



Is Instagram destroying sex life? An analysis of the impact of social media use on the sexual life of young Polish women – results of a web-based cross-sectional survey

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Abstract

Introduction. Various types of social media (SM) have recently played a huge role in shaping the world and one's self-esteem. Previous research on this issue has shown that frequent use of MS leads to the creation of unrealistic body image ideals. Time spent on SM is sometimes associated with increased body dissatisfaction, which could negatively affect sex life.

Objective. The aim of this STROBE (Strengthening the Reporting of Observational Studies)-compliant cross-sectional and web-based study was to determine the relationship between MS use by young women in Poland and various aspects of their sexuality, such as self-perception, self-esteem, and satisfaction with their sex lives.

Materials and method. A group of 1,258 young women aged 18–35 who use SM completed an online survey containing questions about socio-demographic data, SM use and questionnaires: Self-Esteem and Appearance Scale (BESAA), Self-Awareness of Own Body Scale (BISC) Women's Sexual Satisfaction Scale (SSS-W).

Results. There was a significant relationship between time spent in SM and women's self-perception ($p < 0.001$). The longer the time spent on SM, the lower the evaluation of one's own body, as well as lower satisfaction with sexual life ($p = 0.013$). Comparing oneself and being compared to those seen on SM, significantly predicts the level of satisfaction with body evaluation and appearance ($p < 0.001$), body image disturbance ($p < 0.001$), and sexual satisfaction ($p < 0.001$), significantly explains the final score of the BESAA (20%), BISC (16.2%) and SSS-W (4%) scales.

Conclusions. The study revealed the need to raise awareness among young women about the negative impact of SM on self-esteem and body image. It is necessary to educate how much self-esteem and sexual satisfaction are affected by the phenomenon of comparing oneself to influencers seen on SM, as well as being compared by others.

Key words

self-esteem, women, sexual life, relationship, sexual satisfaction, social media, Instagram

INTRODUCTION

Today's social media, as platforms for electronic interaction, bring benefits in various areas of life, enabling people to gain knowledge, share skills, build relationships and keep in touch with loved ones, regardless of distance. They act as educational, social and emotional tools, influencing the development of individuals and society. Despite these benefits, the group of problematic SM users is also increasing. Social media dependence is characterised by excessive focus on social media activity, which contributes to the neglect of all other activities, and uncontrolled use, interfering with other important areas of life, including personal relationships, education and work, to the detriment of the individual [1]. Excessive use, comparison with others, and exposure to

phenomena such as heckling or misinformation, can have a significant impact on well-being and self-confidence.

According to recent studies, the average time spent using the internet and social media has increased significantly [2]. According to 2023 statistics, there are now 4.74 billion active social media users worldwide. This means that almost 59.3% of the world's population uses at least one social media platform. Social media gained 190 million new users in the last year, i.e. an annual growth rate of 4.2%. 46% of users are women [3]. The popularity of social media platforms varies by age. This rule of thumb applies in particular to Instagram and Snapchat, for which the age gap is very large [4].

Given the widespread use of social media, there is a growing need for research that focuses on how the use of these technologies affects sexual relationships and perceived aspects related to intimacy, satisfaction and sexual function. At the same time, it is essential to understand the mechanisms that underlie social media addiction, as well as how these mechanisms translate into levels of satisfaction related to the sexual domain.

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OBJECTIVE

The aim of this cross-sectional study was to assess the impact of social media on various aspects of the sexual lives of women in the age group of 18 – 35 years, residing in Poland. The specific aims of the study included the search for associations between time spent using SM and the type of influencer accounts observed on the perception of participants' own bodies, satisfaction with sexual life, and comfort during sexual intercourse. It was also interesting to discover the opinions of the subjects regarding the influence of social media on their sex lives, and to look for significant associations between the human body image created in SM and the real self-image, the pursuit of unrealistic standards of beauty, and the desire to meet unrealistic demands.

Focused was mainly on the problem concerning the time spent on SM, and how women compared themselves to those observed on SM. To date, research on similar topics has been lacking, especially on larger groups of subjects.

MATERIALS AND METHOD

A Web-based questionnaire study was conducted from 30 May 2023 – 15 July 2023. The study design was approved by the Bioethics Committee of the Medical University of Lublin (Approval No. KE-0254/118/04/2023).

Recruitment for the study was carried out by providing a link to an anonymous online CAWI (Computer Assisted Web Interview) survey constructed by the authors, and placed on the Google platform in posts about the study made on online groups and forums targeting women (Facebook, Instagram). The survey was also sent all the Polish counties to broaden the reach of the group of women surveyed. The survey consisted of 64 questions, including open-ended, single-choice and multiple-choice closed questions, and was divided into 6 sections.

Section I. Introduction – information about the survey for participants, informed consent, questions conditioning participation in the survey (gender, age, social media use).

Section II. Personal data and lifestyle information – place of residence, education, anthropometric data – weight and height.

Section III. Social media use – multiple-choice questions about apps used, questions about time spent using apps (less than 1 hour; 1–2 hours; 3–4 hours; 4–5 hours; more than 5 hours), questions about the purpose of using apps, and other questions related to social media use.

Section IV. Self-assessment of appearance – questions about satisfaction with own appearance, interference with appearance already carried out or willingness to do so in the future, relations with relatives, the past – whether someone compared to others or criticized the appearance of the person examined, and use of the BESAA scale translated and adapted to Polish conditions (description of the scale below).

Section V. Sexual life of the subject – questions about sexual activity, presence of a regular partner, satisfaction with one's sexual life, frequency of intercourse, concerns about intercourse, use of the Body Image Self-Awareness Scale (BISC-PL) to assess pre-occupation with one's body image when engaging in sexual contact with a partner;

Section VI. Subjective feelings about the correlation of social media with sex life assessed using the Female Sexual

Satisfaction Scale (FSSS), translated and adapted to Polish conditions (SSS-W- description of the scale below) to assess satisfaction with one's sex life, questions about the subject's opinion on the impact of social media on self-esteem and sex life: 'Do you think ... '.

Detailed description of research tools used:

(1) Body Esteem-Scale for Adolescents and Adults (BESAA scale). This is a tool for measuring self-assessment of body and appearance. The original BESAA scale, created in 1997 by Beverley K. Mendelson, Morton J. Mendelson and Donna R. White, consists of 23 items in 3 subscales. The appearance self-esteem subscale consists of 10 items relating to general feelings about one's appearance. The weight self-esteem subscale consists of 8 items relating to satisfaction with one's own weight. The imputed appearance evaluation subscale, consisting of 5 items, refers to beliefs about evaluations of one's own appearance formulated by others. Subjects respond by using a 5-point Likert scale graded from 0 – 1 (never) to 4 – 5 (always), depending on the version. A higher score on the scale is synonymous with greater satisfaction with one's body and appearance [5].

The items on the original version of the BESAA scale were translated into Polish by 3 independent translators and used in the 2019 Polish population study by Aleksandra Slowinska, the author of the Polish adaptation of the scale. Responses are given on a 5-point Likert scale ranged from 1 (never) to 5 (always) [6].

The Cronbach's alfa of the BESAA scale obtained in the current study reached = 0.85 (standardized $\alpha = 0.97$). Correlations between the scale items were $r > 0.54$.

(2) Body Image Self-Consciousness Scale (BISC). A scale created in 2000 by M. W. Wiederman, used in studies around the world to assess pre-occupation with one's body image when engaging in sexual contact with a partner [7]. The Polish version of the Body Image Self-Consciousness Scale (BISC-PL) is a 15-item tool created in 2019 by Marta Szymanska-Pytlińska, based on the English-language BISC scale. BISC-PL is designed to survey women who engage in sexual activity. Research conducted so far has proved that the accuracy and reliability of the BISC-PL scale is comparable to the original version. Responses are given on a 5-point Likert scale ranged from 1 (never) to 5 (always). It is worth noting that this scale should be interpreted inversely – the higher the score achieved on this scale, the greater the level of preoccupation with one's own body, which translates into a tendency to self-criticism [8]. The Cronbach's alfa of the BISC scale obtained in the current study reached = 0.77 (standardized $\alpha = 0.96$). Correlations between the scale items were $r > 0.67$.

(3) Sexual Satisfaction Scale for Women (SSS-W). A scale by Meston and Trapnell (2005) composed of 30 statements describing women's sexual well-being. The items of the original version of the SSS-W scale were translated into Polish by 6 independent translators; the scale itself was shortened to 15 statements forming 3 subscales describing the subject's sexual life: satisfaction, communication and adjustment. The Polish version was used in 2017 in a Polish population study by Michalina Iłska, Hanna Przybyła-Basista and Anna Brandt, who are the authors of the Polish adaptation of the scale. Responses are given on a 5-point Likert scale ranked

from 1 (completely disagree) to 5 (completely agree). A higher score is unequivocally associated with greater satisfaction with sexual life [9, 10]. The Cronbach's alpha of the SSS-W scale obtained in the current study reached = 0.87 (standardized $\alpha = 0.95$). Correlations between the scale items were $r > 0.58$.

Consent was obtained from the authors of the original versions for the use of each of the above-mentioned tools versions.

Study group. The criteria for inclusion in the study were: 1) reading the information about the study and providing informed consent to participate; 2) female gender and identifying with the female gender; 3) age of respondents 18–35 years; 4) using SM.

The survey included 1,258 Polish women in the age group of 18 – 35 years; average age – 25.73 years. The largest group were women living in cities with more than 500,000 residents. 32.2% of the total survey group were female students, as many as 49.4% of whom had higher education. 65.5% of the respondents stated that they were in marital or non-marital partnerships; 89% are in heterosexual relationships. The weight of the vast majority of female respondents was within normal limits – 63.8% (BMI=18.5–24.9), although a substantial group of women represented extremely low BMI < 18.5 (6.3%) and high BMI > 25 (29.8%), indicating overweight and obesity. More than half of the respondents (58.5%) rated their physical activity as moderate (Tab. 1).

Statistical analysis. Statistical descriptive methods have been used to present the characteristics of the study group, such as: mean, standard deviation (SD), and percentage distribution of qualitative variables. Cronbach's alpha was computed to assess the internal consistency of applied scales BESAA, BISC, and SSS-W. Associations between dependent and independent variables were established using linear regression analysis. The analyses were carried out with the principle of not including correlated predicates in one regression model. To present regression outcomes measures such as beta, standard error, ANOVA regarding model fitness, *t*-test statistics and R^2 to show the scope of explained dependent variable by included predictors, were used. To answer additional research questions, several subgroups were extracted empirically (e.g. positive or negative declaration regarding the publication of photos on social media without corrections), and these subgroups were compared regarding scale outcomes. Creation of empirically distinguished subgroups were considered nominative variables that could not be included in the regression models. If the selected subgroups differed significantly in age, the comparison was performed using the analysis of covariance (ANCOVA), if not, the Student's *t*-test was used. ANOVA was used to compare more than 2 groups with partial eta square (η_p^2) as an indicator of effect size. All statistics were computed using STATISTICA 13 software.

In order to determine the minimum sample size, the Sample Size Calculator (SSC) available at: <https://www.naukowiec.org/dobor.html> was used. Using data from

Table 1. Characteristics of the study group

Personal data					
Variable	M	SD	Min	Max	Me
Age (years)	25.73	4.44	18.00	35.00	25.00
Height (cm)	166.56	8.37	148.00	181.00	167.00
Weight (kg)	63.87	13.89	39.00	132.00	60.00
BMI	22.93	4.64	14.01	48.33	22.35
Place of Residence					
	Village	Town with up to 50,000 residents	Town with up to 50,000- 150,000 residents	City with up to 150,000- 500,000 residents	City with more than 500,000 residents
N(%)	270(21.4)	171(13.6)	158(12.5)	296(23.5)	365(29.0)
Level of education					
	primary	secondary	vocational	post-secondary	students
N(%)	11(0.9)	175(13.9)	6(0.5)	39(3.1)	406(32.2)
Marital status					
	single	married	widow	partner	separated
N(%)	435(34.5)	368(29.2)	6(0.5)	447(35.5)	0(0.0)
Sexual orientation					
	heterosexual	homosexual	asexual	bisexual	others
N(%)	1 121(89.0)	8(0.6)	6(0.5)	107(8.5)	118(1.4)
Level of physical activity					
	inactive	moderate	average	high	very high
N(%)	311(24.7)	737(58.5)	163(12.9)	39(3.1)	10(0.8)
State of nutrition*					
	underweight	normal weight	overweight	obese	
N(%)	80(6.3)	804(63.8)	305(24.2)	71(5.6)	

* Nutritional status given in the response variants is according to the norms established based on BMI, where: underweight (BMI = 17.0–18.5), normal weight (BMI = 18.5–24.9) overweight (BMI = 25.0–29.9) obese (BMI > 30).

M – mean; SD – standard deviation; Min – minimum; Max – maximum; Med – median; N(%) – number(%)

the Central Statistical Office, it was determined that the population of Poland in 2022 was 3,418,338 women aged 18–35. The required number of people in the survey was 664, with a confidence level of 95%, a fraction size of 0.5, and a maximum error of 5%.

The article was written according to the Strengthening the Reporting of Observational Studies (STROBE) protocol [11].

RESULTS

Respondents' activity related to the use of social media. The percentage distribution of responses regarding the tendency to edit photos, compare oneself to observed women on social media, and the time spent using social media is shown in Table 2.

Table 2. Percentage distribution of responses to selected behavioural questions regarding activity on social media, modifying photos, and comparing oneself to others

Variable	Responses				
Modify photos before publishing them online	never	seldom	sometimes	often	always
N(%)	608(48.3)	376(29.8)	187(14.8)	69(5.5)	20(1.6)
Comparing oneself to other women followed on social media	definitely yes	rather yes	I don't know	rather not	definitely not
N(%)	141(11.2)	375(29.8)	162(12.9)	382(30.3)	200(15.9)
Time spent per day using social media	< 1 h	1–2 h	3–4 h	4–5 h	> 5 h
N(%)	39(3.1)	528(41.9)	486(38.6)	136(10.8)	71(5.6)

N – number; h – hour

As presented in Table 2, about half of the respondents did not modify photos before posting them online (48.3%), the tendency to correct photos before posting them on social media from a 'seldom' to 'regular' frequency covers the second half of the study group. The group is also divided in terms of reported frequency of comparing themselves to others on social media. More than half of the female respondents (51.7%) reach for programmes that modify their appearance in photos. Only 15.9% of the women do not compare themselves to other women observed on social media. Only 3.1% admit to spending less than an hour using social media during the day. It can therefore be concluded that the surveyed sample, although composed of subjects who regularly use social media and are mostly online for more than one hour, is rather divided in terms of reported behaviours related to the acceptance of one's appearance and the tendency to modify photos.

Time spent on social media in relation to the characteristics of the study group. There were no differences in the time spent on social media between groups of female respondents according to place of residence ($p=0.337$). Marital status significantly differentiated the groups in terms of time spent on social media. *Post-hoc* tests showed that single women spent significantly more time on social media than married women ($p<0.001$). There was an association between body weight and time spent on social media ($p=0.002$). Overweight participants spent significantly more time using social media than normal weight subjects.

The average score obtained by respondents on the Body Esteem-Scale for Adolescents and Adults (BESAA) was 71.39 (possible score 115) ($SD=19.666$), and 61.8% of respondents were satisfied with their appearance. A higher score on the scale indicates greater satisfaction with one's body and appearance [5].

The average score achieved by women on: the Sexual Satisfaction Scale for Women (SSS-W) was 54.76 ($SD=13.834$). A higher score is clearly associated with greater sexual satisfaction [9, 10].

The average score obtained by respondents on the Body Image Self-Consciousness Scale (BISC) was 14.69 ($SD=17.469$). This scale should be interpreted inversely – the higher the score obtained on this scale, the greater the level of preoccupation with one's own body, which translates into a tendency towards self-criticism [8].

In the above-mentioned scales, SSS-W and BISC, the maximum possible number of points was 75.

Time spent on social media, women's self-esteem and sex lives. Searching for an answer to the question whether time spent on social media can be a predictor of self-esteem, self-awareness of one's body, and appearance and sexual satisfaction, linear regression analysis was conducted.

As shown in Table 3, time spent on social media during the day was a significant predictor of the total outcome on SSS-W Scale. Obtained regression model was well-fitted to empirical data $F(3,1254)=4.386$; $p=0.017$. Comparing tendency explained 0.8% of the SSS-W total score variance.

Time spent on social media during the day significantly predicted the total outcome on BESAA Scale. The obtained regression model was well-fitted to empirical data $F(3,1254)=21.847$, $p<0.001$. Comparing tendency explained 5% of the BESAA total score variance.

Time spent on social media during the day significantly predicted the total outcome on BISC Scale. The obtained regression model was well-fitted to empirical data $F(3,1254)=16.019$, $p<0.001$. Comparing tendency explained 3.7% of the BISC total score variance.

In summary, time spent using SM has a significant impact on self-esteem, self-awareness of one's body and appearance, and sexual satisfaction.

Tendency to compare oneself to other women who are followed on social media and self-esteem, self-awareness of one's body and appearance, and sexual satisfaction.

As shown in Table 4, a tendency to compare participants' body image to social media influencers significantly predicted the total outcome on SSS-W Scale. The obtained regression model was well-fitted to empirical data $F(1, 1258)=57.690$; $p<0.001$. Comparing tendency explained 4% of the SSS-W total score variance.

A tendency to compare participants body image to social media influencers significantly predicted the total outcome on BESAA Scale. Obtained regression model was well-fitted to empirical data $F(1, 1256)=317.74$; $p<0.001$. Comparing tendency explained 20% of the BESAA total score variance.

A tendency to compare participants body image to social media influencers significantly predicted the total outcome on BISC Scale. The obtained regression model was well-fitted to empirical data $F(1,1256)=244.83$; $p<0.001$. Comparing tendency explained 16.2% of the BISC total score variance.

Table 3. Regression models showing associations between time spent on social media and scores on questionnaires: SSS-W, BESAA, BISC

Dependent variable	Predictor	β	St. error	t	p	R ²	Corr. R ²	ANOVA
SSS-W	time spent on SM	-0.071	0.028	-2.488	0.013	0.008	0.006	F(3, 1254)=4.386 p=0.017
BESAA	time spent on SM	-0.197	0.028	-7.010	<0.001	0.050	0.047	F(3, 1254)=21.847 p<0.001
BISC	time spent on SM	0.158	0.028	5.607	<0.001	0.037	0.035	F(3, 1254)=16.019 p<0.001

SSS-W – Sexual Satisfaction Scale for Women; BESSA – Body Esteem-Scale for Adolescents and Adults; BISC – Body Image Self-Consciousness Scale; SM – social media.

Table 4. Regression models showing association between the tendency to compare oneself to others observed on social media and scores on questionnaires: SSS-W, BESAA, BISC

Dependent variable	Predictor	β	St. error	t	p	R ²	Corr. R ²	ANOVA
SSS-W	compare oneself to others	-0.209	0.028	85.235	<0.001	0.044	0.043	F(1, 1258)=57.690 p<0.001
BESAA	compare oneself to others	0.449	0.025	17.825	<0.001	0.202	0.201	F(1, 1256)=317.74 p<0.001
BISC	compare oneself to others	-0.404	0.026	-15.647	<0.001	0.163	0.162	F(1, 1256)=244.83 p<0.001

SSS-W – Sexual Satisfaction Scale for Women; BESSA – The Body Esteem-Scale for Adolescents and Adults; BISC – Body Image Self-Consciousness Scale

Table 5. Regression models showing associations between tendency to modify photos and scores on questionnaires: SSS-W, BESAA, BISC.

Dependent variable	Predictor	β	St. error	t	p	R ²	Corr. R ²	ANOVA
SSS-W	modifying photos	-0.091	0.028	-3.229	0.001	0.011	0.009	F(1, 1254)=4.803 p=0.002
BESAA	modifying photos	-0.170	0.028	-6.150	<0.001	0.029	0.028	F(1, 1256)=37.821 p<0.001
BISC	modifying photos	0.161	0.028	5.794	<0.001	0.039	0.036	F(3, 1254)=16.740 p<0.001

SSS-W – Sexual Satisfaction Scale for Women; BESSA – Body Esteem-Scale for Adolescents and Adults; BISC – Body Image Self-Consciousness Scale

In conclusion, the tendency to compare one's body to the appearance of female influencers significantly predicts self-esteem, self-awareness of one's body, and sexual satisfaction, significantly explaining the final scale score of the BESAA (20%), and BISC (16.2%).

Tendency to modify photos, self-esteem, self-awareness of one's body and appearance, and sexual satisfaction.

As shown in Table 5, the tendency to modify photos (appearance of women in their photos) before posting them online significantly predicted the total outcome on SSS-W Scale. The obtained regression model was well-fitted to empirical data $F(3, 1254) = 4.803$; $p = 0.002$. Comparing tendency explained 1.1 % of the SSS-W total score variance. The tendency to modify photos before posting them online significantly predicted the total outcome on BESAA Scale. The obtained regression model was well-fitted to empirical data $F(1, 1256) = 37.821$; $p < 0.001$. Comparing tendency explained 2.9 % of the BESAA total score variance.

A tendency to modify photos before posting them online significantly predicted the total outcome on BISC Scale. The obtained regression model was well-fitted to empirical data $F(3, 1254) = 16.740$; $p < 0.001$. Comparing tendency explained 3.9 % of the BISC total score variance.

To sum up, the tendency to modify photos significantly predicts the level of self-esteem, self-awareness of one's body and appearance and sexual satisfaction of female respondents.

Consent to post non-corrected photos and results of BASAA, BISC, SSS-W scales. Subgroups of participant divided on the bases of answers regarding consent to post non-corrected photos differed in the total scores of the BESAA scale $F(2, 1255) = 66.331$; $p < 0.001$, $\eta_p^2 = 0.09$. *Post-hoc* test revealed that each of the subgroups differed significantly from one another ($p < 0.001$), but the subgroup which declared readiness to post an unmodified photo on social media had the highest score in the BESAA scale.

A similar phenomenon was observed with respect to BISC scale. Subgroups of participant depending on consent to post non-corrected photos differed in the total scores $F(2, 1255) = 62.338$; $p < 0.001$, $\eta_p^2 = 0.09$. *Post-hoc* test revealed that each of the subgroups differed significantly from the others ($p < 0.001$), but the subgroup which did not declare readiness to post an unmodified photo on social media had the highest score in the BISC scale.

Subgroups of participant distinguished on the basis of answers regarding consent to post non-corrected photos differed in the total scores of the SSS-W scale $F(2, 1255) = 11.777$; $p < 0.001$, $\eta_p^2 = 0.02$. *Post-hoc* test revealed that each subgroup differed significantly from the others ($p < 0.001$), with the exception of the second and the third groups which did not differ from one another ($p > 0.05$). The subgroup which declared itself positive had the highest score in the SSS-W scale.

The partners comparing women to other individuals on social media and results of BASAA, BISC, SSS-W scales

In the current survey, 10% of the female respondents reported being compared by their partner to models and influencers observed on social media. On average, these women scored lower on the Self-Assessment of Body and Appearance and Female Sexual Satisfaction Scales and higher on the Self-Awareness of Body Image Scale.

Fear of rejection due to appearance and results of BASAA, BISC, SSS-W scales

In the survey, as many as 29% of the women expressed concern about being left by their partner because of their appearance, achieving scores compared to women who had no such concern: 1 significantly higher on the Self-Awareness of Body Image Scale, 2 lower on the Self-Assessment of Body and Appearance Scale and the Sexual Satisfaction Scale.

Table 6. Differences in the obtained results depending on being compared by their partner to other people on social media

	YES group (N = 130)	NO group (N = 1128)	t-test	p
BESAA M (SD)	66.953(20.328)	71.899(19.533)	2.722	<0.001
BISC M (SD)	20.477(20.463)	14.030(16.975)	-4.008	<0.001
SSS-W M (SD)	55.672(13.521)	46.877(14.058)	6.994	<0.001

SSW – Sexual Satisfaction Scale for Women; BESAA – The Body Esteem-Scale for Adolescents and Adults; BISC – Body Image Self-Consciousness Scale; M – mean, SD – standard deviation

Table 7. Differences in the obtained results depending on the declared fear of being left by their partner due to their appearance

	Yes (N = 361)	No (N = 897)	t-test	p
BESAA M (SD)	58.368(17.359)	76.628(18.048)	16.409	<0.001
BISC M (SD)	27.767(20.816)	9.435 (12.549)	-19.122	<0.001
SSS-W M (SD)	48.277(13.781)	57.374(12.976)	11.047	<0.001

SSW – Sexual Satisfaction Scale for Women; BESAA – Body Esteem-Scale for Adolescents and Adults; BISC – Body Image Self-Consciousness Scale; M – mean; SD – standard deviation

DISCUSSION

The presented cross-sectional study conducted on a representative sample of young Polish women confirmed the hypotheses that factors such as time spent on social media, observing and comparing oneself to other women online, and the tendency to modify photos, significantly predicts the level of the women's self-esteem and sexual satisfaction. The study participants spent an average of 3 – 4 hours a day using social media. As many as 97.9% indicated Instagram as the app they use regularly, and is also indicated as the most frequently used app (92.5%). Women are also keen to use the Facebook platform (93.1%) and YouTube (69%), both of which mainly focus on images. The vast majority of respondents use social media for entertainment purposes. However, almost half of the female respondents (46.5%) use the app to search for content related to the beauty industry, fashion, make-up, fitness, following posts by influencers and models.

When scrolling through the posted content, women often come across unrealistic silhouettes modified by software and faces embellished with filters. Possibly for this reason, 42.5% of respondents answered in the affirmative to the question: 'If you had the opportunity, would you choose to have a treatment/procedure that interferes with your appearance?' 51.7% of respondents admitted to changing their appearance in photos before publishing them online. Women are increasingly aware that the Internet and social media can contribute to lower self-esteem, with 96.5% of respondents believing this to be true.

However, 43.7% of women admit to the fact that using social media affected her own self-esteem. In addition, 59.5% of the respondents link the use of social media to a decrease in satisfaction with their sex life. 14.5% of the women surveyed said that social media use negatively affected their sex life. Women's comparison of themselves to people who they observe on social media, such as models, celebrities, among others, was linked to the scores they obtained in questionnaires. Similar results were obtained by Carrotte et al. (2017), confirming the existence of a correlation between body image, body ideals, and social media use [12].

Laughter et al. (2023) showed that regular use of social media can lead to the development of unrealistic body image standards. Furthermore, continuous exposure to social media content can promote body dysmorphic disorder, and even depression and eating disorders. Today, it is increasingly common for people to meet their virtual mirror image through conferencing platforms such as Zoom, Facetime, Teams or Skype. This can lead to an increased focus on appearance and a constant search for imperfections in the virtual representation of oneself. It has been suggested that the use of filters during video-conferencing is associated with a greater preoccupation with appearance and produces stronger feelings of anxiety, especially when individuals return to face-to-face social interactions after such experiences [13].

In 2023, Vandenbosch et al. found that platforms based mainly on visual content, such as Instagram, had a more negative impact on self-body perception than platforms focused mainly on text, such as Facebook. In addition, the process of creating and modifying photos of oneself ('selfies'), although not including their posting, was found to have a negative impact on body image [14].

Posting on the social media explains that the desire to achieve the ideal of beauty appears as an internalisation of the image presented by the media. Homana (2010), who conducted a study among female students, noted the co-existence of 2 main beauty ideals: the athletic and the slim figure ideal. The desire to achieve the athletic ideal predicts compulsive exercise, while the attempt to get closer to the slim ideal leads to restricted eating and dissatisfaction with one's body, which may be the cause of eating disorders.

The results in the above-mentioned studies confirm the link obtained between the desire for a slimmer body image and the use of the media, as the media are the main source of promoting such ideals [15]. Pilar Apparicio-Martinez et al. highlight that the ideal of a slim figure seems to be widely disseminated on social media, promoting unhealthy methods to achieve the idealised appearance portrayed in the virtual world, such as extremely debilitating diets, increase in body dissatisfaction, and attitudes related to eating disorders [16].

Based on the results of the current study and the findings of other authors, it can be concluded that social media can negatively affect the self-esteem and self-perception of young women. However, social media does not have the same effect on all users. De Vries et al. (2019) noted a weaker association between social media use and body dissatisfaction in those who reported a more positive relationship with their mother [17]. Jiots et al. found that the use of platforms such as Facebook and Instagram was clearly linked to higher levels of body dissatisfaction, and the possibility of developing an eating disorder. The more the respondents compared themselves to the photos they viewed, the more there was a noticeable dissatisfaction with their bodies and a desire for a slim figure. In contrast to the results of the current study, the subjects' BMI had no effect on the occurrence of these relationships. Jiots showed that the level of education played a significant role in this case, whereas in the current study, no significant significance was shown. However, the small variation of the study group in terms of the education variable must take into account [18]. In contrast to Blowers et al. concluded that body weight had a direct association with body dissatisfaction [19].

In a prospective study by Alimoradi et al., the researchers concluded that the problematic usage social media has direct

and indirect effects on sexual function and sexual distress. The variables studied also included intimacy and closeness of relationships, social support, anxiety and depression. In addition, it has been suggested that sexual counselling should be considered as a necessary part of assessing individual behaviour in the context of social media use [20]. The mental health aspect was also highlighted by Reddy et al., who observed that severe depressive syndromes were associated with lower Female Sexual Functioning Index scores (FSFI) [21].

The correlation between social media use and women's sexual functioning during the COVID-19 pandemic was also studied by Polish researchers Pawlikowska et al. Using a survey questionnaire, the Female Sexual Functioning Index (FSFI) questionnaire and the Bergen Social Media Addiction Scale (BSMAS), they noted that social media addiction had a negative impact on women's FSFI questionnaire scores, while pornography use showed a positive impact on the subjects' sexual lives. They also noted a lack of association between time spent using social media and FSFI score. Dating app users had lower FSFI scores than those who shy away from such solutions and meeting new people in the virtual world [22]. Similar conclusions were reached by Barrada JR, Castro, who characterised users of a well-known dating app (Tinder) and analysed the correlation between Tinder use and psychosocial variables, such as body satisfaction, socio-sexuality and attitudes towards non-monogamy and psychosexual well-being. The study found that users of the dating app showed increased dissatisfaction with their sex lives [23].

Zheng and Zheng (2014) also found that online activity affects the quality of sexual relationships between men and women. One predictor of online sexual activity was sexual sensation seeking. They noted that the shift from actual sexual behaviour to virtual sexual behaviour was due to the desire for new and exciting sexual experiences [24]. Zawada et al., observed that Facebook dependence and longer time spent on this platform significantly reduced relationship satisfaction [25].

Concerns about the impact of mass media on daily functioning and various aspects of life are constantly being investigated. In their study, Werner-Wilson et al. noted serious concerns by parents of adolescents about the impact of media on their children's sexuality [26]. According to Cookingham et al., online activity can negatively affect adolescent self-esteem and contribute to high-risk behaviour among adolescents [27].

In the current survey, up to 89% of women compared themselves to others in terms of appearance. 32.9% of women made comparisons to people, models, influencers and celebrities they follow on social media, declaring a desire to become more like the chosen individuals. The results of this study confirmed the initial hypothesis that comparing oneself to others when browsing social media has a significant impact on the deterioration of women's sexual life satisfaction. This zone of life was also negatively affected by being compared to others by third parties. 61.5% of the women surveyed admitted that they had heard negative feedback about their appearance, including from their partner (15.4%).

The phenomenon of being compared to others has already been the subject of many scientific papers. In one of them, Hosseini et al. (2023) demonstrated that unpleasant life events, such as being teased or ridiculed because of one's

appearance, can lead to a misperception of one's own body. A distorted self-image is also influenced by the adolescent-parent relationship. Children who hear negative messages and statements about body image ideals from their parents are more likely to develop appearance complexes. In contrast, adolescents who have a good relationship with their parents and feel secure in it are less likely to think of their appearance as key to being accepted by those around them [28].

The results of a study by Anixiadis et al. (2019) indicate that comparing oneself to people on social media who are subjectively considered to look better can cause body dissatisfaction. In contrast, conscious media use has been shown to protect against these effects by reducing the internalisation of ideals as a personal standard, and thus reducing comparison to others [29].

Belinda Bury et al. (2016) tested whether exposure to idealised photos of users' bodies, typical of those posted on Instagram, would result in changes in mood and body dissatisfaction among young women using the app. The study found that women who view images depicting idealised, slim silhouettes experience negative mood changes when influenced by thoughts of comparing themselves to the people they see. Even positive thoughts associated with the viewed content lead to lower mood and decreased well-being [30].

Strengths and limitations of the study. The presented study had several strengths. The first is a large representative group of respondents, homogeneous in terms of gender (women) and age. So far, most studies dedicated to problems in sexual life have focused on the male population. In addition, to the best of the authors' knowledge, this is one of the few conducted in the world in the post COVID-19 era to address the problem of the impact of social media on women's sex lives. This is a topic that deserves attention, given the increasing influence of social media on our lives and the growing scale of sexual problems. The study used standardized tools, so that the results can be compared with the results of other studies.

The survey has also some limitations. The first is the form of a web-based survey, which makes it impossible to refine a question if the responder finds it unclear. The second is that the large sample size can affect the results of the survey, showing significant statistical differences, even if they are clinically insignificant. Assuming that there is a correlation between Instagram use and sexual satisfaction, it is difficult to determine whether it is Instagram that affects sexual satisfaction, or whether those with lower sexual satisfaction are more likely to use Instagram.

Association between women's BMI and their sexual satisfaction are very interesting. Undoubtedly this correlation requires a broader exploration. It is worth expanding the research methods to include tools to assess: diet, eating habits, drugs, lifestyle, awareness of how eating disorders have an impact on health, physical activity; taking into account the frequency, intensity and type of training of the participants, as well as the usual time of exercise. Another limitation of the study is that the study group consisted of women in the 18–35 age group. It would be worthwhile repeating this study on a larger age group.

It is assumed that sexual problems are a phenomenon affecting not only young women, the feelings of mature women should also be investigated. In the future, it would also be crucial to conduct a study focusing on male sexual problems resulting from the use of social media, including

the Instagram application. However, apart from the fact that there are so many limitations, to the best of the authors' knowledge, this is the first study of its kind to be carried out in post-COVID-19 Poland on such a large study group.

CONCLUSIONS

To the best of the authors' knowledge, the study we conducted is the first of its kind in the post COVID-19 era in Poland on such a large study group.

The results of the study confirm the existence of a negative relationship between the length of time young women use social media and their level of satisfaction with their body and appearance, self-awareness of body image, and sexual satisfaction. Although the study has shown many significant effects, the sizes of these effects related to the documented impact of social media on self-esteem and sexual satisfaction was usually small. Therefore, it is not suggested that potential problems in the studied area will be predominantly generated by the approach to social media.

Given the data obtained, it seems necessary to educate young generations about the dangers of unconscious using of social media. It seems crucial to convey reliable knowledge about the impact of unrealistic, idealized body images presented on the Internet, and the promotion of unattainable canons of beauty on the occurrence of self-perception distortions, and the pressure to strive to meet unrealistic standards of one's own appearance, which may consequently be the cause of the development of many mental disorders, including, for example, eating disorders or sexual disorders.

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