

## WOMEN'S SEXUAL HEALTH

## Sexual Self-Schema Scale for Women—Validation and Psychometric Properties of the Polish Version



Krzysztof Nowosielski, MD,<sup>1</sup> Konrad S. Jankowski, PhD,<sup>2</sup> Robert Kowalczyk, PhD,<sup>3</sup> Jacek Kurpisz, PhD,<sup>4</sup> Małgorzata Normantowicz-Zakrzewska, MD,<sup>5</sup> and Aleksandra Krasowska, MD, PhD<sup>5</sup>

## ABSTRACT

**Introduction:** The sexual self-schema is a part of a broader concept of the self that is believed to be crucial for intrapersonal and interpersonal sexual relationships.

**Aim:** To develop and perform psychometric validation of the Polish version of the Sexual Self-Schema Scale for Women (SSSS-W-PL).

**Methods:** 561 women 18 to 55 years old were included in the final analysis. Linguistic validation was performed in 4 steps in line with the MAPI Institute guidelines. Convergent validity was calculated using the Pearson  $r$  product-moment coefficient between different measures of sexuality (attitudes and experience, behavior, arousal, romantic relationship) and SSSS-W-PL total and factor scores. To test discriminant validity, we applied hierarchical regression analyses predicting the number of lifetime sexual partners, self-rating as a sexual person (1 item, “I feel sexually attractive”; on a 5-point Likert scale), and arousability, with independent variables being extraversion (Ten-Item Personality Inventory), self-esteem (Rosenberg Self-Esteem Scale), and the SSSS-W-PL (total and factor scores).

**Main Outcomes Measures:** Sexual self-schema was measured by the SSSS-W-PL, whereas arousability was measured by the arousal/excitement scale of the Changes in Sexual Functioning Questionnaire.

**Results:** The mean age of the study population was  $29.0 \pm 7.6$  years. The final scale consisted of 24 adjectives grouped within 4 factors: romantic, passionate, direct, and embarrassed. The 4-factor model accounted for 39% of the variance. The Cronbach  $\alpha$  was 0.74 for the SSSS-W-PL total score and 0.61 to 0.84 for individual factors. Test-retest reliability of the scale after 2- to 8-week intervals was 0.87 (95% CI = 0.82–0.86,  $P < .001$ ). The increment variances were statistically significant and ranged from 3.8% to 11.6%.

**Conclusion:** The analysis showed good psychometric properties and internal validity of the SSSS-W-PL. The SSSS-W-PL might be helpful in consulting and/or providing sexual therapy to gynecologic cancer survivors or women with a history of childhood sexual abuse. **Nowosielski K, Jankowski KS, Kowalczyk R, et al. Sexual Self-Schema Scale for Women—Validation and Psychometric Properties of the Polish Version. Sex Med 2018;6:131–142.**

Copyright © 2018, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

**Key Words:** Self-Schema; Sexuality; Women; Psychometrics; Psychosexual Orientation

Received August 19, 2017. Accepted December 17, 2017.

<sup>1</sup>Department of Sexology and Family Planning, Medical Collage in Sosnowiec, Sosnowiec, Poland;

<sup>2</sup>Department of Psychometrics and Psychological Diagnosis, Faculty of Psychology, University of Warsaw, Warsaw, Poland;

<sup>3</sup>Department of Sexology, Andrzej Frycz Modrzewski Kraków University, Cracow, Poland;

<sup>4</sup>Department and Clinic of Psychiatry, Pomeranian Medical University, Szczecin, Poland;

<sup>5</sup>Forensic Psychiatric Ward, House of Detention, Poznan, Poland;

<sup>6</sup>Department of Psychiatry, Medical University of Warsaw, Warsaw, Poland

Copyright © 2018, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.esxm.2017.12.002>

## INTRODUCTION

The sexual self-schema is a part of a broader concept of the self that is believed to be crucial for intrapersonal and interpersonal sexual relationships.<sup>1</sup> Because sexuality is a complex construct, its cognitive representations include attitudes, behaviors, responses to sexual cues, and sexual self-schema (as a cognitive representation of the sexual self).

Previous studies by Andersen and Cyranowski<sup>1</sup> and then by Hill<sup>2</sup> described 2 ways of understanding the sexual self-schema. The 1st was based on the idea of 2 distinct schemas—positive and negative—with different valences. The 2nd approach extended the analysis and considered 2 associated continuums, thus distinguishing 4 self-schema types: positive schematic (high positive and low negative schema scores), negative schematic (high negative and low positive schema scores), co-schematic (high positive and negative scores), and a-schematic (low positive and negative scores). The positive continuum score is the total of the 2 positive factor scores (passionate-romantic and open-direct), whereas the negative continuum score is the single negative factor score (embarrassed-conservative) of the Sexual Self-Schema Scale (SSSS).<sup>1,2</sup> Women with schematic representations base their sexuality on experience and modify it according to new sexual cues. Those with positive schemas are more willing to engage in new sexual relationships, have more positive emotions toward sex, and are open to new sexual experiences, whereas those with negative schemas are more conservative, sexually withdrawn, and less experienced, skilled, or comfortable in sexual relationships.

To date, a few studies on these sexual self-schemas have reported interesting findings. Reissing et al<sup>3</sup> found that positive schematic women reported higher levels of sexual self-efficacy and lower sexual aversion. Manthos et al<sup>4</sup> found that sexual schema (positive and negative) might be a predictor of hooking up among young women. Carpenter et al<sup>5</sup> found that cancer survivors with positive sexual schemas were less vulnerable to affective disorders, especially when their sexual satisfaction was low, whereas few other studies found that negative sexual schemas might negatively affect sexual function in gynecologic and colorectal cancer survivors.<sup>6</sup> Furthermore, there was a correlation between sexual self-schema and body dissatisfaction; women with negative sexual schemas were more prone to having negative views about their body size,<sup>7</sup> although previous studies did not report such correlations, describing only a correlation between self-schema and self-rated facial attractiveness—women who viewed themselves as more sexually attractive had a more positive sexual self-schema.<sup>8</sup> Some studies also examined the influence of sexual self-schema on female consumer reactions to mild and explicit sexual stimuli in advertising and provided conflicting results, with some reporting a strong influence (especially in positive schematic women), through no effect, to an inhibitory influence (in positive schematic and negative schematic women).<sup>9,10</sup>

To the best of our knowledge, this is the first study using the SSSS for women in Poland. We believe that the validated Polish version of the scale might be useful not only in consulting and

providing sexual therapy to gynecologic cancer survivors or women with a history of childhood sexual abuse but also in broader clinical practice.

The aim of the study was to develop and perform a psychometric validation of the Polish version of the SSSS for Women (SSSS-W-PL).

For clarity, we refer to the 4 types of the sexual schema (positive schematic, negative schematic, a-schematic, and co-schematic). However, other studies on sexual schemas include the 2 approaches (2-element and 4-element divisions).

## METHODS

### Participants

Participants were recruited from June 2016 through June 2017 in outpatient gynecologic clinics in Katowice, Sosnowiec, and Tychy; the Medical College in Sosnowiec, the University of Warsaw, the Medical University of Warsaw, and the Pomeranian Medical University in Szczecin; and through social media (Facebook). The inclusion criteria were agreement to participate in the study and age 18 to 55 years. The exclusion criteria were diagnosed neoplasia, depression, or other psychiatric disorders (past or current), stress urinary incontinence, overactive bladder, pelvic organ prolapse stage higher than II, previous cardiologic surgeries, myocardial infarction less than 6 months before the study, severe cardiovascular disorders (New York Heart Association classes 3 and 4), unstable coronary angina, pregnancy, postpartum stage, and breastfeeding. All eligible participants were given (personally or through Facebook) an invitation with a short description of the study and a link to the internet-based questionnaire. They were asked to complete the online questionnaire on day 0 and at 2 to 8 weeks. To identify subjects in the retest procedure, all respondents were asked to enter an anonymous and unique identification code when completing the questionnaire the 1st time and after 2 to 8 weeks.

1,176 women were recruited for this prospective study. 12 did not agree to participate and another 285 dropped out after the first question, with an additional 280 returning incomplete forms. 611 fully completed questionnaires were collected (response rate = 51.9%). Because depressive and mood disorders constituted an exclusion criterion, another 50 individuals with high scores on the depression subscale of the Hospital Anxiety and Depression Scale (HADS) were excluded from further analyses. Therefore, 561 women were included in the study group. Of that sample, only 133 individuals took part in the retest study and completed the questionnaire for the 2nd time.

The study was approved by the ethical committee of the Silesian Medical Chamber in Katowice, Poland (ŚIL/KB/756p/15 Katowice, 25.05.2015).

### Tools

All measurement tools were chosen according to 2 principles: (i) comparability to the original methodology and theoretical

discussion<sup>1</sup> and (ii) presence of other variables considered significant for the validation process. Those variables were proved to have a remarkable relation with sexual expression and, hypothetically, sexual self-schema (especially in the clinical context in relation to mental and somatic health; eg, depressive symptoms, obesity, etc).<sup>2–10</sup> In the following section we refer to those principles to justify or explain our choice of particular methods and variables.

The 1st tool that we used was a general research questionnaire of our own design, which consisted of 63 items concerning socio-epidemiologic data, medical history, and sexual behaviors and experience (principles i and ii).

Sexuality was assessed in 4 different categories (principles i and ii):

1. Sexual attitudes and experiences were assessed on a 5-item Likert-type scale and included the following items: How important is sex in your life? How satisfying is your sex life? How frequently do you have sexual fantasies? What is your attitude to casual sex? What is your attitude toward sex without commitment? There was an additional yes-or-no question: Before the age of 15, were you ever a victim of sexual assault (did somebody touch you sexually or showed his or her genitals to you)?
2. Sexual behaviors were assessed by 4 items: Are you currently in a romantic relationship [yes or no]? Have you been sexually active in the past 12 weeks? What is the number of lifetime sexual partners? Did you engage in sexual activity with a person you did not know (1-night stand) [yes or no]?
3. Arousability was assessed on the arousal/excitement scale of the Polish version of the Changes in Sexual Functioning Questionnaire (CSFQ-F)<sup>11</sup> and an additional item (on a 5-point Likert scale): How often do you feel like having sex and/or feel aroused as a result of sexual stimuli/cues?
4. Romantic relationship was assessed with a single item on a 5-point Likert scale (How romantic is your current relationship?) and the intimacy scale of the Polish version of the Questionnaire of the Relationship Adjustment.<sup>12</sup>

Self-esteem was assessed with the Polish version of the Rosenberg Self Esteem Scale (SES). A higher score reflects higher self-esteem<sup>13</sup> (principle i).

Personality traits were assessed with the Polish adaptation of the Ten-Item Personality Inventory (TIPI<sup>14,15</sup>; principle i).

Depressive and anxiety disorders were evaluated with the HADS with the following norms: no higher than 10 points (low level of anxiety and depression) and at least 11 points (high level of anxiety and depression)<sup>16</sup>; principle ii).

Sexual self-schema was assessed with the SSSS-W. The scale consists of 50 adjectives (24 filter and 26 target items) assessing sexual self-concept. Adjectives are rated on a 7-point scale from 0 (“not at all descriptive of me”) to 6 (“very much descriptive of me”). The scale was developed in 1994 by Andersen and Cyranski.<sup>1</sup> It was validated in different populations, yielding good psychometric properties (Cronbach  $\alpha = 0.82$ ; test-retest

reliability = 0.88). The original scale has 3 factors: passionate-romantic, open-direct, and embarrassed-conservative. The total score is calculated by adding passionate-romantic and open-direct factor scores and subtracting the embarrassed-conservative factor score. The passionate-romantic and open-direct factor scores constitute the positive domain, and the embarrassed-conservative factor score constitutes the negative domain. Based on the domain scores, subjects are divided into 4 categories: women scoring above the median in the positive domain and below the median in the negative domain are classified as positive schematic; women scoring above the median in the negative domain and below the median in the positive domain are classified as negative schematic; women scoring below the median in the positive and negative domains are classified as a-schematic; and women scoring above the median in the positive and negative domains are classified as co-schematic.

## Study Protocol

### Linguistic Validation

Permission to translate and adapt the original English version of the SSSS into Polish was obtained from Barbara Andersen, a co-author of the scale. Linguistic validation was performed in 5 steps in line with the MAPI Institute guidelines<sup>17</sup>: forward translation, backward translation, pilot study, cognitive debriefing, and field testing. A local translator and the 1st author of the study independently translated the questionnaire instruction, the original English items, and the response options. Then, the 2 translated versions were compared, and the 1st version of the SSSS-W-PL was developed. An independent bilingual translator translated the SSSS-W-PL back into English. Then, when all 3 translators compared the backward-translated version with the original English version, the 2nd version of the questionnaire was prepared. To test the clarity, intelligibility, appropriateness, and cultural relevance of the 2nd version of the SSSS-W-PL, the questionnaire was administered to a group of 25 female students. Then, a face-to-face interview was conducted to check for difficulties in understanding and interpreting the questionnaire items. Some difficulties in understanding the following adjectives were noted: *experienced* (ie, “to have experiences”; in Polish it also can mean “to experience negative life events”), *outspoken* (“to call spade a spade”; in Polish it also means “open”), and *disagreeable* (“offensive”; in Polish it also can mean “bad”). The adjectives were corrected to meet the original meaning in the scale. To ensure consistency of the translation and to enhance cross-cultural comparability, the SSSS-W-PL was administered to all 561 study participants.

### Statistical Analysis

Statistica 12.0 Pl (StatSoft, Cracow, Poland) was used for statistical analyses. Before the main analysis, all variables were checked for missing values, normality (Kolmogorov-Smirnov test), and homogeneity of variances (Levene test). Because the number of missing values was less than 5% of the entire study

sample and all missing values were randomly distributed across all observations, they were deleted pairwise during the analysis. For variables with normal distribution and homogeneity of variances, analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) were used. The Kruskal-Wallis test and Mann-Whitney U-test were used in analyses of intergroup differences for non-normally distributed quantitative variables, and the  $\chi^2$  test was used in qualitative analyses. *P* values less than 0.05 were considered statistically significant.

### Reliability

Reliability was assessed by internal consistency and the test-retest method. Internal consistencies were evaluated by the Cronbach  $\alpha$  coefficient, with values higher than 0.70 considered adequate to excellent reliability. The intraclass correlation coefficient was used to assess test-retest reliability, with values higher than 0.40 representing poor to fair agreement, values of 0.41 to 0.60 representing moderate agreement, values of 0.61 to 0.80 representing good agreement, and values higher than 0.80 representing excellent agreement between the 2 assessments.

### Validity

To evaluate the factor structure and construct validity of the SSSS-W-PL, principal component analysis using oblique rotation with Harris-Kaiser normalization was conducted for all 26 questionnaire items. The data from the entire sample ( $N = 561$ ) at day 0 were analyzed. In addition, the entire sample was randomly divided into 2 equal subgroups (A and B) to verify and compare differences between particular factor loadings.

Intercorrelations between the total and individual factor scores were calculated using the Pearson *r* product-moment coefficient. Convergent validity was calculated using the Pearson *r* product-moment coefficient of different measures of sexuality (attitudes and experiences, behavior, arousal, romantic relationship) and SSSS-W-PL total and factor scores. Discriminant validity was assessed by hierarchical regression ANOVAs in predicting the number of lifetime sexual partners, self-rating as a sexual person (1 item, "I feel sexually attractive," on a 5-point Likert scale), arousability (arousal/excitement domain of the CSFQ-F), extraversion (a domain of the TIPI), self-esteem (SES), and the SSSS-W-PL (factor and total scores). To test whether sexual schema groups differed in cognitive generalizations of the sexual self and then whether their sexual views derived from experience might influence their current behaviors or the way they enter romantic relationships, ANOVA and MANOVA were performed using sexuality and relationship measures (only for those classified as positive or negative schematic, because those 2 groups were considered most important for psychometric analysis of the tool).

## RESULTS

561 women qualified for the final analysis and 133 of them participated in the test-retest reliability procedure. The mean age

of the sample was  $29.0 \pm 7.6$  years. The general characteristics of the sample are presented in [Tables 1](#) and [2](#).

According to the principal component analysis of the SSSS-W-PL, the scree plot indicated a 4-factor solution. The factors were recognized as romantic (factor 1), passionate (factor 2), direct (factor 3), and embarrassed (factor 4). Because item 45 (unromantic) had communality under 0.15, it was removed from the analysis and the entire analysis was performed again. However, further analysis of internal consistencies with the Cronbach  $\alpha$  coefficient showed that removing item 13 (experienced) from factor 4 increased the Cronbach  $\alpha$  from 0.44 to 0.61. For that reason this item also was removed. Thus, the final SSSS-W-PL consisted of 24 items ([Appendix 1](#)). Then, the analysis was redone on 24 adjectives and 4 factors were extracted: factor 1 (romantic) included 8 items, factor 2 (passionate) included 7 items, factor 3 (direct) included 4 items, and factor 4 (embarrassed) included 5 items. [Table 3](#) presents factor loadings for items in the 4-factor model with eigenvalues and Cronbach  $\alpha$  values.

To compare our model with the original model developed by Andersen and Cyranowski,<sup>1</sup> factor analysis was performed on all 26 items, but with the number of factors decreased to 3. The original model resulted in lower Cronbach  $\alpha$  values and eigenvalues compared with the 4-factor model (Cronbach  $\alpha = 0.69, 0.63, 0.48, \text{ and } 0.73$  for each of the 3 factors and the full scale; eigenvalues = 4.9, 2.2, and 1.2 for consecutive factors). In addition, the 4-factor model accounted for 39% of the variance compared with 30% in the original model. However, the 2 evaluated models showed a statistically significant goodness of fit ( $P < 0.001$ ) with  $\chi^2$  values of 5,886 for the 4-factor model and 1,193 for the original model.

The sample was divided into subgroups A and B to compare factor loadings for particular items ([Table 4](#)). One item, "prudent" of the romantic factor, was found to be somewhat unclear; its strength was 0.15 in the A subgroup and 0.55 in the B subgroup.

Means and SDs for factors and their intercorrelations are presented in [Table 5](#). The results suggested strong correlations between total and factor scores (range = 0.53–0.78; all were statistically significant). The factors were interrelated but not redundant. In addition, positive correlations among factors 1, 2, and 3 and a negative correlation between factors 1 to 3 and factor 4 were observed.

### Convergent Validity

To calculate convergent validity, we performed analyses of Pearson product-moment correlations of the SSSS-W-PL (factor and total scores) and different measures of sexuality ([Table 6](#)). The results showed that factor 1 (romantic) correlated positively with sexual fantasies, romantic relationship, arousability, casual sex, and sex without commitment; thus, factor 1 is indicative of the importance of the relationship. Factor 2 (passionate) was positively correlated with the importance of sex, sexual arousal level, satisfaction with sex life, number of lifetime sexual partners,

**Table 1.** Characteristics of study sample—parametric variables

Variable	All			Positive schematic (n = 127)			Negative schematic (n = 147)			A-schematic (n = 73)			Co-schematic (n = 103)			P value*
	M	Range	SD	M	Range	SD	M	Range	SD	M	Range	SD	M	Range	SD	
Age (y)	29.0	19–55	7.6	28.7	19–52	7.7	29.7	19.0–45.6	7.0	29.92	19.4–46.4	7.25	29.46	19–55	8.66	NS
BMI (kg/m <sup>2</sup> )	22.9	22.1–50.1	3.9	23.5	16.4–50.1	5.1	22.9	16.9–31.6	2.89	23.08	18.7–31.4	2.61	22.76	15.50–39.67	4.26	NS
Sexual attractiveness <sup>†</sup>	3 <sup>‡</sup>	1–5	0.9 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	3 <sup>‡</sup>	1–5	0.9 <sup>‡</sup>	4 <sup>‡</sup>	1–5	1.0 <sup>‡</sup>	3 <sup>‡</sup>	1–5	0.9 <sup>‡</sup>	0.001
Importance of sex <sup>†</sup>	4 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	4 <sup>‡</sup>	2–5	0.7 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.9 <sup>‡</sup>	4 <sup>‡</sup>	2–5	0.8 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	0.04
Duration of relationship (y)	6.7	0.5–31	6.1	5.8	0.5–31	5.6	7.1	1–24	5.7	8.27	1–25	5.92	7.27	0.50–31	7.83	0.04
Quality of relationship <sup>†</sup>	5 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	5 <sup>‡</sup>	2–5	0.7 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	5 <sup>‡</sup>	2–5	0.7 <sup>‡</sup>	5 <sup>‡</sup>	2–5	0.9 <sup>‡</sup>	0.04
How romantic is your relationship? <sup>†</sup>	4 <sup>‡</sup>	1–5	0.9 <sup>‡</sup>	4 <sup>‡</sup>	2–5	0.8 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.8 <sup>‡</sup>	4 <sup>‡</sup>	1–5	0.9 <sup>‡</sup>	0.001
Quality of sexual relationship <sup>†</sup>	5 <sup>‡</sup>	1–5	1.2 <sup>‡</sup>	5 <sup>‡</sup>	2–5	1.0 <sup>‡</sup>	5 <sup>‡</sup>	1–5	1.1 <sup>‡</sup>	5 <sup>‡</sup>	1–5	1.2 <sup>‡</sup>	4 <sup>‡</sup>	1–5	1.0 <sup>‡</sup>	0.01
Lifetime sexual partners, n	4.6	0–50	6.4	6.2	0–30	8.8	3.6	0–40	4.8	4.88	1–30	5.36	4.31	0–40	5.43	0.01
Satisfying sexual events/mo, n	6.0	0–40	7.6	10.0	0–45	11.2	6.0	0–40	8.2	8.08	0–30	6.01	9.35	1–30	7.32	NS
Sexual events with climax/mo, n	6.0	0–100	10.8	9.5	0–100	17.1	6.0	0–35	7.1	9.77	1–70	11.13	8.78	0–30	8.13	NS
Vaginal sex/mo, n	8.0	0–45	6.3	8.5	0–45	8.1	8.0	0–30	6.4	8.52	0–30	5.78	8.00	0–23	5.70	NS
Sexual events/mo, n	8.0	0–57	8.9	10.0	0–45	10.5	6.5	0–25	5.8	10.31	2–50	8.92	10.35	1–30	8.03	0.001
Foreplay events/mo, n	5.0	0–50	6.8	5.5	0–50	10.4	4.0	0–20	4.6	5.83	0–25	5.85	6.78	0–30	7.78	0.001
Oral sex events/mo, n	3.0	0–81	7.9	3.5	0–55	10.1	1.0	0–1	0.2	5.28	0–81	10.79	5.35	0–40	10.16	0.02
Masturbation/mo, n	3.0	0–107	9.3	4.0	0–107	21.3	2.0	0–30	4.3	3.85	0–15	3.91	4.61	0–25	6.29	0.02
Mutual masturbation/mo, n	2.0	0–25	4.7	2.5	0–25	5.4	3.0	0–20	4.9	3.23	0–15	3.59	2.96	0–15	4.62	NS
HADS—anxiety	6.8	0–16	3.0	5.7	0–15	3.2	7.5	2–16	2.6	6.70	1–14	2.76	6.86	0–14	3.27	0.001
HADS—depression	3.7	0–11	2.8	3.3	0–11	2.8	3.7	0–10	2.7	3.15	0–10	2.65	4.71	0–10	2.72	NS
CSFQ—arousal/excitement	10.8	3–15	2.0	11.7	7–15	1.7	9.7	5–15	1.7	10.52	6–14	1.77	11.33	5–15	2.05	0.001
SES	29.9	13–40	5.9	32.5	20–40	5.4	25.1	17–37	5.1	25.75	13–34	6.78	29.19	17–39	5.26	0.01
TIPI—extraversion	8.2	2–13	1.9	7.9	2–12	1.8	7.9	2–12	1.8	8.63	6–11	2.07	8.43	2–12	2.08	NS
TIPI—agreeableness	8.7	2–13	1.7	8.5	2–12	1.9	8.5	2–12	1.9	7.25	3–11	2.25	9.00	5–13	1.55	NS
TIPI—conscientiousness	7.6	2–13	1.8	7.3	2–13	2.0	7.3	2–13	2.0	7.25	5–8	1.04	7.88	2–13	1.67	NS
TIPI—emotional stability	7.7	2–14	2.0	7.5	2–14	2.1	7.5	2–14	2.1	8.13	7–9	0.83	7.72	2–12	2.05	NS
TIPI—openness to experiences	9.2	3–14	2.0	8.9	3–14	1.9	8.9	3–14	1.9	8.50	4–10	2.00	9.72	4–13	1.98	NS
KDM—intimacy	30.1	16–40	6.5	30.0	16–40	7.3	34.7	26–38	4.19	27.50	24–31	4.95	29.16	17–39	6.20	NS

BMI = body mass index; CSFQ = Changes in Sexual Functioning Questionnaire; HADS = Hospital Anxiety and Depression Scale; KDS = Questionnaire of the Relationship Adjustment; M = mean or median; NS = not statistically significant; SES = Rosenberg Self-Esteem Scale; TIPI = Ten-Item Personality Inventory.

\*By Mann-Whitney U-test (positive vs negative schematic).

<sup>†</sup>By 5-point Likert scale.

<sup>‡</sup>Median and quartile deviation.

**Table 2.** Characteristics of study sample—descriptive statistics

Variable, n (%)	Total	Positive schematic	Negative schematic	A-schematic	Co-schematic	P value*
Residency						NS
Rural	46 (10.22)	14 (11.02)	12 (8.16)	8 (10.96)	12 (11.65)	
Urban	404 (89.76)	113 (88.98)	135 (91.84)	65 (89.04)	91 (88.35)	
Education						NS
Primary	4 (0.89)	2 (1.57)	1 (0.68)	0 (0)	1 (0.98)	
Secondary	188 (41.96)	53 (41.73)	59 (40.41)	27 (36.99)	49 (48.04)	
University	256 (57.14)	72 (16.07)	86 (58.90)	46 (63.01)	52 (50.98)	
Employment						0.01
Unemployed	116 (25.84)	25 (19.69)	55 (37.14)	11 (15.07)	25 (24.51)	
Physical	42 (9.35)	13 (10.24)	9 (6.12)	13 (17.81)	7 (6.86)	
White collar	290 (64.59)	88 (69.29)	83 (56.46)	49 (67.12)	70 (68.63)	
Religion						NS
Catholic	259 (57.81)	69 (54.33)	93 (63.70)	32 (43.84)	65 (63.73)	
Other	41 (9.15)	15 (11.81)	11 (7.53)	7 (9.59)	8 (7.84)	
Atheist	148 (33.04)	43 (33.86)	42 (28.77)	34 (46.58)	29 (28.43)	
Sexual orientation						0.0001
Heterosexual	396 (88.00)	103 (81.10)	141 (95.92)	66 (90.41)	86 (83.50)	
Homosexual	10 (2.22)	1 (0.79)	4 (2.72)	2 (2.74)	3 (2.91)	
Bisexual	39 (8.67)	21 (16.54)	2 (1.36)	5 (6.85)	11 (10.86)	
Homosexual	1 (0.22)	0 (0)	0 (0)	0 (0)	1 (0.97)	
Do not know	4 (0.89)	2 (1.57)	0 (0)	0 (0)	2 (1.94)	
Participating in religious events—yes	113 (25.11)	15 (11.81)	55 (37.14)	17 (23.29)	26 (25.240)	0.0001
Cigarette smoking—yes	87 (19.33)	27 (21.26)	28 (19.05)	11 (15.07)	21 (20.39)	NS
Sexual initiation—yes	442 (98.22)	126 (99.21)	145 (98.64)	73 (100.00)	98 (95.15)	NS
Relationship status—yes	344 (76.44)	98 (77.17)	112 (76.19)	61 (83.56)	73 (70.87)	NS
Have a sexual partner—yes	379 (84.22)	104 (81.89)	126 (85.71)	66 (90.41)	83 (80.58)	NS
Sexual activity in past 12 wk—yes	426 (94.67)	122 (96.06)	141 (95.92)	71 (97.26)	92 (89.32)	NS
Are you satisfied with your sex life?—no	16 (8.42)	6 (7.59)	2 (8.70)	0 (0.00)	8 (10.00)	NS
1-night stand—yes	47 (18.00)	9 (18.75)	27 (21.77)	9 (13.85)	2 (8.70)	NS
Masturbation—yes	181 (94.27)	34 (17.71)	87 (94.57)	43 (93.48)	17 (94.44)	NS
Mutual masturbation—yes	183 (70.38)	11 (22.92)	88 (70.97)	19 (29.23)	11 (47.83)	NS
Oral sex—yes	176 (94.12)	33 (94.29)	83 (94.32)	45 (93.75)	15 (93.75)	NS
Victim of sexual assault—yes	12 (4.62)	2 (4.17)	4 (3.23)	5 (7.69)	1 (4.35)	NS

NS = not statistically significant.

\*By  $\chi^2$  test.

casual sex, and sex without commitment, suggesting that factor 2 implies engagement in a wide range of sexual activities. Factor 3 (direct) was correlated with casual sex, arousability, and number of lifetime sexual partners, which suggests that directness might be necessary for satisfaction with sex life. Factor 4 (embarrassed) was negatively correlated with all measures of sexuality, arousability, number of lifetime sexual partners, and romantic relationship; it plays the inhibitory role in sexual behaviors and affect. The total score correlated most strongly with attitudes toward casual sex, arousability, and measurement of a romantic relationship.

### Discriminant Validity

A hierarchical regression analysis was performed to test the incremental variance added by the SSSS-W-PL (total score) to

extraversion (TIPI) and self-esteem (SES) in predicting the number of lifetime sexual partners, self-rating as a sexual person, and arousability. In all cases the increment variances were statistically significant and ranged from 1.3% to 12.4%, indicating satisfactory discriminant validity of the SSSS-W-PL.

### Analysis of Positive and Negative Schemas

The final analysis of construct validity focused on differences in individuals with positive vs negative self-schema based on SSSS-W-PL scores. Of the entire sample, 127 women were classified as positive schematic (28.2%), 147 (32.7%) as negative schematic, 73 (16.2%) as a-schematic, and 103 (22.9%) as co-schematic.

Analysis of intergroup differences between positive and negative schematic women showed that women with a negative

**Table 3.** Factor loadings for entire sample (N = 561) of the Polish version of the Sexual Self-Schema Scale for Women

Item	Romantic	Passionate	Direct	Embarrassed
Cautious	0.39*	-0.16	-0.04	-0.36
Loving	0.70*	0.15	0.05	-0.04
Broad-minded	0.38*	0.22	0.02	0.11
Self-conscious	0.54*	0.12	0.11	0.22
Prudent	0.36*	-0.07	0.08	-0.21
Romantic	0.48*	0.23	-0.04	-0.2
Sympathetic	0.60*	0.1	0.02	-0.15
Warm	0.64*	0.17	-0.03	0.05
Uninhibited	-0.11	0.40*	0.11	0.16
Open-minded	0.40	0.34*	0.19	0.19
Stimulating	0.16	0.4*	0.10	0.22
Arousable	0.13	0.69*	0.08	0.16
Passionate	0.40	0.53*	0	0.16
Revealing	0.14	0.41*	0.17	0.17
Feeling	0.17	0.25*	0.05	-0.1
Frank	0.60	-0.12	0.56*	0.26
Direct	0.01	0.36	0.84*	0.06
Straightforward	0	0.39	0.83*	0.08
Outspoken	0.61	-0.11	0.56*	0.25
Timid	-0.01	-0.07	-0.07	-0.56*
Casual	0.04	-0.25	-0.11	-0.55*
Embarrassed	-0.02	-0.07	-0.1	-0.51*
Conservative	0.1	-0.09	0.04	-0.33*
Inexperienced	-0.17	-0.04	-0.05	-0.53*
Eigenvalue	4.75	2.29	1.3	1.06
Cronbach $\alpha$	0.74	0.71	0.84	0.61

\*Factor assignment for each item.

self-schema are more likely to be unemployed, more likely to participate in religious events more frequently, less likely to be bisexual, feel less sexually attractive, and have longer relationships but of lower quality, a lower level of romantic involvement, less sexual satisfaction in the relationship, smaller number of lifetime sexual partners, less diverse repertoire of sexual activities, higher level of anxiety, and lower levels of sexual arousability and self-esteem (Tables 1 and 2).

ANOVA and MANOVA were conducted on various sexual behaviors and relationship measures. MANOVA for sexual attractiveness and arousability was statistically significant ( $F_{2, 271} = 55.1, P < 0.001$ ), indicating that women with a positive schema rate themselves as more sexually attractive and can become aroused more easily compared with those with a negative schema. MANOVA for different sexual experiences (number of lifetime sexual partners) was statistically significant ( $F_{1, 272} = 11.2, P < 0.01$ ), thus showing that women with a positive schema had more sexual partners. No significant differences between groups were noted in the incidence of sexual assault before 15 years of age, initiating sexual activity, or having a 1-night stand ( $\chi^2$  test). Comparison of current sexual activities

of women with different sexual schemas (Kruskal-Wallis ANOVA) showed that women with a positive schema engage more frequently in foreplay ( $H[1, n = 172] = 16.0, P < 0.01$ ), oral sex ( $H[1, n = 172] = 5.8, P < 0.01$ ), and masturbation ( $H[1, n = 179] = 5.4, P < 0.01$ ), have more sexual events a month ( $H[1, n = 171] = 9.6, P = 0.01$ ), and climax more frequently ( $H[1, n = 169] = 3.75, P = 0.04$ ) compared with those with a negative schema. The interaction between sexual attractiveness and relationship status (being in a romantic relationship) and self-schema (positive vs negative) showed statistical significance ( $F_{1, 270} = 15.1, P < 0.001$ ; and  $F_{1, 270} = 51.8, P < 0.001$ , respectively). In addition, the effect of the interaction between sexual self-schema and relationship status proved statistically significant ( $F_{1, 270} = 21.5, P < 0.001$ ). Similarly, the interactions between sexual arousability and relationship status and self-schema or self-schema and relationship status were significant ( $F_{1, 270} = 5.2, P = 0.02$ ;  $F_{1, 270} = 100.3, P = 0.001$ ; and  $F_{1, 270} = 10.3, P = 0.001$ , respectively). It seems that women with a positive sexual self-schema rate themselves as more sexually attractive and might become aroused more easily compared with negative-schematic women. In addition, when we compared the medians of sexual attractiveness and arousability in our single

**Table 4.** Factor loadings of the Polish version of the Sexual Self-Schema Scale for Women—comparison of subgroups A (n = 281) and B (n = 280)

Item	Subgroup A				Subgroup B			
	Romantic	Passionate	Direct	Embarrassed	Romantic	Passionate	Direct	Embarrassed
Cautious	0.41*	-0.35	0.22	-0.33	0.44*	-0.19	-0.14	-0.42
Loving	0.74*	0.03	0.25	-0.06	0.73*	0.11	0.02	0.05
Broad-minded	0.48*	0.12	0.16	0.15	0.40*	0.28	-0.10	0.19
Self-conscious	0.57*	-0.09	0.27	0.28	0.55*	0.20	0.18	0.26
Prudent	0.15*	-0.10	0.46	-0.29	0.55*	-0.18	0.04	-0.15
Romantic	0.69*	0.09	-0.01	-0.15	0.53*	0.16	-0.03	-0.28
Sympathetic	0.64*	-0.07	0.22	-0.12	0.67*	0.10	0.06	-0.14
Warm	0.76*	-0.04	0.03	0.01	0.68*	0.16	0.09	0.13
Uninhibited	-0.03	0.69*	-0.05	0.02	-0.20	0.54*	0	0.16
Open-minded	0.32	0.50*	0.27	0.01	0.30	0.42*	0.20	0.35
Stimulating	0.36	0.37*	0.07	0.30	-0.03	0.59*	0.17	0.04
Arousable	0.23	0.74*	-0.04	0.17	0.16	0.77*	0.09	0.01
Passionate	0.59	0.40*	0.05	0.16	0.36	0.64*	-0.09	0.16
Revealing	0.06	0.51*	0.19	0.18	0.23	0.54*	0.19	0.06
Feeling	0.30	0.34*	-0.10	-0.19	0.17	0.28*	0.27	-0.27
Frank	0.39	0.10	0.73*	0.16	0.51	-0.13	0.60*	0.31
Direct	-0.03	0.62	0.63*	0.13	-0.06	0.24	0.87*	0.05
Straightforward	-0.03	0.64	0.59*	0.17	-0.05	0.26	0.86*	0.05
Outspoken	0.38	0.14	0.75	0.14	0.51	-0.12	0.57*	0.32
Timid	0	-0.07	-0.05	-0.66*	0	-0.07	-0.09	-0.65*
Casual	-0.04	-0.33	0.06	-0.60*	0.08	-0.26	-0.17	-0.58*
Embarrassed	0.07	-0.08	-0.16	-0.68*	-0.05	-0.06	-0.08	-0.59*
Conservative	0.03	-0.02	0.16	-0.39*	0.15	-0.20	0.16	-0.53*
Inexperienced	-0.25	0.01	-0.17	-0.59*	-0.17	0.06	-0.05	-0.54*
Eigenvalue	5.67	2.48	1.55	1.65	4.88	2.92	1.91	1.74
Cronbach $\alpha$	0.60	0.87	0.76	0.71	0.62	0.82	0.71	0.74

\*Factor assignment for each item.

subjects with those currently in a relationship, the single subjects had lower values in the negative schematic group compared with positive schematic group (mean = 3.4 vs 2.3 for attractiveness; mean = 10.1 vs 8.7 for arousability). We noticed a link between arousability and self-attractiveness and relationship status; the 2 variables had higher values in women who had a partner and lower values in single women. This was true only for negative schematic women; for positive schematic women, sexual attractiveness and arousability were unrelated to relationship status.

### Reliability

Cronbach  $\alpha$  values for the SSSS-W-PL total and factor scores were 0.74, 0.74, 0.71, 0.84, and 0.61, respectively. Such data indicate adequate internal consistency of the entire scale and its separate factors.

### Test-Retest

Test-retest reliability of the scale after 2 to 8 weeks showed a value of 0.87 (95% CI = 0.82–0.86,  $P < 0.001$ ). For individual

**Table 5.** Descriptive statistics of the Polish version of the Sexual Self-Schema Scale for Women—intercorrelations of factor and total scores

Scale	Mean	Median	Minimum	Maximum	SD	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	34.99	35.00	19.00	48.00	5.73	—			
Factor 2	25.90	25.00	8.00	42.00	5.44	0.32 <sup>†</sup>	—		
Factor 3	16.95	17.00	2.00	24.00	3.97	0.31 <sup>†</sup>	0.43 <sup>†</sup>	—	
Factor 4	13.97	14.00	0.00	26.00	4.57	-0.02*	-0.29 <sup>†</sup>	-0.25 <sup>†</sup>	—
Total score	63.86	63.00	26.00	101.00	13.16	0.65 <sup>†</sup>	0.77 <sup>†</sup>	0.69 <sup>†</sup>	-0.53 <sup>†</sup>

\* $P < 0.01$ ; <sup>†</sup> $P < 0.001$ .



**Table 6.** Pearson product-moment correlations of the Polish version of the Sexual Self-Schema Scale for Women—factor and total scores and different dimensions of sexuality

Dimension	Factor 1	Factor 2	Factor 3	Factor 4	Total
Sexuality: attitudes and experience					
How important is sex in your life?*	−0.01	0.36 <sup>‡</sup>	0.00	−0.13 <sup>‡</sup>	0.19 <sup>‡</sup>
How frequently do you have sexual fantasies?*	0.17 <sup>‡</sup>	0.31 <sup>‡</sup>	0.03	−0.18 <sup>‡</sup>	0.28 <sup>‡</sup>
What is your attitude to casual sex?*	0.22 <sup>‡</sup>	0.41 <sup>‡</sup>	0.16 <sup>‡</sup>	−0.32 <sup>‡</sup>	0.43 <sup>‡</sup>
What is your attitude toward sex without commitment?*	0.26 <sup>‡</sup>	0.13 <sup>‡</sup>	0.00	−0.20 <sup>‡</sup>	0.24 <sup>‡</sup>
How satisfying is your sex life?	0.06	0.18 <sup>‡</sup>	−0.05	−0.20 <sup>‡</sup>	0.15 <sup>‡</sup>
Sexual assault (yes or no)	−0.02	−0.10	−0.05	−0.06	−0.04
Sexuality: behaviors					
Are you currently in a romantic relationship? (yes or no)	0.04	−0.04	−0.02	−0.07	0.02
Have you been sexually active in the past 12 wk? (yes or no)	0.06	0.03	0.08	−0.09 <sup>†</sup>	0.00
Number of lifetime sexual partners?	−0.07	0.22 <sup>‡</sup>	0.17 <sup>†</sup>	−0.26 <sup>†</sup>	0.20 <sup>†</sup>
1-night stand (yes or no)	−0.02	0.06	−0.02	0.01	0.01
Sexuality: arousal					
CSFQ—arousal/excitement domain	0.27 <sup>‡</sup>	0.35 <sup>‡</sup>	0.17 <sup>†</sup>	−0.22 <sup>‡</sup>	0.39 <sup>‡</sup>
Romantic relationship					
How romantic is your current relationship?*	0.23 <sup>‡</sup>	0.20 <sup>‡</sup>	0.01	−0.18 <sup>‡</sup>	0.25 <sup>‡</sup>
Questionnaire of the Relationship Adjustment	−0.18	0.03	−0.19	0.13	−0.14

CSFQ = Changes in Sexual Functioning Questionnaire.

\*By 5-point Likert scale.

<sup>†</sup> $P < 0.01$ ; <sup>‡</sup> $P < 0.001$ .

factors, the coefficients were 0.81 for factor 1, 0.85 for factor 2, 0.64 for factor 3, and 0.72 for factor 4.

## DISCUSSION

This study was designed to validate the SSSS-W-PL. We also aimed to examine whether the results of the original validation study performed by Andersen and Cyranowski<sup>1</sup> in 1994 could be replicated in a sample of women with a different socioeconomic background (United States vs Poland).

The factor analysis indicated that 2 items (inexperienced and non-romantic) should be eliminated from the original set of 26 adjectives, for a final 24-item scale. These items were grouped into 4 factors. The 4-factor model differs from the model developed in the original study, in which only 3 factors were extracted,<sup>1</sup> or from a 9 factor model with high eigenvalues (explaining 58% of variance) developed by Hill<sup>2</sup> with male and female versions or a 5-factor model described in an Australian study.<sup>9</sup> It seems reasonable to develop 2 separate factors (ie, romantic and passionate), because passionate women were found to not necessarily be focused on romantic commitment, but rather on sexual pleasure and experiences, in contrast to the romantic women who were more oriented toward a romantic relationship. However, when sexual schema groups are analyzed on a more global level, the positive and negative domains, rather than the individual factors, should be considered. In that case the number of factors seems less important, because 3 factors (2 in the original study) are positive and only 1 is negative. The positive and

negative domains are the same in the present research and in the previous studies.<sup>1,2</sup> However, because the factors and number of items are different in those studies, a comparison of raw scores for factors and total scale is not possible.

Similar to the studies by Andersen and Cyranowski<sup>1</sup> and Hill,<sup>2</sup> positive schematic women differed from the negative schematic women. It was confirmed that sexual schemas derived from sexual experiences influence current behaviors and affect one's relationship. Positive schematic women were more likely to engage in their relationships, were more satisfied, had a higher level of sexual arousability, had a wider sexual repertoire, and were more open to new sexual encounters. In contrast, those with negative schemas were less likely to engage in sexual activities and rated themselves as cold or embarrassed; they also presented a narrower range of sexual expressions. In addition, they were vulnerable to the opinions of others and presented lower arousability and a more negative perception of their sexual self-attractiveness when not in a relationship. These results are similar to those presented by Andersen and Cyranowski<sup>1</sup> and Mueller et al.<sup>18</sup>

An interesting finding is that the proportion of bisexual women in the positive schematic group was larger than in negative schematic group (16.5% vs 1.4%). Positive schematic women might be more open to sexual experiences or can come out and fulfill their sexual needs in accordance with their psychosexual orientation more easily. This observation definitely requires more extensive research. Another interesting finding is that positive schematic women were less likely to participate in

religious practices (11.8% vs 37.1%). This could suggest that religious commitment, which in Poland is associated with the Catholic faith, serves as an inhibitory factor to sexual experiences, behaviors, arousability, and fantasies. This observation also needs further study.

Intergroup analyses showed no significant differences in the proportion of positive schematic and negative schematic women who had experienced sexual initiation. This is in contrast to the study by Lindgren et al<sup>19</sup> who reported that women after their initiation have a more positive schematic compared with those without any sexual experiences. However, the study by Lindgren et al was conducted in a younger and more homogeneous group, implying the differences noted earlier. In contrast to other studies,<sup>20–24</sup> but also in line with the original validation study,<sup>1</sup> the associations between negative sexual experiences (sexual assault in childhood) or sexual guilt and sexual self-schema were not confirmed in the present study. It can be presumed, as suggested by Rellini et al,<sup>25</sup> that victims of sexual assault might not link sex to pleasure, which might change their views on sexual activity. This impairment in cognitive implicit processes precedes changes in the self-view. However, the association might not necessarily be that direct and might be influenced by other factors.

Our study has certain limitations. (i) The more sophisticated scale evaluation of arousability, erotophilia and erotophobia, or willingness to engage in uncommitted sexual relationships could be used to make the incremental validation more accurate. (ii) Additional questions concerning future plans for sexual activities or passionate love could be asked to check how the SSSS-W-PL might influence future sexual behaviors. (iii) The analysis of a-schematic and co-schematic women could be performed, as could an evaluation of relationships between individuals with different schema types. However, these limitations did not influence the quality of this study or the importance of the findings.

The advantage of using the SSSS and the SSSS-W-PL is the opportunity to assess the important area of psychosexual self-concept and related sexual functioning in a safe and non-invasive way. The construction of the scale allows measurement of sexuality in an implicit way because it does not mention “sex,” “sexuality,” or any similar term in its content. Such a solution is helpful when working with patients who perceive sexuality as a problematic part of life or a taboo, which causes a negative emotional response and even refusal to share important information about their sexuality. Implicit sexuality assessment decreases measurement error and participation bias.<sup>1</sup> This advantage could be used in a clinical context (eg, breast cancer survivors) and in academic studies.

Although some findings from previous studies using the concept of sexual self-schema were cited in this report, we find this idea has not been explored enough in reference to its usefulness and potential. Therefore, we encourage other researchers to explore it in their studies on human sexuality.

## CONCLUSIONS

The analyses confirmed good psychometric properties and internal validity of the SSSS-W-PL. In addition, the study showed a statistically significant relation between self-schema and cognitive generalization about the self, sexual experiences (except sexual assault), current sexual activity, and relationship status. Taken together, the SSSS-W-PL seems to be a good tool in the evaluation of self-schemas and in qualifying women as having a positive or negative sexual schema.

**Corresponding Author:** Krzysztof Nowosielski, MD, Department of Sexology and Family Planning, Medical Collage in Sosnowiec, Sosnowiec, Poland. Tel: +48-502-027-943; Fax: +48-32-263-40-13; E-mail: [dr.krzysztof.nowosielski@gmail.com](mailto:dr.krzysztof.nowosielski@gmail.com)

*Conflicts of Interest:* Authors declare no conflict of interest.

*Funding:* None.

## STATEMENT OF AUTHORSHIP

### Category 1

#### (a) Conception and Design

Krzysztof Nowosielski; Konrad S. Jankowski; Robert Kowalczyk; Jacek Kurpisz; Małgorzata Normantowicz-Zakrzewska; Aleksandra Krasowska

#### (b) Acquisition of Data

Krzysztof Nowosielski; Konrad S. Jankowski; Robert Kowalczyk; Jacek Kurpisz; Małgorzata Normantowicz-Zakrzewska; Aleksandra Krasowska

#### (c) Analysis and Interpretation of Data

Krzysztof Nowosielski; Konrad S. Jankowski; Robert Kowalczyk; Jacek Kurpisz; Małgorzata Normantowicz-Zakrzewska; Aleksandra Krasowska

### Category 2

#### (a) Drafting the Article

Krzysztof Nowosielski; Konrad S. Jankowski; Robert Kowalczyk; Jacek Kurpisz; Małgorzata Normantowicz-Zakrzewska; Aleksandra Krasowska

#### (b) Revising It for Intellectual Content

Krzysztof Nowosielski; Konrad S. Jankowski; Robert Kowalczyk; Jacek Kurpisz; Małgorzata Normantowicz-Zakrzewska; Aleksandra Krasowska

### Category 3

#### (a) Final Approval of the Completed Article

Krzysztof Nowosielski; Konrad S. Jankowski; Robert Kowalczyk; Jacek Kurpisz; Małgorzata Normantowicz-Zakrzewska; Aleksandra Krasowska

## REFERENCES

- Andersen BL, Cyranowski JM. Women's sexual self-schema. *J Pers Soc Psychol* 1994;67:1079-1100.
- Hill DB. Differences and similarities in men's and women's sexual self-schemas. *J Sex Res* 2007;44:135-143.

3. Reissing ED, Laliberte GM, Davis H. Young women's sexual adjustment: the role of sexual self-schema, sexual self-efficacy, sexual aversion and body attitudes. *Can J Hum Sex* 2005;14:77-85.
4. Manthos M, Owen J, Fincham FD. A new perspective on hooking up among college students: sexual behavior as a function of distinct groups. *J Soc Pers Relatsh* 2014;31:815-829.
5. Carpenter KM, Andersen BL, Fowler JM, et al. Sexual self-schema as a moderator of sexual and psychological outcomes for gynecologic cancer survivors. *Arch Sex Behav* 2009;38:828-841.
6. Andersen BL, Woods XA, Copeland LJ. Sexual self-schema and sexual morbidity among gynecologic cancer survivors. *J Consult Clin Psychol* 1997;65:221-229.
7. Nouri M, Dolatshahi B, Dadkhah A, et al. The role of personality factors and sexual self-schema in body image dissatisfaction. *Pract Clin Psychol* 2014;2:153-160.
8. Wiederman MW, Hurst SR. Physical attractiveness, body image, and women's sexual self-schema. *Psychol Women Q* 1997;21:567-580.
9. Wyllie J, Carlson J, Rosenberger PJ. Does sexual-stimuli intensity and sexual self-schema influence female consumers' reactions toward sexualised advertising? An Australian perspective. *Australas Market J* 2015;23:188-195.
10. Mayer JM, Peev P. The role of female sexual-self schema in reactions to non-explicit sexual advertising imagery. In creating marketing magic and innovative future marketing trends. New York: Springer; 2017. p. 1201-1211; Available at: [https://scholarworks.iupui.edu/bitstream/handle/1805/12178/Mayer\\_2017\\_role.pdf?sequence=1](https://scholarworks.iupui.edu/bitstream/handle/1805/12178/Mayer_2017_role.pdf?sequence=1). Accessed July 1, 2017.
11. Keller A, McGarvey EL, Clayton AH. Reliability and construct validity of the Changes in Sexual Functioning Questionnaire short-form (CSFQ-14). *J Sex Marital Ther* 2006;32:43-52.
12. Plopa M. Więzy w małżeństwie i rodzinie: metody badań. Oficyna wydawnicza "impuls". 4th edition. Cracow: Impuls; 2008. p. 51-108.
13. Łaguna M, Lachowicz-Tabaczek K, Dzwonkowska I. The Rosenberg Self-Esteem Scale: Polish adaptation of the scale. *Psychol Spoeczna* 2007;2:164-176.
14. Gosling SD, Rentfrow PJ, Swann WB. A very brief measure of the Big Five personality domains. *J Res Pers* 2003;37:504-528.
15. Sorokowska A, Słowińska A, Zbieg A, et al. Polska adaptacja testu Ten Item Personality Inventory (TIPI)—TIPI-PL—wersja standardowa i internetowa. Wrocław: WrocLab; 2014.
16. Karakuła H, Grzywa A, Śpila B, et al. Zastosowanie Skali Leku i Depresji—HADS w chorobach psychosomatycznych. *Psychol Pol* 1996;30:653-668.
17. Chassany O, Sagnier P, Marquis P, et al; for the European Regulatory Issues on Quality of Life Assessment (ERILQA) Group. Patient-reported outcomes: the example of health-related quality of life—a European guidance document for the improved integration of health-related quality of life assessment in the drug approval process. *DIA J* 2001;36:209-238.
18. Mueller K, Rehman US, Fallis EE, et al. An interpersonal investigation of sexual self-schemas. *Arch Sex Behav* 2016;45:281-290.
19. Lindgren KP, Schacht RL, Mullins PM, et al. Cognitive representations of sexual self-differ as a function of gender and sexual debut. *Arch Sex Behav* 2011;40:111-120.
20. Abdolsalehi-Najafi E, Beckman LJ. Sex guilt and life satisfaction in Iranian-American women. *Arch Sex Behav* 2013;42:1063-1071.
21. Reissing ED, Binik YM, Khalifé S, et al. Etiological correlates of vaginismus: sexual and physical abuse, sexual knowledge, sexual self-schema, and relationship adjustment. *Sex Marital Ther* 2003;29:47-59.
22. Stanton AM, Boyd RL, Pulverman CS, et al. Determining women's sexual self-schemas through advanced computerized text analysis. *Child Abuse Negl* 2015;46:78-88.
23. Rellini AH, Meston CM. Sexual self-schemas, sexual dysfunction, and the sexual responses of women with a history of childhood sexual abuse. *Arch Sex Behav* 2011;40:351-362.
24. Stanton AM, Meston CM, Boyd RL. Sexual self-schemas in the real world: investigating the ecological validity of language-based markers of childhood sexual abuse. *Cyberpsychol Behav Soc Netw* 2017;20:382-388.
25. Rellini AH, Ing AD, Meston CM. Implicit and explicit cognitive sexual processes in survivors of childhood sexual abuse. *J Sex Med* 2011;8:3098-3107.

**Appendix 1.** Polish version of the Sexual Self-Schema Scale for Women\*

## Seksualny obraz siebie wersja dla kobiet

Instrukcja: Poniżej znajduje się lista 50 przymiotników. W odniesieniu do każdego z nich zaznacz, jak dalece każdy przymiotnik opisuje Ciebie. Użyj skal od 0 do 6, gdzie 0 = w ogóle mnie nie opisuje a 6 = całkowicie mnie opisuje. Pamiętaj, że nie ma złych i dobrych odpowiedzi. Proszę odpowiedz w sposób przemyślany i szczerzy.

Pytanie: Jak dalece stwierdzenie, że jestem \_\_\_\_\_ opisuje moją osobę?

		W ogóle mnie nie opisuje						Całkowicie mnie opisuje
		0	1	2	3	4	5	6
1	kochający							
2	stymulujący							
3	pobudzający							
4	romantyczny							
5	współczujący							
6	pełen zapału							
7	ciepły							
8	odkrywczy							
9	czujący							
10	bez zahamowań							
11	otwarty							
12	szczerzy							
13	bezpośredni							
14	tolerancyjny							
15	prostolinijny							
16	zwyczajny							
17	mówiący bez ogródek							
18	ostrożny							
19	bojaźliwy							
20	świadomy							
21	rozważny							
22	zakłopotany							
23	konserwatywny							
24	niedoświadczony							

\*Scoring description: factor 1 (romantic): 1, 4, 5, 7, 14, 18, 20, 21; factor 2 (passionate): 2, 3, 6, 8, 9, 10, 11; factor 3 (direct): 12, 13, 15, 17; factor 4 (embarrassed): 16, 19, 22, 23, 24. Total Sexual Self-Schema score = factor 1 + factor 2 + factor 3 – factor 4; positive domain score = factor 1 + factor 2 + factor 3; negative domain score = factor 4. Norms for Polish population: medians = 72 points for the positive domain and 14 points for the negative domain; positive schematic > 72 for positive domain and < 14 for negative domain; negative schematic < 72 for positive domain and > 14 for negative domain; a-schematic < 72 for positive domain and < 14 for negative domain; co-schematic > 72 for positive domain and > 14 for negative domain.