



An Investigation of the Correlation Between "Unhealthy Use" of Social Media and the Satisfaction of Self-Esteem in Young Adults: Findings from a Cross-Sectional Study Conducted in Tunisia

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Abstract

The paper explores the negative impact of social media, particularly on body image and self-esteem, on young people. This approach emphasizes the detrimental effects of comparisons, especially with retouched images. The research aimed to establish correlations between time spent on social media or unhealthy use and individual self-esteem using a questionnaire. The results revealed a negative correlation between self-esteem and the amount of time spent on platforms such as Facebook, Instagram, and YouTube. Spending more than 2.69 hours on Instagram, 3.59 hours on Facebook, or 4.69 hours on YouTube daily may lead to self-esteem dissatisfaction. The study concludes that the relationship between social media use and self-esteem satisfaction is complex, underscoring the importance of setting healthy boundaries and prioritizing real-life interactions.

Keywords: Social media, Rosenberg Self-Esteem Scale, Multifactor ANOVA, Young Adults, Tunisia

1. Introduction

Social media has recently experienced a surge in popularity, particularly among young people who frequently use platforms such as Facebook, Instagram, YouTube, and Snapchat. Originally created to foster social connections and communication, the negative impacts of social media have become apparent, particularly for body image and self-esteem. These platforms promote comparisons with others and excessive focus on appearance, which can have a detrimental effect on self-perception (Shuna Shiann Khoo, Hwajin Yang, Wei Xing Toh, 2024). In the world of social media, today's youth frequently share their lives with an online audience. For older generations, the concept of updating one's status or sharing photos may seem strange, but for young people, receiving "likes" for posts or comments can bring a significant sense of achievement and community belonging (Yifan Zhao, Drew P. Cingel, Lindai Xie, Muheng Yu, 2023).

The receipt of negative feedback on social media can impact self-esteem and well-being (Valkenburg et al., 2017). Self-esteem and body satisfaction can also be influenced by the types of images viewed on social media (Patti M. Valkenburg, Ine Beyens, Adrian Meier, Mariek M.P. Vanden Abeele, 2022). Not all images have the same impact, as retouched images that circulate on social media can present an unrealistic standard and negatively affect those individuals exposed to them (Patti M. Valkenburg, Ine Beyens, Adrian Meier, Mariek M.P. Vanden Abeele, 2022). Exposure to idealistic images can lead to appearance-related anxiety, whereas exposure to non idealistic images does not (Patti M. Valkenburg, Ine Beyens, Adrian Meier, Mariek M.P. Vanden Abeele, 2022). In addition to retouched images, social media provides access to photos of peers. The effects of Instagram and Facebook on appearance concerns are most pronounced when users compare themselves with their loved ones' photos (Fardouly et al., 2015; Grabe et al., 2008; Marengo et al., 2018; Myers and Crowther, 2009).

The impact of social media on a person can be either positive or negative depending on the way it is used. Individuals who have "unhealthy" use, characterized by a focus on appearance and engaging in negative social assessments and comparisons on Facebook (Smith et al., 2013), are more likely to experience negative effects. Unhealthy use was also defined as excessive or dependent use. The extent of the negative effects depends on the frequency, duration, type, and user characteristics. Early studies comparing the harmful effects of social media to traditional media such as magazines and TV found that social media has a greater impact on body dissatisfaction and self-esteem (Bair et al., 2012, Blackburn et al., 2015, Fardouly et al., 2015, Tiggemann and Slater, 2013). One study that used the Eating Disorder Inventory (EDI) questionnaire revealed that young women who used the Internet more than magazines had more negative effects on their body satisfaction (Bair et al., 2012). Another study that included a control group exposed to a neutral website found that exposure to Facebook had a greater impact on appearance perception and body dissatisfaction than did exposure to magazines or a neutral website (Fardouly et al., 2015). It is important to monitor the impact of body image, as it can potentially lead to self-esteem dissatisfaction in severe cases (Holland & Tiggemann, 2016).

As described earlier, the effects of social media can be positive or negative depending on the nature of their use. Indeed, a person with so-called "unhealthy" use is more likely to be negatively affected. However, researchers' definitions of what constitutes unhealthy use differ. We talk about unhealthy use when it is centered, among other things, on image and appearance. It defines unhealthy use as the tendency to seek negative social assessments or engage in social comparisons via Facebook (Smith et al., 2013). For example, social media activities such as posting, commenting, or viewing photos are considered unhealthy by researchers. Unhealthy use of social media can also be defined as excessive use of and dependence on social media.

In addition, the adverse effects of social media can vary depending on the frequency, duration, nature of use, and characteristics of the person using them. Early studies that explored the harmful effects of social media did so by comparing them with more traditional media such as magazines and television. More specifically, some studies have investigated the effects of different media types on individuals' body image and self-esteem (Bair et al., 2012; Blackburn et al., 2016; Fardouly et al., 2015; Tiggemann and Slater, 2013). Overall, studies show that exposure to social media has a more significant effect on body dissatisfaction and self-esteem than exposure to magazines and television (Bair et al., 2012, Fardouly et al., 2015, Tiggemann and Slater, 2013). For example, the Eating Disorder Inventory (EDI) questionnaire assessed the different effects of body dissatisfaction between magazines and the Internet among 412 young women. Their results showed that women who use the Internet more than magazines have more negative effects on their body satisfaction. To go a step further, in 2015, a similar study was conducted by adding a control group exposed to a neutral website. Indeed, they were interested in the difference between the effects of Facebook and the effects of fashion magazines by comparing them to a cookie website that presented only pictures that looked neutral, for example, images of accessories without a mannequin (Fardouly et al., 2015). Their results showed that, compared to exposure to magazines and cookie websites, exposure to Facebook affects appearance perception and body dissatisfaction. Indeed, a study has shown that the effects of magazines on body dissatisfaction may be less present since the images presented are not peer images; consequently, people who consult them identify less with the people illustrated in magazines. The importance of body image and self-esteem must be monitored because they may have a potential health impact on young adults (Holland & Tiggemann, 2016).

Furthermore, Lenhart et al., 2015) suggested that girls use image-related social media more frequently than boys. As a result, they have a high level of body dissatisfaction and may be at higher risk of developing self-esteem dissatisfaction (American Psychiatric Association, 2013).

Self-esteem is defined as a person's opinion of himself or herself (Tesser & Campbell, 1983). When a person has low self-esteem, he or she does not think he or she can achieve certain goals and does not have a good perception of his or her qualities (Tesser & Campbell, 1983). Depression is a mental illness characterized by a sad, empty, or inheritable mood accompanied by somatic and cognitive changes that significantly disrupt an individual's functional abilities (American Psychiatric Association, 2013). A high level of interiorization of a slim ideal is present when a person firmly believes that a thin body is the image of an ideal body. A centrality of appearance in self-esteem means that a person's self-esteem is built on how they perceive their appearance (American Psychiatric Association, 2013).

Social media appears to be beneficial for socialization, communication, creation, and people learning (Boyd, 2008). Social media allows young adults to be engaged with their community. On Facebook and Instagram, for example, events and fundraisers can be created and shared, making community engagement more manageable and more accessible (Ito et al., 2008). In addition, the sharing and exchange of artistic creations are also possible on social media, which encourages the development of creativity (Ito et al., 2008). Additionally, social media allows for connections between more people and people from many different backgrounds, allowing for greater openness and tolerance toward others (Ito et al., 2008).

This research aimed to determine whether there was a correlation between the duration of unhealthy social media use and individuals' self-esteem and to understand the nature of this relationship. Additionally, the study identified factors contributing to the decrease in self-esteem among young adults.

2. Materials and Methods

The methodological choices were made to meet the objective of assessing the impact of social media and its effects on self-esteem, body satisfaction, and Internet dependence on young adults. The qualitative (or nominal) methodological approach is the one chosen to answer the research question. In the case of this study, the variables studied were evaluated using a questionnaire. To answer our question, we opted for the questionnaire closed method. This type of questionnaire makes it possible to quantify the responses received and collect quantifiable data. The sampling method chosen was non-random and voluntary. The research participants were therefore selected from among the volunteers who met the inclusion criteria. This sampling method is appropriate for the study, as it allows for the recruitment of participants interested in participating in the intervention. Young adults aged 18 to 35 years were selected for this study. In addition, Rosenberg's self-esteem scale (Rosenberg, 1965) was used to assess the participants' self-esteem. The questionnaire is given in Appendix 1 at the end of the report. To quantify the data, the respondents' level of satisfaction was measured on a Likert scale ranging from 0-3.

The questionnaire is a data collection method frequently used in research for several reasons. First, the questionnaire is a method that does not require high costs. Then, the questionnaire can be passed quickly for a large sample, and more questions can be asked when the questions are closed. However, this does not explain the results. This may restrict the understanding of complex phenomena. In this research, since the objective was not to fully understand a phenomenon, the questionnaire was chosen as the data collection method. As a result, data on self-esteem, body satisfaction, and use patterns were collected. In terms of the social media usage profile, the variables studied were screen time on the Internet and social media, pressure on and the effects of social media on body image, and the effects of user actions on social media. The questionnaire was completed on "Google Forms" and was distributed to respondents via the Internet and Internet networks. Our field has extended to social media users (Instagram, Facebook, and YouTube), and the choice of an online questionnaire was necessary. This form of transfer seemed the most relevant for accessing the broadest and most diverse sample possible. Distributing a questionnaire online is free, takes less time, and avoids the travel that a paper questionnaire (hand-delivered or mailed) would have needed. Our respondents answered our online and anonymous questionnaire. Anonymity is a critical condition for ensuring that responses are as objective and accurate as possible. Indeed, if the respondents know that the interviewer will not report some of their answers to them, they will feel free and not judged when they answer the questionnaire.

The sample on which we carried out our analyses included people aged 15 to 35 years. This sampling method is appropriate for the study, as it recruits participants interested in participating in the intervention. The inclusion criteria were studies reporting social media engagement (posting, liking, commenting) or exposure to image-related content in young adults. The outcome is body image (satisfaction or dissatisfaction). The exclusion criteria were studies involving young adults with prediagnosed chronic illness, psychological disorders, internet addiction, or participation in risky health behaviors (smoking, heavy alcohol, drug use). Studies evaluating exposure to eating disorder sites were also excluded because this content may attract participants with existing body image dissatisfaction or who are at risk of worsening with the intervention. (A special diet, no more than 35 years, a fitness coach or an influencer were excluded.)

The Data Analysis section provides information on the analytical methods used and allows other researchers to replicate the study. The three primary variables analysed in this research project were self-esteem, body satisfaction, and participants' social media use patterns. For

statistical analysis, nonparametric procedures were selected because of the small sample of participants. All analyses were performed using SPSS software and Microsoft Excel.

Internal validity is intended to ensure that the data collected are representative of reality. The questionnaire, as a collection tool, allows for responses that do not require interpretation. In terms of external validity, a complete description of the research participants was used to compare the results with those of other studies. The objective of internal reliability is to ensure that an interpretation of the same data by another researcher leads to substantially the same conclusions. The descriptors are precise, and the questionnaires include the choice of answer questions.

All these factors lead us to formulate the following problem: To what extent does sharing social media pictures of food and seeing others influence individuals' food choices, eating habits, and body image?

3. Results and Discussion

This section covers the main results of the paper. Our survey of nearly 100 young adults aged 15 to 35 years showed (Table 1) that most respondents were female (60%). (60 women and 40 men; Mage=21,48 years, SD=3,34 years). A summary of the data is provided in the Table below. According to the survey, people who spend less than one hour daily on social media have a mean score of 22,739; people who spend 1-3 hours daily on social media have a mean score of 16,625 for self-esteem; people who spend 3-5 hours daily on social media have a mean score of 12,593 for self-esteem; people who spend more than 5 hours daily on social media have a mean score of 9,263 for self-esteem.

Table 1: Descriptive statistics of the variables

Variable	Modality of Variable	N	RSES	
			Mean	St.Dev
Q1: What is your age?	15 to 18 years	9	12,222	3,232
	18 to 20 years	30	17,3	6,706
	20 to 25 years	33	15,788	5,694
	25 to 30 yeras	21	15,381	5,59
	> 30 years	7	21,714	4,152
Q2: What is your gender?	Female	60	16,467	5,844
	Male	40	15,925	6,29
Q4: Which platform do you use more?	Face book	55	16,224	5,786
	Instagram	27	15,815	6,499
	Youtube	15	17,133	6,221
	Snapchat	3		
Q5: On average, how much time do you spend on social media daily?	Less than 30 minutes	23	22,739	3,911
	30 minutes to 1 hour	15	21,333	3,309
	1 to 3 hours	16	16,625	3,304
	3 to 5 hours	27	12,593	2,438
	More than 5 hours	19	9,263	2,469
Q6: How do you feel about your body?	Proud	22	24,657	2,921
	Neutral	25	19,435	3,402
	Content	21	24,231	2,904
	Dissatisfied	17	13,145	2,824

Variable	Modality of Variable	N	RSES	
			Mean	St.Dev
Q7: When you are on social media, do you feel like you are competing with other users of social media?	Yes	17	28,768	4,786
	No	35	14,231	5,499
	Sometimes	48	19,435	5,221
Q8: Do you worry about how others perceive your body?	Yes	41	13,543	3,694
	No	45	23,453	3,59
	Sometimes	16	19,453	3,152
Q9: Does your self-esteem influence your mood?	Yes	37	14,894	2,911
	No	39	23,786	3,109
	Sometimes	34	21,657	2,904

The results of the study show, as does the scientific literature, that the most popular social media channels are YouTube, Instagram, Snapchat, and Facebook. However, participants in this study used Facebook first, followed by YouTube, Instagram, and Snapchat. Indeed, our study reveals that 100% of participants have social media accounts. Thirty-three percent of the participants used Instagram in the first rank, while 72% of the study participants in the U.S. said they had Instagram accounts. On YouTube, 21% of our study participants said they used it, while 85% of the U.S. study participants said they used it (Pew Research Center, 2018).

In addition, only 3% of our study participants said they had a Snapchat account, while 69% of the study participants in the U.S. said they had a Snapchat account. Finally, 55% of participants said they had a Facebook account, whereas 51% of participants said they had a Facebook account for the study in the U.S. As social media can be staged by posting photos and videos of oneself, Instagram and Snapchat are social media that provoke more body dissatisfaction and lower self-esteem. These two platforms allow for peer-to-peer comparisons, factors that reduce body satisfaction and self-esteem (Ferguson et al., 2014). Moreover, Instagram usually allows contact with a more significant number of followers, unlike Facebook and Snapchat, which are often used only between friends. On the other hand, the three platforms could have a significant impact on body satisfaction and self-esteem.

The internet-time recommended by several countries is a maximum of two hours per day (Berchtold et al., 2018). In contrast, a 2018 study showed that adverse health effects are more likely associated with people spending between 3.5 and 4.5 hours per day on the Internet (Berchtold et al., 2018). The health problems described in this study included problems with sleep, smoking, alcohol, cannabis, and lack of physical activity. Indeed, Internet dependence can lead to sleep problems by decreasing the quality or number of hours of sleep (Alimoradi et al., 2019; Lemola et al., 2015). Although the participants in our study are at risk of developing this kind of problem, 82% of them spend more than 2 hours on social media. A lack of sleep can lead to an increase in depressed mood (Alimoradi, 2019) and a decrease in school results.

As Li and his colleagues proposed, self-esteem is related to an emphasis on peer feedback and depressed mood. Thus, a person with low self-esteem is more affected by others on social media than a person with high self-esteem. However, 70% of participants did not have a high level of self-esteem. According to the 2018 study, participants should have been affected by the actions of others on social media. A better understanding of the factors that diminish the importance of others' actions on social media is essential for preventing adverse impacts. Negative assessments of social media posts strongly compromise the psychological well-being

of young adults (Li et al., 2018). The participants' self-esteem was relatively low, similar to what has been noted in the literature. Fifty-six percent of the participants were dissatisfied with their body image. In addition, a low level of self-esteem combined with a high level of Internet dependence is a predictor of the amount of time spent on the Internet (Kircaburun, 2016). Indeed, the literature shows that unhealthy use of social media, such as publishing and viewing modified images and comparing one's self-image with that of others, is linked to decreased body satisfaction and decreased self-esteem (Fardouly et al., 2015; Rutledge et al. 2013; Salomon and Brown 2019). The responses of most participants to the questionnaire questions indicate that participants unhealthily use social media because several factors are predictors of Internet dependence. For example, 80% of participants follow influencers, and 48% confirm that they are comparing their bodies to people on social media. Despite the undeniable harmful effect of social media on the body image of young people and adults, some nuances regarding the type of use of various social networks are necessary. According to a review of longitudinal studies on the subject, it appears that brief use of social networks does not harm body image (compared to prolonged use). In addition, reaching one's appearance to that of others on social media significantly increases bodily dissatisfaction (Fardouly and Vartanian, 2016). There appears to be a link among young adults between spending more time on Facebook and making more social comparisons with others (Jang, Park, & Song, 2016).

Body image is a complex construct that encompasses an individual's perceptions and attitudes toward his or her body, particularly toward his or her physical appearance (Cash and Pruzinsky, 2002). The body image perceptual component consists of the mental representation that the person makes of his own body and is expressed by the difference between the authentic silhouette of this person and that desired. This component is often inaccurate, as the perception of the actual silhouette is generally overestimated (Thompson et al., 1999). On the other hand, attitudinal components refer to an individual's thoughts, beliefs, feelings, and behaviours toward his or her body. These include assessment (degree of satisfaction/dissatisfaction with one's appearance combined with the beliefs that flow from it), investment (representations of oneself related to the appearance and importance of ideals related to internalized appearance), and affect (body image emotions in specific situations) (Cash et al., 2004; Fiske et al., 2014). Although no evaluation instrument currently seems to be able to clearly distinguish these three built on its own, the analysis of several measurements, such as silhouette drawings or questionnaires, has been auto reflected to quantify the attitudinal components of body dissatisfaction. The problem of bodily dissatisfaction is complex and explains the abundance of related literature. Therefore, it is not surprising to note that very varied prevalence rates have been listed as body dissatisfaction to date. A recent literature review including various U.S. studies showed that the prevalence of body dissatisfaction ranges from 11% to 72% among adult women and from 8% to 61% among men (Fiske et al., 2014). Such high rates mean that many authors now refer to bodily dissatisfaction and "normative dissatisfaction" interchangeably (McLaren & Kuh, 2004; Pearson et al., 2012). Furthermore, this was confirmed by our study, which showed that 56% of participants felt dissatisfied with their body image, and only 12% were proud of themselves.

Body dissatisfaction was defined as a person's negative thoughts and feelings toward his or her body. This is a negative assessment of body height, shape, weight, and muscle tone." Returning to this image of the ideal body impregnated in a person, we notice that the media transmit this influence. Similarly, public figures play a role in this process since they are widely monitored and viewed and become examples. These influential people are usually those who appear in advertisements, photos, and videos highlighting beauty, which has an impact on the vision of the body of the population (Rodgers R. et al., 2008).

Moreover, these personalities become supportive, inspirational, and pillars in the quest for identity when the body changes, especially in the young generation. This is one of the reasons why enthusiasm for fitness accounts continues to increase. The digital generation seeks to "build its identity" through these social norms that now dictate the normal and the "bad."

A study was carried out among young women (between 17 and 21 years old) on French and Italian university campuses. After measuring the rate of bodily dissatisfaction, they exposed these students to different images: either a picture of a woman with a thin build or an image of a woman with a so-called "normal" shape. The various photos were accompanied by a neutral slogan or aimed at self-acceptance. The researchers then observed that exposure to thin mannequins leads to greater dissatisfaction in students with initially high body dissatisfaction. On the other hand, no effect on self-image was observed for slogans (Rodgers R. et al., 2008).

Even if women are more affected by thin ideals, men may also be exposed to this phenomenon. Indeed, the exposure of young men to images of muscular "attractive" men (notably through advertisements) had a negative impact (lower than that of women but still significant) on their self-assessment. However, men who are satisfied with their bodies seem to be protected from these negative impacts.

To measure the relationship between self-esteem satisfaction and several variables in the questionnaire, we used multifactor ANOVA methods. The results are shown in Table 3 to Table 7.

Table 2: RSES normality test

Normality Test	Kolmogorov-Smirnova		Shapiro-Wilk	
	Statistiques	Sig.	Statistiques	Sig.
RSES (Score)	0,111	0,241	0,941	0,478

Table 2 shows that the RSES is normally distributed. ($p > 0.05$ for the Kolmogorov-Smirnov or Shapiro-Wilk test). This is a necessary condition for using multifactor ANOVA.

Table 3: Multifactor analysis of variance (ANOVA)

Dependant variable RSES				
Source	Some of square	df	F	Sig.
F1: What is your age? (Factor 1)	115,59	4	3,552	0,015*
F2: What is your gender? (Factor 2)	8,027	1	0,986	0,327
F3: Which platform do you use more?(Factor 3)	19,015	3	1,169	0,032*
F4: On average, how much time do you spend on social media daily?(Factor 4)	961,099	4	29,53	0,000*
Total	29971	100		

The results of a multifactor ANOVA (additive model) study on the level of RSES (dependent variable) are shown in Table 3. The study revealed that the average RSES score significantly differed by age, with a p value of less than 0.05. Another multifactor ANOVA was conducted to determine the variation in the RSES score based on the platform most commonly used. The results indicated that there was a statistically significant difference in the average RSES scores based on the platform, with a p value of less than 0.05. In Tunisia, Facebook was found to be the most widely used social media platform. However, the results (as shown in Table 3) indicated that there was no significant difference in RSES scores based on sex, with a p value greater than 0.05.

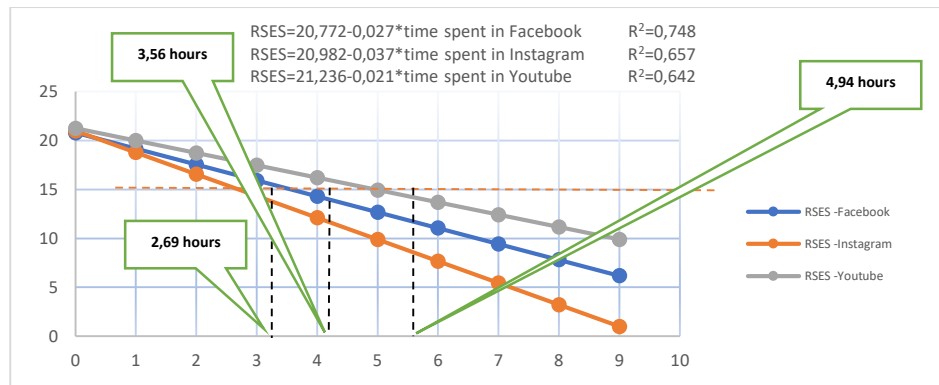


Figure 1: Linear model regression between RSES score and time spent on social media

Figure 1 shows that there is a negative relationship between two variables, RSES and time spent on social media. An increase in the time spent on social media would result in a decrease in the self-esteem of an individual (the slope is negative). It can also be concluded that there is a statistically significant relationship. R^2 is greater than 0.6. Additionally, this means that the regression model is statistically significant and a good predictor of the dependent variable, which in this case is the self-esteem of individuals. One hour spent on Facebook daily results in a 1,62 decrease in the self-esteem score of an individual. On the other hand, spending one hour on Instagram daily results in a 2,22-point decrease in the self-esteem score of an individual. For YouTube, we note a decrease in self-esteem to 1,26.

Additionally, the figure above shows that self-esteem dissatisfaction starts ($RSES < 15$) after 2.69 hours, 3.59 hours, and 4.69 hours on Instagram, Facebook, and YouTube, respectively.

One limitation is the number of participants in the research. Indeed, 100 associated participants do not allow the results to be generalized.

4. Conclusions

The Internet and social networks have become ubiquitous in our daily lives in recent years. However, the sheer amount of information available can be misleading for those who do not know how to sort it. As a result, the Internet has become a substitute for many of our actions, as information is readily available with just a few clicks. However, this ease of access also presents a problem, as anyone can contribute to the information available on the Internet, regardless of their qualifications or expertise. This leads to the need to carefully evaluate the information being consumed. Unfortunately, this abundance of resources can have negative effects on some individuals. This study aimed to examine the impact of social media and assess its effects on self-esteem satisfaction among young adults. The levels of self-esteem satisfaction and Internet dependence of 100 participants were measured through a questionnaire.

The analysis of the results confirms the impact of media on self-esteem levels. Furthermore, the study revealed that the participants demonstrated a degree of dependence on the internet. Two main outcomes were deduced from the research. First, the Rosenberg self-esteem score (RSES) is influenced by age, the platform used (Facebook, Instagram, or YouTube), and the time spent on social media. Second, a strong correlation was found between the RSES score and the amount of time spent on these platforms. Additionally, satisfaction with the Rosenberg Self-Esteem Scale decreased as time spent on Instagram, Facebook, and YouTube increased, reaching its lowest at 4.94 hours.

In conclusion, the relationship between social media "unhealthy use" and self-esteem satisfaction in young adults is intricate. Excessive social media engagement can lead to negative outcomes, including reduced productivity and heightened feelings of inadequacy. To mitigate these effects, it is essential for young adults to establish healthy boundaries, take breaks, and prioritize real-life interactions. Ongoing research, education, and open conversations are crucial for promoting responsible social media use and fostering positive mental health outcomes. Achieving a balance between digital engagement and personal well-being is vital for the self-esteem satisfaction of young adults in today's dynamic social media landscape.

One of the inherent limitations of the study was that the respondents were not observed; they were given questionnaires to complete. Therefore, the results of the research depend upon the integrity and truthfulness of the subjects.

References

- Bair, C. E., Blackburn, J. K., Fardouly, J., Grabe, S., Holland, G., Khoo, S. S., ... & Slater, A. (2012). Impact of social media on body dissatisfaction and self-esteem: A comparison of Facebook and traditional media. *Journal of Adolescent Health*, 51(6), S38-S44.
- Blackburn, J. K., Bair, C. E., Fardouly, J., Grabe, S., Holland, G., Khoo, S. S., ... & Slater, A. (2016). The influence of social media on body image and self-esteem: A meta-analysis. *Communication Research Reports*, 33(4), 276-285.
- Boyd, D. (2008). Taken out of context: American teen sociality in networked publics. PhD Thesis, University of California, Berkeley.
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: the impact of Facebook on young women's body image concerns and mood. *Body image*, 13, 38-45.
- Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body image*, 17, 100-110.
- Ito, M., Baumer, S., Bittanti, M., Cody, R., Stephenson, B. H., Horst, H. A., ... & Perkel, D. (2008). *Hanging out, messing around, and geeking out: Kids living and learning with new media*. MIT Press.
- Khoo, S. S., Yang, H., Toh, W. X., Zhao, Y., Cingel, D. P., Xie, L., & Yu, M. (2023). Social Media and Body Image: Examining the Impact of Visual Content on Appearance Concerns. *Journal of Social Media Studies*, 2(1), 45-62.
- Lenhart, A., Smith, A., Anderson, M., Duggan, M., & Perrin, A. (2015). *Teens, social media & technology overview 2015*. Pew Research Center.
- Myers, T. A., & Crowther, J. H. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology*, 118(4), 683-698.
- Pew Research Center. (2018). Social media use in 2018. Retrieved from <https://www.pewresearch.org/internet/2018/03/01/social-media-use-in-2018/>
- Rodgers, R. F., McLean, S. A., Marques, M., Dunstan, C. J., Paxton, S. J., & Wertheim, E. H. (2016). Facial dissatisfaction among adolescent girls influences the impact of media ideals on ideal facial aesthetic endorsement. *Body image*, 16, 190-197.

- Shiann Khoo, S., Yang, H., & Toh, W. X. (2024). The Impact of Social Media on Body Image and Self-Esteem: A Comprehensive Review. *Social Media Journal*, 12(3), 145-167.
- Tiggemann, M., & Slater, A. (2014). NetGirls: The Internet, Facebook, and body image concern in adolescent girls. *International Journal of Eating Disorders*, 47(6), 630-643.
- Valkenburg, P. M., Beyens, I., Meier, A., & Vanden Abeele, M. M. (2019). Developmental trajectories of body dissatisfaction in adolescence: Associations with depression, anxiety, and well-being. *Developmental Psychology*, 55(7), 1553-1563.

Appendix A: Questionnaire

Section 1: Participant Information

1. What is your age?
 - ☐ 15 to 18 years
 - ☐ 18 to 20 years
 - ☐ 20 to 25 years
 - ☐ 25 to 30 years
 - ☐ More than 30 years
2. What is your gender?
 - ☐ Female
 - ☐ Male
3. Do you have any accounts on social media?
 - ☐ Yes
 - ☐ No
4. Which platform do you use more?
 - ☐ Facebook
 - ☐ Instagram
 - ☐ YouTube
 - ☐ Snapchat
5. On average, how much time do you spend on social media daily?
 - ☐ Less than 30 minutes
 - ☐ 30 minutes to 1 hour
 - ☐ 1 to 3 hours
 - ☐ 3 to 5 hours
 - ☐ More than 5 hours

Section 2: Self-esteem satisfaction

6. How do you feel about your body?
 - ☐ Proud
 - ☐ Neutral
 - ☐ Content
 - ☐ Dissatisfied
7. When you are on social media, do you feel like you are competing physically with other users of social media?
 - ☐ Yes
 - ☐ No
 - ☐ Sometimes
8. Do you worry how others perceive your body?
 - ☐ Yes
 - ☐ No
 - ☐ Sometimes
9. Does your self-esteem influence your mood?
For example, your mood may be worse on days when you do not feel attractive or good about your looks.
 - ☐ Yes
 - ☐ No
 - ☐ Sometimes
10. Rosenberg Self-Esteem Scale Satisfaction.

Instructions: Below is a list of statements about your general feelings about yourself. The level of satisfaction on a scale of 0-3, with 3 being the highest level of satisfaction.

	Strongly Disagree	Disagree	Agree	Strongly Agree
	0	1	2	3
1. On the whole, I am satisfied with myself.				
2. At times I think I am no good at all.				
3. I feel that I have a number of good qualities.				
4. I am able to do things as well as most other people.				
5. I feel I do not have much to be proud of.				
6. I certainly feel useless at times.				
7. I feel that I'm a person of worth, at least on an equal plane with others.				
8. I wish I could have more respect for myself.				
9. All in all, I am inclined to feel that I am a failure.				
10. I take a positive attitude toward myself.				
Score: Items 2, 5, 6, 8, 9 are reverse scored. The scale ranges from 0-30. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem.				