its potential to relieve pressure, to regulate emotions... etc. has been proofed by several studies (Andover & Morris, 2014; In-Albon et al., 2013). Yet, it is obvious that self-harming behaviour is a highly maladaptive coping strategy and as such, it probably has no long-term potential to ameliorate the mental state or to alleviate or eliminate the depressive symptoms. Hence, it may be useful to conduct research into these issues, scrutinizing the correlation with age, self-harm and depressive symptoms in greater detail. Such research should identify the variables which may trigger a decrease in the intensity of depressive symptoms over time – e.g. professional intervention, the impact of social support and so on. It is plausible that this decrease is not a spontaneous process that results from the passage of time, since a decrease in depressive symptoms was not seen amongst non-self-harming adolescents

6. Conclusion

From the data gained from a sample of 1,117 Slovak adolescents it is obvious that depressive symptoms accompany self-harming behaviour and significantly mutually correlate. Further research to clarify the existence and direction of possible causality between depressive symptomatology and self-harming behaviour could be highly beneficial and provide an explanation for this connection. The significant findings from the data also revealed that the prevalence of depressive symptoms in self-harming adolescent females is higher than in males. The differences present between genders also revealed that the level of depressive symptoms decrease with the age, but only in the female self-harming adolescent population. These results point to the possibility that self-harming behaviour may be a specific way of maladaptive coping for female adolescents in such a way that it either directly reduces the level of depressive attunement in women or works in a way that diminishes/eliminates the causes of the depressive symptomatology.

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References

- Andover, M. S., & Morris, B. W. (2014). Expanding and clarifying the role of emotion regulation in nonsuicidal self-injury. *Canadian Journal of Psychiatry*, 59(11), 569-575. <https://doi.org/10.1177/070674371405901102>
- Barrocas, A. L., Giletta, M., Hankin, B. L., Prinstein, M. J., & Abela, J. R. (2015). Nonsuicidal self-injury in adolescence: longitudinal course, trajectories, and intrapersonal predictors. *Journal of Abnormal Child Psychology*, 43(2), 369-380. <https://doi.org/10.1007/s10802-014-9895-4>
- Brent, D. (2011). Nonsuicidal self-injury as a predictor of suicidal behavior in depressed adolescents. *The American Journal of Psychiatry*, 168(5), 452-454. <https://doi.org/10.1176/appi.ajp.2011.11020215>
- Buresova, I. (2016). *Self-Harm in Adolescence*. Peter Lang.
- Burke, T. A., Hamilton, J. L., Abramson, L. Y., & Alloy, L. B. (2015). Non-suicidal self-injury prospectively predicts interpersonal stressful life events and depressive symptoms among adolescent girls. *Psychiatry Research*, 228(3), 416-424. <https://doi.org/10.1016/j.psychres.2015.06.021>
- Cavazos-Rehg, P. A., Krauss, M. J., Sowles, S. J., Connolly, S., Rosas, C., Bharadwaj, M., Grucza, R., & Bierut, L. J. (2017). An Analysis of Depression, Self-Harm, and Suicidal Ideation Content on Tumblr. *Crisis*, 38(1), 44-52. <https://doi.org/10.1027/0227-5910/a000409>
- Cyr, M., McDuff, P., Wright, J., Thériault, C., & Cinq-Mars, C. (2005). Clinical correlates and repetition of self-harming behaviors among female adolescent victims of sexual abuse. *Journal of Child Sexual Abuse*, 14(2), 49-68. https://doi.org/10.1300/J070v14n02_03
- Demuthova, S., & Demuth, A. (2019a). Questioning the DSM-5 Proposal for the NSSI Diagnostic Criteria. *International Journal of Arts & Sciences' (IJAS) International Conference for Academic Disciplines*, 12(1), 107-113. https://scihub.ru/https://www.researchgate.net/profile/Slavka-Demuthova/publication/346498700_QUESTIONING_THE_DSM-5_PROPOSAL_FOR_THE_NSSI_DIAGNOSTIC_CRITERIA/links/5fc5481192851c3012990d69/QUESTIONING-THE-DSM-5-PROPOSAL-FOR-THE-NSSI-DIAGNOSTIC-CRITERIA.pdf
- Demuthova, S., & Demuth, A. (2019b). The prevalence and most frequent forms of self-harm in adolescents. *International Conference on Research in Psychology* (pp. 39-51). Diamond Scientific Publication. <https://www.doi.org/10.33422/icrpconf.2019.03.139>
- Demuthova, S., & Demuth, A. (2019c). Thirteen reasons why. Motives for self-harm in adolescent boys and girls. *Asian Journal of Research in Education and Social Sciences*, 1(2), 44-52. <http://myjms.mohe.gov.my/index.php/ajress/article/view/7589>
- Demuthova, S., & Doktorova, D. (2019). Interpohlavné rozdiely v prevalencii jednotlivých foriem seba poškodzovania u adolescentov [Gender Differences in the Prevalence of Individual Forms of Self-Harm in Adolescents]. In A. Baranovska (Ed.), *Kondášove dni* [Kondáš's days] (pp. 19-32). Katedra psychológie FF UCM v Trnave.

- Dyl, J. (2008). Understanding cutting in adolescents: prevalence, prevention, and intervention. *The Brown University Child and Adolescent Behavior Letter*, 24(3), 4-6. <https://doi.org/10.1002/cbl.20063>
- Glenn, C. R., & Klonsky, E. D. (2010). A multimethod analysis of impulsivity in Non-Suicidal Self-Injury. *Personality Disorders*, 1(1), 67-75. <https://doi.org/10.1037/a0017427>
- Gonzalez-Forteza, C., Alvarez-Ruiz, M., Saldana-Hernandez, A., Carreno-Garcia, S., Chavez-Hernandez, A.-M., & Perez-Hernandez, R. (2005). Prevalence of deliberate self-harm in teenage students in the state of Guanajuato, Mexico: 2003. *Social Behavior and Personality: An International Journal*, 33(8), 777–792. <https://doi.org/10.2224/sbp.2005.33.8.777>
- Goodman, M., Tomas, I. A., Temes, C. M., Fitzmaurice, G. M., Aguirre, B. A., & Zanarini, M. C. (2017). Suicide attempts and self-injurious behaviours in adolescent and adult patients with borderline personality disorder. *Personality and Mental Health*, 11(3), 157-163. <https://doi.org/10.1002/pmh.1375>
- Hack, J., & Martin, G. (2018). Expressed emotion, shame, and non-suicidal self-injury. *International Journal of Environmental Research and Public Health*, 15(5), 890. <https://doi.org/10.3390/ijerph15050890>
- Hallab, L., & Covic, T. (2010). Deliberate self-harm: the interplay between attachment and stress. *Behaviour Change*, 27(2), 93-103. <https://doi.org/10.1375/bech.27.2.93>
- Hankin, B. L., & Abela, J. R. (2011). Nonsuicidal self-injury in adolescence: prospective rates and risk factors in a 2½ year longitudinal study. *Psychiatry Research*, 186(1), 65-70. <https://doi.org/10.1016/j.psychres.2010.07.056>
- Hawton, J. C., Saunders, E. A., & O'Connor, R. (2012). Self-harm and suicide in adolescents. *Lancet*, 379, 2372-2382. [https://doi.org/10.1016/S0140-6736\(12\)60322-5](https://doi.org/10.1016/S0140-6736(12)60322-5)
- In-Albon, T., Bürli, M., Ruf, C., & Schmid, M. (2013). Non-suicidal self-injury and emotion regulation: a review on facial emotion recognition and facial mimicry. *Child and Adolescent Psychiatry and Mental Health*, 7(1), 5. <https://doi.org/10.1186/1753-2000-7-5>
- Knorr, A. C., Tull, M. T., Anestis, M. D., Dixon-Gordon, K. L., Bennett, M. F., & Gratz, K. L. (2016). The Interactive Effect of Major Depression and Nonsuicidal Self-Injury on Current Suicide Risk and Lifetime Suicide Attempts. *Archives of suicide research : official journal of the International Academy for Suicide Research*, 20(4), 539-552. <https://doi.org/10.1080/13811118.2016.1158679>
- Kovacs, M. (1998). *CDI. Sebaposudžovacia škála depresivity pre deti*. [Children´s Depressivity Inventory]. Psychodiagnostika, a.s.
- Laye-Gindhu, A., & Schonert-Reichl, K. A. (2005). Nonsuicidal self-harm among community adolescents: understanding the “whats” and “whys” of self-harm. *Journal of Youth and Adolescence*, 34(5), 447-457. <https://doi.org/10.1007/s10964-005-7262-z>
- Lenhard, W. & Lenhard, A. (2016). Calculation of Effect Sizes. Retrieved from: https://www.psychometrica.de/effect_size.html. Dettelbach (Germany): Psychometrica. <http://doi.org/10.13140/RG.2.2.17823.92329>

- Lundh, L. G., Wångby-Lundh, M., Paaske, M., Ingesson, S., & Bjärehed, J. (2011). Depressive symptoms and deliberate self-harm in a community sample of adolescents: a prospective study. *Depression Research and Treatment*, 935871. <https://doi.org/10.1155/2011/935871>
- Maddox, B. B., Trubanova A., & White, S. W. (2017). Untended wounds: non-suicidal self-injury in adults with autism spectrum disorder. *Autism*, 21(4), 412-422. <https://doi.org/10.1177/1362361316644731>
- Muehlenkamp J. J., & Gutierrez P. M. (2007). Risk for suicide attempts among adolescents who engage in non-suicidal self-injury. *Archives of Suicide Research*, 11, 69-82. <https://doi.org/10.1080/13811110600992902>
- Nixon, M., Cloutier, P., & Aggarwal, S. (2002). Affect regulation and addictive aspects of repetitive self-injury in hospitalized adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1333-1341. <https://doi.org/10.1097/00004583-200211000-00015>
- Parker, G., Malhi, G., Mitchell, P., Kotze, B., Wilhelm, K., & Parker, K. (2005). Self-harming in depressed patients: pattern analysis. *The Australian and New Zealand journal of psychiatry*, 39(10), 899-906. <https://doi.org/10.1080/j.1440-1614.2005.01662.x>
- Portzky, G., de Wilde, E., & van Heringen, K. (2008). Deliberate self-harm in young people: differences in prevalence and risk factors between the Netherlands and Belgium. *European Child & Adolescent Psychiatry*, 17(3), 179-186. <https://doi.org/10.1007/s00787-007-0652-x>
- Prinstein, M. J., Heilbron, N., Guerry, J. D., Franklin, J. C., Rancourt, D., Simon, V., & Spirito, A. (2010). Peer influence and nonsuicidal self injury: longitudinal results in community and clinically-referred adolescent samples. *Journal of Abnormal Child Psychology*, 38(5), 669-682. <https://doi.org/10.1007/s10802-010-9423-0>
- Sansone, R. D., & Sansone, L. A. (2010). Measuring self-harm behavior with the Self-Harm Inventory. *Psychiatry*, 7(4), 1-20. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2877617>
- Santens, T., Claes, L., Diamond, G. S., & Bosmans, G. (2018). Depressive symptoms and self-harm among youngsters referred to child welfare: The role of trust in caregiver support and communication. *Child abuse & neglect*, 77, 155-167. <https://doi.org/10.1016/j.chiabu.2018.01.001>
- Stallard, P., Spears, M., Montgomery, A. A., Phillips, R., & Sayal, K. (2013). Self-harm in young adolescents (12-16 years): onset and short-term continuation in a community sample. *BMC psychiatry*, 13, 328. <https://doi.org/10.1186/1471-244X-13-328>
- Swahn, M. H., Ali, B., Bossarte, R. M., Van Dulmen, M., Crosby, A., Jones, A. C., & Schinka, K. C. (2012). Self-harm and suicide attempts among high-risk, urban youth in the U.S.: shared and unique risk and protective factors. *International Journal of Environmental Research and Public Health*, 9(1), 178-191. <https://doi.org/10.3390/ijerph9010178>
- Swannell, S. V., Martin, G. E., Page, A., Hasking, P., & St John, N. J. (2014). Prevalence of nonsuicidal self-injury in nonclinical samples: systematic review, meta-analysis and meta-regression. *Suicide and Life-Threatening Behavior*, 44(3), 273-303. <https://doi.org/10.1111/sltb.12070>

- Tilton-Weaver, L., Marshall, S. K., & Svensson, Y. (2019). Depressive symptoms and non-suicidal self-injury during adolescence: Latent patterns of short-term stability and change. *Journal of Adolescence*, 75, 163-174.
<https://doi.org/10.1016/j.adolescence.2019.07.013>
- Tuisku, V., Pelkonen, M., Kiviruusu, O., Karlsson, L., Ruutu, T., & Marttunen, M. (2009). Factors associated with deliberate self-harm behaviour among depressed adolescent outpatients. *Journal of adolescence*, 32(5), 1125-1136.
<https://doi.org/10.1016/j.adolescence.2009.03.001>
- van den Bogaard, K., Nijman, H., Palmstierna, T., & Embregts, P. (2018). Self-Injurious behavior in people with intellectual disabilities and co-occurring psychopathology using the Self-Harm Scale: a pilot study. *Journal of Developmental and Physical Disabilities*, 30(5), 707-722. <https://doi.org/10.1007/s10882-018-9614-0>
- Vergara, G. A., Stewart, J. G., Cosby, E. A., Lincoln, S. H., & Auerbach, R. P. (2019). Non-Suicidal self-injury and suicide in depressed Adolescents: Impact of peer victimization and bullying. *Journal of affective disorders*, 245, 744–749.
<https://doi.org/10.1016/j.jad.2018.11.084>
- Wang, S. B., Pisetsky, E. M., Skutch, J. M., Fruzzetti, A. E., & Haynos, A. F. (2018). Restrictive eating and nonsuicidal self-injury in a nonclinical sample: Co-occurrence and associations with emotion dysregulation and interpersonal problems. *Comprehensive psychiatry*, 82, 128-132.
<https://doi.org/10.1016/j.comppsy.2018.02.005>
- Whitlock, J., Eckenrode, J., & Silverman, D. (2006). Self-injurious behaviors in a college population. *Pediatrics*, 117(6), 1939-1948. <https://doi.org/10.1542/peds.2005-2543>
- Yang, F. Y., Lai, C. Y., Yen, C. F., Hsu, Y. Y., & Zauszniewski, J. A. (2017). The Depressive Symptoms, Resourcefulness, and Self-Harm Behaviors of Adolescents. *The journal of nursing research : JNR*, 25(1), 41-49.
<https://doi.org/10.1097/jnr.0000000000000127>