

The Relations Between Social Media Addiction and Negative Body Perception in Turkish University Students

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Abstract: In this study, the effect of social media addiction on body perception in university students was investigated. 169 university students aged 18-24 completed the Sociodemographic Data Form and Questionnaire, Social Media Addiction Scale (SMAS-AF), Social Appearance Anxiety Scale (SAAS) and Body-Catexis Scale (BCS). According to the findings obtained in the research, social media addiction levels of the participants were found to be significantly higher those who spend more than 3 hours in social media and they tended to report higher scores on the SAAS and BCS scale. It was found that there was a positive and strong correlation between the results obtained from all scales, including SMAS-AF, SAAS, and BCS. Looking at the predictors of social media addiction, social media addiction seems to be a significant predictor of both social appearance anxiety ($\beta=0,578$, $p=0,000$), and body perception ($\beta=0,359$, $p=0,008$). Social media addiction which is frequently encountered in daily life, can become an important problem that can lead to a number of health problems. It is thought that the findings obtained in the study social media addiction, social appearance anxiety and negative body image results were related to each other. Further researches can be done in the light of the findings.

INTRODUCTION

Social media (SM), which was founded in the 70's and has been developing rapidly until today. that continues, and is increasingly popular used via the internet, is a communication network system¹. The most important difference of SM is that the ability to comment against, react, organize and express opinion. The new type of media moves people from a passive viewer to an active broadcaster². People use SM interactively to get feedback on their activities, interests and ideas. Therefore, it can lead to addictive behaviors^{3,4}. Using SM in an excessive and compulsive way, or social network site (SNS) addiction is a kind of addiction in which conflict, tolerance issues, withdrawal, relapse, and mood swings are present^{5,6}. SM reflects and transforms many things in real life, however, social appearance anxiety is also thought to exist in SM with features suitable for the virtual community^{7,8}. Both the individual with social appearance anxiety or a person who is more comfortable in the media and who has not had such a concern before, are being influenced by new trends in SM and the emergence of social appearance anxiety are among the problems that started to be seen with the increase of SM use^{9,10}.

Various SM applications that can add color, light, shadow to the photos shared in SM and make the photo beautiful have started to be used. Some of them have filters that can correct the dissatisfaction with the weight or height of the person and make the skin look brighter and smoother^{11,12}. Through these applications, SM users are able to obtain and share photos that fit the ideal appearance and begin to accept themselves in this way over time. Studies on the negative effects of such SM contents on body perception are beginning to draw attention and it is mentioned that these SM interactions increase negative body perception and negative self-evaluation and can be a source of stress^{13,14}. Studies conducted by measuring one's own body perception, perception especially with adolescents show that, as the time spent in SM increases, they are more likely to feel dissatisfied with their bodies and therefore it is seen that they tend to harmful behaviors such as unhealthy diets^{15,16}. Over time, as people use social media where they cover their dissatisfied features more and more, negative attitudes towards their real features start to increase and this situation begins to turn into a vicious circle^{3,17}.

Based on these findings, we decided to investigate SM addiction and negative body perception in this study. University students were selected for this study due to the fact that, adolescence is the period when body perception development is most effective¹⁸, innovations can be easily adaptable, there is free time to spent because there is no active work life and young adults are the main users of SM.

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MATERIALS and METHODS

Participants

The sample of the study consists of consists of 169 university students from 20 randomly selected different universities and 43 different departments. Those who agreed to participate in the research, filled out paper-and-pencil questionnaires during regular school hours. Those with any chronic medical disease or with any psychiatric disorders including psychosis and bipolar disorder were excluded from the study. This study protocol was approved by the Institutional Review Board of the non-invasive ethics committee of Üsküdar University, Informed consent of each participant was obtained.

Sociodemographic Data Form and Questionnaire

Sociodemographic Data Form consists of open-ended questions about age, gender, school, department, class, weight and height of the participants. The questionnaire consists of 10 questions prepared as multiple choice. It is a section that aims to get preliminary information about the social media usage behaviors and perception of the person.

Social Media Addiction Scale - Adult Form (SMAS-AF)

The social media addiction scale-adult form (SMAS-AF) was used to measure the level of social media addiction of individuals in the sample group. The scale was developed by Şahin and Yağcı¹⁹. As a result of exploratory and confirmatory analysis, it was determined that SMAS-AF is a five likert type scale has a structure consisting of 2 sub-dimensions (virtual tolerance and virtual communication) and 20 descriptions. The factor loads of the scale are ranked between 61 and 87. In the confirmatory factor analysis performed to confirm the two-factor structure of the scale, the Chi-square value ($\chi^2 = 7051.32$; $sd = 190$, $p = 0.00$) was found to be significant. Factor loads of SMAS-AF take values between 61 and 87. Cronbach Alpha total internal consistency coefficient for the overall scale, 94; Of the sub-dimensions, 92 for virtual tolerance and 91 for virtual communication. The test-retest reliability coefficients in general, was found as 93; Among the sub-dimensions, it is determined as 91 for virtual tolerance and 90 for virtual communication. Analysis revealed that SMAS-AF is a valid and reliable scale for determining the social media addiction of adults.

Social Appearance Anxiety Scale (SAAS)

Social Appearance Anxiety Scale (SAAS) was developed by Hart et al.²⁰. The scale is 5-point likert-type scale consisting of 16 items ranging from 1 (not at all) to 5 (extremely). Only the first item on the scale is the reverse item. As the person's score on the scale increases, it indicates social appearance anxiety. The validity and reliability studies were being conducted by Doğan²¹. The internal consistency Cronbach's alpha coefficient for the SAAS was 0.93. The computed test re-test reliability coefficient for the SAAS was 0.85, item-total correlation coefficients of the Turkish SAAS ranged from 0.32 to 0.82.

Body-Cathexis Scale (BCS)

Body-Cathexis Scale (BCS) was developed by Secord and Jourand (1953). It is a 5-point likert-type scale consists of 40 items that determines a person's satisfaction with different body parts or functions and it. For each item ranging from 1 to 5 with points ("I don't like at all", "I don't like", "I am indecisive", "I like" and "I like it very much") and the lowest total score that can be obtained is 40, the highest total score is 200. As the score increases, the body perception of the person is negative. The validity and reliability studies were

being conducted by Hovardaoğlu²². The Cronbach Alpha coefficient was 0.9, item test correlations were between 0.45 and 0.89.

Data analysis

Data entries of the responses of the participants were made ready for analysis in SPSS 21.0 package program. Frequency Analysis was used to determine the distributions of variables in the Sociodemographic Data Form. In order to determine the difference between the applied scales and the variables in the Sociodemographic Data Form, One Way Analysis of Variance and t-Test Analysis was used. To determine the relationship between the scales Pearson Correlation Analysis and to predict the relationship between the scales. Regression Analysis was used.

RESULTS

The mean age of the participants was $21,73 \pm 1,68$ (18-24) years. When distribution of 169 participants in the study by gender variable examined; 110 (65.1%) female, 58 (34.3%) male. It was determined that 1 participant left the question unanswered. All of the participants were using SM. It is seen that 21 people (%12,4) spend less than 1 hour, 24 people (%14,2) spend 1 hour, 63 people (%37,3) spend 2 hours and 61 people (%36,1) spend 3 hours or more on SM.. The mean and standard deviation values of all scales used in the study are presented in Table 1.

Table 1. The mean and standard deviation values of all scales

	n	\bar{x}	SS	Min	Max
BCS	169	132,27	23,32	79	221
SAAS	169	41,97	15,79	16	76
SMAS-AF	169	56,69	13,26	21	91
SMAS-AF Virtual Tolerance	169	32,94	7,98	12	53
SMAS-AF Virtual Communication	169	23,74	6,51	9	45

The Pearson Correlation Analysis found that there is a statistically significant and positive relationship between the scores of BCS and SAAS ($r=0,458$; $p=0,000$), SMAS-AF ($r=0,204$; $p=0,008$) and virtual tolerance ($r=0,177$; $p=0,021$) and virtual communication ($r=0,199$; $p=0,009$) subscales of SMAS-AF. The relationship between the scores of SAAS and SMAS-AF ($r=0,485$; $p=0,000$) and virtual tolerance ($r=0,417$; $p=0,000$) and virtual communication ($r=0,477$; $p=0,000$) subscales of SMAS-AF and SAAS are statistically significant and positive (Table 2.).

Table 2. Pearson Correlation Analysis of BCS, SAAS, SMAS-AF, and subscales

		(1)	(2)	(3)	(4)	(5)
BCS	r	1				
	p					
SAAS	r	0,456	1			
	p	0,000**				
SMAS-AF	r	0,204	0,485	1		
	p	0,008**	0,000**			
SMAS-AF Virtual Tolerance	r	0,177	0,417	0,931	1	
	p	0,021*	0,000**	0,000**		
SMAS-AF Virtual Communication	r	0,199	0,477	0,895	0,672	1
	p	0,009**	0,00000	0,000**	0,000**	

* $p \leq 0,05$: Statistically significant, ** $p \leq 0,01$: Statistically significant

Table 3 shows that the ANOVA results of the relationship between BCS, SAAS and SMAS-AF scores and average time spent on SM. According to the results of the analysis; BCS ($F = 3.571$; $p = 0.015$), SAAS ($F = 2.972$; $p = 0.033$), SMAS-AF ($F = 17,191$; $p = 0,000$), virtual tolerance subscale ($F = 28,505$; $p = 0,000$) and virtual communication subscale ($F = 5,281$; $p = 0,001$) scores differ significantly according to the time variable spent on SM. According to Tukey Post-Hoc test results conducted to determine which group the difference originates from; those who spent 3 hours or more on SM scored higher on the SAAS, BCS, SMAS-AF total and virtual tolerance and virtual communication subscale scores.

Table 4 shows that the ANOVA results of the relationship between the BCS, SAAS and SMAS-AF scores and the frequency of photo / post / story shared on SM. According to the results of the analysis; There is a significant difference between the frequency of photos / posts / stories shared on SM and scores of SAAS ($F = 2.659$; $p = 0.035$), SMAS ($F = 7.166$; $p = 0.000$) and virtual tolerance ($F = 7.051$; $p = 0.000$) and virtual communication ($F = 4.714$; $p = 0.001$) subscales. According to Tukey Post-Hoc test results, it has been observed that the SAAS, SMAS, virtual tolerance and virtual communication scores of the participants who post everyday on SM are higher than the participants who share on SM once a week or less frequently.

T-Test results of the relationship between the BCS, SAAS and SMAS-AF scores and physical appearance satisfaction are shown in table 6. According to the results of the analysis; The participants who are not satisfied with their physical appearance scored significantly different and higher on the BCS ($p=0,000$), SAAS ($p=0,000$), SMAS-AF ($p=0,000$) scales and virtual tolerance ($p=0,000$) and virtual communication ($p=0,000$) subscales.

Participants who have a desire / idea to change their physical appearance scored significantly different and higher on the BCS ($p=0,000$), SAAS ($p=0,000$), SMAS-AF ($p=0,000$) scales and virtual tolerance ($p=0,000$) and virtual communication ($p=0,000$) subscales. Results of the t-Test analysis variables are given in table 5.

The findings of linear regression analysis to determine the relationship between body image, social appearance anxiety and SM addiction are given in table 6. When the t-test results regarding the significance of the regression coefficients are examined, SM addiction seems to be a significant predictor of both social appearance anxiety ($\beta=0,578$, $p=0,000$) and body perception ($\beta=0,359$, $p=0,008$).

DISCUSSION

Today, one of the important developments that will affect body perception is the SM which has spread to almost every area of our lives as a result of a series of technological developments such as computers, internet, smartphones 7,9. In this study, we aimed to investigate the relationship SM addiction and negative body perception. The results of the study demonstrate that, there was a positive and strong correlation between the results obtained from all scales, including SMAS-AF, SAAS, and BCS in our study. In terms of time spent on social media as a sign of SM addiction; It is observed that as the time spent on social media increases, participant's SM addiction increases, social appearance anxiety increases, and their negative body perception results are interrelated.

Table 3. The ANOVA results of the relationship between BCS, SAAS and SMAS-AF scores and average time spent on SM

	Time	n	\bar{X}	SS	Min	Max	F	p	difference
BCS	Less than 1 h.	21	122,80	32,24	79	211	3,571	0,015	1-4 4-1
	1 h.	21	124,16	24,58	86	190			
	2 h.	63	132,84	19,55	93	180			
	5 h.or more	61	138,13	21,37	93	221			
SAAS	Less than 1 h.	21	35,09	15,56	17	76	2,972	0,033	1-4 4-1
	1h.	24	40,29	16,48	16	70			
	2h.	63	40,95	14,57	18	74			
	5 h.or more	61	46,06	16,04	17	69			
SMAS-AF	Less than 1 h.	21	47,28	6,38	38	64	17,191	0,000*	1-3 1-4 3-1 3-4 4-1 4-3
	1h.	24	45,58	12,69	21	66			
	2h.	63	58,49	10,34	39	91			
	5 h.or more	61	62,44	13,76	29	91			
SMAS-AF virtual tolerance	Less than 1 h.	21	25,00	3,09	20	32	28,505	0,000*	1-3 1-4 3-1 3-4 4-1 4-3
	1h.	24	25,95	8,00	12	39			
	2h.	63	34,23	5,44	21	46			
	5 h.or more	61	37,09	7,68	17	53			
SMAS-AF virtual communication	Less than 1 h.	21	22,28	4,67	16	34	5,281	0,002*	2-3 2-4 3-2 4-2
	1h.	24	19,62	548	9	30			
	2h.	63	24,25	5,96	11	45			
	5 h.or more	61	25,34	7,26	12	43			

* $p \leq 0,05$: Statistically significant

Table 4. the ANOVA results of the relationship between the BCS, SAAS and SMAS-AF scores and the frequency of photo / post / storyshared on SM

	Frequency	n	\bar{x}	SS	Min	Max	F	p	difference
BCS	Everyday	24	139,12	15,99	110	165	1,125	0,346	
	Once a week	45	129,22	18,82	93	165			
	Once a month	43	130,32	22,78	79	175			
	Once a month or or more	37	130,72	23,64	86	205			
	once or twice a year	20	137,95	36,65	87	221			
SAAS	Everyday	24	48,87	10,61	27	69	2,659	0,035*	
	Once a week	45	38,82	14,64	17	64			
	Once a month	43	38,20	15,21	17	68			
	Once a month or more	37	44,00	17,79	16	76			
	once or twice a year	20	45,15	18,07	16	70			
SMAS-AF	Everyday	24	65,04	10,76	49	91	7,166	0,000*	1-3
	Once a week	45	60,48	9,89	43	79			1-5
	Once a month	43	51,93	13,00	29	87			2-3
	Once a month or more	37	56,18	15,01	21	91			2-5
	once or twice a year	20	49,30	12,53	21	69			3-1
SMAS-AF Virtual tolreance	Everyday	24	38,00	7,10	26	53	7,051	0,000*	3-5
	Once a week	45	34,91	6,67	21	47			5-1
	Once a month	43	30,16	8,30	14	49			5-3
	Once a month or more	37	33,08	7,54	12	46			
	once or twice a year	20	28,20	7,50	12	45			
SMAS-AF Virtual communication	Everyday	24	27,04	4,41	19	38	4,714	0,001*	1-3
	Once a week	45	25,57	4,48	15	35			1-5
	Once a month	43	21,76	5,89	12	38			2-3
	Once a month or more	37	23,10	8,76	9	45			2-5
	once or twice a year	20	21,10	6,62	9	34			3-1

*p≤0,05: Statistically significant

As we know from previous studies, increasing SM interaction and exposure to appearance-related SM content to be related to negative behaviors such as unhealthy or excessive diets or overeating, and negative body perception^{11,13}; and symptoms of anxiety and depression are observed more frequently as the time spent in SM increases²³. Using SM actively, looking at and commenting on photos or SM posts are all associated with also negative body image²⁴. It has been observed that those who spend a lot of time on SM experience more body dissatisfaction compared to the who spends time on websites²⁵. Our study findings demonstrated that, in line with previous research, those who spent 3 hours or more on SM tended to report higher scores on the SAAS and BCS scale. Increased duration of SM use is associated with increased SM addiction, increased social appearance anxiety, more negative body perception and these results are seen as one of the most important findings supporting the hypothesis of the study. There are also studies mentioning that active SM use, like sharing photos or stories, status updates and commenting on other people's posts is causes an increase in self-esteem, and thus associated with less depressive symptoms and passive use is more

depressive symptoms^{26,27}. SM users are able to obtain and share photos that fit the ideal body and begin to embrace themselves in this way over time. It feels the feeling of being approved by the comments and likes coming to such posts. In terms of social appearance anxiety, comparing their appearance with those of others in SM may cause negative body perceptions²⁸. We observed that, participants who post every day on SM had higher SM addiction and social appearance anxiety scores than the participants who share on SM once a week or less frequently, which is supporting this view. As we know from studies conducted especially with adolescents, physical appearance is known to be important in SM posts²⁹. Researchers have benefited from the social comparison theory to explain these behaviors. According to social comparison theory, individuals has the impulse and inclination to evaluate their own social and personal values by comparing themselves with others^{30,31}. Social norms that are effective in the formation of an individual's body perception by showing integrity with the norms of a virtual society, especially with the increase in access to SM during adolescence, when the individual focuses on his own body.

Table 5. T-Test results of the relationship between the BCS, SAAS and SMAS-AF scores and physical appearance satisfaction and having a desire / idea to change their physical appearance

			n	\bar{X}	SS	t	p
BCS	Satisfaction	Yes	92	123,52	24,46	-6,022	0,000*
		No	77	142,72	16,79		
	Desire/idea to change	Yes	116	137,81	21,69	4,865	0,000*
		No	53	120,15	22,31		
SAAS	Satisfaction	Yes	92	33,06	12,07	-10,172	0,000*
		No	77	52,62	12,88		
	Desire/idea to change	Yes	116	46,87	15,56	7,833	0,000*
		No	53	31,26	9,98		
SMAS-AF	Satisfaction	Yes	92	51,69	11,99	-5,859	0,000*
		No	77	62,66	12,26		
	Desire/idea to change	Yes	116	59,17	13,25	3,731	0,000*
		No	53	51,26	11,67		
SMAS-AF virtual tolerance	Satisfaction	Yes	92	30,19	7,61	-5,273	0,000*
		No	77	36,23	7,16		
	Desire/idea to change	Yes	116	34,51	7,54	3,944	0,000*
		No	53	29,50	7,89		
SMAS-AF virtual communication	Satisfaction	Yes	92	21,50	5,93	-5,275	0,000*
		No	77	26,42	6,17		
	Desire/idea to change	Yes	116	24,65	6,79	2,737	0,000*
		No	53	21,75	5,39		

*p≤0,05: Statistically significant

Table 6. The Regression analysis results related to the prediction of BCS and SAAS scores

Dependent variable	Independent variable	β	T	P	F	Model (p)	R2
BCS	Constant	111,900	14,435	0,000	7,282	0,008*	0,042
	SMAS-AF	0,359	2,699	0,008*			
SAAS	Constant	9,211	1,964	0,051	51,485	0,000*	0,236
	SMAS-AF	0,578	7,175	0,000*			

*p≤0,05: Statistically significant

Although there is insufficient data from previous studies whether the role of SM use plays an important role in predicting social appearance anxiety and body-related anxiety, it is seen that there is a relationship between negative body perception and SM addiction when the results obtained from the studies are examined in general.

The desire to change the physical appearance that occurs with SM addiction and negative body image can be seen in various ways, from the desire to lose weight and diets to nose surgery^{32,33}. We found that, the scores of the participants who are not satisfied with their physical appearance on the SMAS-AF, SAAS, and BCS scales were significantly different and higher than satisfied participants in our study. Besides, when the participants were asked if they had a general desire for a change in physical appearance, participants who have a desire / idea to change their physical appearance had significantly different and higher scores on SMAS-AF, SAAS, and BCS scales than participants who do not have any desire / thoughts to change.

Today, body perception is not only interacting with culture, but also also varies with the common, easy to access with various filters SM. With this study, it has been shown to what extent the increase in SM use negatively affects people's body perception. Overuse of SM, which is frequently encountered in daily life, can become an important problem that can lead to a number of health problems. It is important to provide accurate information from individuals about SM use. However, more research is needed to better understand SM use and body dissatisfaction.

Limitations and Directions/Suggestions for Future Research

The main limitation of this study was the small sample size. Therefore, the results cannot be generalized. Another limitation of our study is there was not sufficient information about the characteristics of the family. There is a need to evaluate the parameters such as parenting skills, family bonds using a standard scale. Our study was a short-term study on SSM addiction and body perception relationship.

Long term studies with large number of participants are needed. Similar studies are suggested to be carried out with different cultures and large populations.

Ethics committee approval

The non-interventional research ethics committee approved this study at Uskudar University (Code: 61351342/ 2020-203; date: 21.04.2020).

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