

Differentiation of indirect self-destructiveness due to sex (gender) in individuals after suicide attempts

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Summary

Aim. The aim of this study was to examine the sex (gender) differentiation of indirect self-destructiveness as a generalised behavioural tendency and its manifestations in individuals who attempted suicides.

Methods. 147 individuals (114 females and 33 males) after suicide attempts were studied; the reference group consisted of 558 individuals (399 females and 159 males). Indirect self-destructiveness was examined by means of the Polish version of the Chronic Self-Destructiveness Scale (CS-DS) including Transgression and Risk (A1), Poor Health Maintenance (A2), Personal and Social Neglects (A3), Lack of Planfulness (A4) and Helplessness, Passiveness in the Face of Problems/Difficulties (A5).

Results. Sex (gender) and suicide attempt significantly differentiate scores of the subjects on all indices/scales of indirect self-destructiveness. Scores of individuals after suicide attempts are considerably higher on almost all scales. In that group, significant differences between females and males occurred on the A2-Poor Health Maintenance, A3-Personal and Social Neglects, A4-Lack of Planfulness and A5-Helplessness scales. It was only on the A2-Poor Health Maintenance scale that females achieved higher scores.

Conclusions. The intensity of indirect self-destructiveness in females who attempted suicides achieved the level observed in males who attempted suicides. Poor health maintenance was also more intense in them than in the group of males. Males after suicide attempts

displayed the lowest poor health maintenance. Results of this study may have preventive and therapeutic implications.

Introduction

Behaviour (activities, actions) of the human being may have consequences other than intended or completely unexpected, or even harmful to an individual himself or herself, irrespective of the degree of awareness of the subject and irrespective of the time perspective (now and immediately *vs.* later) or type of harm (physical *vs.* psychological harm).

A majority of authors most often consider “self-destructive behaviours” to be behaviours categorised as directly self-destructive, i.e. most commonly self-mutilation, self-inflicted injury and attempted or committed suicide. Literature most frequently offers studies on direct self-destructiveness (self-mutilation, self-inflicted injury, attempted suicide, committed suicide) or on specific and separate behaviours being manifestations of what is nowadays referred to as indirect or chronic self-destructiveness. It was found, for example, that direct self-destructiveness in males differs from direct self-destructiveness in females in the population of drug abusers [1, 2]. Until recently, some authors have considered indirect self-destructiveness as a theoretical construct, but recent studies show that it is a clinical phenomenon, and according to some authors even a syndrome.

Kelley defines chronic self-destructiveness as a generalised tendency to undertake behaviours increasing the likelihood of negative and decreasing the likelihood of positive consequences for the subject [3]. For the purposes of this study, it was assumed that indirect/chronic self-destructiveness is behaviours whose likely negative consequence is intermediated by additional factors, while the relationship between the behaviour and harm is perceived as likely. Indirect self-destructiveness understood in such a way comprises both taking and abandoning specific actions; it concerns getting into hazardous and increased-risk situations (active form) or neglecting one’s safety or health (passive form). Moreover, indirect self-destructiveness is a form of self-destruction with an extended distance between an action and consequence [4, 5]. There are, in general, several categories of indirectly self-destructive behaviours: transgression and risk, poor health maintenance, personal and social neglects, lack of planfulness as well as helplessness and passiveness in the face of problems/difficulties. Transgression and risk include behaviours violating social norms, such as school rules or principles of community life, as well as risky behaviours undertaken for a momentary pleasure, e.g. driving with bravado, connected with a desire to impress others, feel appreciated, better, noticed, or gambling. That category also comprises succumbing to temptations, impulsiveness and seeking risky excitation. Poor health maintenance encompasses behaviours harmful to one’s health, such as excessive eating or drinking, neglecting medical appointments or ignoring physicians’ recommendations. Personal and social neglects include, for instance, neglecting one’s duties or matters (personally and interpersonally) important to the subject. Lack of planfulness consists in acting mainly on the spur of the moment with no further perspective in view. Helplessness

and passiveness are giving up an action or not taking it in circumstances where such an action might end suffering or prevent some danger [3-5].

In turn, as far as direct self-destructiveness is concerned, suicide is an important threat to public health worldwide. The issue of suicides is one that has been bothering the humankind and representatives of various science and knowledge disciplines for a long time. That comes as no surprise, considering the fact that in the individual (personal, ontogenetic, intrapsychological) dimension it is an expression of immense suffering of the individual, while in its social dimension-a tragedy for the family and friends as well as loss of a community member and benefit he or she could bring to the society.

The number of suicides has been increasing worldwide, especially in the population of young people and adult males [6-8]. What is more, the number of violent methods of suicide (e.g. hanging) has been on the rise, which means that those more fatal methods contribute to a higher degree of suicide risk [9]. So far, some personality traits of individuals after suicide attempts have been studied, e.g. anger, aggression, or temperament/character etc. [10]; it was found that factors conducive to suicide attempts include helplessness and hopelessness [11] as well as a sense of alienation and not being understood by others [12].

A non-fatal suicide attempt is among the strongest clinical predictors of the ultimate (committed) suicide, which is indicated by the phenomenon of suicide recurrence [13]. Indirect self-destructiveness is distinctly a different form of self-harm than direct self-destructiveness and an entity different from self-aggression [*cf.* 14]. It is important insofar as both suicide attempts or not committed suicides and the intensity of indirect self-destructiveness may still result in a committed suicide [13]. It is not a coincidence that indirect-self destructiveness is referred to as “slow” or “lingering” suicide.

It is a well-known fact that males display more self-destructive behaviours but most studies and data concern direct self-destructiveness. In world literature, there are almost no studies into the sex (gender) differentiation of the intensity of indirect self-destructiveness as a generalised tendency considered in a comprehensive (holistic) manner in individuals after suicide attempts. One of the few research studies into the sex (gender) differentiation of indirect self-destructiveness stated that indirect self-destructiveness, as a generalised behavioural tendency, is more intense in males than in females [15].

The aim of this study was to examine the sex (gender) differentiation of indirect self-destructiveness as a generalised behavioural tendency and its manifestations in individuals who attempted suicides.

Material and Method

The study was performed among individuals who had attempted suicides using various methods and were hospitalised due to that. The studied population (“S” group) consisted of 147 individuals (114 females and 33 males) aged 23-33 years. No psychotic disorders or mental retardation were diagnosed in the studied individuals. For additional comparisons, scores of the reference group composed of 558 individuals (399 females and 159 males with no suicide attempts) (“NS” group) were used.

The study was anonymous and participation was voluntary. Consent obtained from the authorities of facilities and the subjects was a prerequisite for participation in the study. Principles of the Declaration of Helsinki were adhered to. In order to examine indirect self-destructiveness and its manifestations, the Polish version of the Chronic Self-Destructiveness Scale (CS-DS) by K. Kelley was used, in its adaptation by Suchańska.

In order to examine chronic (indirect) self-destructiveness as a generalised tendency, Kelley created a research tool including several categories of behaviours and comprising a set of 52 statements. The Polish version of the tool, as the original one, is characterised by high reliability and validity and includes: Transgression and Risk (A1), Poor Health Maintenance (A2), Personal and Social Neglects (A3), Lack of Planfulness (A4) as well as Helplessness, Passiveness in the Face of Problems/Difficulties (A5) whose results are summed up to provide one general score (or global index) of indirect self-destructiveness [3-5].

The statistical analysis of received scores applied descriptive methods and statistical inference methods. In order to describe the mean value for quantitative traits, the arithmetic mean (\bar{x} , M) was calculated, while the standard deviation (σ , SD) was assumed to be the measure of dispersion. The Shapiro-Wilk test was used to assess the compliance of distributions of quantitative traits with the normal distribution. Due to the lack of compliance of distributions of dependent variables with the normal distribution, the statistical processing of received scores applied the non-parametric analysis of variance of ranks (ANOVA by ranks) by Kruskal-Wallis. For all the analyses, the maximum acceptable type I error was assumed at $\alpha=0.05$; $p \leq 0.05$ was considered statistically significant. The statistical analyses were performed using the statistical Statistica PL 10.0 for Windows package [16].

Results

The picture and structure of indirect self-destructiveness in individuals who attempted suicides (“S” group) may be more comprehensive if their scores are analysed in the light of scores achieved by individuals who did not attempt suicides (“NS” group). The profilogram on CS-DS (Figure 1) may provide a lot of information on the psychological functioning of the subjects, especially in the scope of indirect self-destructiveness.

In order to explore the internal structure of indirect self-destructiveness, we will try to examine scores on specific CS-DS scales in the whole populations (S and NS) as well in the groups of females and males within those populations (Tables 1-6, Figure 1).

Based on the configuration of scales, it is possible to arrange them in the so called rank order in respect of the height (tantamount to the intensity) of each scale for each population and group. In the NS population, the rank order of CS-DS scales in respect of intensity is homogenous, i.e. the same in the whole population as well as in the groups of males and females: A5 – Helplessness, A2 – Poor Health Maintenance, A3 – Personal and Social Neglects, A4 – Lack of Planfulness, A1 – Transgression and Risk.

Table 1: **Kruskal-Wallis Rank ANOVA for scores on the CS-DS (global index).**

Dependent Variable: Indirect Self-Destructiveness	Independent Variables: Gender, Suicide Attempt Kruskal-Wallis Test: H =55.053; p=0.0000			
	Mean	St. Dev.	Sum of Ranks	Mean Rank
Nonsuicides-Women	121.407	17.114	5913.000	64.978
Nonsuicides-Men	126.733	22.568	2308.000	76.933
Suicides-Women	153.974	24.958	4820.500	126.855
Suicides-Men	154.273	12.809	1493.500	135.773

Table 2: **Kruskal-Wallis Rank ANOVA for scores on the A1 scale (Transgression, Risk)**

Dependent Variable: A1-Transgression, Risk	Independent Variables: Gender, Suicide Attempt Kruskal-Wallis Test: H=50.134; p=0.0000			
	Mean	St. Dev.	Sum of Ranks	Mean Rank
Nonsuicides-Women	39.044	8.027	6167.500	67.775
Nonsuicides-Men	39.467	9.862	2128.500	70.950
Suicides-Women	53.342	11.981	4764.000	125.368
Suicides-Men	54.273	8.694	1475.000	134.091

Table 3: **Kruskal-Wallis Rank ANOVA for scores on the A2 scale (Poor Health Maintenance).**

Dependent Variable: A2-Poor Health Maintenance	Independent Variables: Gender, Suicide Attempt Kruskal-Wallis Test: H=16.152; p=0.001			
	Mean	St. Dev.	Sum of Ranks	Mean Rank
Nonsuicides-Women	27.198	6.185	6788.500	74.599
Nonsuicides-Men	28.733	6.730	2604.500	86.812
Suicides-Women	32.605	6.957	4274.500	112.487
Suicides-Men	26.818	6.507	867.500	78.864

In turn, in the S population the rank order is diversified. The first important difference between S and NS profilograms consists in the fact that in the S group the rank order (configuration) of scales was determined by females' scores: the scale rank order for the whole S population is the same as the scale configuration in females. The predominance of females in that group is not particularly important as similar predominance occurs also in the NS population but no such relationships are observed there. Although the order is the same (the first and second place respectively) in the case of the two highest scales (A5 – Helplessness, A1 – Transgression and Risk) in the whole S population and in the groups of males and females, it differs for the other scales. In the group of females, the order is as follows: A2 – Poor Health Maintenance, A3 – Personal and Social Neglects and A4 – Lack of Planfulness, i.e. the same as in the whole S population; whereas in males it is: A3 – Personal and Social Neglects, A4 –

Lack of Planfulness and A2 – Poor Health Maintenance (the lowest score among all the studied populations and groups).

In turn, although A5 was the highest scale in all the populations and groups, it was A2 – Poor Health Maintenance and A1 – Transgression and Risk that ranked second in the NS and S populations respectively.

The applied Kruskal-Wallis ANOVA by ranks (Tables 1-6) indicated that sex (gender) and suicide attempt are qualitative variables significantly differentiating scores of the subjects on all the CS-DS scales and on the general (global) index of indirect self-destructiveness (H test: from 16.152 to 55.053; significance, “p” from 0.001 to 0.0000).

Table 4: Kruskal-Wallis Rank ANOVA for scores on the A3 scale (Personal and Social Neglects)

Dependent Variable: A3-Personal and Social Neglects	Independent Variables: Gender, Suicide Attempt Kruskal-Wallis Test: H=25.490; p=0.0000			
	Mean	St. Dev.	Sum of Ranks	Mean Rank
Nonsuicides-Women	28.220	5.469	6676.000	73.363
Nonsuicides-Men	28.767	6.990	2269.000	75.633
Suicides-Women	32.789	7.129	4124.500	108.539
Suicides-Men	35.636	4.506	1465.500	133.227

Table 5: Kruskal-Wallis Rank ANOVA for scores on the A4 scale (Lack of Planfulness)

Dependent Variable: A4-Lack of Planfulness	Independent Variables: Gender, Suicide Attempt Kruskal-Wallis Test: H=21.218; p =0.0001			
	Mean	St. Dev.	Sum of Ranks	Mean Rank
Nonsuicides-Women	18.429	4.471	6394.500	70.269
Nonsuicides-Men	21.700	5.022	3020.500	100.683
Suicides-Women	21.211	5.517	3754.000	98.789
Suicides-Men	24.273	4.564	1366.000	124.182

Table 6: Kruskal-Wallis Rank ANOVA for scores on the A5 scale (Helplessness)

Dependent Variable: A5- Helplessness, Passiveness	Independent Variables: Gender, Suicide Attempt Kruskal-Wallis Test: H=44.718; p=0.0000			
	Mean	St. Dev.	Sum of Ranks	Mean Rank
Nonsuicides-Women	6.633	1.984	1391.500	46.383
Nonsuicides-Men	8.297	1.986	7345.500	80.720
Suicides-Women	9.000	2.101	1083.500	98.500
Suicides-Men	15.316	0.968	4714.500	124.066

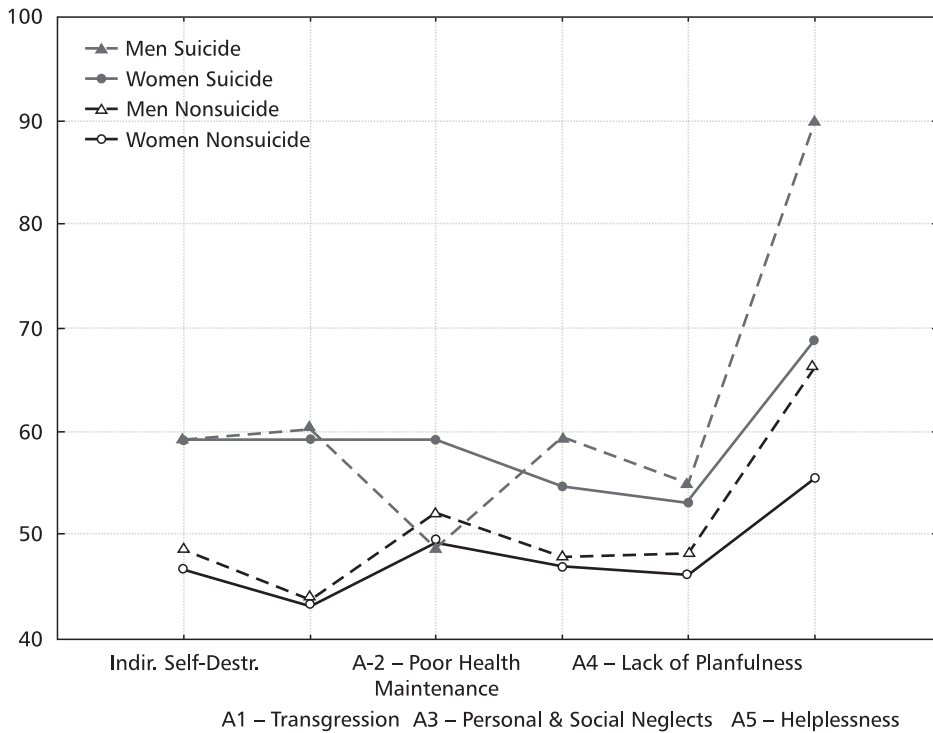


Figure 1: Comparison of women and men, suicides and nonsuicides scores on the CS-DS.

As shown in the figure and tables, scores of the S group are noticeably higher than scores of the NS group on almost all the scales, which is consistent with results of another study [17]. On the other hand, differences between women and men in scores on the CS-DS scales differ a little between the populations. In the general population (NS), statistically significant differences occurred for the general (global) indicator of indirect self-destructiveness, A2 – Poor Health Maintenance, A4 – Lack of Planfulness and A5 – Helplessness scales; males scored higher on all the scales [cf. 15].

In turn, in the S group, statistically significant differences occurred on the A2 – Poor Health Maintenance, A3 – Personal and Social Neglects, A4 – Lack of Planfulness and A5 – Helplessness scales [cf. 18]. Males scored higher on all the scales except for A2. It was only on the A2 – Poor Health Maintenance scale that they achieved lower scores than females. But that is not all: males after suicide attempts achieved the lowest scores on the A2 scale in both the studied populations.

Another feature characteristic of the S group is the fact that females had the global (general) index of indirect self-destructiveness almost identical to that of males! In turn, in the NS population males achieved higher scores than females [cf. 15]. As already mentioned, on the A5 – Helplessness scale, females in the S group achieved scores lower than males but very similar to scores of males in the NS group.

Discussion of results

It will be difficult to refer to results of other research in that scope because the authors have not found studies dedicated to that issue in available literature. The absence of differences in the rank order of CS-DS scale heights between females and males in the NS population may indicate the absence of differences in the internal structure of indirect self-destructiveness between females and males: it is similar in females and males.

The high rank of A2 in that population may result from the fact that people usually neglect their health more than other matters.

While in the reference population (NS) Poor Health Maintenance (A2) ranked second, it was Transgression and Risk (A1) that ranked second in the S population. Such a result may correspond with or be an expression of the act committed by those individuals: transgression (or attempted transgression) of not only generally accepted principles and norms but also of the boundary between life and death or between the world of the living and the world of the dead. Moreover, such an act (suicide attempt) is certainly a risky action even if it is a “mere demonstration” (it is a well-known fact that “mere attempts” often result in death).

As we have seen, the configuration of CS-DS scales in the whole S population is the same as the rank order of the scales in females. Thus, it can be inferred that the picture and structure of indirect self-destructiveness are shaped by females who “give them the tone”, although they achieve scores higher than males on only one scale (A2). Furthermore, the fact that configurations of the CS-DS scales differ between females and males may suggest that there is stronger differentiation in the internal structure of indirect self-destructiveness between females and males in the S population.

Differences in the heights of the scales between the reference population (NS) and the S population may indicate that, in individuals after suicide attempts, it is not only direct but also indirect self-destructiveness that is more intense, its expression, symptom and consequence being the suicide attempt. The distribution of scores in the reference population (NS) may suggest that males are characterised by stronger indirectly self-destructive tendencies, both as a generalised behavioural tendency and in the form of its specific manifestations or categories.

Based on conducted research, it was found that, in individuals who attempted suicide, the intensity of indirect self-destructiveness as a generalised tendency and the intensity of its specific manifestations (Transgression and Risk, Poor Health Maintenance, Personal and Social Neglects, Lack of Planfulness, Helplessness, Passiveness in the Face of Problems/Difficulties) were significantly higher than in individuals who did not attempt suicide. That can indicate that indirect self-destructiveness may be a predictor of or a risk factor for committing (attempting) suicide [*cf.* 13, 17].

Another likely explanation of the so called gender (sex) paradox in suicides [*cf.* 19] may be the hypothesis that in the general population suicides attempted by males more often end in death as males display stronger indirectly self-destructive tendencies (higher intensity, higher charge of indirect self-destructiveness) than females. That concerns committed suicides rather than suicide attempts because, as we have observed

in the population of individuals after suicide attempts, females achieved the intensity of indirect self-destructiveness similar to that of males after suicide attempts.

It is worth pondering over the received result revealing that, although higher in males in the reference population (with no suicide attempts) [15], the intensity of indirect self-destructiveness as a generalised behavioural tendency is equal in males and females in the population of individuals who attempted suicides. Could females who attempted suicides “catch up” with males in respect of indirect self-destructiveness? It is important insofar as in the aspect of suicide attempts (and maybe committed suicides), especially in the case of females, increased indirect self-destructiveness may be a risk factor and warning signal for suicide attempts.

As we could see earlier, that general behavioural tendency consists of several categories of behaviours that are potentially harmful to the subject. We will try to explore categories of those relationships, focusing on those categories of indirect self-destructiveness where statistically significant differences occurred between females and males after suicide attempts. In the studied group of individuals who attempted suicides, there were statistically significant differences in scores between females and males on four categories of indirectly self-destructive behaviours. Females scored higher on poor health maintenance (A2) and males scored significantly higher on three categories: personal and social neglects (A3), lack of planfulness (A4) and helplessness (A5). That was similar in the reference population (of individuals who did not attempt suicides) with the difference being that in that population males scored significantly higher also on poor health maintenance (A2) [15]. As it can be seen, the result is opposite in the group of females who attempted suicides. Such a low intensity of poor health maintenance in males in the S group is quite a paradox, taking into account attempted suicide; that means that males after suicide attempts take the greatest care of their health (or at least neglect it the least) as compared to the other groups. It is characteristic that males after suicide attempts poorly maintain their health to a degree lower than females after suicide attempts and males with no suicide attempts, but similarly to females with no suicide attempts, thus to a very low degree; whereas females after suicide attempts poorly maintain their health to the highest degree as compared to the other groups (i.e. males who attempted suicides as well as females and males who did not attempt suicides). That is so despite the fact that females are more “accustomed” to using health care, are more “trained” in that if only due to necessary regular gynaecological check-ups or obtaining prescriptions for contraceptives [20, 21]. Therefore, it can be assumed that poor health maintenance in females may be a warning signal as regards suicide attempts. That would be yet another risk indicator of suicide (attempt) in females. On the other hand, could the low degree of poor health maintenance in males, paradoxically, be a prodromal symptom of suicide attempt? The question is important insofar as that category of indirect self-destructiveness correlates with recurrence of suicide attempts, which is a high risk factor for committed suicide [13, 14, 22, 23].

A little more attention should be given to the issue of personal and social neglects (A3). Such behaviours of the subject may result in failures or even disasters in his or her life whose causes the subject may not be aware of. That means that males more

frequently experience personal and social failures due to abandoning actions that might improve their personal and social situation or their interpersonal relations. An example may be the so called series of misfortunes, i.e. such a manner of acting that decreases the likelihood of succeeding in one's task, according to the concept of cognitive dissonance; when experiencing failures, the subject seeks further failures in order not to face a cognitive dissonance situation that might result from achieving success. That particularly dramatic way of regulating one's expectations by means of the so called strategic failures proves willingness to bear high psychological costs for the sake of a sense of safeness [4]. It is possible that in such an event males display an extreme neglect of all matters important to them (personal dimension); on the other hand (social aspect), it may be the case that in such a way the attempter directly involves in his or her problems and forcefully "burdens" with them other people who may be witnesses or help him; it is quite possible that it is a desperate attempt to establish relations with other people or maybe a desperate "cry for help". The lower intensity of that category in females may result from the attitude of caring "for everyone and everything" that is typical of females; after all, it is females who take the most care e.g. of a child from his or her birth (at least at the beginning of the child's life) and before they become mothers they are also brought up in the spirit of "caring"; thus, care for oneself and others may be supposed to protect females from attempting suicides.

Lack of planfulness (A4) is often connected with tendencies to forget about or ignore matters that are significant and important at a certain point in life as well as to be careless in everyday life. That may be associated with negative events, apparently unconnected with the subject's actions, but may directly contribute to endangering the individual's health or life. (Female) sex is a protective factor in the case of such attitudes and behaviours. One may attempt to describe that phenomenon in a vivid manner by stating that the studied males seem to be "careless, cheerful boys" as opposed to females who appear as "constantly worrying demons for work and conscientiousness" [*cf.* 24, 25].

The issue of helplessness (A5) in suicide attempts is quite clear: suicide is an expression and maybe also an effect of the human's helplessness in a situation he or she face [*cf.* 13, 14, 26]. In their situation in life, that act seemed to be the best solution irrespective of whether the actual intention was to ultimately end one's life or the act was a desperate "cry for help" or attempt to attract attention.

Males also ranked higher than females on helplessness (A5). That may prove the lack of motivation to take specific actions or abandoning them completely when such actions might protect the individual from danger or contribute to ending the suffering (also of others). That may often contribute to behaviours connected with avoiding or abandoning actions in situations in life that require involvement or taking specific actions aimed at resolving existing problems. Attention ought to be drawn to results of other studies indicating a relationship between indirect self-destructiveness and a sense of impotence and hopelessness [13].

Scores achieved by females after suicide attempts on the A5 scale suggest that the intensity of helplessness they feel is lower than in males in the same group (who achieve the highest scores) but similar, although higher, as compared to males with

no suicide attempts (in whom it is higher than in females with no suicide attempts). Thus, sex (gender) differences in the scope of indirectly self-destructive tendencies and behaviours in individuals after suicide attempts are noticeable.

Suicides and suicide attempts can be prevented [*cf.* 27]; while indirect self-destructiveness is an important predictor and signal. On the other hand, a suicide attempt (or its type) does not rule out a possibility to live a happy life; hence, it is worth offering those individuals professional help and encouraging them to use it.

Importance of therapeutic work can be indicated by results of a longitudinal study on the population of adolescents after suicide attempts: it was found that 70.50% felt happy [28]. Moreover, optimistic transformation of negative events in life may have therapeutic implications for suicide prevention [29] as it is a well-known fact that pessimism is among risk factors of suicide [30].

Kelley [31] states that chronic self-destructiveness is not androgynous but rather sex-typed; the results of this study indicate that chronic or indirect self-destructiveness in individuals after suicide attempts is, nevertheless, rather masculine.

Conclusions

The intensity of indirect self-destructiveness as a generalised behavioural tendency in females who attempted suicides (in contrast to the reference population) achieved the level observed in males who attempted suicides, which can be a warning signal for suicide attempts in females. Poor health maintenance can also be a warning signal in females who scored higher on it than the group of males.

The signal which is worth consideration is excessive health maintenance in males; males after suicide attempts display poor health maintenance to the lowest extent. Results of this study may be diagnostically useful in suicide prevention and have preventive and therapeutic implications.

Results of this study can be useful in the prevention of not only indirectly self-destructive behaviours but also possible suicide attempts. They can also be applied in therapeutic work with individuals who display such tendencies or made an attempt on their own life [*cf.* 29, 32-34]. Both preventive and therapeutic activities can take into account the specificity of those phenomena resulting from one's sex/gender. It is important to adapt preventive and therapeutic measures to psychological (personal) traits that arise from the individual's sex/gender.

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