

# The Correlation Between Suicidal and Self-harm Tendencies in Grammar Schools Students and Their Level of Resilience

## Suicidálne a sebapoškodzujúce tendencie u žiakov gymnázií v súvislosti s mierou reziliencie

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### Abstract:

The presented study provides an insight into the issue of suicidal and self-harm tendencies and resilience in 127 Slovak adolescents – grammar school students. The Connor-Davidson Resilience Scale (2003) and the risk-taking and self-harm inventory for adolescents (Vrouva et al., 2010) were used for the purpose of data collection. Gender differences in self-harm and suicidal tendencies were identified in the factors of risk-taking and self-harm, but also in some resilience factors – trust in one's instincts, tolerance of negative affect, and strengthening effects of stress. A negative correlation between suicidal and self-harm tendencies, and the level of resilience was confirmed.

### Keywords:

Suicidality; self-harm; resilience; adolescent; risk behaviour


### Abstrakt:

Naša štúdia ponúka vhl'ad do problematiky suicidálnych a sebapoškodzujúcich tendencií a reziliencie u 127 adolescentov navštevujúcich bilingválne, cirkevne a všeobecné gymnázium. Na zber dát bola využitá Connor-Davidsonovej škála reziliencie (Connor & Davidson, 2003) a Inventár podstupovania rizika a sebapoškodzovania pre adolescentov (Vrouva et al., 2010). Výsledky poukazujú na neexistenciu štatisticky významných rozdielov medzi tromi druhmi gymnázií, no v jednotlivých dimenziách premennej reziliencia boli zaznamenané štatisticky významné rozdiely, pričom išlo o dimenziu osobná kompetencia, vysoké štandardy a húževnatosť, dimenziu kontrola a dimenziu duchovné vplyvy. Medzirodové rozdiely v sebapoškodzujúcich a suicidálnych tendenciách boli zistené v dimenzii podstupovanie rizika a dimenzii sebapoškodzovania, rovnako boli zistené aj v niektorých dimenziách reziliencie – dimenzia dôvera vo vlastné inštinkty, tolerancia negatívneho vplyvu a posilnenie efektov stresu. Preukázala sa negatívna korelácia medzi suicidálnymi a sebapoškodzujúcimi tendenciami a úrovňou reziliencie.

### Kľúčové slová:

Samovražednosť; sebapoškodzovanie; odolnosť; adolescent; rizikové správanie

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## **1 Method and forms of self-harm, and suicidal tendencies during adolescence**

Suicidal and self-harm behaviours represent a serious global problem which attracts attention from various experts. They can occur at any age, but adolescence, accompanied by many positive as well as negative changes, is one of the most vulnerable periods. To deal with these difficult changes, many adolescents develop inappropriate coping strategies, and the “popularity” of self-harm has been increasing recently. Statistics from the National Center for Health Information indicate that in 2022, the incidence of reported suicide attempts among Slovak adolescents aged 15–19 increased by 33 attempts compared to 2021, with females predominating. At this point within the reporting period beginning in 2008, the incidence of suicide attempts in this age bracket peaked (148 attempts), which means that adolescents represented the group that most frequently attempted suicide.

Self-harm may bring a temporary feeling of release from negative emotions. According to Ryšánková (2008), this phenomenon can be referred to as “a new, contemporary pathology”.

The forms and methods of self-harm practised by adolescents are diverse. Koutek and Kocourková (2003) adds more methods of self-harm used by adolescents while pointing out that self-harm is a frequently repeated deliberate behaviour without the presence of suicidal ideation. The deliberate self-harm syndrome encompasses repeated deliberate self-harm more broadly. Wrist or forearm cutting and slashing as well as self-poisoning by, or overdosing on, prescription drugs obtained illegally without suicidal motivation are also considered forms of self-harm.

In recent years, experts have started researching digital self-harm, which is also typical for adolescence, and defined as “anonymous online posting, sending, or otherwise sharing of hurtful content about oneself” (Patchin & Hinduja, 2017, p. 761). Individuals have certain reasons to perform such actions.

Bywaters and Rolfe (2002) investigated the motives for self-harm, for example: the desire to shock people around them, difficulties with self-forgiveness – severe feelings of guilt, self-punishment, self-hatred, severe stress, traumatic events, difficulties with stress management, anger turned inwards, venting negative emotions, depression, discrimination, exclusion, bullying, lack of attention, desire to attract attention, craving for novelty, testing limits, no one to talk to, loneliness, despair, desire for hospitalisation, as a coping strategy, but also suicidal ideas and behaviour.

Suicidal tendencies represent the behaviour resulting from initial thoughts about suicide and how it could be committed in reality, followed by planning and obtaining the necessary tools to commit suicide, e.g., accumulating prescription drugs or obtaining a gun (Bulíková, 2010).

Koutek and Kocourková (2003) define suicidal behaviour as a broad concept, which also includes ideas, thoughts, and verbal statements without ever attempting suicide as such. Hóschl (2002, in Bulíková, 2010, p. 26) defines suicide as a “deliberate and intentional ending of one’s own life”. By behaving suicidally, a person causes their own death or intends to do so.

## **1.1 Resilience as a form of prevention of adolescent self-harm and suicidal behaviour**

Resilience as a construct represents the individual's ability to retain positive adaptation despite experiencing significant adversity (Luthar, Cicchetti, & Becker, 2000). In his theoretical framework of resilience, Komárik (2010) explains that every person has a certain potential (various skills, competences, and capabilities), which gives them the ability to resist adverse and risk factors generated by their environment. Gruhlová and Körbächer (2013) use a synonymous term – mental endurance. According to these authors, it “encompasses all the forces that allow the person to cope with life in both good and bad times” (Gruhl & Körbächer, 2013, p. 10). In the wake of stressful or difficult situations, resilient individuals can, whether quickly or slowly, return to normal life, also thanks to the support of their close ones. By overcoming such situations, the resilient person becomes more confident, courageous, and their trust in self and their own abilities is increased.

According to Bernard (1993), resilient adolescents show four typical traits: social competence as the ability to elicit positive reactions from the surroundings, which is related to sense of humour, well-developed communication skills, and empathy.

Adolescence is one of the more sensitive developmental periods. The individual is affected by numerous factors, mainly social ones. Therefore, early prevention and intervention are of key importance. Babáková (2003) specify the main factors that provide protection from suicidal behaviour: family examples – harmonic relationships and support within the family; cognitive style and personality traits – e.g., self-confidence, knowledge, openness to learning, gaining experience, and solutions proposed by others, asking for help and seeking advice; cultural and sociodemographic factors –e.g., good relationships in school (with teachers and peers), social integration (e.g., participation in sporting events and youth clubs).

Huang and Mossige (2015) researched the correlation between resilience and mental problems among young people who claimed to survive violence and at the same time, self-harm. They found that resilience measured by the Resilience Scale for Adolescents strongly negatively correlated with mental problems among all young people who participated in the research. This correlation was more significant among young people who claimed experience with violence and self-harm. Another, international research focused on suicidal thoughts and attempts among adolescents and involved data from 45,806 high school students aged 15 to 16 from 17 countries. In the participating countries, the median prevalence of suicide attempts was 10.5%. The median rate of frequent self-harm thoughts (a minimum of 5x) was 7.4%. Suicidal behaviour and thoughts showed significant correlation with gender, use of addictive substances, family integrity, and socioeconomic background (Kokkevi, 2011). These studies inspired the presented research into this extremely topical and challenging issue.

## **1.2 Differences in the prevalence of suicidal and self-harm tendencies in Slovak adolescents in the context of resilience**

This research aimed to identify 1) any statistically significant differences in resilience and its individual factors among adolescent students, and 2) possible correlation between resilience and self-harm and suicidal tendencies in adolescent students in grammar schools. Two research methods were used to identify the prevalence of suicidal and self-

harm tendencies in adolescents: the Risk-Taking and Self-Harm Inventory for Adolescents (RTSHIA, Vrouva et al., 2010), while the level of resilience was measured by CD-RIDC (Connor & Davidson, 2003). The research sample consisted of 127 respondents in total – 49 boys (49%) and 78 girls (61%).

Table 1 shows a descriptive analysis of the variables identified, which was processed using the JASP statistical program.

**Table 1** Descriptive statistics and results of the Kolmogorov–Smirnov test for the variables measured by CD-RISC and Risk-Taking and RTSHIA (N=127)

	R	S	PC	T	A	C	SI	RT	fSP
Mean	65.73	18.13	21.79	16.42	14.62	7.54	5.36	8.32	9.8
SD	14.26	10.56	5.56	4.46	3.17	2.67	1.99	4.4	8.67
Median	67	20	22	16	15	8	6	12	9
Skewness	-0.6	0.85	-0.87	0.09	-1.01	-0.48	-0.61	0.05	1.15
Kurtosis	0.98	0.39	1.2	0.08	1.38	-0.19	-0.22	-0.93	1.19
Minimum	19	2	4	6	4	0	0	0	0
Maximum	98	51	32	28	20	12	8	17	41
KS test statistics	0.094	0.123	0.105	0.084	0.138	0.104	0.154	0.091	0.134
KS test p-value	0.216	0.042	0.121	0.337	0.016	0.130	0.005	0.248	0.022

Notes: SD – standard deviation; R – resilience; S – self-harm PC – personal competence, high standards, tenacity T – trust in one’s instincts, tolerance of negative affect, strengthening effects of stress; A – positive acceptance of changes and safe relationships; C – control; SI – spiritual influence; RT – risk-taking, fSP – self-harm factor

To identify gender differences in the prevalence of suicidal and self-harm tendencies, a two-sample Students t-test was used; however, it showed no statistically significant differences between boys and girls, see Table 2.

**Table 2** Gender differences in self-harm as a variable

	Self-harm	
	Boys	Girls
N	49	78
Mean	22.25	22.26
SD	11.76	11.37
t-stat.		0.68
p-val.		0.996
Cohen’s D		0.00

Notes: N – number; SD – standard deviation; t-stat. – t-statistics, p-val. – p-value

However, boys scored higher in the factor of risk-taking with a statistically significant difference.

**Table 3** Gender differences in risk-taking as a variable

	Factor of risk-taking	
	Boys	Girls
N	48 h.	79
Mean	14.06	11.17
SD	5.33	5.11
t-stat.		3.06
p-val.		0.003
Cohen's D		0.56

Notes: N – number; SD – standard deviation; t-stat. – t-statistics, p-val. – p-value

The two-sample Student' t-test was used to identify the gender differences in the level of resilience. No statistically significant difference between boys and girls was identified.

**Table 4** Gender differences in resilience as a variable

	Resilience	
	Boys	Girls
N	49	78
Mean	66.81	65.05
SD	13.23	14.91
t-stat.		0.68
p-val.		0.449
Cohen's D		0.12

Notes: N – number; SD – standard deviation; t-stat. – t-statistics, p-val. – p-value

Based on the research findings yielded by the two-sample Student's t-test, it can be concluded that in the factor “trust in one's instincts, tolerance of negative affect, and strengthening effects of stress”, which had normal distribution, there were no statistically significant differences between boys and girls, although boys scored higher than girls. In the factor of “personal competence, high standards, and tenacity” and the factor of control, there were also no statistically significant differences.

**Table 5** Gender differences in the factor of resilience

	PC		T		C	
	Boys	Girls	Boys	Girls	Boys	Girls
N	49	78	49	78	49	78
Mean	21.96	21.68	17.59	15.68	7.71	7.44
SD	5.05	5.88	4.6	4.24	2.76	2.62
t-stat.	0.28		2.4		0.57	
p-val.	0.784		<b>0.018</b>		0.569	
Cohen's D	0.05		0.44		0.104	

Notes: N – number; SD – standard deviation; t-stat. – t-statistics, p-val. – p-value PC – personal competence, high standards, tenacity T – trust in one's instincts, tolerance of negative affect, strengthening effects of stress; C – control

In the factor of spiritual influence, statistically significant gender differences were identified – girls scored higher than boys. However, no statistically significant gender differences were identified in the factor of “positive acceptance of changes and safe relationships”.

**Table 6** *The results of a Mann-Whitney U-test for the factor of “positive acceptance of changes and safe relationships” and the factor of spiritual influence according to gender*

	<b>A</b>		<b>SI</b>	
	<b>Boys</b>	<b>Girls</b>	<b>Boys</b>	<b>Girls</b>
N	49	78	49	78
Mean	14.74	14.55	4.82	5.71
SD	2.94	3.22	2.13	1.83
p-val.	0.823		<b>0.019</b>	

Notes: N – number; SD – standard deviation; t-stat. – t-statistics, p-val. – p-value A – positive acceptance of changes and safe relationships; SI – spiritual influence

A correlation analysis using the Pearson correlation coefficient was performed; it showed a medium strong negative correlation between the variables of self-harm and resilience, which means that the lower resilience, the higher suicidal and self-harm tendencies. The value of the Pearson Correlation Coefficient was -0.291 and the p-value was <0.001.

The most frequent motives for suicidal and self-harm tendencies were analysed (see numbers in brackets). Family as the stress factor was the most frequent one (38), further motives claimed by adolescents are: lack of experience with problem-solving (23), interindividuality – lack of mutual understanding (21), negative self-image, low self-confidence (19), popularisation of self-harm and suicide(16), unfulfilled romantic relationships (15), school as a stress factor (14), a cry for help (11), self-punishment (9), current events in society (8), inability to open and confide in someone (6), need for attention (4).

## Conclusion

There is little knowledge about the gender differences in self-harm and suicide and the results are ambiguous so far (Ohlis et al., 2020). Hawton, Saudner (2012) points out that this kind of behaviour is more connected to stereotypical female attributes. In the research of Poudel et al. (2020) into gender differences, women showed significantly higher values in the life-long prevalence of suicidal behaviour than men, which supports this claim. The presented research showed no gender differences in the prevalence of suicidal and self-harm tendencies among the students in grammar school. However, a statistically significant gender difference was identified in the factor of risk-taking in favour of boys. The research of Reniers et al. (2016) also showed that boys aged 13 to 20 were less sensitive to bad academic performance and less socially anxious, while taking more risks than their female peers.

Therefore, it was assumed that the level of resilience in adolescent female students in grammar schools would be different. Some research (e.g., Deng et al., 2016) indicates that women are more inclined to show their emotions than men. This may lead women to be more open and inclined to seek help in times of crisis, which could increase their level of

resilience. Contrary to the assumptions relevant for the presented study, Gök & Koğar's (2021) quantitative summary of the findings related to the gender differences in mental resilience among individuals shows that gender does not have any statistically significant impact on the level of mental resilience, although men scored better. The presented research findings indicate there is no gender difference in the overall level of resilience between male and female students in grammar schools. However, gender differences were confirmed in specific factors of resilience – “trust in one’s instincts, tolerance of negative affect, and strengthening effects of stress” in favour of boys, and in the factor of spiritual influence in favour of girls.

Şahin & Hepsöğütü’s study (2018) points out that low resilience negatively affects coping strategies, which are important for dealing with stress, negative events, and overall mental load. It was initially assumed that resilience will have some impact on the self-harm and suicidal tendencies as indicated by Huang and Mossige (2015) who researched resilience as a trait defined by the ability to prevent mental health issues in adolescents. Their research shows a significant negative correlation between resilience and the incidence of mental health issues in young people in general. The presented research also identified a significant, strong negative correlation between self-harm and suicidal behaviour, and the level of resilience in adolescents.

Weintraub et al. (2017) point out that self-harm and suicidal ideation can be a strong indicator of an individual’s ability to function in everyday life, and the personality traits which are typical for people with mood disorders (e.g., depression or bipolar disorder). In the study conducted by Laye-Gindhu et al. (2005), adolescents showed significantly more antisocial behaviour, emotional tension, anger issues, risk behaviour, and lower self-respect. The respondents in this study also claimed they had low self-respect and self-confidence.

In future research, it would be appropriate to focus on topics such as performance pressure, experiencing emotions, stress management strategies, comorbidity with mental disorders, and level of self-respect. It is also important to focus on the development of resilience in schools. Last but not least, these topics deserve long-term attention in the form of longitudinal studies as well as deeper investigation, e.g., in the form of qualitative research, which can provide valuable knowledge about subjective experience and personal stories with regard to cultural and social factors.

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