The use of social media and perception of body image and sense of coherence

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Abstract

Introduction and objective: One of the important factors that affect body perception is the beauty and body standards promoted by media and culture. Social media use can affect users' self-perception and sense of coherence. The study aimed to assess whether and how social media impact for body perception and sense of coherence.

Materials and methods: The study was conducted using an online questionnaire with a sample of 190 individuals, differentiated by gender. The Sense of Coherence Scale (SOC-29), Body Esteem Scale for Adolescents and Adults (BESAA), and a questionnaire developed for the study were utilized.

Results: In the study group, as the daily time spent on social media increased, the sense of manageability (rho = -0.171, p = 0.018) and meaningfulness (rho = -0.166, p = 0.022), as well as the overall coherence score (rho = -0.155, p = 0.033), decreased. Longer usage of social media platforms was associated with lower scores on the appearance scale (rho= -0.260; p<0.001) and weight scale (rho= -0.240; p=0.001), while remaining independent of the scores on the attribution scale (p>0.05).

Conclusions: The study shows that excessive use of social media can lead to a deterioration in body image and the amount of time spent on social media can contribute to the level of coherence. Conclusions highlight the need for implementing measures for the safe use of social media platforms and introducing psychoeducation on self-worth, body acceptance, and a sense of coherence, especially among young individuals.

Keywords: social media, body image, coherence

Introduction

According to Antonovsky, individuals are guided by a complex cognitive structure whose main assumption is a belief in comprehensibility, meaningfulness, and manageability - these three variables constitute a sense of coherence (SOC). The sense of comprehensibility

refers to the extent to which a person perceives stimuli encountered as organized, cognitively meaningful, coherent, and structured information. An individual with a strong sense of comprehensibility will be able to attribute meaning and explain even those stimuli that may be undesirable. The sense of meaningfulness relates to the degree to which a person feels that life has meaning and that the demands of life are worth engaging in and making efforts towards. An individual with a strong sense of meaningfulness will be able to take on challenges, seek meaning, and do everything possible to cope with adversity. The sense of manageability refers to the extent to which a person perceives available resources as sufficient to meet the demands of various stimuli. Individuals with a strong sense of manageability do not feel that life is unfair to them. They also know that they can cope with various life situations thanks to their resources [1]. In other words, a sense of coherence is an orientation towards life that allows understanding and coping with the surrounding reality. Seeing the world as predictable, orderly, and meaningful can impact human functioning in many aspects. One of these aspects is the perception of one's own body. Numerous studies have shown that exposure to images of thin models contributes to women's dissatisfaction with their bodies. Furthermore, social media have proven to be a significant catalyst for appearance-related concerns among women [2].

Social media, abbreviated as SM, are internet networks where users can create, share, and comment on various types of content, including texts, photos, videos, and music. They have changed the way people connect and communicate with each other, and their impact on daily life and various fields such as business, politics, and culture is invaluable. One of the most important aspects of SM is its ability to enable people to connect and share their thoughts, ideas, experiences, and interests. As a result, people can form groups, forums, and discussions, as well as establish contacts and friendships with people from all over the world who share similar interests and passions [3]. However, SM also has its drawbacks. In recent years, there has been increasing discussion about their negative impact on people's mental health. More and more research shows that excessive use of social media can lead to feelings of isolation, depression, and anxiety. Additionally, phenomena such as cyberbullying, trolling, and hate speech are becoming increasingly common in the online space. Such improper, aggressive behaviors can not only harm the individuals directly affected by them but also cause harm to society as a whole [4].

Another important aspect of SM is their impact on business and marketing. Social media have become extremely important for companies and entrepreneurs who want to reach their customers and increase their sales. Through social media, companies can conduct

advertising campaigns, engage customers, and build their brands. They also provide opportunities for market research and analysis of customer behavior, allowing companies to tailor their products and services to market needs. Social media also have an impact on politics and culture. Thanks to SM, people can more easily engage in social and political issues, express their opinions and views, as well as create and share content that is important to them. Social media are an important tool in the process of social and cultural change, as well as in the fight against inequalities and discrimination [5].

Perceiving one's own body is how a person perceives and evaluates their body. It is a subjective process that can be affected by various factors such as culture, media, life experiences, and genetics. Individuals who have a positive body image are usually satisfied with the appearance and functionality of their bodies. On the other hand, individuals who have a negative body image often experience dissatisfaction and discomfort, and may even suffer from eating disorders such as anorexia or bulimia [6].

One of the important factors that affect body perception is the beauty and body standards promoted by media and culture. Many people, especially young individuals, succumb to social pressure and attempt to conform their bodies to these standards, often leading to unhealthy behaviors such as restrictive diets, excessive exercise, or even plastic surgery. One of the problems associated with negative body perception is that it can lead to emotional and psychological disorders. Individuals who feel dissatisfied with their body's appearance often suffer from low self-esteem, anxiety, or depression. Moreover, negative body perception can lead to social isolation as these individuals fear exposing their bodies publicly [7].

However, it is worth noting that body perception can be changed and improved. Many individuals who previously had a negative physical self-image have been able to change their attitudes with the help of therapy, social support, and lifestyle changes. It is important to remember that everybody is unique and beautiful in their way, and it is not worth comparing oneself to others or standards that have nothing to do with individual needs and expectations [8].

Social media use can affect users' self-perception and sense of coherence. In today's world, social media has become an integral part of everyday life for many people. The introduction of new features and applications that allow photo editing and creating virtual versions of oneself can impact how users perceive their bodies and themselves. Using social media can lead to negative body perception. On social platforms, users often present idealized, beautified versions of themselves, which can can have an affect on how other users perceive

themselves. Photos and videos are often manipulated with filters and editing tools, leading to heightened beauty and body standards that people strive to meet [9]. One of the effects of the negative impact of using social media on body perception is the development of eating disorders. Users who regularly engage with social media may have a higher risk of developing anorexia, bulimia, or other eating disorders. Similarly, individuals with low self-esteem and unrealistic body expectations may be more susceptible to developing eating disorders [10].

The use of social media can also affect users' sense of coherence. Some users feel connected to groups that represent their values and beliefs. At the same time, there is a risk of social isolation for users who do not feel connected to any group. Using social media can lead to a loss of community and make it difficult to establish real interpersonal relationships. One way to counteract the negative impact of using social media on body perception and sense of coherence is through education and awareness. Users, first and foremost, should understand that what they see on social platforms is often untrue and unrealistic. Additionally, education, particularly for young people, should emphasize the uniqueness of each individual both physically and mentally, highlighting that everyone has strengths and weaknesses that can be realistically worked on without conforming to anyone else [11].

Another way to change the negative impact of using social media on body perception and sense of coherence is to change the approach to using social media. Users should remember that social media is just a tool that can be used positively. They should pay attention to what they post and the content they consume. It is worth focusing on content that builds positive and inspiring communities rather than content that encourages comparison with others or promotes unrealistic beauty and body standards. Another way to counteract the negative influence of social media on body perception and sense of coherence is to develop real interpersonal relationships. This can be done through participation in social activities, both virtual and real, that allow interaction with people who share similar values and passions. Seeking support in groups that bring together individuals with similar experiences and issues can also be helpful [12].

In scientific literature, there are numerous studies on the relationship between the use of social media and body image perception and coherence. For instance, a study conducted by Fardouly and colleagues, published in 2015, found that women who spent more time on Facebook had higher levels of social comparison and lower self-worth. These findings suggest that Facebook use may hurt body perception among women [13]. In another study carried out by Fardouly et al. in 2018, the association between social media use and

autonomous decision-making regarding nutrition was examined. The results indicated that more frequent social media use was associated with lower levels of autonomous decision-making concerning healthy eating [14].

A study conducted by Tiggemann and Slater revealed that Instagram use can negatively impact women's body perception. Study participants who spent more time on Instagram had higher levels of social comparison and lower self-worth [15].

All the aforementioned studies suggest that the use of social media may have a negative relationship with body perception and coherence among individuals who spend a significant amount of time on these platforms. One of the main reasons for this association is the fact that social media is filled with perfectly retouched images and unrealistic portrayals, which lead to comparison and feelings of inadequacy. Studies have noted that women, in particular, are more susceptible to the negative effects of social media on body perception. Many women compare their bodies to those of other social media users, resulting in negative emotions and a diminished sense of self-worth.

Indeed, it is worth noting that there are also studies suggesting that the use of social media can have a positive impact on body image perception and coherence. An example of such a study is the work conducted by Tiggemann and Slater, which showed that using Instagram can enhance feelings of attractiveness and positive thinking about one's body [15].

Aim of the work:

The main objective of the research can be summarized in the question: How does social media interact with one's body perception as well as one's sense of coherence? About the main research objective, the following specific objectives were formulated in the form of questions:

1. What relationships exist between social media use and a sense of coherence?
2. Are there any connections between social media use and body perception?
3. Is there a difference in social media use between individuals with a low sense of coherence and those with higher sense of coherence?
4. Does the amount of time spent on social media correlate with the evaluation of body perception?

Based on the research questions above, the following research hypotheses were formulated:

1. There are connections between social media use and a sense of coherence.
2. There are connections between social media use and body perception.
3. Individuals who spend more time on social media have a lower sense of coherence.
4. Individuals who spend more time on social media perceive their bodies more critically.

Materials and Methods:

The study involved 190 participants, including 135 women and 54 men (one person indicated a different gender), aged between 18 and 69.

The study was questionnaire-based and conducted online. The research method used was a diagnostic survey based on The Sense of Coherence Questionnaire (SOC-29), the Body Esteem Scale for Adolescents and Adults (BESAA), and a self-developed questionnaire. According to the decision of the Bioethics Committee of the Pomeranian Medical University in Szczecin No. RPW/11630/20222P, this study does not require the opinion of the Bioethics Committee

Participation in the study was voluntary, and all participants gave their consent to participate.

The Sense of Coherence Questionnaire (SOC-29), developed by Antonovsky [16] and adapted in Polish by Koniarek, Dudek and Makowska [17], was utilized to assess the sense of coherence. The questionnaire consists of 29 items that are assigned to three subscales: COH-C - comprehensibility (11 items), COH-M - manageability (10 items), and COH-Mea - meaningfulness (8 items). Participants rate the validity of each of the 29 statements regarding themselves and their lives on a seven-point Likert scale. The total score of the questionnaire ranges from 29 to 203 points, while the average overall score obtained by the participants falls between 100.5 and 164.5 points [18]. The points obtained are summed up, where a higher score indicates a stronger sense of coherence or its component.

To assess body self-esteem, **the Body Esteem Scale for Adolescents and Adults (BESAA)** by Mendelson, Mendelson, and White [19], adapted in Polish by Słowińska, was used. BESAA is a tool that allows for the measurement of self-perception of one's body and appearance. It consists of 23 items that form three subscales: appearance self-esteem (general feelings about one's appearance, 10 items), weight self-esteem (satisfaction with one's weight,

8 items), and attribution of appearance evaluation (beliefs about how others evaluate one's appearance, 5 items). Responses are given on a 5-point Likert scale ranging from 1 (never) to 5 (always) [20]. A higher score indicates a stronger level of body self-esteem.

Data on social media usage were collected using a brief self-developed questionnaire consisting of five questions. Participants were asked to indicate which social media platforms they use most frequently, how much time they spend on social media per day, and the emotions evoked by the content they view on social media. The final question examined how many people use photo editing applications before posting pictures, which may impact their perception of their body and self-worth.

The statistical analysis was conducted using IBM SPSS Statistics v. 25. Due to the ordinal nature of the variables characterizing the use of social media, pairwise correlations were examined between these variables and two quantitative psychological variables (sense of coherence and body image) using the non-parametric Spearman's rho coefficient. A significance level of $p < 0.05$ was chosen as the threshold for statistical significance.

Results and analysis

Characteristics of the studied group, use of selected social media platforms, and time spent on social media.

The study involved 190 participants (71.1% women) aged between 18 and 69 years, with an average age of just under 24 years. The most commonly used social media platform was Facebook (54.2%), followed by YouTube (43.7%) and slightly less commonly, TikTok (42.6%). Instagram was the least popular (32.1%), and 9.5% of the participants used other platforms. Over one-third of the respondents (35.8%) spent an average of 3-4 hours per day on social media, 29.5% spent 2-3 hours per day, 21.1% spent 4-6 hours, and the percentage of people who used social media for less than an hour per day (9.5%) was more than twice as high as the proportion of people who used social media for an average of 7 hours or more (4.2%).

The detailed characteristics of the study group in terms of basic socio-demographic data and social media usage are presented in Table 1. For qualitative variables, the frequency (N) and percentage (%) of occurrence of each category of results are provided, while for the quantitative variable of age, the mean (M) and standard deviation (SD) are given.

Table 1. Characteristics of the study group, usage of selected social media platforms, and time spent on social media

Gender	N/M	%/SD
female	135	71,1
male	54	28,4
other	1	0,5
Age	23,84	5,17
The use of social media		
Instagram	61	32,1
TikTok	81	42,6
YouTube	83	43,7
Facebook	103	54,2
Other	18	9,5
Time spent on social media		
< 1h	18	9,5
2-3h	56	29,5
3-4h	68	35,8
4-6h	40	21,1
7 h and more	8	4,2

Source: Own study.

In Table 2, the results of coherence measurement in the study group are presented. The minimum, maximum, and mean raw scores are provided. Due to the lack of norms for the Polish population, the intensity of coherence was determined. In this regard, the low intensity was defined as scores below -1 standard deviation from the group mean, average intensity included scores within the range of -1 to +1 standard deviation from the mean, and high intensity started above +1 standard deviation.

Both for the overall coherence score and individual coherence factors, the intensity distributions in the study group resembled a Gaussian curve, with a clear predominance of individuals with average scores (constituting approximately 66% to 76% of the entire study group). Participants with low and high sense of coherence accounted for a few percentage points each (ranging from 10% to nearly 18%) of the study group. The majority of participants presented average coherence level scores (132, 69%).

Table 2. Characteristics of the study group in terms of sense of coherence (SOC)

	Overall results		Comprehensibility		Manageability		Meaningfulness	
	n	%	n	%	n	%	n	%
Low results SOC	29	15,3	19	10,0	31	16,3	30	15,8
Average results SOC	**132**	**69,4**	145	76,3	125	65,8	36	66,3
High results SOC	29	15,3	26	13,7	34	17,9	34	17,9
N	190		190		190		190	
Mean	93,19		23,98		34,13		31,58	
Standard deviation	31,73		12,71		10,37		11,56	
Minimum	47		7		17		8	
Maximum	202		76		64		56	

Source: Own study.

In Table 3, the results of the correlation analysis between indicators of social media usage and participants' sense of coherence in the study are presented. The number of platforms used by respondents was found to be independent of all coherence factors. However, the average daily time spent using social media was significantly correlated with the overall coherence score and two out of three coherence components. These correlations were weak and negative, indicating that in the study group, as the daily time spent on social media increased, the sense of manageability ($rho = -0.171$, $p = 0.018$) and meaningfulness ($rho = -0.166$, $p = 0.022$), as well as the overall coherence score ($rho = -0.155$, $p = 0.033$), decreased.

All additional characteristics of social media usage were significantly associated with the overall coherence score and all three of its components. In all cases, the associations were negative and ranged from weak to moderate strength. The strongest associations were observed in the second question, indicating that in the study group, as the sense of coherence increased, the frequency of viewing content that evoked negative emotions decreased. Individuals whom less frequently encountered such content exhibited higher overall coherence, comprehensibility, manageability, and meaningfulness (p < 0.001). Other results of the analysis indicated that as coherence decreased, there was a slight increase in the tendency to use photo editing applications (p < 0.01) and filters for photos and videos (p < 0.001).

Table 3. Results of the correlation analysis between indicators of social media usage and participants' sense of coherence (SOC)

The use of social media	SOC			
	Overall results	**Comprehensibility**	**Manageability**	**Meaningfulness**
Usage time	-0,155*	-0,078	-0,171*	-0,166*
Number of platforms	-0,060	-0,089	-0,054	-0,050
e1. negative feelings	-0,317***	-0,233***	-0,283***	-0,306***
e2. emotions	-0,532***	-0,427***	-0,512***	-0,469***
e3. image manipulations	-0,239**	-0,203**	-0,212**	-0,225**
e4. using filters	-0,272***	-0,208**	-0,243**	-0,273***

*p<0,05; ** p<0,001; ***p<0,001*
Source: Own study.

The hypothesis that there are associations between social media usage and a sense of coherence, particularly that individuals who spend more time using social media have a lower

sense of coherence, has been confirmed.

Time spent using social media and body image

The results of the Body-Esteem Scale for Adolescents and Adults (BESAA) were described in the same manner (Table 4). The distribution was close to Gaussian assumptions only for the Attribution subscale, where over 62% of the participants obtained average scores, while low and high scores were achieved by a comparable percentage, close to 19% of the group. In the case of the Weight scale, the distribution was right-skewed, with individuals achieving high scores dominating, accounting for over 78% of the participants. Average scores occurred in slightly over 19% of the cases, while low scores were sporadic. Similarly, in the appearance measure, although low scores were also least frequently achieved by the participants, average and high scores occurred with a similar frequency, over 46% each. A high overall BESAA score was achieved by the majority of respondents (51.6%).

Table 4. Characteristics of the studied group regarding body image using the Body-Esteem Scale (BESAA)

	BESAA Overall		Apperance		Attribution		Weight	
	n	%	n	%	n	%	n	%
Low results BESAA	38	20,0	11	5,8	36	18,9	6	3,2
Average results BESAA	54	28,4	91	47,9	118	62,2	35	18,4
High results BESAA	**98**	**51,6**	88	46,3	36	18,9	149	78,4
N	190		190		190		190	
Mean	73,76		26,12		31,48		16,17	
Standard deviation	16,88		7,56		8,34		3,56	
Minimum	29		8		11		8	
Maximum	108		40		50		25	

Source: Own Study.

Table 5 presents the results of a similar analysis combining selected characteristics of social media usage with indicators of body image. Longer usage of social media platforms was associated with lower scores on the appearance scale (rho= -0.260; p<0.001) and weight scale (rho= -0.240; p=0.001), while remaining independent of the scores on the attribution scale (p>0.05). The number of platforms used by study participants was weakly associated with lower scores on the attribution scale (rho= -0.178; p=0.014) and weight scale (rho= -0.153; p=0.034). Additional survey questions were negatively associated only with the first and third indicators of body image, similar to the usage time, and remained independent of the attribution scale score. Similarly to coherence, the strongest associations linked body image with the intensity of negative emotions triggered by social media content encountered by respondents (p<0.001).

Table 5. Spearman correlations between social media usage and body image

The use of social media	BESAA (Body-Esteem Scale)		
	Appearance	**Attribution**	**Weight**
Usage time	-0,260***	-0,015	-0,240**
Number of platforms	-0,063	-0,178*	-0,153*
e1. negative feelings	-0,194**	-0,053	-0,215**
e2. emotions	-0,629***	-0,132	-0,459***
e3. image manipulation	-0,208**	0,132	-0,169*
e4. using filters	-0,271***	0,018	-0,220**

Source: Own Study.

Therefore, the hypothesis that there are associations between social media usage and body image has been confirmed, particularly indicating that individuals who spend more time on social media tend to have a more critical perception of their bodies.

Discussion

The study aimed to determine the relationships between coherence, body image, and social media usage. The obtained results confirmed the above-mentioned correlations. Individuals who spent more time on social media had a lower sense of coherence. This relationship is confirmed by numerous studies, including a study conducted by Perloff and Mileaf published in 2017, which involved 352 individuals aged 18 to 22. The researchers examined the association between social media usage and coherence among the participants. The results showed that more frequent use of social media was associated with lower coherence among the study participants [21]. In another study, authors Rodgers and Rousseau conducted a review of research on the relationships between social media use and body image. The results confirmed this relationship, as both social media use and exposure to appearance-focused content showed a connection with poorer body image [22]. Another study worth mentioning was conducted by McLean and colleagues in 2015 [23]. It involved 164 girls aged 12 to 18 years. The researchers examined the relationship between Facebook use and body perception and self-esteem. The results showed that more frequent use of Facebook was associated with lower levels of body satisfaction and lower self-esteem among the study participants [23].

From our research, it is evident that the longer individuals use social media, the more critically they perceive their bodies. The conclusions from the study conducted by Fardouly and colleagues, published in 2017, involving 1188 students, were very similar. The researchers examined the relationship between social media usage and body acceptance. The results indicated that more frequent use of social media was associated with lower levels of body acceptance among the study participants [24]. Noteworthy are the studies published by Revranche, Biscond and Husky in 2021 to examine the relationship between social media usage and body image. These studies reported a robust association between frequency of social networking site use and negative body image among both females and males. In addition, exposure to appearance-related content was also deleterious to body image. Participants who spent more time on social media had a higher tendency to experience body dissatisfaction, engage in social comparisons, and internalize unrealistic beauty standards [25].

In summary, based on the obtained research data, it is important to emphasize that in today's world, almost everyone uses the Internet and social media, which have become an integral part of our lives. Using these tools in moderation and with the awareness that

excessive social media usage can have negative consequences is not inherently bad and can even contribute to facilitating various aspects of our lives.

Conclusions

Based on the obtained research results, it can be inferred that excessive use of social media can lead to a deterioration in body image. It is observed that frequent exposure to idealized and retouched body images of others on social media platforms can lead to unhealthy comparisons and dissatisfaction with one's own body.
Furthermore, the amount of time spent on social media can contribute to the level of coherence, as individuals who spend more time on social media tend to have lower coherence. A valuable initiative in improving the overall quality of life for individuals in a world where almost every person, especially the young, uses social media would be psychoeducation aimed at enhancing the sense of coherence, increasing self-worth and body image, and promoting the safe use of social media.

The conducted study has expanded our knowledge about the factors that may determine the sense of coherence and body image. However, further research would be warranted to better understand the mechanisms of this correlation between social media usage and individuals' mental health.

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