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A shortened version of the *Indirect Self-Destructiveness Scale* ISDS-25

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Summary

Aim. The *Indirect Self-Destructiveness Scale* (ISDS) was developed as a measure of individual tendency for self-destructive behavior. The aim of the article is to propose its abbreviated version (ISDS-25) and to present the psychometric properties of this instrument.

Methods. The analyses were carried out on aggregated data ($N = 670$) obtained from adult individuals. The procedure of shortening the ISDS scale took into account both statistical criteria (values of discriminatory power coefficients and factor loadings of items) and content criteria (degree of item representativeness and comprehensibility). The psychometric properties of the shortened scale were determined by analyzing its reliability and validity (factorial, convergent and differential).

Results. The short version of the ISDS scale consists of 25 items and is characterized by satisfactory internal consistency ($\alpha = 0.81$; $\omega = 0.88$). The obtained factorial structure (bifactor model), gender differences, and correlations with the scores of other scales confirm the tool's theoretical validity.

Conclusions. The obtained results justify the conclusion that the short version of the *Indirect Self-Destructiveness Scale* (ISDS-25) faithfully reflects the original construct and can be successfully employed in empirical research on the phenomenon of chronic self-destructiveness.

Key words: self-injurious behavior, psychometrics, questionnaire

Introduction

The construct of indirect (chronic) self-destructiveness was defined and operationalized in the 1980s by Kelley et al. [1]. The Polish adaptation of the questionnaire measuring this phenomenon (the *Indirect Self-Destructiveness Scale*, ISDS[1]) and the

[1] In the course of work on the Polish adaptation of the scale, its original name was changed from the *Chronic Self-Destructiveness Scale* to the *Indirect Self-Destructiveness Scale*, which is used throughout this paper.

phenomenon's confirmed clinical relevance and adaptive significance [2] contributed to the unabated interest in this dysfunctional personality tendency, as attested by the number of publications and unpublished studies. Significant intensification of this tendency enables us to explain and predict individual readiness to comply with the principles of social and health-promoting functioning, such as compliance with medical recommendations or the traffic code. Considering the wide possibilities of use of the ISDS and the current suggestions for limiting the length of such tools, we attempted to abbreviate this scale as well. It is our belief that, apart from yielding purely practical benefits associated with simplifying and shortening the examination procedure, this will make it easier for the scale's users to avoid the recurring mistake of using various parts of the scale for the description of the entire syndrome[2].

Indirect self-destructiveness

Self-destructiveness is a term used to refer to behaviors or traits with varying clinical presentation and course, such as excessive risk-taking, psychoactive substance abuse, or suicide attempts and suicides. Under the influence of clinical observations in the 1980s, from among the numerous manifestations of self-destructiveness, its particular form was distinguished, characterized by the coexistence of many different, often common behaviors, which makes it less noticeable and more difficult to recognize. Its specificity is determined by its chronic character, which involves ignoring psychosocial and physical risks repeatedly over time and in various situations. This construct, referred to as *indirect* [3], *latent* [4], or *chronic* self-destructiveness, was ultimately defined and operationalized by Kelley et al. [1]. It differs from direct self-destructiveness in terms of the form and aim of the behavior. Its chronic and transsituational character is accompanied by a lack of direct attacks on oneself with the resulting damage most often only potential or delayed: a side effect rather than the aim of the behavior [2]. For the latter reason, its subintentional character is raised, as the individual's intention is not to attack their body or take their own life, but rather to succumb to desires and impulses despite the psychological, social, or physical costs, which are often denied, rationalized, or minimized by the individual [5]. It should also be strongly emphasized that this construct does not pertain to occasionally neglecting one's health or personal and social affairs or to incidentally engaging in activities with potentially negative consequences, which is a common phenomenon. It is the repetitiveness, diversity, and coexistence of such behaviors that justifies the conclusion that a generalized self-destructive tendency is at play. Situationally conditioned and

[2] According to the theoretical assumption of the ISDS, the criterion for recognizing indirect self-destructiveness is the co-occurrence of behaviors, varied in content and form, whose consequences are potentially harmful [1, 2]. A score that indicates the propensity to undertake behaviors belonging to a particular class of indirectly self-destructive behaviors, e.g., risky behaviors or the use of stimulants, cannot serve as the basis for the recognition of a generalized self-destructive tendency as it does not meet the condition of form diversity and transsituationality. It also does not allow to infer the occurrence of specific behavioral disorders, such as risk-taking behavior or addiction, which should be diagnosed using separate tools that are available in psychology.

incidental behaviors that are potentially harmful, as well as specific classes of self-destructive behaviors, such as addictions or risk-taking, should, therefore, be clearly distinguished from the personality tendency discussed in this paper [6].

The self-destructive character of the described mode of functioning is indicated not only by its form alone, but also by empirically proven long-term social and health consequences [2]. A number of more recent studies have documented links between indirect self-destructiveness and locus of control [7], suicide attempts [8], mental disorders [9–11], experiences of violence [12, 13], substance abuse [14, 15], sexual orientation [16], insecure attachment style [17, 18], propensity for self-criticism and feelings of shame and guilt [19], as well as deficits in self-control and self-care [18].

Measuring indirect self-destructiveness

The studies cited above were conducted with the use of either the original or the culturally adapted version of the *Indirect Self-Destructiveness Scale*. It includes 52 items, partly different for women and men, representing five categories of indirectly self-destructive behaviors: A1 – transgression and risk, A2 – poor health maintenance, A3 – personal and social neglects, A4 – carelessness, and A5 – helplessness and passiveness in the face of difficulties. All statements on the questionnaire are assessed on a five-point Likert scale, from A – *strongly agree* to E – *strongly disagree*. The obtained score, ranging from 52 (lowest) to 260 (highest) indicates the intensity of indirect self-destructiveness.

Kelley et al. [1] demonstrated that the tool is highly reliable – its internal consistency coefficients ranged from 0.85 to 0.97 for women and from 0.73 to 0.97 for men, while stability, assessed after an interval of one month, ranged from 0.94 to 0.97 for women and from 0.90 to 0.98 for men. The ISDS scores were predictably associated with factors such as Type A behavior pattern, tendency to cheat, traffic violations, and undergoing prophylactic examinations. The Polish adaptation, like the original, demonstrated satisfactory reliability and accuracy. In the adaptation study [2], the values of the internal consistency coefficient amounted to $\alpha = 0.80$ in the version for women and $\alpha = 0.70$ in the version for men. The ISDS has also been translated into Spanish [7], Chinese [7], and Persian [20], among other languages.

Aim of the study

The aim of the present analyses was to construct a shortened version of the ISDS and to determine its basic psychometric properties. The construction of the shortened ISDS also included an attempt to eliminate the gender differences in the measurement of indirect self-destructiveness. The authors of the original scale [1] indicated that this was a possibility, but such a version was never put into use. Therefore, the initial selection of the items was carried out with consideration of the uniformity of item content in the versions for men and women. Further selection of the items for the shortened ISDS was then made on the basis of statistical and content criteria. The evaluation of the items included their internal qualities, or more precisely: their discriminatory

power and the values of factor loadings. Following the suggestion by Stanton et al. [21], the judgmental qualities of the items (representativeness and comprehensibility) were assessed as well. The combination of these criteria enabled the selection of the items that most closely reflect the essence of the indirect self-destructiveness construct.

Psychometric development of the shortened ISDS included evaluation of its reliability (Cronbach's α and McDonald's ω) and factorial structure (confirmatory factor analysis, CFA) as well as comparison with the full version. The description of the psychometric properties of the abbreviated scale was complemented by evaluating its convergent and divergent validity. Based on the results of studies published so far [2, 17, 18], an assumption was adopted that the validity of the shortened ISDS would be confirmed by a negative correlation with self-control and self-care skills and a positive correlation with attachment anxiety and avoidance, and cognitive deconstruction. As underscored by both Kelley et al. [1] and Baumeister and Scher [5], the key element of the intrapsychic mechanism of self-destructive behavior is the disruption of the signaling function of anxiety and the inability to expend the effort required for exerting self-control. Conditions for optimal self-regulation are created by a proper caring relationship (attachment relationship) enabling the internalization and development of the ability to provide self-care [6]. Baumeister and Scher's [5] explanation of indirect self-destructiveness with a presentist orientation (i.e., overestimating the present benefits and costs while underestimating the future ones) allows us to expect links between indirect self-destructiveness and the orientation characteristic of cognitive deconstruction [22]. The scores of the shortened ISDS were also expected to be significantly (though weakly, considering the homogeneity of the sample) correlated with age [e.g., 23], and higher scores were expected among men [e.g., 2, 8]. Another expectation was that the shortened ISDS would not show any association with fragile self-esteem or temperamental traits of endurance and reactivity**.** Biologically determined temperament characteristics may increase the risk of development of disturbed behavior patterns; however, they, in themselves, do not constitute a threat of pathology, nor do they determine the behavior regulation abilities of an adult [24]. Fragile self-esteem, on the other hand, expresses increased sensitivity to signals that may indicate a potential source of threat to one's self-esteem [25] and, as such, refers to a different range of phenomena than indirect self-destructiveness. Finally, the structure of correlations was expected to be similar to that of the full ISDS.

Material and method

Participants

Aggregated data ($N = 670$) from four studies were used for the analyses. The aggregated sample included 460 women and 210 men. The gender distribution in the sample was not equal, $\chi^2(1) = 93.28$, $p < 0.001$, and the disproportion was particularly significant in the samples from studies 1, $\chi^2(1) = 58.33$, $p < 0.001$, and 3, $\chi^2(1) = 78.75$, $p < 0.001$. The mean age of the participants was $M = 23.04$ years ($SD = 5.34$), and the men were, on average, slightly older than the women, $Z = 2.34$, $p = 0.019$. The age

differences between men and women were significant in the sample from study 1, $Z = 4.80$, $p < 0.001$, and study 3, $Z = 3.07$, $p = 0.002$. The whole sample included mostly individuals with secondary (68.5%) or higher levels of education (25.8%). The sizes and structures of the individual samples are presented in Table 1. While not representative, the studied group of participants corresponded demographically to the group which had been used to construct the original ISDS and evaluate its psychometric properties [1][3].

Participation in the study was voluntary and anonymous. All the participants completed a set of questionnaires, which included, among others, the *Indirect Self-Destructiveness Scale* (ISDS).

Table 1. **Characteristics of the tested samples**

			Age: M (SD)[c]		
Study	n	Gender: % women	Women	Men	Total
1	158	80.4%	21.46 (5.09)[a]	23.57 (4.58)[b]	21.88 (5.05)
2	141	53.2%	24.25 (3.00)	24.21 (3.86)	24.23 (3.42)
3	267	77.2%	24.04 (6.45)[a]	25.49 (6.76)[b]	24.38 (6.53)
4	104	50.0%	19.88 (1.00)	19.52 (0.58)	19.70 (0.83)
Total	670	68.7%	22.90 (5.45)[a]	23.33 (5.11)[b]	23.04 (5.34)

Note. Different superscript letters within rows indicate differences significant at $p < 0.05$. [c] Seven participants did not provide information on age.

Measures

One of the aims of the present analyses was to investigate the associations between the shortened ISDS and selected personality variables. Therefore, apart from the original ISDS scale [1, 2], the following tools were used: the *Experiences in Close Relationship Scale* [26, 27] used to measure the attachment dimensions of anxiety ($\alpha = 0.92$) and avoidance ($\alpha = 0.95$); the *Self-Care Competence Questionnaire* [28] intended for measuring capacity for self-care ($\alpha = 0.90$); the *Self-Control Scale* [29, 30] used to assess capacity for self-control ($\alpha = 0.87$); the *Formal Characteristics of Behavior – Temperament Inventory* [24] for measuring emotional reactivity ($\alpha = 0.81$) and endurance ($\alpha = 0.82$); the *Contingent Self-Esteem Scale* [25, 31] for assessing self-esteem fragility ($\alpha = 0.79$); and the *Escape from the Self Questionnaire* [32] enabling the measurement of cognitive deconstruction ($\alpha = 0.79$).

[3] It is worth noting at this point that young adults prevail in the group of individuals with the highest intensity of indirect self-destructiveness [1, 23].

Results

The full version of the *Indirect Self-Destructiveness Scale* (ISDS), consisting of 52 items, demonstrated satisfactory internal consistency in all tested samples (α = 0.80–0.88). Similarly high results were obtained for the reliability of the whole scale measured with McDonald's ω coefficient (ω = 0.82–0.89). Comparisons between the mean indirect self-destructiveness scores in women and men using the Mann-Whitney *U* test showed significant gender differences: $Z = 7.19$, $p < 0.001$ in the aggregated sample and, respectively, $Z = 3.45$, $p = 0.001$; $Z = 2.37$, $p = 0.018$; and $Z = 6.56$, $p < 0.001$ in the samples from studies 1, 2, and 3. The intensity of indirect self-destructiveness was found to be higher among men than among women. The revealed differences are consistent with the results of previous studies [2, 8]. Descriptive statistics are presented in Table 2.

Table 2. **Characteristics of the tested samples according to the ISDS scores**

	Women			Men		
Study	α	ω	M (SD)	α	ω	M (SD)
1	0.86	0.87	128.35 (23.20)[a]	0.86	0.86	144.88 (22.54)[b]
2	0.88	0.88	123.67 (22.73)[a]	0.83	0.84	132.50 (20.57)[b]
3	0.87	0.87	120.90 (22.48)[a]	0.84	0.85	142.08 (22.10)[b]
4	0.88	0.89	132.71 (24.34)	0.80	0.82	135.88 (18.78)
Total	0.87	0.87	124.75 (23.24)[a]	0.82	0.84	137.93 (21.29)[b]

Note. Different superscript letters within rows indicate differences significant at $p < 0.05$.

Before further analysis, the aggregated sample was randomly divided into two groups. The first (the calibration sample) consisted of 401 individuals (68.8% women) and was used to determine the factorial structure and reduce the number of ISDS items. The second (the validation sample) encompassed 269 individuals (68.4% women) and was used to check the factorial structure and reliability of the questionnaire's abbreviated version.

Construction of the shortened ISDS

In the first step, 34 items which can be considered the same in both versions of the Polish adaptation of the ISDS were selected. This set included 10 items relating to transgressive and risky behavior (A1; e.g., "I have done dangerous things just for the thrill of it"), 5 items relating to poor health maintenance (A2; e.g., "I usually call a doctor when I'm sure I'm becoming ill"), 11 items relating to personal and social neglects (A3; e.g., "I make promises that I don't keep"), 3 items relating to carelessness (A4; e.g., "I sometimes misplace my keys or wallet"), and 5 items relating to passiveness in the face of difficulties (A5; e.g., "I seem to keep making the same mistakes"). The resulting set of items covered all the behavior categories that were

considered by Kelley et al. [1] in the original questionnaire and distinguished in its Polish adaptation [2].

The next step was to construct measurement models for the selected set of items. Three models of the scale's latent structure were tested as part of confirmatory factor analysis (CFA). The first was the bifactor model, in which an assumption was adopted that the ISDS could be used to measure both a generalized indirectly self-destructive tendency and various forms of indirectly self-destructive behavior (A1–A5). The assumption of the second model was that latent factors represent theoretical classes of indirectly self-destructive behaviors (A1–A5) which can be correlated with each other. The third model was a global model that assumed a single latent factor behind all items. Graphical diagrams of the tested models are presented in Figure 1.

Following Lubke and Muthén's [33] assumption that the Likert scale is an ordinal scale, the estimation was based on the method of weighted least squares means and variance adjusted (WLSMV). As the χ^2 test's significance depends on sample size, the estimation of the tested models' goodness of fit was additionally based on the following indexes: χ^2/df, RMSEA (*root mean square error of approximation*), SRMR (*standardized root mean square residual*), and CFI (*comparative fit index*). According to the conventional rule of thumb [e.g., 34, 35], the model's fit is adequate when the χ^2/df value is lower than 3, the RMSEA and SRMR values are below 0.08, and the CFI value exceeds 0.90. The three models described above are hierarchically nested [36, 37]. The bifactor model is the least restrictive, while the one-factor model is the most limited. To compare the models, the corrected χ^2 difference test was used [38]. Goodness of fit measures obtained for the three tested models and the results of their comparison are presented in Table 3.

Table 3. **Goodness of fit indices for alternative CFA models for the ISDS items**

Model	χ^2	df	$\Delta\chi^2$	Δ df	RMSEA (CI_{90})	SRMR	CFI
Bifactor model	873.23***	493	–	–	0.044 (0.039–0.049)	0.069	0.87
5-factor model	990.92***	517	150.51***	24	0.048 (0.043–0.052)	0.074	0.84
1-factor model	1134.55***	527	315.49***	34	0.054 (0.049–0.058)	0.080	0.80

Note. $N = 401$; *** $p < 0.001$

The analysis of the goodness of fit measures shows that, among the three models tested, the one that best reflects the relationships between items is the bifactor model – the values of χ^2/df (1.77), RMSEA (0.04), and SRMR (0.07) met the adopted criteria, while the CFI value (0.87) was only slightly below the assumed threshold. This model was found to be significantly better than the five-factor model, $\Delta\chi^2 = 150.51$, $\Delta df = 24$, $p < 0.001$, and the one-factor model, $\Delta\chi2 = 315.49$, $\Delta df = 34$, $p < 0.001$. For all items except one ("It's easy to get a raw deal from life", $\lambda = 0.09$), the general factor loadings were statistically significant at a level of at least $p = 0.01$. The values of the general factor loadings ranged from 0.09 to 0.60 ($M = 0.38$), and amounted to

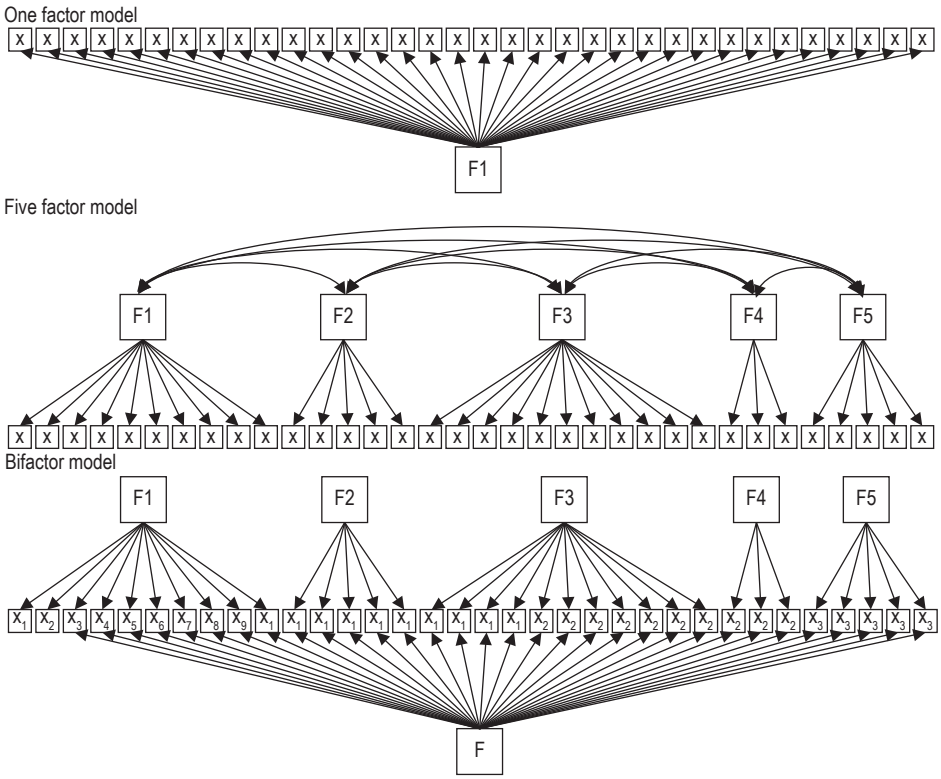

Figure 1. **Diagram of the models tested in the confirmatory factor analysis**

at least 0.30 for the vast majority of items (28 items). Most items (24 items) loaded on the general factor more strongly than specific factors. The loadings of specific factors ranged from 0.01 to 0.75 and were on average lower by 0.10 than the general factor loadings.

Reliability was analyzed using the traditional measure of internal consistency – Cronbach's α as well as McDonald's ω. Reliability for the total score estimated by both methods was high and amounted to $\alpha = 0.83$ and $\omega = 0.89$. Since the results of confirmatory analyses suggest the existence of a bifactor structure, the values of ω_h and ω_s coefficients were estimated as well in order to compare common and specific variance. The value of the hierarchical omega, representing the saturation of the scale's scores with the general factor, reached the value of $\omega_h = 0.79$. This factor represented 89.4% of the variance common among all items. The values of the ω_s coefficient, which enables assessment of the reliability of each specific factor after controlling for the general factor, ranged from 0.17 to 0.29. The obtained results ($\omega_h > 0.70$ and $\omega_s < 0.50$) suggest that the scale is essentially one-dimensional, while the substantive significance of isolated specific factors that is independent of the general factor is relatively small [39]. For each item, the coefficient of discriminatory power was also

calculated. The obtained values ranged from *rit* = 0.12 for the item "It's easy to get a raw deal from life" (belonging to the category of personal and social neglects) to *rit* = 0.52 for the item "I do things I know will turn out badly" (belonging to the category of passiveness in the face of difficulties). It is worth noting here that removing the items with the weakest coefficients of discriminatory power did not improve internal consistency.

As part of further analysis, all ISDS items were evaluated by judges to check their content validity and comprehensibility. The judges were three psychologists familiar with the theoretical framework of indirect self-destructiveness. Using a 7-point scale, the judges estimated the extent to which the items represented the content of the measured construct and were understandable to individuals with a level of education slightly lower than their own. The agreement between the judges' assessments was satisfactory. The values of Kendall's coefficients of concordance (Kendall's *W*) for the assessments amounted to $W = 0.65$, $\chi^2(33) = 64.07$, $p = 0.001$ with regard to item representativeness and $W = 0.59$, $\chi^2(33) = 58.27$, $p = 0.004$ with regard to item comprehensibility. The judges' ratings were lowest for the validity of two items from the category of personal and social neglects ("It's easy to get a raw deal from life", $M = 4.00$, $SD = 1.73$; "I hate any kind of schedule or routine", $M = 4.33$, $SD = 0.58$) and one item from the category of helplessness and passiveness in the face of difficulties ("I have frequently fallen in love with the wrong person", $M = 4.33$, $SD = 2.08$). According to the judges' assessments, the least comprehensible item was "Life can be pretty boring" from the category of transgressive and risky behavior ($M = 4.67$, $SD = 2.31$).

Ultimately, 25 items were included in the abbreviated version of the scale. Under the assumption that items with factor loadings lower than 0.30 are insufficiently representative for the relevant factors [40], the items whose general factor loadings did not exceed this threshold were removed. The items with the lowest coefficients of discriminatory power (*rit* < 0.20 [41]) were also excluded, as were the items which were deemed by the judges to be the least valid or understandable. The abbreviated ISDS-25 scale created in this fashion included 7 items relating to transgressive and risky behavior (A1), 4 items relating to poor health maintenance (A2), 8 items relating to personal and social neglects (A3), 2 items relating to carelessness (A4), and 4 items relating to helplessness and passiveness in the face of difficulties (A5).

Validation of the shortened ISDS

Confirmatory factor analysis was carried out as the first step to validate the ISDS-25. Its aim was to check the goodness of fit between the data and the assumed bifactor model and to compare it with alternative structure models – the five-factor model and the one-factor model. The model's parameters were estimated using the WLSMV method. The goodness of fit was assessed on the basis of the indicators discussed earlier. The obtained results are presented in Table 4.

Table 4. **Goodness of fit indices for alternative CFA models for the ISDS-25 items**

Model	χ^2	df	$\Delta\chi^2$	Δ df	RMSEA (CI_{90})	SRMR	CFI
Bifactor model	402.17***	251	–	–	0.047 (0.039–0.056)	0.075	0.90
5-factor model	396.77***	266	19.23	15	0.043 (0.034–0.051)	0.075	0.91
1-factor model	528.11***	275	140.26***	24	0.059 (0.051–0.066)	0.089	0.83

Note. $N = 269$; *** $p < 0.001$

The analysis of the goodness of fit measures suggests that both the bifactor model and the model involving five correlated factors meet the adopted criteria. The values of the goodness of fit parameters are similar in both cases, and the χ^2 difference test has not revealed any statistically significant difference between them, $\Delta\chi^2 = 8.52$, $\Delta df = 15$, $p = 0.901$. Both models were significantly better than the one-factor model: $\Delta\chi^2 = 141.63$, $\Delta df = 24$, $p < 0.001$ for the bifactor model and $\Delta\chi^2 = 116.26$, $\Delta df = 9$, $p < 0.001$ for the five-factor model. It should be noted, however, that in the case of the five-factor model, the covariance matrix was not positively defined, which indicates excessive correlations between latent factors. Analysis of the correlation matrix showed that the factors of poor health maintenance and passiveness the face of difficulties were undistinguishable ($r = 1.02$). Analysis of the modification indexes demonstrated that the covariance between these factors concerns mainly the relationship between the items "I usually call a doctor when I'm sure I'm becoming ill" (A1) and "Sometimes I don't seem to care what happens to me" (A4). In view of the above, the bifactor model should be considered as best suited to the data.

The analysis of factor loadings indicated that all items loaded on the general factor in a statistically significant way ($p < 0.01$). The values of the general factor loadings ranged from 0.24 (item "Using contraceptives is too much trouble") to 0.58 (item "I seem to keep making the same mistakes"). The average value of the general factor loadings was 0.41, and of the specific factors loadings: 0.33. Most items (17 items) loaded more on the general factor than on the specific factors.

The coefficient of internal consistency for the whole questionnaire was $\alpha = 0.81$, while the omega coefficient amounted to $\omega = 0.88$. Both coefficients indicate that the scale meets the criteria for a reliable research tool. In order to determine whether specific factors carry a significant part of the common variance or whether the scale is essentially one-dimensional, the ω_h and ω_s coefficients were calculated. The value of the hierarchical omega was $\omega_h = 0.76$, and the ω_h/ω quotient was 0.87, indicating a prevailing significance of the general factor in explaining the common variance of all positions. The values of the ω_s coefficient for the specific factors were within the range from 0.02 to 0.40. The obtained results demonstrate that the significance of factors corresponding to particular classes of indirectly self-destructive behavior is significantly lower than that of the general factor. The average value of the items' discriminatory power coefficient was 0.34, although the discriminatory power of two

items was at the lower limit of usefulness (*rit* = 0.17 and *rit* = 0.18). Removing the items with the weakest correlations with the overall score would not contribute to improving the scale's internal consistency.

Subsequently, the validity of the ISDS-25 was assessed on the basis of correlations with scores obtained with other scales. First, the correlations between the new, abbreviated version and the full version were checked. The correlation for the aggregated sample was $r = 0.94$, $p < 0.001$, and the correlation for each sample of participants ranged from $r = 0.93$ (study 1) to $r = 0.95$ (study 4). The observed strong correlations between the results of both scales indicate their convergence – the scores of the abbreviated ISDS explained 87.3-89.9% of the variance of the scores obtained with the full ISDS.

In addition to the data obtained with the original ISDS, data collected with measures of self-control capacity, self-care competences, attachment, cognitive deconstruction, fragile self-esteem, and temperament were used. The results of these analyses are presented in Table 5.

Table 5. **Correlations for the full and shortened versions of the ISDS**

		r		
Variable	n	ISDS	ISDS-25	Fisher's Z
Gender[a]	667	0.26***	0.29***	0.65
Age	660	-0.13***	-0.09*	0.77
Self-control	296	-0.56***	-0.55***	0.21
Self-care competences	139	-0.46***	-0.45***	0.11
Attachment anxiety	139	0.45***	0.43***	0.23
Attachment avoidance	139	0.29***	0.27***	0.22
Cognitive deconstruction	104	0.48***	0.49***	0.08
Endurance	157	0.01	-0.01	0.19
Emotional reactivity	157	0.05	0.06	0.14
Fragile self-esteem	104	0.08	0.07	0.09

Note. [a] Gender was coded as 0 = women, 1 = men. * $p < 0.05$, *** $p < 0.001$

As indicated by the data in Table 5, the structure of the results is as expected for all variables measured. In order to check whether there are any statistically significant differences in association strength between the included variables and indirect self-destructiveness measured with the shortened and full version, Fisher's transformation of correlation coefficients and Fisher's *Z* test were used. The conducted analyses prove that the correlation values for the shortened and full versions of ISDS do not differ from each other.

In further analysis, mean values and standard deviations were calculated for the ISDS-25 scores among women and men. In order to estimate the significance of differences between the groups, the Mann-Whitney *U* test was used. The obtained results are presented in Table 6. In line with the results of the full scale, men had higher levels

of indirect self-destructiveness than women: $Z = 8.03$, $p < 0.001$ for the aggregated sample; $Z = 3.62$, $p < 0.001$ for the sample in study 1; $Z = 2.61$, $p = 0.009$ for the sample in study 2; and $Z = 6.99$, $p < 0.001$ for the sample in study 3. The scores of the ISDS-25 scale in the whole group ranged from 27 to 100, with the mean at $M = 57.24$ ($SD = 13.22$). Table 6 also shows the number of individuals with the highest scores, with the cut-off points set at the values of one and two standard deviations from the mean. In comparison to women, men were more than twice as likely to achieve the highest scores of indirect self-destructiveness.

Table 6. **Characteristics of the tested samples according to the ISDS-25 scores**

	Women	Men
Study	M (SD)	M (SD)
1	56.27 (12.89)[a]	66.39 (13.83)[b]
2	53.95 (12.46)[a]	58.94 (12.09)[b]
3	52.87 (12.44)[a]	66.16 (11.80)[b]
4	58.54 (13.56)	62.42 (10.68)
Total	54.62 (12.81)[a]	62.99 (12.27)[b]
ISDS-25	n (%)	n (%)
> M + 1SD	53 (11.5)	55 (26.2)
> M + 2SD	9 (2.0)	9 (4.3)

Note. Different superscript letters within rows indicate differences significant at $p < 0.01$.

Discussion of the results

The analyses presented in the article served to construct and validate a shortened version of the *Indirect Self-Destructiveness Scale* (ISDS-25). They were inspired by the recently recurring questions whether it is valid to abbreviate existing tools [e.g., 42]. Given that modern research projects involve numerous tools, which often significantly increase the duration of examinations, the search for ways to shorten this duration is in the interest of both participants and researchers. The use of abbreviated versions of questionnaires is particularly important in the study of individuals who are ill or easily fatigued, or have difficulties with maintaining focus. Another advantage of abbreviated questionnaires comes in the form of lower costs of research. Notwithstanding, the use of abbreviated measures entails a risk of compromising the quality of the measurement – reducing the number of items may reduce a method's validity and reliability. As the psychological (especially personality-related) differences between the sexes are becoming blurred [43], there is also the question whether it is justified to differentiate the content of certain tests according to gender. It is unclear why no attempt has been made so far to create a gender-neutral version of the ISDS despite the suggestion by the authors of the original scale [1]. It would, of course, require a demonstration that the differences between the results of men and women obtained using the full version

also occur when using the version limited to items concerning the manifestations of indirect self-destructiveness typical of both sexes.

With this in mind, the selection of items for the shortened version of the *Indirect Self-Destructiveness Scale* was carried out on the basis of several criteria. Firstly, the development of the abbreviated version was aimed at eliminating the gender differences from the measurement of indirect self-destructiveness – the shortened version of the scale included only those items that had been included in both gender versions. Secondly, items whose content reflected the diversity of indirect self-destructiveness indicators that were present in the full ISDS and which accurately represented the content universe of this construct were preferred. Care was taken to ensure that the items were understandable for individuals with different levels of education. Finally, the selected items had to meet the prerequisites of psychometric goodness of fit. The combination of the above criteria led to the development of the proposed version of the scale: identical for both genders and consisting of 25 items that measure the indirectly self-destructive tendency accurately and reliably.

The results of the analysis of the psychometric properties of the shortened ISDS indicate that the scale is characterized by satisfactory reliability and theoretical validity. Confirmatory analysis has demonstrated that the bifactor model represents the factorial structure of the scale better than the five-factor and one-factor models. The model assumes the existence of six orthogonal factors of which one (the general factor) is loaded by all the items on the questionnaire, while the other five (specific factors) are loaded by items relating to particular forms of indirectly self-destructive behavior. The values of all the considered goodness of fit parameters indicate acceptable goodness of fit of the adopted model.

The reliability of the ISDS-25 was evaluated on the basis of Cronbach's α and McDonald's ω. The values of both these coefficients confirm that the ISDS-25 is highly reliable. Estimations of the percentage of total score variance related to the general factor alone and to the specific factors alone indicated that the scores were significantly saturated with the general factor, while the specific reliability of the specific factors varied, but was invariably low. This leads to the conclusion that, despite the existence of specific factors, the ISDS-25 scale is essentially one-dimensional – it measures a generalized tendency for indirect self-destructiveness, and this is the purpose for which it should be used.

Subsequent analyses verified the convergent and divergent validity of the ISDS-25. The construct's convergent validity was confirmed by the positive association with cognitive deconstruction and attachment anxiety and avoidance, as well as by the negative association with self-control and self-care capacity. Divergent validity was demonstrated by the lack of significant correlations between the ISDS-25 and fragile self-esteem, endurance, or reactivity. In addition, the predicted association between indirect self-destructiveness and age as well as differences in the results obtained by women and men were demonstrated. Also of note are the similar correlation structures obtained for the abbreviated and full versions of the ISDS as well as the very high correlation between the results of both versions.

Conclusions

In summary, the analysis showed that the shortened and gender-neutral ISDS-25 meets the requirements of reliability and validity and describes the differences between women and men to the same extent as the full version. The obtained results allow us to conclude that the shortened scale can be used in scientific research to differentiate individuals in terms of the indirectly self-destructive tendency.

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Appendix

Items of the shortened version of the *Indirect Self-Destructiveness Scale* (ISDS-25)
1. I usually meet deadlines with no trouble.
2. I happen to do dangerous things just for the thrill of it.
3. I use or have used street drugs.
4. I prefer traveling slowly and safely rather than quickly and riskily.
5. I have my car serviced regularly.
6. Sometimes I don't seem to care what happens to me.
7. I like to play (e.g., cards) for high stakes.
8. I just don't know where my money goes.
9. Wearing a helmet would ruin the fun of a motorcycle or bike ride.
10. I sometimes leave my keys or wallet somewhere carelessly.
11. Often I don't take very good care of myself.
12. I usually follow through on projects.
13. I generally don't find myself in health- or life-threatening situations.
14. I make promises that I don't keep.
15. I usually call a doctor when I'm sure I'm becoming ill.
16. I sometimes forget important things I wanted to remember.
17. I know where to call in case of an emergency.
18. I seem to keep making the same mistakes.
19. I lose often when I gamble for money.
20. Using contraceptives is too much trouble.
21. I do things I know will turn out badly for me.
22. I often leave my house or car keys in the lock.
23. I am frequently late for important things.
24. I frequently don't do boring things I'm supposed to do.
25. Sometimes when I don't have anything to drink, I think about how good some booze would taste.