

ORIGINAL ARTICLE

Indirect self-destructiveness in individuals with schizophrenia

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Objective: To explore the indirect self-destructiveness syndrome in patients with schizophrenia.

Methods: Two hundred individuals with paranoid schizophrenia (117 men and 83 women, mean age 37.15 years), all in remission, were examined using the Polish version of the Chronic Self-Destructiveness Scale. Two hundred well-matched healthy individuals served as a control group.

Results: The intensity of indirect self-destructiveness was greater in the schizophrenia group than in controls. The intensity of each manifestation was as follows (in decreasing order): helplessness and passiveness in the face of difficulties (A5), personal and social neglects (A3), lack of planfulness (A4), poor health maintenance (A2), transgression and risk (A1).

Conclusion: Patients with schizophrenia displayed more behaviors that were indirectly self-destructive than healthy controls; they scored better than healthy controls only on caring for their own health. The patients showed the lowest intensity of behaviors connected with the active form of indirect self-destructiveness, and the highest intensity of behaviors connected with the passive form. These findings may enable delivery of more effective forms of pharmacological and psychosocial help to patients with schizophrenia.

Keywords: Schizophrenia; indirect self-destructiveness; health maintenance; neglects; planfulness; helplessness

Introduction

Behaviors causing harm to the individual, regardless of the intention, aim, awareness of their negative consequences, and time perspective (i.e., harm occurring immediately vs. later) and object of harm (physical or psychological existence of the individual), can be referred to as self-destructive behaviors. A majority of authors understand the term self-destructive behaviors to mean direct or acute self-destructiveness, i.e., self-injury, self-mutilation, and attempted and completed suicides.

However, there is a distinction between direct and indirect threat and/or harm. The subject of this work is indirect (chronic) self-destructiveness. This category is important because the behaviors it encompasses, although many are considered normal by most people, generate undesired and harmful effects in an almost imperceptible way.¹ To date, research on indirect or chronic self-destructiveness has focused mainly, if not solely, on mentally healthy people.

Kelley defines chronic self-destructiveness as behaviors involving a generalized tendency to engage in acts that increase the probability of experiencing negative future consequences and/or reduce the probability of attaining positive future ones; perhaps some individuals are constitutionally more responsive to affectively toned sensations than to information-oriented cognition.^{2,3}

The present work assumes that indirect self-destructiveness refers to behaviors with negative outcomes intermediated by additional factors, relating behavior and harm. Thus defined, indirect self-destructiveness includes not only undertaking but also abandoning actions (commission and omission); it concerns engaging in dangerous and risky situations (i.e., active form) or neglecting one's own safety or health (i.e., passive form). Furthermore, indirect self-destructiveness involved a great distance between the action and its outcome. Whereas acute/direct self-destructive behavior involves conscious and willful intent to self-inflict painful and injurious acts, sometimes with fatal consequences, chronic/indirect self-destructiveness refers to actions extended over time and across situations, with the individual being unaware of or disregarding their long-term harmful effects.^{4,5} Kelley et al.² states that "impulsive" individuals, who are mainly motivated by current emotional factors, are more likely to engage in acts that are ultimately self-destructive than are individuals motivated by more distant cognitive considerations. The term indirect refers not only to the time distance between an action and its harmful consequences, but also to the psychological distance between the type of behavior and its psychological and physical consequences.⁴

This phenomenon is of major importance, as manifestations of self-aggression and self-destruction are also observed in individuals with schizophrenia. These patients self-impose changes in their physical appearance, which also causes various self-mutilations. Self-injury and self-mutilation take various forms, concern different parts of their bodies, and are performed in various ways and with different "tools."⁶⁻⁹ Attempted and completed suicides belong to the behavioral category of actions of greater

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Submitted May 28 2016, accepted Feb 27 2017.

significance, because their outcomes are more important and often ultimate.¹⁰⁻¹²

It has been assumed that the intensiveness of indirect self-destructiveness, both as a generalized behavioral tendency and of its discrete categories, is different in individuals with schizophrenia than in healthy individuals. However, there have been few studies on indirect self-destructiveness in individuals with schizophrenia using a holistic, comprehensive approach; the international literature is limited to studies of some discrete manifestations of the phenomenon. Within this context, the present study is a subsequent stage of an earlier project, the preliminary results of which have already been published.^{13,14} The aim of this work is to assess and explore indirect self-destructiveness in a holistic, comprehensive manner – i.e., addressing it as a syndrome rather than assessing its discrete symptoms – in individuals with schizophrenia.

Methods

Permission was obtained from the Bioethics Committee of the Medical University of Lodz, Poland (RNN/266/12/KB according to ICH GPC) before starting the research. The recommendations of the Declaration of Helsinki were followed. The survey was anonymous, participation was voluntary, and consent was obtained from patients beforehand.

Participants

A group of 200 patients (117 male, 83 female) meeting ICD-10 criteria for paranoid schizophrenia, aged 27-58 years (mean 37.15 years), was examined. All patients were clinically stable, had not been hospitalized in the preceding 12 months, and had been on the same medication for at least 6 months. None of the patients was considered acutely unwell or in relapse; all were in partial or complete remission, which facilitated work. The patients were diagnosed by experienced psychiatrists, using instruments such as the Positive and Negative Syndrome Scale (PANSS) to measure symptoms, and recruited at Mental Health Centers, in Lodz voivodeship, Poland. The control group was well matched in terms of sociodemographic characteristics and consisted of 200 healthy individuals. The characteristics of both groups are presented in Table 1.

Examinations were anonymous and participation was voluntary. Consent was obtained from all patients before examination. An experienced clinical psychologist and psychotherapist examined patients and controls using the Chronic Self-Destructiveness Scale (CS-DS) and a sociodemographic questionnaire.

The exclusion criteria for the schizophrenia group were relapse and double diagnosis. Exclusion criteria for the control group were use of narcotic substances and need for psychological and/or psychiatric help on the basis of observation, clinical interview, and self-report on the sociodemographic questionnaire.

Materials

In order to assess indirect (chronic) self-destructiveness, the Polish version of Kelley's CS-DS, as adapted by

Table 1 Characteristics of the case and control groups

Variable	Schizophrenia	Healthy controls
Sex		
Female	83 (41.50)	83 (41.50)
Male	117 (58.50)	117 (58.50)
Age, years		
Mean (SD)	37.15 (5.10)	37.50 (6.77)
Range	27-58	26-59
Educational level		
Elementary	35 (17.50)	34 (17.00)
Vocational	53 (26.50)	52 (26.00)
Secondary	92 (46.00)	93 (46.50)
Higher	20 (10.00)	21 (10.50)
Marital status		
Married	81 (40.50)	83 (41.50)
Divorced	15 (7.50)	14 (7.00)
Single	91 (45.50)	90 (45.00)
Widowed	13 (6.50)	13 (6.50)
Area of residence		
Urban	110 (55.00)	111 (55.50)
Rural	90 (45.00)	89 (44.50)

Data presented as n (%), unless otherwise specified.
SD = standard deviation.

Suchańska, was used. To examine chronic self-destructiveness as a generalized tendency, Kelley developed a research tool eliciting information for groups or categories of behaviors such as carelessness, poor health maintenance, evidence of transgression, and lack of planfulness. The ultimate version consists of an internally consistent set of 52 items scored on a Likert-type scale; the total score informs about the intensity of indirect self-destructiveness.² The Polish version of the scale is characterized by high reliability (Cronbach's alpha: 0.811) and validity (0.823), as was the original instrument, and includes the following subscales: transgression and risk (A1; example items: I like jobs with an element of risk; I have done dangerous things just for the thrill of it; Lots of laws seem made to be broken), poor health maintenance (A2; example item: I am familiar with basic first-aid practices), personal and social neglects (A3; example item: I usually meet deadlines with no trouble), lack of planfulness (A4; example item: I seldom have even minor accidents or injuries), and helplessness and passiveness in the face of difficulties (A5; example item: Sometimes I don't seem to care what happens to me). CS-DS scores between 52 and 104 are considered low, between 105 and 160 are rated as medium, and from 161 to 260 are considered high.¹⁵

Statistical analysis

Scores were analyzed statistically by calculation of means and standard deviations and application of the chi-square, Student's *t*, and Mann-Whitney *U* tests. Factor analysis, multiple regression analysis, and hierarchical cluster analysis were also conducted. To explore the factor structure of the indirect self-destructiveness syndrome in schizophrenia group, the scores obtained for the CS-DS subscales were analyzed using factor analysis by the principal

components method with varimax normalized rotation and eigenvalue ≥ 1.00 . To explore relationships (associations) between the variables of interest, the correlation-regression procedure was applied. For all analyses, the maximum acceptable type I error was assumed at $\alpha = 0.05$. Asymptotic two-sided test probability p-values were calculated, and $p \leq 0.05$ considered statistically significant. Statistical analyses were conducted using SPSS version 24.0¹⁶ and Statistica version 13.0.¹⁷

Results

Description of the indirect self-destructiveness syndrome in patients with schizophrenia

Table 1 reports the characteristics of the case and control groups. Table 2 presents the rank order of patients' scores in particular CS-DS subscales.

As indicated by the data, the intensity of indirect self-destructiveness in patients with schizophrenia remained within the range of mean scores. The intensity of indices of particularly indirectly self-destructive behavior categories seems to be of key importance for considerations in this work. The highest intensity was that of helplessness and passiveness in the face of difficulties and failures (A5). The second highest in intensity, but still much lower, was the score for personal and social neglects (A3), i.e., neglect of many things of various importance. The third highest in intensity was the score for lack of planfulness (A4), which may be related to negative events, apparently without connection with the individual's conduct. The intensity of poor health maintenance (A2) was lower; this scale includes,

e.g., non-compliance with professionals' recommendations and advice, and was thus of special importance for the study sample. Among all the indirectly self-destructive behavior classes, the lowest intensity was that of transgression and risk (A1), including transgressive and even risky and dangerous acts.

To determine predictors of indirect self-destructiveness, stepwise multiple regression analysis was used. All five categories of indirectly self-destructive behaviors were included in the initial regression equation model. As shown in Table 3, all categories of indirectly self-destructive behaviors remained in the regression equation and explained 94.25% ($R^2 = 0.9425$) of variance of the indirect self-destructiveness variable in patients with schizophrenia; in other words, the set of these variables best explained the indirect self-destructiveness syndrome in patients with schizophrenia. Furthermore, it can be stated that all particular categories of behaviors had their own contribution to forming the indirect self-destructiveness tendency in patients with schizophrenia. As shown in Table 3, significant contributions to the prediction of indirect self-destructiveness in the study sample were made by transgressive and risky behaviors (A1) and personal and social neglects (A3), with standardized regression coefficients at 0.395 and 0.365 respectively.

The structure of indirect self-destructiveness in patients with schizophrenia

To explore the factor structure of indirect self-destructiveness in patients with schizophrenia, factor analysis of their scores in the CS-DS was conducted (principal components extraction method, varimax normalized rotation). Two factors emerged from this analysis (Table 4 and Figure 1). Factor I consisted of the following variables: lack of planfulness (A4), personal and social neglects (A3), and poor health maintenance (A2); as the highest factor loading was that of lack of planfulness (A4), factor I was named lack of planfulness. Factor II consisted of two, apparently opposite, variables: helplessness (A5) and transgression (A1); this factor was named helplessness. Similar results were obtained after different types of factor analysis, i.e., oblique, confirmatory, and hierarchical.

Factor analysis of healthy controls' scores yielded only one factor, comprising all the variables/indirect self-destructiveness categories, as was the case in other studies.^{2,15}

Table 2 CS-DS subscales scores rank order in the patients' population

CS-DS subscale		Mean	SD
Indirect self-destructiveness		126.257	21.815
Rank	CS-DS subscale	Mean ranks	Sum of ranks
1	A5 - Helplessness and passiveness	4.228	380.500
2	A3 - Personal and social neglects	3.144	283.000
3	A4 - Lack of planfulness	2.950	265.500
4	A2 - Poor health maintenance	2.517	226.500
5	A1 - Transgression and risk	2.161	194.500

CS-DS = Chronic Self-Destructiveness Scale; SD = standard deviation.

Table 3 Determinants of indirect self-destructiveness in patients with schizophrenia

Variables	Beta (β)	SE of Beta (β)	Standard B (β)	SE of B (β)	t (195)	p-level
A1 - Transgression and risk	0.395	0.029	0.724	0.053	13.155	$p < 0.001$
A2 - Poor health maintenance	0.194	0.031	0.818	0.133	6.105	$p < 0.001$
A3 - Personal and social neglects	0.365	0.032	1.069	0.099	10.662	$p < 0.001$
A4 - Lack of planfulness	0.297	0.030	1.201	0.120	9.957	$p < 0.001$
A5 - Helplessness, passiveness	0.157	0.029	1.267	0.238	5.285	$p < 0.001$

SE = standard error.

Coefficient of multiple regression: $R = 0.972$.

Coefficient of determination (R square): $R^2 = 0.9425$.

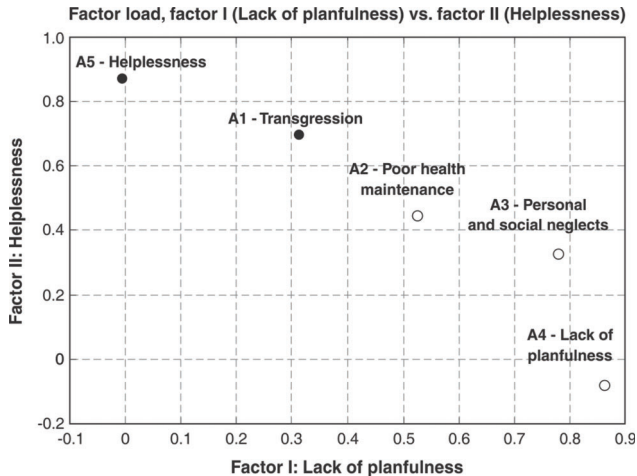
Corrected coefficient of determination (adjusted R square): $R^2 = 0.940$.

Significance of the regression equation: $F_{5,195} = 275.99$, $p < 0.0000$.

Standard error of the estimate: 5.6305.

Table 4 Factor analysis of Chronic Self-Destructiveness Scale (CS-DS) scores of patients with schizophrenia

Factors/variables	Factor loadings	
I. Lack of planfulness	(Eigenvalue = 3.239)	Explained variance = 53.97%
A4 - Lack of planfulness	0.865	Cumulative explained variance = 53.97%
A3 - Personal and social neglects	0.782	
A2 - Poor health maintenance	0.527	
II. Helplessness	(Eigenvalue = 1.005)	Explained variance = 17.72%
A5 - Helplessness, passiveness	0.876	Cumulative explained variance = 71.69%
A1 - Transgression and risk	0.694	

**Figure 1** Factor loadings of patients' scores in the Chronic Self-Destructiveness Scale (CS-DS).

Indirect self-destructiveness in patients with schizophrenia and in healthy individuals

To compare the structure of indirect self-destructiveness in patients with schizophrenia and healthy individuals, the CS-DS subscales scores obtained by each group were compared using a *t*-test for normally distributed scores and the Mann-Whitney *U* test otherwise (shown in *italic* in tables). The results of comparisons are presented in Table 5.

As shown in Table 5, statistically significant differences were found in the following indices: indirect self-destructiveness (global index), poor health maintenance (A2), personal and social neglects (A3), lack of planfulness (A4), and helplessness (A5). Patients with schizophrenia scored higher on all of these (although not always with statistical significance) except poor health maintenance (A2).

Discussion

The findings of this study indicate that the psychotic process of schizophrenia causes indirectly self-destructive tendencies to be higher in patients with this condition than in healthy individuals. As a matter of fact, the contribution of psychotic experiences to the development of indirect self-destructiveness in patients with schizophrenia has been reported before. Schizophrenic disorders are a predictor of indirect self-destructiveness syndrome in these patients. Among schizophrenic and paranoid disorders

and symptoms, persecutory ideas, especially the sense of injustice and experiencing life as an enormous effort, are an important factor in determining indirect self-destructiveness.¹⁴ The structure of indirect self-destructiveness, and which of its components (categories) make it stronger as a generalized behavioral tendency in patients with schizophrenia than in healthy individuals, have yet to be determined.

The highest CS-DS scores of patients with schizophrenia, significantly higher than those of healthy controls, were in the subscale of helplessness and passiveness in the face of difficulties (A5). This means that, more often than healthy controls, patients gave up on an activity in situations in which that activity could stop suffering or prevent a threat. This reflects effects of motivation deficits and learned helplessness, which is associated with attributional style.¹⁸

As was mentioned before, the indirectly self-destructive tendency includes not only commission of dangerous actions (active form), but also omission or neglect of actions which could improve quality of life (passive form). The situation of patients with schizophrenia is similar to learned helplessness because they often face events or situations which they cannot control (e.g., psychotic experiences, psychosis relapse, drug resistance, and other unpleasant life events).

The above are related to intentional and, at least, "serial" failures, defeats, and helplessness. Previous research has shown that a sense of inferiority seriously affected Abasement and Deference (using Murray's terms¹⁹) in patients with schizophrenia; furthermore, in patients with schizophrenia, the intensity of "will of power" and achievement was lower.^{20,21}

This is consistent with the idea that individuals with uncertain self-esteem may feel strongly threatened in conditions of high social expectations and more safe in conditions of low expectations and standards.¹⁵ Thus, it can be assumed that low motivation and low intensity of need for achievement may constitute a self-defense mechanism to protect the self from self-destructiveness. On the other hand, patients with schizophrenia may also be overwhelmed and exhausted by their struggle. Other studies have also found relationships between chronic (indirect) self-destructiveness and feelings of hopelessness and helplessness.^{15,22}

Personal and social neglects (A3) was the next category of indirectly self-destructive behaviors in which patients scored significantly higher. This means that, in the population of patients with schizophrenia, situations of personal and social failures occurred more often because of neglecting activities which could improve their social and

Table 5 Comparisons of CS-DS scores of patients with schizophrenia vs. healthy controls

CS-DS subscales	Schizophrenia		Controls		Significance	
	Mean (SD)		Mean (SD)		<i>t</i> or <i>U</i>	p-value
Indirect self-destructiveness	126.257 (21.815)		121.561 (18.005)		1.975*	0.05
A1 - Transgression and risk	<i>39.202 (12.430)</i>		<i>39.151 (8.525)</i>		<i>5326.000[†]</i>	<i>ns</i>
A2 - Poor health maintenance	<i>25.232 (5.361)</i>		<i>27.575 (6.369)</i>		<i>4423.500[†]</i>	<i>0.01</i>
A3 - Personal and social neglects	<i>30.958 (7.767)</i>		<i>28.356 (5.890)</i>		<i>4183.500[†]</i>	<i>0.004</i>
A4 - Lack of planfulness	<i>21.279 (5.616)</i>		<i>19.238 (4.831)</i>		<i>4210.000[†]</i>	<i>0.004</i>
A5 - Helplessness, passiveness	<i>7.658 (2.813)</i>		<i>5.879 (2.116)</i>		<i>4220.500[†]</i>	<i>0.005</i>

CS-DS = Chronic Self-Destructiveness Scale; ns = nonsignificant; SD = standard deviation.

* Student's *t* test; [†] Mann-Whitney's *U* test.

Italic font indicates non-normal distribution.

life situations or interpersonal relations. This issue of serial failures, noted above, may be explained by the concept of cognitive dissonance: the individual who encounters failures seeks subsequent failures in order to avoid a cognitive dissonance situation which success could cause. This particularly dramatic form of aspiration expectation regulation by so-called strategic failures is evidence of a readiness to incur high psychological costs in order to preserve a feeling of safeness, which is disturbed in patients with schizophrenia.^{20,21,23}

Omissions reflect passiveness in the face of negative events and seem to be the opposite of readiness for risk-taking, sensation and stimulation seeking.^{4,15} This may be associated with lack of planfulness (A4), a subscale in which patients scored significantly higher than healthy controls. Planning behavior is largely dependent on cognitive functions, especially abstract thinking, an area known to be impaired in schizophrenia since Kraepelin's concept of dementia praecox.²⁴⁻²⁶ Motivation, the second type of function on which planning is dependent, is also assumed to be affected by dysfunctions, such as the so-called schizophrenic low motivation.^{21,27,28} Similarly to personal and social neglects (A3) and helplessness and passiveness in the face of difficulties and failures (A5), this category belongs to the passive form of indirect self-destructiveness.

Attention should be paid to the category of behaviors in which patients with schizophrenia scored significantly lower than healthy controls, namely, poor health maintenance (A2). It can be assumed that patients comply with professionals' advice concerning therapy and even prevention (e.g., of psychosis relapse) to a greater degree. They accept immediate costs and inconveniences (regular and repeated: appointments with professionals, buying medications, taking medications despite their often unpleasant side effects, participation in socio- and psychotherapeutic activities) to reduce the probability of long-term costs (e.g., acuteness of psychotic symptoms, psychosis relapse, and hospitalization). This may reflect an attempt by patients to improve their own lives by at least avoiding and preventing unpleasant consequences, which is consistent with the statement that lack of punishment (negative reinforcement) is also a reward (positive reinforcement).²⁹

Patients with schizophrenia scored lowest in the A1 subscale (transgression and risk), which includes behaviors typically regarded as indirectly self-destructive. Behaviors violating norms are actions which result in the

destruction of the *status quo*, i.e., a disturbance of some order. Patients with schizophrenia tend to avoid changes, especially the destruction of some order, because it may disturb their feeling of safeness.^{20,21,23}

Based on the findings of the present study, it can be stated that patients with schizophrenia show the lowest intensity of categories of behaviors connected with the active form of indirect self-destructiveness, and the highest intensity for those connected with its passive form; an explanation taking into account psychotic experiences, negative symptoms, and withdrawal seems to be appropriate. In the structure of the indirectly self-destructive tendency of patients with schizophrenia, there is a greater contribution of helplessness and passiveness in the face of difficulties. This finding is consistent with the low motivation and low activity – particularly, the low intensity of need for achievement – found in previous research.^{20,21,30}

The factor analysis conducted in this study yielded two factors, with variables belonging to the passive form of indirect self-destructiveness having the highest loading in both factors. Indirect self-destructiveness as a generalized tendency is idiosyncratic in individuals with schizophrenia; it is of a "dual" nature, as demonstrated by the factor analysis. Factor analysis of the scores obtained by healthy controls, as opposed to those of patients, revealed only one factor combining all the variables. This conforms to the results of other studies.^{2,15} Based on the foregoing, it can be stated that the specificity of the syndrome of indirect self-destructiveness in patients with schizophrenia consists in the prevalence of its passive form, with a particular contribution of helplessness and passiveness.

The helplessness and passiveness of patients with schizophrenia in the face of problems and difficulties may be determined by a psychological breakdown of defense mechanisms, which may constitute a certain aspect of indirect self-destructiveness, i.e., the deficit in defense. Some confirmation has been found for a deficit in the self-care ego function. The issue of breakdown of the psychological defense system deserves special attention, since indirect self-destructiveness may be considered a manifestation of self-aggression as well as a deficit of the self-care ego function.⁵

Ego and self are important concepts for discussion in this work. Bleuler²⁵ coined the term schizophrenia (σχίζοφρενεια) from two Greek (Hellenic) words: *schizein* (σχίζειν, to split) and *phrēn* (φρην, mind), i.e., splitting of

the mind; he considered autism (Gr. *αυτοϋς*, self) as one of the fundamental symptoms of schizophrenia. According to some authors, schizophrenia is a self-disorder or an ipseity disturbance in which one finds certain characteristic distortions of the act of awareness and is best understood as a particular kind of disorder of consciousness and self-experience.³¹ (Ipeity refers to the experiential sense of being a vital and self-coinciding subject of experience, or the first-person perspective on the world, from the Latin *ipse*, self or itself³¹). Moreover, the above-mentioned autism can be understood as an expression of disturbed selfhood, and it is the clinical essence of schizophrenia, in the sense of a detachment from reality. This disturbance of the basic sense of self may underlie the social cognition difficulties that result in the poor social functioning observed in schizophrenia, i.e., compromised social relationships, social behaviors, and social activities.³² Some concepts claim that difficulties in self-other processing lie at the core of schizophrenia and pose a problem for patients' daily social functioning – e.g., when confusing self and other, one may project one's own intentions and emotions onto others, or take over the intentions and emotions of others. Abnormal processing of self and other may be an important factor in explaining impaired social functioning in patients with schizophrenia.³³ The above may be reflected in the finding that, in patients with schizophrenia, indirect self-destructiveness was associated with a feeling of being harmed by life, which may cause a suspicious attitude toward people; on the other hand, a sense of injustice, a feeling of being misunderstood by others, and a feeling that life lacks meaning played very important roles in shaping indirectly self-destructive tendencies. Moreover, the perception of life as a tremendous effort, the feeling of being harmed by life, and lack of hope for improvement held great significance for indirect self-destructiveness.¹⁴

Attention should be paid to a research project implemented in Finland in 1994, in which 670 schizophrenic patients aged 15-64 were interviewed 3 years after discharge from psychiatric hospitals. Poor financial situation and history of alcohol misuse, among others, seemed to be associated with increased risk of violent victimization, with patients constituting a vulnerable subgroup in that respect. This subgroup may need additional care and protection from dangers posed to them by other members of society.³⁴ Although the topic of that study was not indirect self-destructiveness, the results were consistent with this syndrome: some forms of self-defeating, lack of resourcefulness, serial failure, and being a victim of violence could be considered manifestations of indirect self-destructiveness.

To conclude, it can be stated that indirect self-destructiveness has a significant impact on individual management of everyday life and can lead to directly self-destructive behaviors. It seems that, inasmuch as the pattern of indirect self-destructiveness in healthy individuals includes mainly searching for stimulation, strong sensations, and hedonistic motives, the pattern of indirect self-destructiveness in patients with schizophrenia is based on resignation, withdrawal, and protection of the "self" or a self-defense deficit. It might be assumed that

these patients lack motivation to protect themselves and even their own lives.

The results of this study may have preventive and therapeutic implications. As far as the prevention aspect is concerned, not only individuals who tend to engage in dangerous and high-risk situations (active form of indirect self-destructiveness), but also those who neglect their own safety or health (passive form of indirect self-destructiveness), should be the subject of experts' interest. The latter (passive) form, of neglects, is especially neglected in preventive and therapeutic work. In these patients, the motivation to undertake an effort to care for their health by these patients is an encouraging and buoyant result, since self-care is a factor that holds promise for patients, both as a prognostic factor and for the possibility of independent living. Moreover, it should be kept in mind that this is the only category in which patients demonstrate fewer self-destructive behaviors than healthy people do.

The findings of this study may contribute to the provision of more effective forms of pharmacological and psychosocial help to patients with schizophrenia. The differences found in categories of indirect self-destructiveness could provide insights into how patients manage their own illness, how their illness leads to problems in those behaviors, and even support the design of practice guidelines to help patients with their disease and indirect self-destructiveness.

Complex therapeutic (psychiatric, psychological, and social) actions should aim to enhance the defense-of-self and self-care functions in patients with schizophrenia, improve patients' self-image, and evaluate its adequacy and efficiency. Equally important within (psycho)therapy is to work with patients toward enhancing their sense of life, even though life did not spare them suffering. Mobilization and orientation of their activities toward actions that support their development and health seems just as vital.

The findings of this study do not differ substantially from the results obtained at an earlier stage of this research project.¹³ This may mean that the general regularities and direction of the relationships remain the same. Some limitations must also be mentioned. One may be the impact of antipsychotics (especially their side effects) on the psychological functioning of individuals with schizophrenia. However, this impact is unavoidable, since, in most cases, patients must take lifelong medication. Another possible limitation could be the self-report design of the study: the healthy controls may have intended to appear better than they actually were. However, this remark could apply to any self-report instrument; besides, social desirability has not been found to correlate significantly with CS-DS.² One could argue that this clinically stable sample could mean that patients had good adherence to treatment, which, in turn, could explain why these patients had better health maintenance than even the healthy controls did. On the other hand, some research designs, especially when seeking to address psychological functioning, actually require patients to be clinically stable and in remission. The aforementioned idea is interesting, but the actual relationship may well be inverse: good adherence to treatment may be caused by

low poor health maintenance. However, regardless of causal relationship, could it justify the fact that individuals with schizophrenia neglect their health less than healthy individuals do? Perhaps these patients simply want to be healthy, feel less ill, or both. Another limitation may be the fact that patients were not diagnosed with a specific instrument, (e.g., the Structured Clinical Interview [SCID]) but rather according to the ICD-10 criteria and by the means of PANSS (to measure symptoms). Finally, the scarcity of studies on this topic in the literature makes it difficult to compare and verify the findings of the present investigation.

Acknowledgements

The author thanks the patients and healthy controls for their kind cooperation and participation in the study, as well as the managers of the institutions in which this study was conducted for their permission.

Disclosure

The author reports no conflicts of interest.

References

- 1 Tsirigotis K, Gruszczyński W. [Self-destructiveness in schizophrenia]. *Anxiety Depress*. 2008;13:190-7.
- 2 Kelley K, Byrne D, Przybyla DPJ, Eberly C, Eberly B, Greendlinger V, et al. Chronic self-destructiveness: conceptualization, measurement, and initial validation of the construct. *Motiv Emot*. 1985;9:135-51.
- 3 Kelley K, Cheung FM, Singh R, Becker MA, Rodriguez-Carrillo P, Wan CK, et al. Chronic self-destructiveness and locus of control in cross-cultural perspective. *J Soc Psychol*. 1986;126:573-77.
- 4 Suchańska A. Teoretyczne i kliniczne problemy ukrytej autodestrukcyjności. In: Waligóra B, editor. *Elementy psychologii klinicznej*. Poznań: UAM; 1995. p. 117-43.
- 5 Suchańska A. W poszukiwaniu wyjaśnień samoniszczenia: samoniszczenie a kompetencje samoopiekuńcze. *Forum Oświatowe*. 2001;2:61-73.
- 6 Sweeny S, Zamecnik K. Predictors of self-mutilation in patients with schizophrenia. *Am J Psychiatry*. 1981;138:1086-9.
- 7 Dean CE. Severe self-injurious behavior associated with treatment-resistant schizophrenia: treatment with maintenance electroconvulsive therapy. *J ECT*. 2000;16:302-8.
- 8 Mitsui K, Kokubo H, Kato K, Nakamura K, Aoki S, Taki T, et al. [A case of self-mutilation of testis]. *Hinyokika Kyo*. 2002;48:281-3.
- 9 Kamolz LP, Andel H, Schmidtke A, Valentini D, Meissl G, Frey M. Treatment of patients with severe burn injuries: the impact of schizophrenia. *Burns*. 2003;29:49-53.
- 10 Kontaxakis V, Hamaki-Kontaxaki B, Margariti M, Stamouli S, Kollias C, Christodoulou G. Suicidal ideation in inpatients with acute schizophrenia. *Can J Psychiatry*. 2004;49:476-9.
- 11 Caldwell CB, Gottesman II. Schizophrenics kill themselves too: a review of risk factors for suicide. *Schizophr Bull*. 1990;16:571-89.
- 12 Pompili M, Amatoro XF, Girardi P, Harkavy-Friedman J, Harrow M, Kaplan K, et al. Suicide risk in schizophrenia: learning from the past to change the future. *Ann Gen Psychiatry*. 2007;6:10-10.
- 13 Tsirigotis K. Autodestrukcyjność pośrednia u chorych na schizofrenię. *Piotrków Trybunalski: Naukowe Wydawnictwo Piotrkowskie*; 2013.
- 14 Tsirigotis K, Gruszczyński W, Tsirigotis-Maniecka M. Psychopatologiczne predyktory pośredniej autodestrukcyjności u pacjentów z schizofrenią. *Psychiatr Q*. 2016;87:155-64.
- 15 Suchańska A. *Przejawy i uwarunkowania psychologiczne pośredniej autodestrukcyjności*. Poznań: Wydawnictwo Naukowe Uniwersytetu; 1998.
- 16 IBM Corp. *SPSS for Windows User's Guide*. New York: IBM Corp.; 2015.
- 17 StatSoft Polska. *Statistica PL*. Kraków: StatSoft; 2016.
- 18 Seligman MEP. *Learned optimism*. New York: Vintage Books; 2006.
- 19 Murray HA. *Explorations in personality*. New York: Oxford University; 2008.
- 20 Tsirigotis K, Gruszczyński W. The needs structure of outpatients with paranoid schizophrenia. *Arch Psychiatry Psychother*. 2001;3:53-66.
- 21 Tsirigotis K, Gruszczyński W. *Schizofrenia - psychologia i psychopatologia*. Kraków: Polskie Towarzystwo Psychiatryczne; 2005.
- 22 Kelly DB, Rollings AL, Harmon JG. Chronic self-destructiveness, hopelessness, and risk-taking in college students. *Psychol Rep*. 2005;96:620-4.
- 23 Tsirigotis K, Gruszczyński W, Florkowski A. Lęk i depresja w schizofrenii paranoidalnej. *Lęk i Depresja*. 2001;6:188-202.
- 24 Kraepelin E. *Dementia praecox and paraphrenia*. Edinburgh: Churchill Livingstone; 1919.
- 25 Bleuler E. *Dementia praecox or the group of schizophrenias*. New York: International Universities; 1950.
- 26 Frith C. *The cognitive neuropsychology of schizophrenia*. Hove: Lawrence Erlbaum Associates; 1993.
- 27 Willerman LB, Cohen DB. *Psychopathology*. New York: McGraw-Hill; 1990.
- 28 Tsirigotis K, Gruszczyński W. Deficyt psychologiczny w schizofrenii. *Curr Probl Psychiatry*. 2001;III:223-36.
- 29 Skinner BF. *Beyond Freedom and Dignity*. New York: Knopf; 1971.
- 30 Tsirigotis K, Gruszczyński W. The values hierarchy of outpatients with paranoid schizophrenia. *Arch Psychiatry Psychother*. 2001;3:15-26.
- 31 Sass LA, Parnas J. Schizophrenia, consciousness, and the self. *Schizophr Bull*. 2003;29:427-44.
- 32 Nelson B, Sass LA, Thompson A, Yung AR, Francey SM, Amminger GP, et al. Does disturbance of self underlie social cognition deficits in schizophrenia and other psychotic disorders? *Early Interv Psychiatry*. 2009;3:83-93.
- 33 van der Weiden A, Prikken M, van Haren NE. Self-other integration and distinction in schizophrenia: a theoretical analysis and a review of the evidence. *Neurosci Biobehav Rev*. 2015;57:220-37.
- 34 Honkonen T, Henriksson M, Koivisto AM, Stengård E, Salokangas RK. Violent victimization in schizophrenia. *Soc Psychiatry Psychiatr Epidemiol*. 2004;39:606-12.