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THE RELATIONSHIP BETWEEN THE DURATION AND INTENSITY OF SELF-HARM AND THE OCCURRENCE OF ITS COMORBIDITIES

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Abstract

Self-harm represents a highly prevalent, multi-etiological psychopathological phenomenon associated with numerous psychiatric comorbidities, yet the extent to which it alleviates psychological distress remains unclear. This pilot study examined whether the intensity of self-harm increases with the number of comorbidities, whether these relationships differ by gender, and whether longer duration of self-harming behavior is associated with a reduction in psychological difficulties. A cross-sectional design was employed. Data on 135 individuals who engaged in self-harm (18 men, 115 women, 2 nonbinary excluded from subgroup analyses; M age = 18.57 years) were retrospectively reported by 135 mental health professionals via anonymized questionnaires. Intensity of self-harm (7-point scale), duration (months), and the number of DSM-5 comorbidities were assessed. Due to non-normal distributions, Spearman correlations and linear regression analyses were conducted ($\alpha = .05$). The number of comorbidities was positively associated with self-harm intensity ($\rho = .210$, $p = .008$), accounting for 4.3% of variance; this relationship was significant only among females. Duration of self-harm was positively associated with the number of comorbidities ($\rho = .340$, $p < .001$), explaining 5.5% of variance, again significant only in women. Although effect sizes were modest and the cross-sectional design precludes causal inference, the findings are consistent with functional and cyclical models of self-harm, suggesting that longer engagement is not associated with a reduction in psychological difficulties. Within the methodological limits of this pilot study, the results do not support the assumption that self-harm leads to sustained alleviation of psychological distress; rather, they indicate that any perceived relief may be short-term, while prolonged engagement may be associated with less favorable mental health outcomes, warranting further investigation.

Keywords: *Self-harm, comorbidity, duration of self-harm, intensity of self-harm, gender differences.*

1. Introduction

Self-harm is a psychopathological phenomenon that, due to its high prevalence and its risks to both the mental and physical health of individuals, has attracted increasing attention from professionals in the fields of psychology and psychiatry. Its lifetime prevalence currently ranges from 3% to 45% (Haregu, Chen, Arafat, Cherian, & Armstrong, 2023), depending on gender (male:female ratio = 1:2 – Moloney et al., 2024), country, age cohort, and data collection methodology, thereby substantially exceeding the prevalence of established mental disorders. A universally accepted definition of this phenomenon has not yet been definitively established (compare, for example, the concept of "Non-Suicidal Self-Injury" in the Diagnostic and Statistical Manual of Mental Disorders, 5th ed. (DSM-5) of the American Psychiatric Association (APA, 2013), and the concept of "Intentional self-harm" in the International Statistical Classification of Diseases and Related Health Problems, 11th ed. (ICD-11) of the World Health Organization (WHO, 2022)); however, common elements across numerous definitions include repeated behavior directed toward deliberate and intentional self-inflicted harm (with this motive being primary), typically accompanied by pain.

Intensive research on self-harm has highlighted its multi-etiological nature (Yan & Yue, 2023) and its association with multiple psychological difficulties. Among individuals who engage in self-harm, higher rates have been demonstrated for depression, bipolar disorder, alcohol abuse, anxiety disorders, eating disorders, schizophrenia, and substance abuse (Singhal, Ross, Seminog, Hawton, & Goldacre, 2014), as well as personality disorders and externalizing disorders (Nitkowski & Petermann, 2011). In the context of multiple psychological difficulties, self-harm serves several functions—emotion regulation (Houben et al.,

2016), coping with mental illness and trauma (Mughal et al., 2023), signaling distress (Laporte, Ozolins, Westling, Westrin, & Wallinius, 2021), preventing suicide (Kraus, Schmid, & In-Albon, 2020), reducing dissociation (Klonsky, 2007), or alleviating psychological pain (Ruan & Yan, 2025)—while individuals who self-harm report considerable relief and calmness following self-injury in these domains (Klonsky, 2009). These findings are theoretically grounded in the Seven-Function Model of Self-Harm (Klonsky, 2007), the Experiential Avoidance Model (Chapman, Gratz, & Brown, 2006), the Cognitive-Emotional Model (Hasking, Whitlock, Voon, & Rose, 2017), and the Benefits and Barriers Model (Hooley & Franklin, 2017), which further elucidate the mechanisms underlying the effects of self-harm.

On the other hand, experts agree that the harmfulness of self-harm is not only immediate (resulting directly from the act itself) but also long-term (see, e.g., Xie, Tang, Liu, Dong, & Zhang, 2025), and that it substantially outweighs the benefits reported by individuals who engage in self-harm. Moreover, the extent to which these reported benefits are objective and enduring remains questionable. Nevertheless, the perceived benefits for individuals who self-harm may represent a significant factor in the initiation, repetition, and maintenance of this behavior as a maladaptive coping strategy for managing psychological distress. Therefore, investigating these perceived benefits is crucial not only for understanding the mechanisms of self-harm but also for establishing appropriate intervention approaches.

2. Objective

Research examining the actual benefits of self-harm in alleviating psychological difficulties is understandably absent, primarily due to ethical concerns related to observing the effects of self-harm without therapeutic intervention. Partial support for the assumption of possible subjectively perceived benefits can be found in interviews with individuals who engage in self-harm (see, e.g., Carpenter, Hepp, & Trull, 2023), as well as indirectly in the observation that an increased prevalence of psychological difficulties and disorders is associated with a higher incidence of self-harm as a maladaptive coping strategy for managing psychological distress.

In this context, however, the question arises as to whether self-harm truly has the potential to alleviate psychological difficulties. As a first step toward conducting more systematic research, a pilot study was designed with the aim of exploring the relationship between the number of psychological problems (comorbidities) and the intensity of self-harm, as well as examining whether the number of comorbidities decreases with the duration of self-harming behavior. Given the impossibility of examining the developmental trajectory of the effects of self-harm over time, a cross-sectional study design was employed. Considering the higher prevalence of self-harm among women, these relationships were also examined with respect to gender.

In line with these objectives, the following research questions (RQs) were formulated:

RQ1: Does the intensity of self-harm increase with the number of comorbidities?

RQ2: Does the relationship between the number of comorbidities and the intensity of self-harm differ between men and women?

RQ3: Does the number of comorbidities decrease with the duration of self-harming behavior?

RQ4: Does the relationship between the duration of self-harming behavior and the number of comorbidities differ between men and women?

3. Method

A total of 137 professionals (recruited through convenience sampling) participated in the survey, including clinical psychologists (N = 32), psychiatrists (N = 15), counseling psychologists (N = 51), and school psychologists (N = 37), with a mean length of professional practice of 12.91 years. Two professionals were excluded from the analyses because they were not psychologists. The professionals were asked to provide information about one case of self-harm (for which they had obtained informed consent for the anonymous sharing of data). Through an anonymized online questionnaire, they reported the participant's age and gender, the duration of self-harming behavior in months, the intensity of self-harm (measured on a 7-point scale reflecting the frequency of self-harming acts), and the number of present comorbidities using a checklist of twenty diagnoses defined in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) of the American Psychiatric Association (APA, 2013) (see Figure 1 for the full list).

Figure 1. List of monitored comorbidities (according to DSM-5) among individuals who engage in self-harm.

• Neurodevelopmental Disorders • Schizophrenia Spectrum and Other Psychotic Disorders • Bipolar and Related Disorders • Depressive Disorders • Anxiety Disorders • Obsessive-Compulsive and Related Disorders • Trauma-Related and Stressor-Related Disorders • Dissociative Disorders • Somatic Symptom and Related Disorders • Feeding and Eating Disorders • Elimination Disorders • Sleep-Wake Disorders • Sexual Dysfunctions • Gender Dysphoria • Disruptive, Impulse-Control, and Conduct Disorders • Substance-Related and Addictive Disorders • Neurocognitive Disorders • Personality Disorders • Paraphilic Disorders

The dataset of individuals who engaged in self-harm comprised 18 men (13.3%), 115 women (85.2%), and two nonbinary individuals (1.5%). The nonbinary participants were excluded from further analyses due to the insufficient sample size for establishing a third gender category. Participants ranged in age from 12 to 55 years (M = 18.57; SD = 6.975).

Statistical analyses were conducted using IBM SPSS program, version 29.0.2.0. Given that the Shapiro–Wilk test did not indicate a normal distribution of the observed variables (in all cases $p < .001$), nonparametric Spearman correlation coefficients were calculated, followed by linear regression analyses. The level of statistical significance for all procedures was set at $\alpha = .05$ (95%).

The study was voluntary and anonymous. Patient data were provided following informed consent, and the research procedure was approved by the Slovak Research and Development Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (no. APVV-23-0181). It was also approved by the Ethics Committee of the Faculty of Arts, University of Ss. Cyril and Methodius in Trnava (registration no. UCM-FF-EK 6/2023). As the information was provided retrospectively by professionals, patients were not directly exposed to the sensitive topic of the research.

4. Results

Spearman correlation analysis demonstrated a positive (Spearman's rho = 0.210) and statistically significant (Sig. (1-tailed) = 0.008) association between the number of comorbidities and the intensity of self-harm. Linear regression analysis further indicated a weak but statistically significant predictive effect of the number of comorbidities on the intensity of self-harm ($\beta = 0.207$; $t = 2.399$; $p = 0.018$). The variable "number of comorbidities" accounted for only 4.3% of the variance in self-harm intensity ($R^2 = 0.043$). Correlation analyses performed separately for women and men (Table 1) showed that the relationship between the number of comorbidities and the intensity of self-harm was statistically significant only among females. However, the findings for males must be interpreted with caution due to the very small number of respondents (N = 18) in the male subsample.

Table 1. Spearman correlation between the number of comorbidities and the intensity of self-harm in men and women.

			Intensity of self-harm	
			Males	Females
Spearman's rho	Number of comorbidities	Correlation Coefficient	.199	.201*
		Sig. (1-tailed)	.215	.017
		N	18	112

Note: * $p \leq 0.05$

Spearman correlation analysis revealed a positive (Spearman's rho = 0.340) and statistically significant (Sig. (1-tailed) < .001) association between the duration of self-harming behavior and the number of comorbidities. This suggests that a longer duration of self-harming behavior is associated not with a reduction, but rather with an increase in the number of psychological difficulties.

Table 2. Spearman correlation between the duration of self-harm and the number of comorbidities in men and women.

			Number of comorbidities	
			Males	Females
Spearman's rho	Duration of self-harm	Correlation Coefficient	.044	.380**
		Sig. (1-tailed)	.431	< .001
		N	18	104

Note: ** $p \leq 0.01$

Linear regression analysis identified a weak but statistically significant predictive relationship between the duration of self-harm and the number of comorbidities ($\beta = 0.234$; $t = 2.636$; $p = 0.010$). However, the duration of self-harm accounted for only 5.5% of the total variance in the number of comorbidities ($R^2 = 0.055$). The correlational relationship between the duration of self-harm and the number of comorbidities was found to be significant among women but not among men (Table 2).

5. Discussion

Spearman's correlation and subsequent linear regression analyses indicated that with an increasing number of comorbidities, the intensity of self-injurious behavior also increases. This finding is consistent with evidence regarding the multiple functions of self-injury (Coppersmith, Bentley, Kleiman, & Nock, 2021), suggesting that in the presence of psychological distress, individuals may engage in self-injury as a maladaptive strategy for coping with emotional burden (Houben et al., 2016), preventing suicide (Kraus et al., 2020), suppressing psychological pain through the infliction of physical pain (Ruan & Yan, 2025), controlling aversive affective arousal, or alleviating feelings of sadness or anxiety (Hack & Martin, 2018). Elevated psychological burden may therefore contribute to more frequent engagement in self-injurious behavior. However, it is important to note that the number of comorbidities accounted for only a small proportion of the variance (4.3%) in the occurrence of self-injury, indicating that a substantial part of its etiology is attributable to other variables. An important finding is that the statistically significant correlation was observed exclusively among female participants. It is possible that the regulatory function of self-injury is utilized predominantly by females, who exhibit significantly higher rates of difficulties in emotion regulation than males (Delhom, Melendez, & Satorres, 2021). In this context, the most vulnerable population comprises gender and sexual minorities (Camp, Blundell, Smith, & Rimes, 2025); however, this group was represented in our study by an insufficient number of participants ($N = 2$), precluding a meaningful analysis of relationships within this subgroup. Nevertheless, this observation highlights an important direction for future research. Similarly, the absence of correlations between the number of comorbidities and the intensity of self-injury among male participants warrants verification in a larger research sample.

Analyses examining the association between the duration of self-injurious behavior and the number of comorbidities demonstrated that the number of psychological difficulties does not decrease with longer duration of self-injury; on the contrary, it increases significantly. This suggests that the belief held by individuals who self-injure—that this maladaptive strategy effectively alleviates psychological distress—is misguided, as it ultimately contributes to a deterioration in mental health. The subjectively perceived relief may be only short-term; in the longer term, the strategy appears ineffective and may substantially exacerbate the individual's condition. These findings are consistent with the cyclical hypothesis of self-injury (Sutton, 2007), which posits that emotional suffering and psychological difficulties lead to intense distress, a perceived loss of control, and urges to self-harm. Although self-injury may provide temporary relief and a reduction in tension, subsequent feelings of shame and guilt, combined with unresolved underlying problems, reactivate the original emotions, thereby closing and perpetuating the cycle. Naturally, these findings must be interpreted within the study's limitations, as the design was not longitudinal and the predictive effect of the duration of self-injury on the occurrence of comorbidities was relatively small (5.5% of the variance). Nevertheless, the results represent an important finding that should be communicated to individuals who engage in self-injury in order to highlight the risks and consequences of this behavior not only for physical health but also for mental well-being. Furthermore, it would be appropriate to explore these relationships in larger male and non-binary populations.

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