

Family satisfaction that matters. The relationship between problematic Instagram use, self-esteem and life satisfaction

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The data used in the research are available. The data can be obtained at: by emailing. The materials used in the research are available. The materials can be obtained at author's email

Abstract

Social networking sites have been frequently analyzed in psychological studies due to a great number of their users and the influence they have on people's social life. Instagram is among the most popular image-based networking sites. The main aim of this research is to show problematic Instagram use (PIU) as a mediator in the relationship between self-esteem and life satisfaction. The study was carried out on a group of $N = 912$ people aged from 19 to 30. The following tools were used: Rosenberg Self-esteem Scale, Satisfaction with Family Life Scale, Problematic Instagram Use Questionnaire, and Satisfaction with Life Scale. It was found that there is a negative correlation between self-esteem and problematic Instagram use. The relation between PIU and life satisfaction was shown as well as the mediating impact of PIU on the relationship between self-esteem and life satisfaction after an average level of family satisfaction was taken into account.

Key words: problematic Instagram use, self-esteem, family satisfaction, life satisfaction, Social networking sites

1. Introduction

Social networking sites have become an important medium which is used for professional, private, recreational and informative purposes (Ma, et al., 2025). They have a great number of users and influence people's social life (Huang & He, 2025). However, the effect of social networking sites is frequently negative. More and more studies show the growing problem of their excessive use (Balcerowska et al., 2020; Kim et al., 2020; Kuss & Griffiths, 2017; Nikbin, et al., 2021; Smailhodzic et al., 2025). Problematic use of social networking sites is considered to be a subtype of Internet addiction (Blachnio et al., 2016; Varona et al., 2022). It includes elements which are crucial to diagnose behavioral addictions, including withdrawal (i.e. the state of being irritated by loss of access to social networking sites), conflict (experiencing negative consequences resulting from the frequency of using the sites and neglecting duties), tolerance (a need to prolong the time spent using the sites), salience (spending a great amount of time using the sites), changeable moods or relapse (failed attempts to stop using the sites) (Griffiths et al., 2014).

1.1 Problematic Instagram use

Although the excessive use of social media, especially Facebook, has been researched in numerous studies, (e.g. Balcerowska et al., 2020; Brailovskaia et al., 2020), little is known about problematic Instagram use (PIU). According to the latest data, Instagram has over 2 billion monthly active users worldwide, making it one of the most popular social media platforms (Backlinko, 2024). In Poland, more than 11 million people use Instagram, representing a significant portion of the country's population (NapoleonCat, 2024). The use of Instagram still remains unexplored, as compared to Facebook which has been researched in numerous studies (Casaló et al., 2020; Delle et al., 2023; Tiggemann et al., 2020). Instagram enables its users to share photos and images, and also serves as a means of communication and marketing, a tool to

find others and share passions with them (Ponnusamy et al., 2020). The influence of this social networking site is different than in the case of such sites as Facebook or Twitter where the message is mainly text based (Johnson & Knobloch-Westerwick, 2016). Therefore, self-assessment is one of the variables that seems to be crucial as regards this function of social networking sites.

There are some studies on the relationship between PIU with other new media addictions such as problematic smartphone use (Rozgonjuk et al., 2020), problematic WhatsApp use and Facebook use (Rozgonjuk et al., 2020). Moreover, Instagram addiction is related to personality, namely negatively correlated with agreeableness and conscientiousness, and positively with neuroticism (Kircaburun & Griffiths, 2018). Instagram addiction was also related to social and entertainment needs (Foroughi et al., 2021). What is more, Instagram addiction is positively correlated with negative affectivity and social inhibition, and negatively with loneliness (Ponnusamy et al., 2020) and self-esteem (Rahardjo & Mulyani, 2020).

1.2 Self-esteem and Problematic Instagram Use (PIU)

Self-esteem is a positive or negative assessment of oneself which involves both cognitive and emotional component (Rosenberg, 1989). Studies show that people with high self-esteem are more successful in their life and set themselves more goals (Pilegge & Holtz, 1997). Low self-esteem is more frequently observed in the case of people addicted to the Internet (Zhu et al., 2025) and Facebook (Błachnio et al., 2016; Shah et al., 2025). A lot of studies show a negative relation between Instagram addiction and self-esteem (Hinojo-Lucena et al., 2020; Rahardjo, et al., 2020; Rahma & Setiasih, 2021; Romero-Rodríguez et al., 2020; Staniewski & Awruk, 2022). It is probably connected with the fact that people with low self-esteem have problems communicating with others and, therefore, they look for contacts via social media. There are also studies that show a positive relation between intensive Instagram use and self-esteem which can be explained with

feeling popular and accepted after posting a photo on Instagram, which in turn raises one's self-esteem (Faelens et al., 2021; Rahma & Setiasih, 2021). However, there are studies indicating that there is no connection between PIU and self-esteem (Hinojo-Lucena et al., 2020; Romero-Rodríguez et al., 2020) showing that this dependency may vary among populations. It can be concluded that Instagram use may increase self-esteem in the case of people who have low self-esteem, and lower it in the case of people with high self-esteem, depending on the reason why they use this social medium, namely either to build personal relations or improve their image (Rahma & Setiasih, 2021; Rahardjo et al., 2020; Staniewski & Awruk, 2022).

1.3 Life satisfaction and Problematic Instagram Use (PIU)

Life satisfaction involves the evaluation of one's life as a whole (Diener et al. 1985). Studies on the influence of social networking sites on life satisfaction are inconclusive. Some of them show that intensive Facebook use increases social capital (Ellison et al., 2015) and contributes to a higher level of life satisfaction (Meng et al., 2023). Nabi et al. (2013) show that a greater number of Facebook friends is associated with stronger perceptions of social support and, in turn, greater life satisfaction. The conducted meta-analysis proves that, on the one hand, the active use of social networking sites is positively related to life satisfaction (Marciano et al., 2024). However, on the other hand, a negative relationship between the use of social networking sites and life satisfaction is indicated. Findings of an experiment (Marttila et al., 2021) show that taking a break from Facebook for a week has a positive effect on the assessment of one's well-being.

1.4 Family satisfaction and Problematic Instagram Use (PIU)

There are still not enough studies on the relationship between family functioning, Instagram use and life satisfaction. Recent studies show that a sense of support and good family relationships are crucial for young people (Grevenstein et al., 2019). Moreover, findings of many

studies (Ballarotto et al., 2021; Jimeno, et al., 2021; Shek et al., 2018; Staniewski & Awruk, 2022) indicate that although personality traits and users are good predictors of behavioral addictions, the variables that take into account the social context, such as relationships with other people (including family and friends) and satisfaction with these relationships, also explain the problematic use of technology, the Internet and social networking sites. Among situational factors that are important for an individual, especially young people, relations with parents play a particular role (Jimeno, et al., 2021; Szcześniak & Tułeczka, 2020). Effective parenting, together with peer relations, is considered to be crucial for positive development of young people and their satisfaction with life (Mupinga et al., 2002) or avoiding risky behavior such as problematic use (Jimeno, et al., 2021; Mihić, et al., 2022). Social Internet use played a significant mediating role for the relationship between social functioning and parental efficacy (Lawrence, 2021). These results clearly indicate that in the problematic use of social networking sites a person should be understood in the entire social context. Some previous results of studies show that family satisfaction is a mediator in the relationship between problematic social media use and social connectedness, but not a moderator (Savci et al., 2022). Studies emphasize the role of family satisfaction as a protective factor against the Internet addiction (Savci et. al., 2022) or video-game addiction (Rehbein & Baier, 2013). A dysfunctional family does not provide an individual with support and, therefore, may be a risk factor, cause problematic behaviors in young people, reduce the quality of life (Jimeno, et al., 2021; Mihić, et al., 2022; Mupinga et al., 2002).

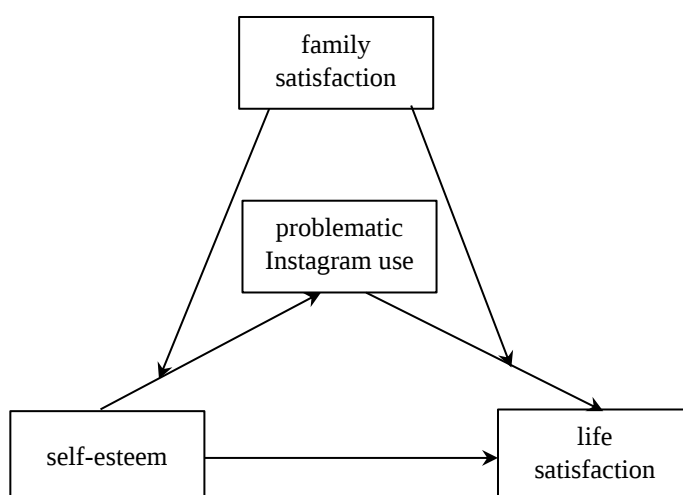
1.4 The Present Study

The study was conducted among the emerging adults and examined if PIU mediates the relationship between self-esteem and life satisfaction (see Figure 1). There are not many studies in which Instagram is a mediator, that is studies which analyze risk factors and outcomes (Balta et

al., 2020). Previous studies demonstrate that low self-esteem is related to PIU (Rahardjo et al., 2020) which, in turn, lowers life satisfaction due to isolation and substituting face to face relations with online contacts (Ponnusamy et al., 2020). Therefore, the following hypothesis is formulated: H1: Problematic Instagram use is a mediator in the relationship between self-esteem and life satisfaction. In the sense that self-esteem is expected to be negatively associated with problematic Instagram use and PIU is expected to be negatively related to life satisfaction.

Figure 1.

Hypothetical relationship between self-esteem, PIU, life satisfaction, and family satisfaction



Moreover, satisfaction and support from the family can be a buffer against negative effects of using new media (Procentese et al., 2019; Savci et al., 2022). Previous studies showed a positive relationship between family satisfaction and self-esteem (Stavropoulos et al., 2015). Therefore the following hypothesis was formulated: H2: Family satisfaction is a moderator in this relationship, that is it can raise self-esteem and PIU which, in turn, results in a higher level of satisfaction.

1.5 Participants and procedure

The study was carried out on a group of $N = 912$ individuals aged from 19 to 30. However, the data of three participants were removed due to some formal deficiencies. Consequently, the

final sample consisted of $N = 909$ participants ($n = 214$ male, $M = 21.05$, $SD = 2.04$). The study was conducted among university students using an electronic questionnaire: the respondents were given a link to the questionnaire together with the information on the study. Participation was voluntary and prior to the respondents' consent. The study received the approval of the relevant ethics committee.

2. Material and methods

In the present study the following measures were used:

Problematic Instagram Use Questionnaire (Elphinston & Noller, 2011) was developed based on behavioral addiction components and a scale of pathologic smartphone use; similarly to studies by Alade (2017). Originally, the scale was used to measure Facebook addiction. For the purpose of the present study the word "Facebook" was substituted with the word "Instagram". A similar procedure has already been used in other studies and the findings proved to be valid (e.g. Ponnusamy et al., 2020). The questionnaire includes 8 items (e.g. "I have been unable to reduce my Instagram use") which are answered on a seven-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire has also been used in Polish studies using Polish samples (e.g. Błachnio et al., 2016). The scale had good reliability in the present study ($\alpha = 0.89$).

Self-esteem Scale (Rosenberg, 1989; the Polish adaptation by Łaguna et al., 2007) which measures global self-worth. The questionnaire consists of 10 items, all of which are diagnostic (e.g. "I take a positive attitude toward myself"). The responses are measured on a four-point scale (1-4). The range of possible scores is from 10 to 40 points. The higher the score, the higher self-esteem. In the present study, the Cronbach's alpha was 0.84.

Satisfaction with life was measured by means of the 5 item **Satisfaction With Life Scale** (SWLS) (Diener et al. 1985; the Polish adaptation by Juczyński, 2001). The scale was developed

to measure global cognitive judgments of satisfaction with one's life (e.g. "The conditions of my life are excellent"). The scale had good reliability in the present study ($\alpha = 0.87$)

Satisfaction With Family Life Scale (Zabriskie & Ward, 2013) (the Polish adaptation by Lachowska, 2016) measures satisfaction with family relations (e.g. "I am satisfied with my family") using a seven-point scale, ranging from 1 ("I totally disagree") to 7 ("I totally agree"). The scale is a modification of SWLS where the word "life" was substituted with the word "family life". In the current study, the Cronbach's alpha equaled 0.85.

2.1 Statistical analysis

Descriptive statistics were calculated in the form of arithmetic means and standard deviations. Additionally, the minimum and maximum values of the analyzed variables were given. The Pearson's correlation coefficient was used to verify relationships between the analyzed variables.

First, the mediation analysis was carried out in order to examine the relationship between self-esteem and life satisfaction via problematic Instagram use (Hayes, 2013). Next, the moderated mediation analysis was applied in order to verify family satisfaction as a moderator of the relationship between self-esteem and problematic Instagram use as well as the relationship between this type of problematic behavior and life satisfaction (Hayes, 2013). The PROCESS macro for SPSS (Hayes, 2013) was used to compute mediation analysis (Model 4) and moderated mediation analysis (Model 58). Additionally, the age and gender were included as control variables in both models. The indirect effects were tested with bias-corrected bootstrapping ($N = 5,000$) and 95% confidence intervals (CI) for the indices. When a 95% bootstrapped CI does not include zero, it indicates that the parameter is statistically significant. For the purpose of the moderated mediation analysis, all continuous variables were standardized and the interaction terms were

computed from these standardized scores. According to guidelines (Hayes, 2013), the Johnson–Neyman method was used to identify the statistically significant range of scores for which family satisfaction acted as a moderator. The statistical calculations were conducted using the IBM SPSS 27 software with PROCESS macro version 3.5 (Hayes, 2013).

3. Results

The descriptive analysis is presented in Table 1. The correlation analysis results showed that there was a negative relationship between self-esteem and problematic Instagram use. Additionally, self-esteem was positively related to life satisfaction and family satisfaction. Detailed findings are presented in Table 1.

Table 1

Descriptive statistics and correlation coefficients between analyzed variables

Variables	<i>M</i>	<i>SD</i>	Minimum	Maximum	[1]	[2]	[3]	[4]	[5]
[1] Age	21.05	2.04	19	30	-				
[2] Gender (0 - female, 1 - male)	0.24	0.42	0	1	0.15***				
[3] Problematic Instagram use	22.44	10.15	8	52	0.05	-0.20***			
[4] Self-esteem	28.73	5.83	12	40	0.07*	0.02	-0.10**		
[5] Life satisfaction	21.87	6.29	5	35	0.03	0.06	-0.02	0.56***	
[6] Family satisfaction	22.83	6.64	5	35	0.03	-0.01	-0.06	0.32***	0.63***

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Based on the mediation analysis (Model 4), the indirect effect between self-esteem and life satisfaction via problematic Instagram use was not found (indirect effect = -0.005, $SE = 0.003$, 95%CI = [-0.013 0.001]). There was only a significant relationship between self-esteem and life

satisfaction ($\beta = 0.610, p < 0.001$), and between self-esteem and problematic Instagram use ($\beta = -0.094, p = 0.004$). Detailed findings are presented in Table 2.

Table 2.

Testing the indirect effects between self-esteem and life satisfaction via problematic Instagram use (Model 4)

Predictors	on problematic Instagram use				on life satisfaction			
	<i>B</i>	<i>SE</i>	<i>p</i>	β	<i>B</i>	<i>SE</i>	<i>p</i>	β
Age	0.151	0.164	0.358	0.030	-0.028	0.086	0.744	-0.009
Gender (0 - female, 1 - male)	-4.594	0.785	0.001	-0.192	0.796	0.419	0.058	0.054
Self-esteem	-0.163	0.057	0.004	-0.094	0.610	0.030	0.001	0.565
Problematic Instagram use					0.030	0.017	0.089	0.048
constant	25.042	3.742			4.085	2.011		
R^2	0.05		0.001		0.32		0.001	
F	15.45				105.90			

Based on the moderated mediation analysis (Model 58), the results showed that the relationship between self-esteem and problematic Instagram use was moderated by family satisfaction. More precisely, the negative relationship between these variables was significant at higher values of family satisfaction than lower values of family satisfaction (see Table 3). Additionally, the relationship between problematic Instagram use and life satisfaction was also mediated by family satisfaction. More specifically, positive relationship between problematic Instagram use and life satisfaction was found at lower values of family satisfaction than higher values of family satisfaction (see Table 3). An interesting point was the indirect effect between self-esteem and life satisfaction via problematic Instagram use. Specifically, this indirect effect was significant only at mean value of family satisfaction as a moderator (see Table 3). Taking into account statistically significant direct effect between self-esteem and life satisfaction (see Table

3), it can be assumed that there was a partial mediation at mean value of family satisfaction as a moderator. Detailed findings are presented in Table 3.

Table 3.

Testing the moderated mediation model (Model 58)

Predictors	on problematic Instagram use			on life satisfaction		
	Coefficient	SE	p	Coefficient	SE	p
Age	0.036	0.033	0.279	-0.009	0.023	0.681
Gender (0 - female, 1 - male)	-0.468	0.077	0.001	0.159	0.054	0.004
Self-esteem	-0.088	0.034	0.010	0.403	0.024	0.001
Family satisfaction	-0.044	0.034	0.201			
Family satisfaction x Self-esteem	-0.079	0.031	0.012			
Problematic Instagram use				0.065	0.023	0.005
Family satisfaction				0.502	0.024	0.001
Family satisfaction x Problematic Instagram use				-0.055	0.021	0.009
R ²	0.06		0.001	0.55		0.001
F	10.91			181.91		
Conditional effects between self-esteem and problematic Instagram use at values of family satisfaction as a moderator:						
Family satisfaction	Effect	SE	t	p	95%CI	
					Lower	Upper
-1SD	-0.009	0.044	-0.198	0.843	-0.096	0.078
Mean	-0.088	0.034	-2.567	0.010	-0.156	-0.021
+1SD	-0.167	0.049	-3.452	0.001	-0.263	-0.072
Conditional effects between the problematic Instagram use and life satisfaction at values of family satisfaction as a moderator:						
Family satisfaction	Effect	SE	t	p	95%CI	
					Lower	Upper
-1SD	0.119	0.030	3.929	0.001	0.060	0.179
Mean	0.065	0.023	2.815	0.005	0.020	0.110
+1SD	0.010	0.032	0.316	0.752	-0.052	0.073
Conditional indirect effects between self-esteem and life satisfaction via the problematic Instagram use at values of family satisfaction as a moderator:						
Family satisfaction	Indirect Effect	SE	95%CI			
			Lower		Upper	
-1SD	-0.001	0.006	-0.013		0.011	
Mean	0.065	0.023	-0.013		-0.001	
+1SD	0.010	0.032	-0.013		0.010	

4. Discussion

The main aim of the present study was to show PIU as a moderator in the relationship between self-esteem and life satisfaction, and satisfaction with family life as a moderator. The study showed that there is a negative correlation between self-esteem and problematic use of Instagram. Moreover, the relationship between PIU and life satisfaction as well as the mediating impact of PIU on the relationship between self-esteem and life satisfaction are shown, only when an average level of family life satisfaction used as a moderator is taken into account. The studies were conducted among young adults who are the most numerous group of Instagram users.

The results of the study allow us to partially confirm the first proposed hypothesis that problematic Instagram use is a mediator in the relationship between self-esteem and life satisfaction. It was confirmed that there is a negative correlation between self-esteem and problematic Instagram use. In numerous studies on new technologies, social media and virtual world, a low self-esteem proved to be associated with greater susceptibility to problematic use (Błachnio & Przepiórka, 2016; Romero-Rodríguez et al., 2020; Shah et al., 2025; Zhu et al., 2025). People with low self-esteem use social media to create themselves and project a decent self-image. For this reason virtual reality seems to be more optimal to function and appears as a place where such people can feel better, and therefore they spend more and more time in it and neglect the real world (Kang & Wei, 2020; Raacke & Bonds-Raacke, 2008; Stapleton et al., 2017). However, social networking sites like Instagram create an unrealistic vision of a human being, a life scenario directed and enhanced with filters which in the case of ordinary people who live “normal” life may lower their self-esteem even more (Martinez-Pecino & Garcia-Gavilán, 2019; Romero-Rodríguez et al., 2020).

An interesting observation was made as regards the presence of a relationship between PIU and life satisfaction and the mediating impact of PIU on the relationship between self-esteem and life satisfaction only when taking into account the moderating function of an average level of family satisfaction. Most studies show a negative relationship between PIU and life satisfaction (Hawi & Samaha, 2016; Xiong et al., 2023), in which case it was necessary to take into account moderate satisfaction from family life. It may be explained with the specificity of one particular study group who were main respondents, namely the emerging adults. This group is at a specific moment of their life, some of them either still function in their family of origin or start their own families, while others form single-person families (Wood et al., 2018). As a result, people who experience a high level of family satisfaction perceive such a state as completely normal, which does not modify their functioning. However, people who are not satisfied with the functioning of their family may not recognize this area as crucial for their self-image and repress it. An average level of family satisfaction may affect different areas of life. In different studies moderate family satisfaction proved to be an important variable which explained the obtained dependencies (Ballarotto et al., 2021; Hooper, 2007; Jimeno, et al., 2021; Mihić, et al., 2022). Other studies (Savci et al., 2022) did not show life satisfaction as a moderator between problematic social media use and social connectedness. This difference might result from a different operationalization of family satisfaction, or from a different age group where adolescents were examined. Here, family satisfaction proved to be a protective factor for life satisfaction.

As it was already proved in the case of the first hypothesis, the analyzes should take into account family satisfaction as a moderator. Based on a moderated analysis of mediation, the results showed that the relationship between self-esteem and problematic Instagram use was moderated by family satisfaction. Therefore, the second research hypothesis was confirmed. A negative

relationship between these variables was important at higher values of family satisfaction. Additionally, a positive relation between problematic Instagram use and life satisfaction was observed at lower values of family satisfaction. The obtained results seem to prove the previous observations of other researchers on the problematic use of social media, where the family and relations within the family are a protective factor against problematic use of new media (Badenes-Ribera et al., 2019; Ballarotto et al., 2021). Moreover, family satisfaction allows to sustain positive and healthy self-esteem which also allows to function effectively both in the real world and virtual reality, created on Instagram and other social media (Błachnio & Przepiórka, 2016; Romero-Rodríguez et al., 2020).

4.1 Limitations and future studies

Although the present study showed some interesting dependencies, it is not free from limitations. It includes only a single measurement because it represents the studied sample at a given moment in life, without the possibility of taking into account the real manipulation with variables. However, the use of manipulation, e.g. with time spent on Instagram, seems to be dubious from the ethical point of view. Still, it needs to be remembered that cross-sectional studies narrow the possibilities of making conclusions, which makes it impossible to form cause-and-effect conclusions. As already mentioned, the studies were performed on a group of young emerging adults which narrows the possibility of generalizing the obtained results and applying them to other sample groups that experience PIU. However, it needs to be remembered that young people are the most numerous group using social networking sites. The use of similar tools to measure the level of life and family satisfaction may be a limitation. Other studies show that despite similar items in the questionnaires the tools used there measure separate constructs (Schnettler et al., 2017). In the presented studies the obtained correlation between life satisfaction

and family is at an average level. Moreover, the conducted factor analysis showed that these items constitute two different factors.

For the purpose of future studies it would be useful to check which activities are undertaken by Instagram users – whether they are active users or mere observers of this social networking site. Moreover, an interesting direction of research would be to take into account the motives of Instagram use. The inconclusive results of the study on the role of self-assessment and problematic Instagram use in different populations indicate yet another direction, namely it would be worth testing the examined model in different cultures. Also, it would be interesting to check a similar model on the problematic use of other social networking sites.

4.2 Conclusions

The obtained results indicate a need to educate people in the responsible use of Instagram. Preventive programs should also emphasize the role of satisfactory family relationships as a factor protecting against PIU and excessive lowering of self-esteem. Also, the age of initiation into social media, including Instagram, is lowering and therefore some studies on a younger group of respondents should be conducted. During adolescence and early adulthood, family relationships gradually weaken in favor of peer relationships (Vannucci & McCauley Ohannessian, 2019). It appears that the unrealistic image of the self and the world shown on Instagram may have serious consequences for children and adolescents whose self-assessment is just being formed.

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