




Original Papers

Polish Psychological Bulletin

2024, vol. 55 11–25

DOI: 10.24425/ppb.2024.150352

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Social media: Does it always hurt? Self-compassion and narcissism as mediators of social media's predicting effect on self-esteem and body image and gender effect: A study on a Polish community sample

Abstract: Extensive social media usage causes psychological dependence and impacts people's self-evaluations. It is vital to seek possible buffers to social media addiction's detrimental effect on self-esteem and body image. Poland has one of the highest scores on problematic social media usage. Past studies pointed to narcissism and self-compassion as possible mediators of such effects. The present study aimed to explore Polish individuals' (N=527) social media usage habits. We hypothesised gender differences and social media addiction predictive effect on self-evaluations (self-esteem, body image), with narcissism and self-compassion as mediators of such relationships. The results revealed that only visual media (Facebook, Instagram, TikTok) had a negative effect on self-evaluations and that women reported more social media addiction and decreased self-esteem, self-compassion and body image. Social media addiction was negatively predicting body image for both genders and self-esteem for women but not for men, with self-compassion and narcissism mediating such relationships.

Keywords: *body image, gender, narcissism, self-compassion, self-esteem, social media*

1. INTRODUCTION

1.1. THE POSITION OF SOCIAL MEDIA IN THE 21ST-CENTURY SOCIETY

Social media plays multiple roles in people's lives; it informs, gives space to vent feelings, serves as entertainment, and plays the role of socialisation agent (Leung, 2013). With the quickly rising popularity of social media within the past decade (3.5 billion active users of social media worldwide) (Kemp, 2019), their impact on various psychological well-being aspects cannot be overlooked.

Some authors suggest that social media negatively affect psychological states (e.g. Barlett et al., 2008) predominantly based on traditional media's influence on self-esteem and body image. Empirical research has evidenced the disturbances to the body image as a main adverse effect of social media usage (de Vries, 2019; Holland & Tigge-man, 2016; Manago et al., 2015; Suplee, 2018), confirmed by a recent metanalysis of Saiphoo and Vahedi (2019). Furthermore, social media's detrimental impact seems universal. The latest study on 29 countries revealed that problematic social media usage was related to decreased well-being, with younger individuals and women being particularly vulnerable to such adverse effects (Boer et al.,



2020). Likewise, high exposure to social media led to an overly optimistic and inflated view of self and narcissism (Malikhaio & Servaes, 2011). In contrast, other studies point to a positive effect of social media. Research by Burrow and Rainone (2017) suggested that the number of likes individuals receive on their Facebook, a form of social feedback, boosts self-esteem. In the same line, social media has also actively promoted multiple campaigns supporting body positivity (Stevens & Griffiths, 2020). Such inconsistencies motivate further research.

Besides, socio-demographic and psychological buffers might protect self-concept from the negative impact of social media. Early studies suggested gender, personality traits (narcissism), and self-compassion as possible mediators (Keyte et al., 2020; Król & Zdonek, 2021; Siegel et al., 2020; Zdenek et al., 2020). Self-compassion, in particular, as a dynamic attribute, is increasingly proposed as a buffer to negative self-evaluations and promoter of acceptance (Neff et al., 2007). Positive, compassionate self-affirmations targeting self-love are a promising alternative to a narcissistic boost of self-esteem (Thomaes, 2009), but more explorative studies are needed.

1.2. SOCIAL MEDIA USAGE IN POLAND

Poland's social media usage is increasing rapidly and is predicted to reach 24 million users by mid-2022 (Statista, 2021). According to recent data, Facebook is a leader in Polish social media with nearly 80% of market shares (Stats Counter, 2021), and registered users account for 58% of the entire population. The majority of the users are between 25-34 years old, with women constituting 53% (Global Web Index, 2021). With an average of two hours spent on social media per day (GWI, 2021), this platform has an immense impact on people's life. However, it is suggested that social media in Poland has not been enough utilised or explored (Sedkowski, 2016). Furthermore, a recent study on the Polish sample indicated that the use of social media, especially browsing through descriptions of photographs, had a significant effect on psychological states (Król & Zdonek, 2021). In the international comparison, Poland had one of the highest scores on problematic social media usage and the second highest in intense social media usage, placing the Polish population at increased risk of developing ill-being problems (Boer et al., 2020). Hence, the present research attempted an in-depth exploration of social media usage in Poland and its predictive effect on self-esteem and body image with mediating roles of self-compassion and narcissism.

1.3. SOCIAL MEDIA RELATIONSHIPS WITH SELF-ESTEEM AND NARCISSISM

Social media's fast-paced development made content creation and consumption part of everyday life. These include sharing, viewing, and commenting on the pictures of oneself and others. As content creators, people often strive toward idealised self-presentation (Saiphoo & Vahedi,

2019; Tiggemann & Barbato, 2018). Exposure to unrealistic standards and expectations towards oneself can significantly increase self-evaluation concerns and jeopardise self-esteem (Stevens & Griffiths, 2020). As a result, Vogel et al. (2014) revealed the negative impact of frequency of social media usage and social comparison on self-esteem. Self-esteem is the degree to which the qualities and characteristics in one's self-concept are perceived as positive (APA, 2021). Evidence from literature illustrated that high self-esteem could lead to better health and social behaviour and that low self-esteem is associated with a broad range of mental disorders (e.g. Du et al., 2017; Mann, 2004). Moreover, low self-esteem can severely affect functioning, decrease self-worth and romantic appeal (von Soest et al., 2016), and boost narcissistic tendencies (Barry et al., 2003).

Most of the past research highlighted the adverse effect social media has on self-esteem (Fardouly et al., 2017; Howard et al., 2017; Tiggemann et al., 2018; Modica, 2019a). Socio-cultural models seek to explain the social media such impact through social comparisons and internalisation (Saiphoo & Vahedi, 2019). Social comparisons aim to establish how the individual equates to others or a group regarding the given aspect of life. Such a mechanism suggests that people naturally compare themselves to others in numerous ways. It is an innate tendency serving many facilitative functions, like learning, emotional regulations, enculturation, and self-enhancement. And while in natural face-to-face interactions, a social comparison would be limited to closest friends, family and acquaintances, it might become a far more inclusive process in the online world. Intensive, unrealistic and broad social media comparisons might constitute a threat to self-esteem. Social media may provoke self-objectification tendencies, which change self-evaluations and weaken self-esteem (Stevens & Griffiths, 2020). Self-objectification (explained as treating oneself as an object that should match expected standards) make one dependent on external trends (Fredrickson & Roberts, 1997). Current studies show that regardless of the direction (upwards or downwards), demonstrating an increased tendency to make social comparisons correlates with many consequences to the assessment of one's own appearance (O'Brien et al., 2009). Not matching mentioned standards may result in body shame, eating disorders, depression, and appearance concerns (Fox et al., 2021). In Vogel et al.'s (2014) research, social media usage frequency predicted lower self-esteem, and such a relationship was mediated by greater exposure to upward social comparison.

On the other hand, the internalisation mechanism refers to how individuals perceive specified convictions relayed by social messages as personally significant to their self-concept. Individuals who internalise social norms are most at risk of feeling dissatisfied and experiencing eating disorders, primarily due to having unrealistic assessments of their bodies (Fardouly et al., 2018). Internalisation is linked with another theoretical approach explaining the growing usage of social media and its

impact on self-evaluation, namely Baudrillard's theory of hyper-reality (1983). In social media, virtually constructed images replace actual representations and blur with reality (McCrary et al., 2020). The standards' internalisation includes the unrealistic, edited photos of "ideal" non-existing individuals that cannot be discriminated against what is real. The pressures on self-esteem and self-image related to adherence to virtually created norms are even higher and more distressful.

Social media also provides opportunities for selective self-presentations serving unrealistic self-enhancement. Such a process leads to self-esteem boosts based on idealistic self-presentations impacting personal incongruence and strengthening narcissistic tendencies (Bosson et al., 2008). Narcissism refers to a sense of grandiosity and a solid need to be seen and admired by others, reflected in inflated and unrealistic self-views (Thomaes et al., 2012). Besides, narcissism is related to having a deep need for external admiration, attention, and an "addiction to self-esteem" (Baumeister & Vohs, 2001). There is evidence of two types of narcissism, grandiose and vulnerable, and individuals scoring high on both are characterised by antagonistic interpersonal interactions (Milles et al., 2011). Furthermore, narcissism could form a shield to protect oneself from unpleasant and often unfavourable social media comparisons (Baumeister & Vohs, 2001). However, this shield is based on reality disturbance and inflated self-evaluations.

The association between narcissism and self-esteem is ambiguous. The narcissistic tendencies are usually attributed to inflated self-concept, though narcissism also acts as a defence mechanism to lowered self-evaluations; hence, the associations between self-esteem and narcissism could be nonlinear. Crowe et al. (2018) evidenced relationships between self-esteem and narcissism stronger at exceptionally high and low levels of self-esteem. Hence, too much self-esteem or too few, both, could lead to an increase in narcissism. It might be because of the multidimensional character of self-esteem. Some authors differentiate implicit (uncontrolled) and explicit (controlled) self-esteem; narcissism might be masking the low implicit self-esteem via inflated explicit self-esteem (Bosson et al., 2008). Narcissism can guard disturbed self-esteem (Mann, 2004). The psychodynamic mask model of narcissism, proposes that grandiosity and elevated self-regard are a cover for deep-rooted feelings of inferiority (Kernberg, 1975; Kohut, 1967). Therefore, uplifted self-image and grandiosity constitute a makeup for low and fragile self-esteem (Zeigler-Hill & Besser, 2013).

There is evidence that social media, self-esteem and narcissism are reciprocally connected. People with narcissistic traits manipulate their physical appearance to achieve social gains (Holtzman & Strube, 2013; Jonason et al., 2014), and social media, due to its visual character and adjustive tools, may be favoured by narcissists. Research conducted with Turkish students demonstrated that individuals with low self-esteem and high narcissism used Facebook to regulate their self-image (Eşkisu et al., 2017). Further, the findings of James et al. (2017)

suggested interaction between individual factors, type and content of media, and their impact on narcissism, especially among young people. For example, taking selfies has been more common among narcissist individuals who did it to maintain their self-views and body image, increasing their level of narcissism (Halpern, 2016).

1.4. BODY IMAGE AND SOCIAL MEDIA

Body image is a dynamic and multidimensional concept that changes through time and reflects how people see themselves compared to society's standards and includes behavioural, perceptual and cognitive-affective components (Cash, 2004; Thompson et al., 1999). Body image may be both positive and negative. A positive body image expresses the respect and appreciation for one's body's functionality and the possibilities it offers, while a negative body image is usually defined as the measurement of dissatisfaction with one's own body or its specific parts (Thomas et al., 2019). Young individuals are the most vulnerable to body image disturbances, as they are susceptible to social feedback. The difference between a person's perceived ideal body and current body is known as body dissatisfaction. Studies have shown that individuals who have demonstrated higher body dissatisfaction were more prone to lowered self-esteem (Wertheim et al., 2004).

Historically visual media have become one of the most important benchmarks for appearance because of the concentration of content based on exterior looks (Saiphoo & Vahedi, 2019). Initially, the studies on satisfaction with one's body and appearance focused on the relationships with traditional media, such as T.V. advertisements, music videos, billboards, and magazines (Saiphoo & Vahedi, 2019). This tendency has increased with the development of social media, such as Facebook or Instagram, and with the trend to use Photoshop to retouch and correct images (Fardouly & Holland, 2018). Studies show that watching images posted online describing slim, idealised shapes is a significant factor in increasing dissatisfaction with one's appearance, even when individuals are aware that the photos they are viewing have been digitally corrected (Frederick et al., 2017). The effect of social media platform usage is primarily detrimental to body satisfaction (Saiphoo & Vahedi, 2019). Furthermore, the effects of social media on body image vary depending on the type of social media. For instance, appearance-focused social media use may be more detrimental to body image than general use (Thompson et al., 1999). Consequently, significant differences exist between the social media platforms in their effect on body image, i.e. Instagram seems to be the most adversely impacting body image (Fardouly et al., 2017, 2018).

The objectification theory may explain the adverse effects of visual social media on body image (Fredrickson & Roberts, 1997). In this perspective, individuals judge themselves purely based on physical features, not fundamental human values. As a result, people become self-

critical and judgmental towards themselves if their appearance does not match the social standards. Such attitudes may cause appearance concerns, body shaming, self-hatred, eating disorders and mood disorders (Fox et al., 2021).

Furthermore, body image has an important regulatory role in human behaviour. Any abnormalities in perceiving one's body size or experiencing discrepancies in terms of one's appearance with what is propagated socially in the media may result in body dissatisfaction that adversely impacts general self-esteem (van den Berg et al., 2010). That, in turn, may manifest in a number of negative consequences such as depression, or increased interest in plastic surgery (Rybicka-Klimczyk & Brytek-Matera, 2008). Dissatisfaction with one's appearance also negatively affects self-esteem and mood, and such a process is the most prominent among females (Siegel et al., 2020).

1.5. GENDER ROLE IN SELF-EVALUATIONS AND SOCIAL MEDIA USAGE

Furthermore, gender affects self-esteem, narcissism and body image, with lower levels more prevalent among women (i.e. Keel et al., 2007; Mahon & Hevey, 2021; Sprecher et al., 2013; Voges et al., 2019). Studies on self-stereotyping explained lower self-esteem in females through women being more prompt to norms internalisation processes and the dominant position of men in most societies (Kim & Park, 2018). Consequently, culturally imposed feelings of inferiority increase the drive for unrealistic perfection, especially in terms of physical appearance standards for women (Szymanski & Feltman, 2014; Yamamiya et al., 2005). There are also gender differences in how narcissism is experienced; for women, narcissism is positively associated with experienced shame, while for men negatively (Heiserman & Cook, 1998).

Gender also moderates social media's effect on body image, with females more prompt to its adverse impact as body dissatisfaction is more common among women (i.e., MacNeill et al., 2017; Siegel et al., 2020). The socio-cultural theory poses that this phenomenon results from women's internalised desire to adhere to standards of beauty that are socially accepted and propagated through social messages (Siegel et al., 2020), which are, for most individuals, unattainable. Furthermore, due to stereotype threats, females are more likely to attribute their virtues externally and depend on others' opinions (Furnham et al., 2002). It is worth noticing that such findings may not be universal. Recent studies in under-researched non-Western cultures demonstrated that young men increasingly suffer from body image issues reaching or surpassing that of females (Alharballeh & Dodeen, 2021). Therefore, more studies are needed. Furthermore, some psychological processes associated with psychological resilience, i.e. self-compassion, could constitute a buffer against the negative effects of social comparisons on self-evaluations (Boonlue et al., 2016).

1.6. SELF-COMPASSION RELATIONSHIPS WITH SELF-ESTEEM, BODY IMAGE AND SOCIAL MEDIA

Self-compassion is a recent notion in psychology, but numerous studies have pointed to its relevance to health, well-being, self-esteem, or social functioning (Neff, 2003a; Neff, 2011; Yarnell & Neff, 2013; Zessin et al., 2015). Compassion has many definitions, but it almost certainly encompasses an emotional response to another person's pain or suffering followed by action to ease the individual's situation or lessen its impact (Lilius et al., 2008). Thus, compassion entails an active component that differentiates it from empathy (von Dietze & Orb, 2000). According to Lilius and colleagues (2008), compassion is a multidimensional process comprised of noticing, feeling, and acting that alleviates another person's suffering. Kristin Neff (2003a, 2012) conceptualised self-compassion as compassion with all the qualities mentioned above but turned inward self, allowing people to forgive their drawbacks and accept imperfections. Neff further defined self-compassion as an understanding, self-kindness and the ability to acknowledge, with compassion, one's own suffering, limitations, failures and difficult emotions, as well as the belief that difficult experiences happen to everyone. It involves experiencing at the same time feelings of self-care and self-kindness, with the adoption of an understanding and non-judgmental attitude towards one's inadequacies and failures (Neff, 2003a).

Although self-compassion and self-esteem appear to be similar concepts, they remain distinct, and it is precisely self-compassion, through its mitigating effect, that can improve people's functioning. Self-compassion provides greater emotional resilience and stability than self-esteem. Self-esteem is related to the aspiration to be exceptional and above-average, whereas self-compassion does not entail comparisons with others (Neff & Vonk, 2009; Neff, 2011). Furthermore, research has shown that self-compassion, as opposed to self-esteem, helps to counteract anxiety when faced with ego threats (Neff et al., 2007). In addition, self-compassion mitigates negative emotions after receiving ambiguous feedback, especially in individuals with low self-esteem (Leary et al., 2007).

Self-compassion also protects body self-assessment. Its higher levels are associated with less body shame or body dissatisfaction (Mosewich et al., 2011). Higher self-compassion scores among women predict fewer body concerns or weight worries (Wasylikiw et al., 2012). Interventions aiming at the development of self-compassion are related to reductions in body dissatisfaction, body shame, and contingent self-worth based on appearance (Albertson et al., 2015) and are linked to a decrease in dissatisfaction with one's weight and appearance (Moffitt et al., 2018). Self-compassion appears to play a protective role over women's positive body image through its negative relations to appearance self-worth and the frequency of comparisons regarding appearance and activities related to eating and exercising (Siegel et al., 2020). Interestingly, only women with lower levels of self-

compassion display a negative impact of BMI on body image flexibility (Kelly et al., 2014). Furthermore, self-compassion buffered the effects of most variables' relation to eating pathology (Braun et al., 2016), e.g., buffered the link between media pressure and disordered eating or thin-ideal internalisation (Tylka et al., 2015).

A small number of studies show the relevance of self-compassion for social media use; for example, Keyte and colleagues (2020) demonstrated negative correlations between self-compassion and Instagram use intensity. Self-compassion contributed to a lower intensity of Instagram use through positive associations with well-being and negative ones with stress. Individuals with higher well-being and lower stress levels were less likely to use Instagram. Furthermore, experimental studies indicate the mitigating role of self-compassion when viewing Instagram images of fitspiration (Slater et al., 2017). When viewing Instagram images of fitspiration, women who had self-compassion displayed greater body satisfaction, body appreciation, and reduced negative mood. Slater et al. (2017) point to the positive possibility of developing self-compassion when using social media (#self-compassion, #self-love, or #positive body image). Furthermore, positive, compassionate self-affirmations targeting self-love are a promising alternative to boosting self-esteem and preventing narcissism-related aggression (Thomaes, 2009). However, not all studies confirm the protective role of self-compassion over body self-assessment when using social media (cf. Modica, 2019a).

1.7. AIMS AND HYPOTHESES

On one side, social media can positively influence self-esteem via awareness campaigns targeting body image (; on the other negatively affects psychological states (e.g., Barlett et al., 2008). The review of studies on social media's impact on self-evaluations in the form of self-esteem and body image is inconsistent. We suggest that such results might be due to the complexity and interactions between mediating psychological variables. The literature points to narcissism and self-compassion as possible mediators, yet Poles have a significant gap in research.

The present study aimed to fill this gap and had multiple objectives. Firstly, we aimed to explore the Polish sample characteristics regarding the levels and types of social media usage and their relationships with self-esteem, body image, self-compassion and narcissism (RQ1). We hypothesised further (H1) that there were gender differences in the levels of social media addiction; and (H2) there were gender differences in the self-evaluations, namely self-esteem, body image, self-compassion and narcissism (Siegel et al., 2020).

Furthermore, we suggested that self-compassion and narcissism may play intermediary roles in social media's impact on self-esteem and body image. Social media usage has negatively predicted body image and self-esteem (Stevens & Griffiths, 2020) and was related to an increase judgments about oneself and decrease self-kindness and

acceptance (Stevens & Griffiths, 2020) and increase narcissism (Jonason et al., 2014). Hence, we have formulated the following hypotheses: (H3) a level of social media predicted self-esteem and that self-compassion and narcissism mediated such effect; (H4) a level of social media predicted body image and that level of self-compassion and narcissism mediated such impact.

2. METHOD

2.1. SAMPLE

The total number of participants in this study was $N=527$. Most of the participants were females, 351 (67%), while 13 (2.4%) individuals did not reveal their gender. The mean age was 25.2 years (range 18–67). The detailed socio-demographic characteristics of the participants are presented in Table 1.

Table 1. Socio-demographic characteristics of participants $N=527$

Education	<i>N</i>	%
Primary education	2	0,4%
Lower secondary	16	3%
Basic education	10	1,9%
Secondary	360	68,3%
Higher education	139	26,4%
Place of residence	<i>N</i>	%
Village	115	21,8%
City to 100,000 inhabitants	136	25,8%
City between 100,000–250,000 inhabitants	148	28,1%
City between 250,000–500,000 inhabitants	62	11,8%
City above 500,000 inhabitants	66	12,5%
Marital status	<i>N</i>	%
Single	219	41,6%
Informal relationship	204	38,7%
Married	86	16,3%
Divorced	15	2,8%
Widow/widower	3	0,6%
Working status	<i>N</i>	%
Studying	219	41,6%
Studying and working	150	28,5%
Working full time	126	23,9%
Working part time	14	2,7%
Retired	3	0,6%
Not working	15	2,8%

2.2. MEASURES

Body Esteem Scale for Adolescents and Adults (BESAA) (Mendelson et al., 2001) measured Body Image (10 items related to general feelings about one's appearance) with item samples "I worry about the way I look"; "I'm proud of my body". The Polish version of the scale was adapted by Słowińska (2019). Respondents answered on a 5-point Likert scale ranging from 0 (*never*) to 4 (*always*). Cronbach's $\alpha = .92$.

Narcissistic Personality Inventory (NPI-13) by Gentile et al. (2013) assessed narcissism. The Polish version of the inventory was adapted by Żemojtel-Piotrowska et al. (2019). The inventory consisted of 13 pairs of statements that described different situations, feelings, and attitudes. From each pair, the respondents chose what described them more by the binary system of answers (0=low narcissism, 1=high narcissism). Item sample "I like having authority over other people". Cronbach's $\alpha = .69$.

Bergen Social Media Addiction Scale (BSMAS) (Andreassen et al., 2012) assessed social media addiction with the Polish version developed by Charzyńska and Gózdź (2014). The scale consisted of 6 statements that reflected the addiction criteria: domination, tolerance, mood change, relapse, withdrawal symptoms and conflict. Item samples: "How often during the last year have you felt an urge to use Facebook more and more?" or "used Facebook in order to forget about personal problems?" The scoring used a 5-point Likert scale, where: 1 (*Very rarely*) to 5 (*Very often*). Cronbach's $\alpha = .82$.

The Self-Esteem Scale (SES) (Rosenberg, 1965), consisted of 10-items. The Polish version of the scale was prepared by Łaguna et al. (2007). Item samples: "On the whole, I am satisfied with myself"; "I certainly feel useless at times". The answers were scored using a 5-point Likert scale, from 1 (*Strongly agree*) to 5 (*Strongly disagree*). Higher scores indicated greater self-esteem. Cronbach's $\alpha = .89$.

Self-Compassion Scale (SCS) (Neff, 2003b) consisted of 26 items, with item samples: self-kindness (e.g., "I try to be loving towards myself when I'm feeling emotional pain"), common humanity (e.g., "When things are going badly for me, I see the difficulties as part of life that everyone goes through"), and mindfulness (e.g., "When something upsets me I try to keep my emotions in balance"). Each item was scored using a 5-point Likert scale, from 1 (*Almost never*) to 5 (*Almost always*). Cronbach $\alpha = .93$.

The authors developed a **socio-demographic questionnaire** to collect fundamental data about the subjects such as age, gender, education, place of residence, marital status, occupational status, and reasons and amount of time spent using social media.

2.3. Procedure

The study received approval from the Ethics Committee of the Institute of Psychology of the Polish Academy of Sciences. All data was gathered using the

snowball sampling method from January to March 2021. The participants were informed about the purpose of the study, contributed voluntarily and gave informed consent.

2.4. Statistical Analyses

The present study incorporated a quantitative and cross-sectional design. Normality assessment was performed using the Kolmogorov-Smirnov test, and variance homogeneity was assessed using Levene's test ($p > .05$). Correlational and mediation analyses, Independent Sample *t*-Test, one-way ANOVA as well as The Kruskal-Wallis H-Test with Bonferroni correction to reduce the likelihood of type 1 errors were implemented to assess hypotheses. To calculate the effect size, Cohen's *d* index and partial η^2 were used. According to the classification proposed by Cohen (1992), we adopted the following assumptions to measure effect size: small effect $d = 0.20$, medium effect $d = 0.50$, large effect $d = 0.80$. All calculations have been performed in SPSS v. 26, with Hayes (2012) macro.

3. RESULTS

3.1. General sample characteristics regarding social media usage and self-evaluations (RQ1).

3.1.1. Correlational analyses

All variables were normally distributed with coefficients of skewness and kurtosis between +1 and -1. The means and standard deviations for media addiction, body image, self-compassion, self-esteem and narcissism, and the pairwise associations between the variables are presented in Table 2. It can be inferred that media addiction was negatively associated with (in order from strongest to weakest) self-compassion, body image and self-esteem. Remarkably, a higher level of media addiction was also related to a higher level of narcissism.

The strongest associations were observed between self-esteem and self-compassion. Both also correlated with narcissism, but the relationships were marginal. Furthermore, self-compassion and self-esteem were positively

Table 2. Means, Standard Deviations and Correlations of Media Usage, Body Attitude, Body Dissatisfaction, Self-compassion, Self-esteem and Narcissism.

Variables (N=527)	M (SD)	1	2	3	4	5
1. Social Media Addiction (BMAS)	15.56 (5.61)	-	-.21**	-.24**	-.18*	.17*
2. Body Image (BESSA)	30.07 (9.17)		-	.58**	.55**	.22*
3. Self-compassion (SCS)	71.56 (18.43)			-	.60**	.10*
4. Self-esteem (SES)	30.94 (7.63)				-	.19**
5. Narcissism (NPI)	3.91 (2.72)					-

Note: * $p < 0.05$; ** $p < 0.01$

related to body image at a moderate level. Narcissism was also positively associated with body image but at a weak level and less statistically significant.

3.1.2. Social media platform usage and self-evaluations.

The respondents declared that the social media platforms they used most often were Instagram, followed by Facebook and Youtube. On the other hand, the media they used the least were: LinkedIn, Twitter, and Tik Tok. The average daily usage time of the media was 4 hours. The correlational analyses between the usage of particular social media platforms and self-evaluations demonstrated that for men, usage of Facebook correlated negatively with body image ($r(162) = -.22, p = .005$); Instagram was positively associated with narcissism ($r(162) = .32, p = .001$). For women, Facebook usage was significantly correlated with narcissism ($r(349) = .11, p = .03$). Instagram usage was associated negatively with self-compassion ($r(349) = -.18, p = .001$) and self-esteem. Usage of Tik Tok was significantly negatively associated with body image ($r(349) = -.17, p = .002$), self-compassion ($r(349) = -.14, p < .001$), and self-esteem ($r(349) = -.17, p < .001$), but positively with narcissism ($r(349) = .11, p = .04$). There were no significant associations between usage of YouTube, Pinterest and Twitter with measures of self-evaluations.

Independent Sample *t*-Test analysis revealed significant gender differences in activities such as adding photos ($t = -2.74, p = .006$, *d* Cohen's = $-.26$) and viewing friends' posts ($t = -3.13, p = .001$, *d* Cohen's = $-.30$). Women were more likely to perform these activities.

Furthermore, we have created three groups reflecting low, medium and high levels of social media addiction as the cut points taking 33% of the maximum value (Lin et al. 2018). As the groups were unequal (most participants fell into the medium category), Kruskal Wallis H-Test was implemented, with its results showing that people with a high level of media addiction had a lower level of self-esteem, self-compassion and narcissism than people with a low level of media addiction (Table 3.).

3.1.3. Age differences

One-way ANOVA showed that age differentiated subjects in terms of social media addiction, $F(4, 522) = 15.92, p < .001, \eta^2 = .11$, self-compassion, $F(4, 522) = 10.09, p < .001, \eta^2 = .07$, and self-esteem $F(4, 522) = 11.35, p < .001, \eta^2 = .08$ (Table 3).

Post hoc analysis using Gabriel's test confirmed that people aged above 50 ($M = 9.05, SD = 3.46, n = 19$), 40-49 ($M = 12.82, SD = 5.32, n = 34$), and 30-39 ($M = 12.76, SD = 5.21, n = 52$), obtained significantly lower scores regarding social media addiction than people 20-29 ($M = 16.30, SD = 5.43, n = 325$) and people below 20 ($M = 16.83, SD = 5.29, n = 97$).

3.2. Hypotheses evaluation

H1 There were gender differences in social media addiction.

Before comparing groups, equality of variance for all variables was assessed by Levene's test ($p > .05$). The Independent Sample *t*-Tests indicated significant differences in media usage; women were more addicted to social media (Table 4).

H2 There were gender differences in self-esteem, body image, self-compassion and narcissism.

Equality of variance for all variables was assessed by Levene's test ($p > .05$). The Independent Sample *t*-Tests indicated significant differences in self-esteem, body image, and self-compassion levels between women and men. Females reported decreased body image and self-compassion levels. The gender differences in self-esteem were marginal, and there were no gender differences in the level of narcissism (Table 4).

H3 A level of social media addiction predicted lowered self-esteem, with self-compassion and narcissism mediating such an effect.

Due to significant gender differences in self-evaluations and social media usage patterns, the mediational

Table 3. Differences in mean values between individuals with low, medium and high media addiction

Social Media Addiction (BSMAS)	Low <i>n</i> =82 M (SD)	Medium <i>n</i> =378 M (SD)	High <i>n</i> =67 M (SD)	Kruskal Wallis H-Test						
				Within	Between			Post-Hoc analysis *		
Body Image					1-2	1-3	2-3	1-2	1-3	2-3
(BEESA)	33.64 (9.40)	29.80 (9.00)	27.27 (8.69)	19.69***	3.44***	4.32***	2.20	<.01	<.001	.084
Self-compassion (SCS)	78.78 (19.83)	71.33 (17.68)	65.61 (18.41)	21.54***	3.34***	4.59***	2.64*	<.01	<.001	<.05
Self-esteem (SES)	33.06 (8.11)	30.86 (7.57)	28.87 (6.81)	13.51***	2.55*	3.65***	2.20	<.05	<.001	.084
Narcissism (NPI-13)	3.68 (2.68)	3.76 (2.61)	5.04 (3.16)	9.28**	-.23	-2.55*	-2.96**	1.00	<.05	<.01

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; 1-2 = low and medium media addiction; 1-3 = low and high media addiction; 2-3 - medium and high media addiction; * Significance after the Bonferroni correction

Table 4. Descriptive statistics for gender differences in social media usage, body image, self-compassion, and self-esteem

	Women <i>n</i> =351		Men <i>n</i> =164		<i>df</i>	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)				
Social Media Addiction (BMAS)	16.20	5.66	14.04	5.07	513	-4.177**	.000	.40
Body Image (BESSA)	29.42	(9.29)	31.74	8.76	513	2.69*	.007	.26
Self-compassion (SCS)	69.22	(18.16)	77.20	17.55	513	4.69**	.000	.45
Self-esteem (SES)	30.65	(7.56)	31.91	7.55	513	1.76 ^t	.079	.16
Narcissism (NPI-13)	3.74	(2.79)	4.16	2.58	513	1.59	.111	.16

Note: ^t $p < .01$; * $p < 0.05$; ** $p < 0.01$

analyses were conducted separately for women (a) and men (b) (Figures 1 and 2).

Analyses of mediation for females have revealed a direct effect of social media addiction on self-esteem (path c) and a direct effect of social media on self-compassion (path a). Self-compassion was also significantly predicting self-esteem (path b). Secondly, there was a direct effect of social media addiction on narcissism (path d). Narcissism was also significantly predicting self-esteem (path e). Hence, the prerequisites for the mediation model were fulfilled (Barron & Kenny, 1989). For males, there was no direct effect of social media addiction on self-esteem or narcissism on self-esteem; hence mediation could not have been inferred.

For females (Figure 1a), when the mediators – self-compassion and narcissism were included in the model of regression, it explained 38% of the variance in self-esteem, and the direct effect became non-significant. The indirect effects of self-compassion and narcissism were both significant. Hence, hypothesis H3 was positively assessed for women, and a full mediation was inferred. Self-compassion was revealed as a substantial buffer to the negative effect of social media addiction on self-esteem, while narcissism was indirectly strengthening such a relationship (Figure 1 a). The total and indirect effects are presented in table 5.

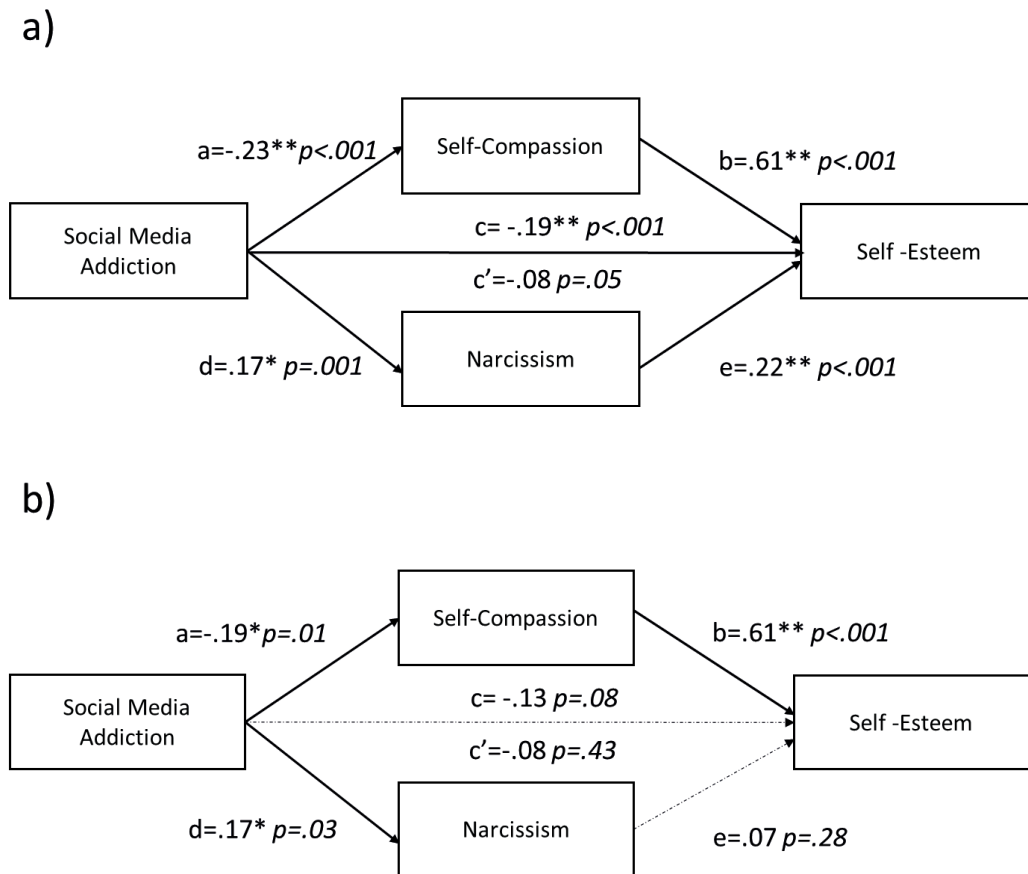


Figure 1. Model presenting self-compassion and narcissism as mediators of the impact of social media addiction on self-esteem for females (a) and males (b). Dotted lines have demonstrated non-significant effects.

H4 A level of social media addiction predicted lowered body image, with self-compassion and narcissism mediating such an effect.

Second mediational analysis (Figure 2 a,b) has revealed direct effects for both females (a) and males (b) of social media addiction on body image. Furthermore, there was a direct effect of social media addiction on self-compassion. Self-compassion was also significantly predicting body image. There was further a direct effect of social media on narcissism, and narcissism was likewise significantly predicting body image but only for females, not for males.

After the mediators – self-compassion and narcissism were included in the model of regression, the model explained 39 % for females and 30 % for males of the variance in body image. There was a significant indirect effect of self-compassion (-) and narcissism (+) for females. For males only, self-compassion mediated the relationship between social media addiction and body image. Full mediation was confirmed for females and males. The total and indirect effects are presented in table 5.

4. DISCUSSION

4.1. Characteristics of social media users in Poland and implications.

The present study has provided an in-depth analysis of social media usage among Polish participants with

multiple outcomes. Firstly, we have explored the habits related to social media platforms among Poles. The results revealed that Instagram and Facebook were the predominant platforms used by Polish participants. It is partially in line with general data (Statista, 2021) but also suggested recent changes in preferences towards only visual media like Instagram. Strikingly, individuals highly addicted to social media had reported significantly decreased levels of self-esteem, body image and self-compassion but inflated narcissism supporting existing literature (Halpern, 2016; Howard et al., 2017; Tiggemann et al., 2018; Modica, 2019b). Social media is a particularly attractive platform for individuals with narcissistic tendencies, where they can create their inflated image and receive social admiration. At the same time, such practices may have an adverse effect on self-regard and evaluations, extending Fardouly et al. (2017) thesis. Media stimulates the internalisation of appearance ideals while inducing negative self-evaluations in the form of lowered esteem and body image (Wu et al., 2022; Tiggemann, 2011).

Furthermore, our study revealed that not all social media were associated with how people regard themselves, with gender moderated differences. Visual media (Facebook, Instagram, Tik Tok) were significantly associated with a decrease in self-evaluations confirming Fardouly and Holland's (2018) and Fardouly et al. (2017, 2018) findings suggesting that visual media is primarily responsible for appearance dissatisfaction and issues with

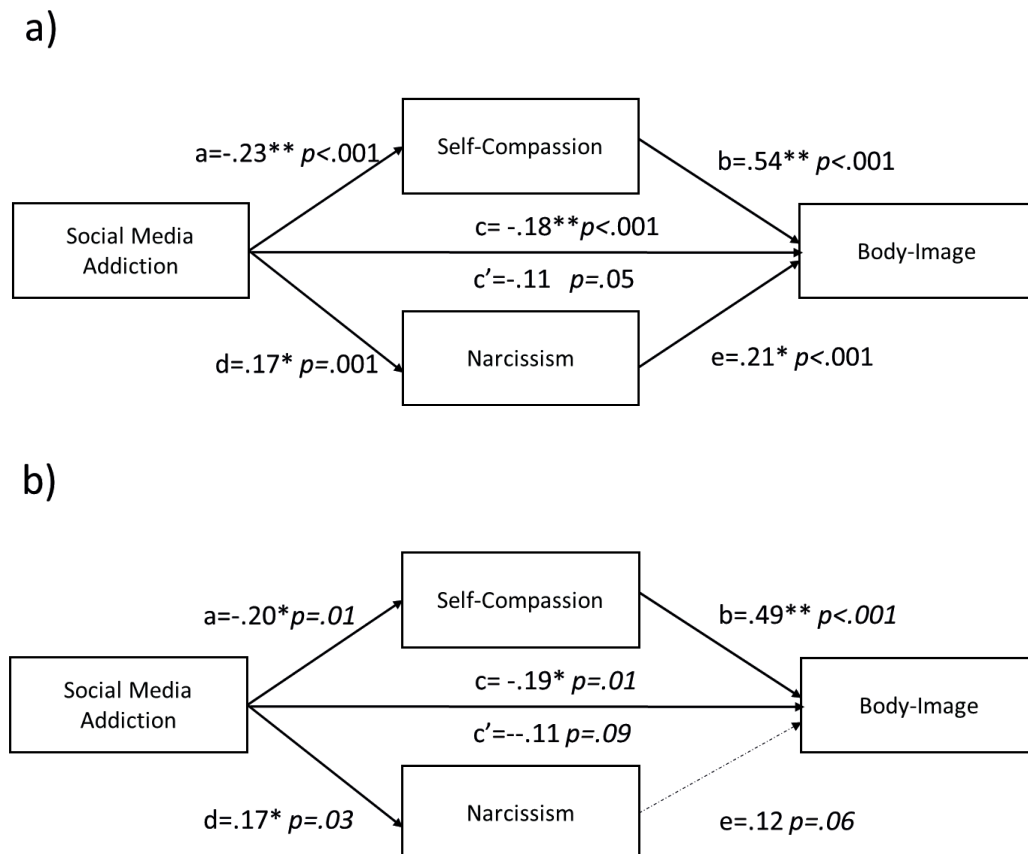


Figure 2. Model presenting self-compassion and narcissism as mediators of the impact of social media on body image for females (a) and males (b). Non-significant effects have been presented by dotted lines.

Table 5. Total and indirect effects of mediation analyses for women and men.

Path Social Media Addiction → Self-Esteem	Estimate	p-value	95% [LLCI , ULCI]
Total effect WOMEN	-.25	.000**	[-.39, -.12]
Indirect effects WOMEN (Mediators)			
Self-compassion	-.14	.000**	[-.39, -.12]
Narcissism	.03	.000**	[.01, .06]
Total effects for MEN	-.20	.080	[-.42, .02]
Indirect effect MEN (Mediators)			
Self-compassion	-.14	.000**	[-.28, -.02]
Narcissism	.02	.23	[-.02, .08]
Path Social Media Addiction Body-Image	Estimate	p-value	95% [LLCI ULCI]
Total effect WOMEN	-.33	.000**	[-.59, -.06]
Indirect effect WOMEN(Mediators)			
Self-compassion	-.13	.000**	[-.18, -.07]
Narcissism	.04	.000**	[.01, .06]
Total effect for MEN	-.32	.010*	[-.59, -.06]
Indirect effects MEN (Mediators)			
Self-compassion	-.16	.000**	[-.33, -.03]
Narcissism	.02	.065	[-.00, .05]

Note: Standardised estimates reported.

lowered self-evaluations. Importantly, social media related to information sharing and entertainment were not disturbing self-assessments, confirming the multidimensional character of social media (Abbas et al., 2019).

The results regarding women's greater involvement in adding photos or viewing friends' posts may be due to several aspects. The first one is that social media stereotypically has a more feminine than masculine character, promoting and highlighting those areas that can be indicated to be more typical for women, such as beauty, fashion, or a healthy lifestyle (Fardouly et al., 2018). Moreover, as noted in the results of previous studies, women are more inclined to make social comparisons (de Vries et al., 2018; Fardouly et al., 2015; Giagkou et al., 2018) which is directly related to the activities mentioned above, i.e., observing friends' photos and, based on them, the willingness to publish similarly or the same ones. However, it is worth noting that the obtained effects on differences were small.

The analysis showed that people over 50 were significantly less addicted to media than people from the two lowest age groups. The obtained results may be attributed to local intergenerational differences. The 50-year-olds in the study group were young and formed self-concept in the early 1990s, so they were not as accustomed to smartphones, computers, or the Internet as today's 20-year-olds (Adorjan & Ricciardelli, 2021). Therefore, their addiction level is not as high as that of younger people. What is more, the findings show a negative relationship between age and media addiction (Abbasi, 2019). Moreover, despite the

significant increase in older consumers (Bell et al., 2013), young people are still the most likely to use the Internet and social media (Al-Samarraie et al., 2021).

4.2. Gender differences in social media addiction, self-esteem, body image, self-compassion and narcissism.

We also pointed to gender as a modifier of social media use and the outcome social media platforms addiction had on self-appraisal. The first hypothesis in our study has been validated positively. There were significant gender differences in the levels of social media addiction and self-evaluations for the Polish sample. Women reported increased social media addiction but decreased self-esteem, body image and self-compassion levels. There were no differences in the reported narcissism between genders. The stronger dependence on social media for women may be explained by Siegel et al. (2020) socio-cultural theory highlighting the internalised need to fit into the standards for women, with social media being the most relevant evaluator and promotor of such trends. With a strong dependence on external evaluations, women may be more motivated to promote themselves or compare themselves with others, especially on social media visual platforms. However, exposure to very often unrealistic standards may also significantly decrease females' self-regard, which our findings confirmed. standards

Furthermore, the results support the common observation that compared to women, men are less dissatisfied with their own bodies and esteem themselves more (Voges et al., 2019). It is observed that although both

men and women compare themselves to the images on social media, more women do it unfavourably and hence have more dissatisfaction (MacNeill et al., 2017; Siegel et al., 2020). Consequently, our findings are in line with existing literature (Rodgers et al., 2020), expanding it to Polish individuals. It could be explained by Furnham et al. (2002)' thesis that women are more dependent on external validation due to stereotype threats (Furnham et al., 2002). Likewise, women have been reported to be more vulnerable to the negative outcome of social comparisons and more self-critical, which predicts lower self-esteem (Zuckerman et al., 2016). Gender differences in self-evaluations are also increasingly reported in developed countries (Lawler & Nixon, 2011), which may explain the effect in the Polish sample.

4.3. Intermediary effect of self-compassion and narcissism

People constantly consume images online, and social media influences how they evaluate themselves. Most studies suggest that such comparisons based on input on social media are maladaptive and distressing (Puglia, 2017). Our research findings confirmed such an effect and demonstrated the negative outcome social media has on self-esteem, supporting existing research but only for females (Woods & Scott, 2016). Self-esteem is sensitive to social comparison. Constant and discouraging self-assessments based on comparisons with unrealistic representations online impair one's self-evaluations, and such a process is particularly strong for females (Mahon & Hevey, 2021; Sprecher et al., 2013; Voges et al., 2019). Hence, our findings can be explained by the self-stereotyping theory, highlighting that women are being nurtured to internalise norms and 'fit in' more than men, resulting in stronger dependence on external evaluations and standards (Kim & Park, 2018). In fact, such dependence may explain why social media usage deteriorates the self-esteem of only women. Consequently, a lack of match between how women are and the external norms may be particularly harmful to how they view themselves (Szymanski & Feltman, 2014; Yamamiya et al., 2005).

Our findings further support existing literature suggesting that social media usage has been related to body image distortions (Rodgers et al., 2020) and increased body dissatisfaction (de Vries, 2019). We have extended such inferences to the Polish sample for both women and men. It aligns with the thesis that the exposure to idealised standards of beauty promoted in social media decreases a positive outlook on oneself, even if the surreal character of these standards is evident (Frederick et al., 2017; Mabe et al., 2016). To maintain externally imposed criteria, both males and females may engage in self-objectification and treat their bodies as objects that need to be adjusted, not as an integral part of themselves, unique and requiring care (Stevens & Griffiths, 2020). While possessing the trait of narcissism may increase such an effect for women, the shield protecting from self-objectification can be brought by self-compassion, which arose in our study as a significant buffer to the social media impact on self-

esteem and self-image for both genders. Thus, our third and fourth hypotheses have been partially confirmed due to the effect on gender. Self-compassion and narcissism have been established as mediators of the social media effect on self-esteem and body image for females. For males, narcissism was not an essential intermediary variable. We discuss these substantial findings below.

4.3.1. The role of self-compassion

Regarding self-compassion, the intermediary effect of lessening the changes brought to self-esteem and body image by social media's extensive usage might be attributed to the benefits of mindfulness and emotional regulation (Roemer et al., 2015), which help composure maintenance when exposed to provocative stimuli (Desbordes et al., 2014). Furthermore, according to Siegel and colleagues (2020), self-compassion moderated the relationship between social comparisons and body appreciation. Likewise, self-compassion practice led to greater resilience and well-being, which may naturally buffer the effect of social media triggers. Previous studies also linked the impact of self-compassion with a decrease in depression, anxiety and stress caused by Instagram usage (Bluth et al., 2016). Consequently, self-esteem and body image may benefit from self-compassion protective and supportive effects. What needs to be highlighted is that self-compassion was similarly significant for both genders as a buffer against the negative impact of social media. Such findings provide substantial evidence for the universal enhancing effect of self-compassion. Despite the fact that females have, on average, a lower level of self-compassion, it is similarly protective for both genders. Hence, interventions promoting self-compassion could lessen the negative effect of extensive engagement with social media on self-evaluations.

4.3.2. The role of narcissism

In our mediational model, the reported level of narcissism was indirectly strengthening the adverse impact of social media on self-esteem and body image but only for women; for men, the effect was insignificant. In the literature, social media usage has been predicted by narcissistic traits (Fox & Rooney, 2015). Similarly, our findings confirmed narcissism as a predictor of social media addiction, broadening the knowledge to include Polish females. Such outcome can be probably explained by the dependence on external evaluations in people with narcissistic characteristics (Bosson et al., 2008). Visual social media give a broad scope of possibilities to regulate self-image (Eşkisu et al., 2017), and that is why maintaining exaggerated self-views via edited "selfies" has been more common in narcissists (Halpern, 2016). We may infer that inflated and unrealistic self-views may well be accommodated by social media (Thomaes et al., 2012), leading to constant self-exposure and an addiction to unhealthy, inflated self-esteem (Baumeister & Vohs, 2001). Accounting for narcissism's detrimental effect on well-being, research needs to develop interventions addressing such matters (Puglia, 2017).

4.4. Limitations

While interpreting our findings, some limitations need to be considered. Firstly, the cross-sectional nature of our research and hypothesised mediational model does not allow for real-life inferences. Hence, we suggest replication of our study with an experimental design. Furthermore, an unequal gender distribution may pose problems for findings interpretations. Specific cultural factors related to the Polish sample may also impact our study's generalizability. However, the sample size was comparatively large, increasing the reliability of the results.

5. CONCLUSIONS

Social media usage causes psychological dependence on content posted online and impacts people's self-concept, particularly self-evaluations. Hence, it is vital to explore the effects of social media on psychological processes and seek possible buffers to limit their negative impact on individuals' self-evaluations. The present study provided an in-depth insight into the social media usage characteristics of the Polish sample. It further highlighted social media relationships with significant psychological factors, namely self-esteem, body image, self-compassion and narcissism. Our study has confirmed the adverse effect of social media addiction on self-esteem and body image and highlighted the prominent role of self-compassion in buffering such an effect. Promoting self-compassion via interventions could contribute to the optimum self-esteem and body image level and constitute an alternative to inflated narcissistic tendencies. We have further pointed to moderating role of gender in social media usage's relationships with self-esteem and body image. Lastly, the sample included representatives of all socio-demographic groups filling the gap in the literature dominated by research on students. Hence, the current study contributes to a great deal of understanding of the psychological aspects related to social media usage.

DECLARATION OF INTERESTS:

None declared.

ROLE OF THE FUNDING SOURCE:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data available from corresponding author.

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