

The impact of social media addiction on state self-esteem; a cross-sectional study in university students from Samborondón, Ecuador

El impacto de la adicción a las redes sociales en la autoestima estatal; un estudio transversal en estudiantes universitarios de Samborondón, Ecuador

Daniel Oleas Rodríguez¹: Universidad Ecotec, Ecuador.

daoleas@ecotec.edu.ec

Gonzalo López Barranco-Pardo: Universidad Ecotec, Ecuador. Universidad de Valladolid, España.

glopezbaranco@ecotec.edu.ec

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Abstract:

Introduction: The rise of social media has transformed social interactions, becoming essential in the lives of young people. Its excessive use raises concerns about negative repercussions on mental health, especially on self-esteem, which is crucial for psychological well-being and academic success. **Methodology:** This cross-sectional quantitative study investigated the influence of social media addiction on the state of self-esteem among 521 psychology students, selected by convenience. The Social Media Addiction Scale - Student Form (SMAS-SF) and the State Self-Esteem Scale (SSES) were used. **Results:** The results indicate that problems arising from social media use ($\beta=-0.42$, $p<.001$) and the obsession with being connected ($\beta=-0.49$, $p=0.01$) are significant predictors of lower state self-esteem, explaining 10% of the variance in state self-esteem. **Discussions:** Social media addiction has a moderately negative impact on the self-esteem of university students, which has negative implications for well-being. **Conclusions:** The need for specific interventions to mitigate these effects is highlighted.

¹ Autor Correspondiente: Daniel Oleas Rodríguez, Universidad Ecotec (Ecuador).

Further research is recommended to develop and evaluate the effectiveness of such interventions in the long term.

Keywords: self-esteem state; addiction; social media addiction; empirical research; performance self-esteem; mental health; well-being; university students.

Resumen:

Introducción: El auge de las redes sociales ha transformado las interacciones sociales, volviéndose esenciales en la vida de los jóvenes. Su uso excesivo genera preocupación por las repercusiones negativas en la salud mental, especialmente en la autoestima, crucial para el bienestar psicológico y el éxito académico. **Metodología:** Este estudio cuantitativo transversal investigó la influencia de la adicción a las redes sociales en el estado de la autoestima de 521 estudiantes de psicología, seleccionados por conveniencia. Se utilizaron la Escala de Adicción a las Redes Sociales (SMAS-SF) y la Escala de Autoestima Situacional (SSES). **Resultados:** Los resultados indican que los problemas derivados del uso de redes sociales ($\beta=-0.42$, $p<.001$) y la obsesión por estar conectado ($\beta=-0.49$, $p=0.01$) son predictores significativos de una autoestima más baja, explicando el 10% de la varianza en la autoestima como estado. **Discusión:** La adicción a las redes sociales tiene un impacto negativo moderado en la autoestima de los estudiantes universitarios, lo que conlleva implicaciones negativas sobre el bienestar. **Conclusiones:** Se resalta la necesidad de intervenciones específicas para mitigar estos efectos. Se recomienda realizar más investigaciones para desarrollar y evaluar la efectividad de dichas intervenciones a largo plazo.

Palabras clave: estado de autoestima; adicción; adicción a las redes sociales; investigación empírica; desempeño de la autoestima; salud mental; bienestar; estudiantes universitarios.

1. Introduction

In the current context, where intermediality is the key to human communications through technological convergence, generic hybridisation, and aesthetic reinterpretation (Scolari, 2023), a close relationship has been generated between the use of social media (e.g. Facebook, Instagram, Tik Tok, X, etc.) and emotional well-being (Maurya et al., 2024). The constant use of social media produced in recent years an increase in dependence on them due to the overstimulation of the dopaminergic system (Pedrouzo & Krynski, 2023), which generates addiction to them (Maza et al., 2023). Continuous exposure to social media, facilitated by mobile devices, raises questions about their emotional and psychological impact on the subjects at the most personal level (Flynn et al., 2022). Hence, there is an increasing concern regarding the mental health of users. The relationship between social media use and self-esteem is complex and shows mixed patterns. Some studies indicate a significant negative relationship between problematic social media use and self-esteem, particularly in young people (Cingel et al., 2022; Sireli et al., 2023; Wagner et al., 2014). Other recent studies go further, revealing the existence of a direct relationship between the use of social media, anxiety, depressive symptoms, and eating disorders (Blanchard et al., 2023; Ulvi et al., 2022; Zubair et al., 2023). In addition, inordinate use has implications for body image dissatisfaction, increased risk of addiction and cyberbullying, and even affecting mood (Zsila & Reyes, 2023). Addictive behaviour in social media, identified by Andreassen et al. (2017), reflects the need to feed the ego and the intention to avoid negative self-evaluation; these components are a fundamental part of the constitution of self-esteem, which is relevant at the level of physical and psychological health (Lee & Way, 2021). It should be noted that the detrimental impact of social media use manifests itself in various adverse effects, such as lack of sleep, social anxiety, and depression, with a higher prevalence of these depressive symptoms in women (Azem et al., 2023).

The need to investigate the connection between social media and self-esteem lies in understanding how the constant exposure to disproportionate ideals displayed by social media (Möri et al., 2022; Thomas & Kleyman, 2020) can influence young people's mental and emotional health. Studies suggest a reciprocal relationship between the use of social media and self-esteem, where the level of self-esteem may motivate more frequent use of social media, and, in turn, the use of these platforms may be a source of low self-esteem. This phenomenon appears to be more detrimental in women (Miljeteig & Von Soest, 2022; Steinsbekk et al., 2021). Self-esteem is one of the constituent personal factors of well-being (Pandey et al., 2021). Thus, this issue has implications in the psychological realm and in sociological and cultural aspects, as it alters notions of success and acceptance (Rani & Padmalosani, 2019) and even the norms of contemporary society (Smith, 2018). One is social comparison, social feedback processing, and self-reflection. Social comparison in networks often decreases self-esteem, whereas receiving positive feedback or using these platforms for self-reflection can benefit self-esteem (Krause et al., 2021).

Also, studies on self-esteem have been limited to quantifying the relationship between general self-esteem and a person's overall and relatively stable assessment of their own value and competence (Muris & Otgaar, 2023). This form of self-esteem develops over time and is influenced by accumulated experiences, interpersonal relationships, and personal achievements. This concept could, at the same time, be the cause of social media addiction. It is now recognised that social comparisons impact self-esteem in general; it is essential to note that this effect varies between men and women, being more pronounced in the latter (Al-Helal et al., 2021). Social media use shows different patterns according to gender. In women, low initial self-esteem predicts more frequent use of social media (Miljeteig & Von Soest, 2022). Upward comparisons on Instagram negatively impact psychological well-being, including self-esteem, especially among college students (Song, 2023). Passive Facebook use has been associated with more significant depressive tendencies mediated by lower self-esteem in the long term (Ozimek & Bierhoff, 2020). Other-oriented social media use negatively affects appearance-related self-esteem from childhood through adolescence, particularly in girls (Steinsbekk et al., 2021).

The importance of fostering constructive social media practices to promote optimal mental health outcomes has been emphasised (Chukwuere & Chukwuere, 2023). Life satisfaction mediated the effect of self-esteem and educational level on social media addiction, suggesting the implementation of specific practices based on self-esteem and education to minimise problems stemming from overuse (Koçak et al., 2021). Guided use of social media has been proposed to increase self-esteem. An experimental study found that regularly viewing one's Instagram profile had self-affirming effects on self-perception, indirectly improving self-esteem (Khoo et al., 2024).

The impact of social media addiction on self-esteem is multifaceted, with both positive and negative implications. The effect varies by age and gender, and potential interventions such as encouraging constructive practices and guided use of social media have been suggested. Studies in the area have not embraced the concept of self-esteem status, which implies a person's temporary and fluctuating appraisal of himself or herself at a specific moment in time. This state can vary significantly in response to recent events, social interactions, or changes in the immediate environment. Theoretically, this concept would be affected by the continuous use of social media.

The term "addiction" is not limited only to substance dependence; it has been identified that the essential component in all addictive disorders lies in the lack of self-control, manifesting

itself as the person's inability to regulate a specific behaviour that, although initially presented as pleasurable, eventually is consolidated as a preference that progresses to the point of dominating the individual's life (Holden, 2001). It is linked to certain behavioural habits that can also develop in an addictive manner, interfering with people's daily routines (Fujiwara et al., 2022). As addiction evolves, behaviours become involuntary, being triggered by emotions and impulses, with little control by the individual. The addicted person craves immediate gratification, often without being aware of the possible consequences of their behaviour (Verdejo-García & Bechara, 2009).

There are several definitions of self-esteem since its conceptualisation requires the consideration of several interrelated factors. Each expert approaches the definition differently, highlighting different elements as crucial. Nathaniel Branden, for example, describes it as "the willingness to experience oneself as competent to meet the basic challenges of life and as capable of learning and adapting" (1995, p. 45). In contrast, Stanley Coopersmith defines it as "the evaluation a person makes and sustains of himself as a significant entity in the world" (Coopersmith, 1967, p. 4). Based on these perspectives, it can be inferred that self-esteem is based on two main traits: the ability to value oneself and give importance to oneself in the global context and the willingness to face life's challenges through continuous learning and adaptation.

Dopamine is a chemical that plays a central role in motivating behaviour. It is released in situations of successful social interactions, physical exercise, and sexual intercourse, among others, and it acts as a reward system for beneficial behaviours, prompting us to repeat them. Numerous applications have adopted reward patterns intending to retain users. Users are in front of the screen for as long as possible. These patterns are based on experiments by psychologist Burrhus Frederic Skinner, who discovered that mice respond more frequently to stimuli associated with rewards when these are delivered unpredictably, without being able to anticipate when they will occur. Regarding behavioural responses to positive stimuli, we humans are similar to them. In many situations of boredom or out of simple habit, a person will find themselves checking their cell phone (Haynes, 2024).

Instagram and TikTok users show significantly elevated levels of social media addiction, as well as depression and anxiety, compared to those who do not use these platforms. The combination of engaging visual content and the possibility of interacting with friends and followers through comments and likes generates instant gratification. In addition, the growing need to obtain more followers and likes correlates with increased levels of stress, anxiety and the risk of developing an addiction (Landa-Blanco et al., 2024). It has been reported that the use of social media can lead to dissatisfaction with body image, increase body image dissatisfaction, increase behaviours such as "phubbing, and negatively affect mood. Excessive use increases the possibility of isolation; users at risk of social media addiction often manifest depressive symptoms and lower self-esteem (Zsila & Reyes, 2023). Additionally, Recent research indicates that there is a close relationship between problematic use of social media and the fear of missing out on something missing out (Hussain et al., 2024).

While the existing body of research has explored the effects of social media usage on psychological well-being, delving deeper into the nuanced experiences of individuals within specific cultural contexts, such as Ecuador, can yield valuable insights that broader studies may not capture. Therefore, the present research aims to establish the influence of social media addiction on self-esteem state in university students in Samborondón, Ecuador.

2. Methodology

2.1. Participants

A total of 521 psychology students participated in the study, with a mean age of 20.67 years (SD=2.76). Of the participants, 60.08% were female (n=313), 38.20% were male (n=199), and 1.73% chose not to respond (n=9). Among the participants, 35 reported having children (6.72%), and 147 were employed at the time of data collection (23.21%). Regarding marital status, the majority of participants, 478 (91.75%), reported being single.

The sample was analysed using the G*Power software (Faul et al., 2009). Based on the effect sizes found in the study, the analysis revealed a statistical power of 100% for the four linear regression models. All procedures carried out in this study adhered to the standards of the Ethics Council of Ecotec University following the 1964 Helsinki Declaration and its subsequent modifications.

2.2. Materials

Sociodemographic data was collected through an ad hoc questionnaire that included questions about age, employment status, marital status, and sex. The questionnaire was developed following security guidelines, and care was taken to avoid asking questions that could be considered offensive or discriminatory regarding gender.

The Social Media Addiction Scale - Student Forms (SMAS-SF; Şahin, 2018) was utilised to assess social media addiction among students. The Spanish adaptation of the scale (Valencia-Ortiz & Cabero-Almenara, 2019) comprises four dimensions: Need/Obsession to be connected, Satisfaction, Problems, and Obsession with staying informed. It consists of 26 items, each rated on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". The SMAS-SF has demonstrated high internal consistency in Spanish-speaking populations, with Cronbach's α values ranging from 0.78 to 0.93. The internal consistency of the SMAS-SF subscales in this study ranged from α values of approximately 0.77 (Need/Obsession to be connected) to 0.90 (Satisfaction), indicating strong internal consistency within each measured construct.

The State Self-Esteem Scale (SSES) assessed an individual's self-esteem at a specific moment. The Spanish adaptation of the scale (Tomás et al., 2013) comprises 20 items; each item is rated on a 5-point scale, ranging from 1 (not at all) to 5 (significantly), and measures three dimensions: Performance, Social, and Appearance. In this study, the internal consistency of the SSES subscales demonstrated good internal consistency within each construct, with α values of 0.70 (Performance), 0.86 (Social), and 0.71 (Appearance).

2.3. Procedure

The data collection was conducted anonymously. It was carried out through convenience sampling in classroom settings, and a rigorous participant selection process was implemented to ensure alignment with the research objectives and inclusion criteria (age \geq 18 years, psychology student, regular class attendance, and signing the informed consent). Before accessing the survey, participants received comprehensive information about the study's objectives and eligibility requirements. The survey design prioritised participant autonomy by not imposing a time limit to decide whether to participate in the study.

2.3. Analyses

Statistical analysis of the data was performed using Jeffreys's Amazing Statistics Program (JASP Team, 2023). Internal consistency for SMAS-SF and SSES was measured in the sample. In addition, the Kolmogorov-Smirnov test was used to determine the distribution of the data, yielding a result of $p < ,05$. Following this, the Welch's t-test was applied to compare both social media addiction and self-esteem status between men and women. Due to the non-parametric distribution of the data, Spearman's correlation was subsequently employed. Several multiple regression models were then evaluated using a stepwise selection method. This method was chosen because of the limited information available regarding the influence of social media addiction on self-coping strategies, the presence of states of depression, anxiety, and stress, and the burden of informal caregivers.

3. Results

Table 1 presents the descriptive statistics, the Kolmogorov-Smirnov test results for assessing the data distribution, and Welch's t-tests for examining sex differences. The findings from the Kolmogorov-Smirnov test suggest that the variables do not follow a specific parametric distribution, with a p-value less than ,05. Additionally, when examining gender differences, it was determined that they were not statistically significant in the sample, with a p-value greater than ,05.

Table 1.

Descriptive statistics.

Variable	Mean	S.D.	Min	Max	Ks	t
Need/obsession to be connected	12,89	3,49	4,00	20,00	0,10*	1,11
Satisfaction	17,98	6,84	7,00	35,00	0,08*	-0,74
Problems	18,70	6,45	7,00	35,00	0,08*	-1,16
Obsession with staying informed	20,62	6,16	7,00	35,00	0,09*	-0,04
Performance (self-esteem)	23,55	4,86	7,00	35,00	0,15*	-0,005
Social (self-esteem)	23,70	6,02	7,00	35,00	0,08*	-1,28
Appearance (self-esteem)	19,00	4,21	7,00	30,00	0,12*	-0,95
Self-esteem	66,25	12,33	22,00	100,00	0,10*	-0,95

Note: S.D. = Standard Deviation; Ks = Kolmogorov-Smirnov test; t = Welch's t test Women - Men; * $p < ,05$

Source: Authors' elaboration (2024).

Table 2 summarizes the results of the Spearman correlation analysis conducted to assess the relationship between social media addiction (Need/Obsession to be connected, Satisfaction, Problems, and Obsession with staying informed) and self-esteem states (Performance, Social, Appearance, and Self-esteem state) as presented in the study. Additionally, several variables were analyzed, such as age, gender, and educational level. However, no significant correlations were found between addiction to social media and self-esteem.

Table 2.*Spearman rho correlations.*

Variable	1.	2.	3.	4.	5.	6.	7.
1. Need/obsession to be connected	—						
2. Satisfaction	0,50*	—					
3. Problems	0,59*	0,74*	—				
4. Obsession with staying informed	0,60*	0,65*	0,74*	—			
5. Performance (self-esteem)	-0,24*	-0,35*	-0,37	-0,25*	—		
6. Social (self-esteem)	-0,16*	-0,16*	-0,20*	-0,14*	0,59*	—	
7. Appearance (self-esteem)	-0,22*	-0,27*	-0,26*	-0,19*	0,46*	0,26*	—
8. Self-esteem	-0,23*	-0,31*	-0,32*	-0,22*	0,85*	0,85*	0,60*

Note: * $p < ,05$ **Source:** Authors' elaboration (2024).

Four stepwise model regression analyses were performed to identify variables predicting the state of self-esteem. In all models, as shown in Table 3, all factors of social media addiction were included. The resulting models explained 13% of variance in Self-esteem Performance ($F[2, 509] = 39,45$, $p < ,001$), 3% of variance in Self-esteem Social ($F[1, 210] = 17,00$, $p < ,001$), 3% of variance in self-esteem appearance ($F[2, 509] = 25,93$, $p < ,001$) and 11% of variance in self-esteem state ($F[8, 596] = 48,25$, $p < ,001$). The study chose stepwise regression analysis because it provides more robust results and verifies the values that Spearman's correlation does not consider relevant (Zhang, 2023).

Table 3.*Multiple regression models for self-esteem.*

Model	Variable	R ²	B	95% CI	SE	β	t
Performance	Intercept	0,13	28,83	27,60 , 30,06	0,63		45,93*
	Problems		-0,17	-0,27 , -0,07	0,05	-0,23	-3,41*
	Satisfaction		-0,11	-0,21 , -0,02	0,05	-0,16	-2,35
Social	Intercept	0,03	27,71	25,72 , 29,69	1,01		27,42*
	Need/obsession to be connected		-0,31	-0,46 , -0,16	0,08	-0,18	-4,12*
Appearance	Intercept	0,09	23,41	22,05 , 24,77	0,69		33,92*
	Satisfaction		-0,13	-0,19 , -0,06	0,03	-0,20	-3,92*
	Need/obsession to be connected		-0,16	-0,29 , -0,04	0,06	-0,14	-2,60
Self-esteem	Intercept	0,11	80,90	76,94 , 84,86	2,02		40,10*
	Problems		-0,41	-0,62 , -0,20	0,11	-0,21	-3,87*
	Need/obsession to be connected		-0,54	-0,93 , -0,16	0,20	-0,15	-2,76

Note: B = unstandardized beta coefficient; β = standardized beta coefficient. * $p < ,001$ **Source:** Authors' elaboration (2024).

4. Discussions

Given the lack of internal consistency analysis in the Ecuadorian population, we deemed it crucial to assess the reliability of SMAS-SF and SSES before examining their predictive value concerning self-esteem related to social media addiction. It's worth noting that a study by Rivadeneyra et al. (2007), which scrutinized self-esteem and media exposure in a small Latin American sample studying in the United States, identified good internal consistency of the SSES. Our results demonstrated acceptable internal consistency of the SSES (ranging from .70 to .86), thereby endorsing its utilization across cultures in a large sample from the Ecuadorian population.

As for the SMAS-SF, it has undergone validation and analysis across multiple cultures (Aktaş et al., 2023; Ursoniu et al., 2022). Our study found good to excellent internal consistency (ranging from .77 to .90) in the Spanish version, mirroring the findings in the study by Valencia-Ortiz & Cabero-Almenara (2019). However, we must underscore the need for future studies to concentrate on performing an internal validation and assessing the intertemporal reliability of these instruments.

After confirming the psychometric properties of the instruments, we analyzed the predictive value of several sociodemographic variables on self-esteem. Our results did not show significant differences regarding gender in terms of social media addiction or self-esteem levels. This contrasts with other studies that have revealed an increase in addiction among women as a risk factor and also a decrease in self-esteem levels in women (Masya et al., 2022; Zhao et al., 2022). It is important to note that differences in the level of social media addiction have been predominantly observed in adolescent populations. A possible reason for young adults showing similar levels of addiction across genders could be the greater equality in the use and access to technology and social media at this stage of life, as well as greater integration of these platforms into the daily lives of both men and women.

From the resulting models, it is evident that only social media addiction plays a predominant role in predicting self-esteem. Specifically, the models indicate that social media addiction accounts for 13% of the variance in self-esteem related to performance, 3% in self-esteem related to social factors, 3% in self-esteem related to appearance, and 11% in overall self-esteem. The results of the predictive variance are similar to those found by Huang (2022), who conducted a meta-analysis of 133 studies. This meta-analysis demonstrated that there is a small effect on self-esteem.

Among the factors of the self-esteem state, performance is predicted by both the problems generated by addiction to social media and by the satisfaction users receive when connecting to them. Similar results were found in the study by Kahn (2021). However, Ozimek & Bierhoff (2020) found that social comparison on social media, when seeing oneself as better or worse than others, is the most significant predictor of performance in self-esteem. This is explained by the fact that the greater the use of social media, the greater the satisfaction mediated by dopaminergic mechanisms, and at the same time, the greater the various problems associated with continuous use (Westbrook et al., 2021). This can lead individuals to disconnect from real life, creating a fictitious life that is difficult to achieve due to aesthetic pressures and dependence on external validation, which contributes to negative thoughts and emotions, ultimately leading to low self-esteem.

The social factor of the state of self-esteem, which refers to an individual's current level of self-worth or self-regard in social contexts, is mediated or predicted by the need or obsession to stay connected, albeit to a minimal extent (3%). Although various studies have found an

inversely proportional relationship between the need to connect and trait self-esteem (Faelens et al., 2021; Farooq et al., 2023), particularly in females (Al-Helal et al., 2021), results specifically addressing self-esteem's social aspect were previously non-existent. The need to stay connected affects the state of social self-esteem because external validation through "likes" and positive comments can provide temporary satisfaction but can also create an emotional dependency that negatively impacts self-esteem when such validation is lacking or insufficient.

Finally, it was found that the appearance aspect of self-esteem is affected by both the satisfaction of connecting and the need to stay connected. Similar results were found by Steinsbekk et al. (2021), where increased use, mainly when driven by others' perceptions, results in a lower appearance aspect of self-esteem. The satisfaction of connecting and the need to stay connected affect the appearance of self-esteem because social media fosters constant comparison with others. By seeing images and posts of people who seem to have perfect lives, users may feel inferior or dissatisfied with their own appearance and achievements (Koçak et al., 2021). This constant comparison can erode self-esteem, especially if users feel they cannot meet those idealized standards.

In conclusion, our study highlights that social media addiction is a significant predictor of self-esteem across various dimensions, including performance, social factors, and appearance. Unlike previous studies, our analysis focused on self-esteem as a state rather than a trait, providing a more dynamic and contextualized perspective on how social media influences individuals' self-perceptions in the present moment. This approach is valuable as it allows for a better understanding of the fluctuations in self-esteem that can result from daily social media use and the constant pursuit of external validation. Despite the lack of significant gender differences in social media addiction and self-esteem levels among young adults, our findings suggest that the pervasive use of social media and the associated need for external validation can negatively impact self-esteem. This aligns with previous research indicating that social comparison and the pursuit of validation on social media platforms contribute to lower self-esteem. The observed internal consistency of the SMAS-SF and SSES in the Ecuadorian population supports their cross-cultural applicability, emphasizing the importance of reliable measurement tools in understanding the complex relationship between social media use and self-esteem. Future research should continue to explore these dynamics, mainly focusing on longitudinal studies to assess the long-term effects of social media addiction on self-esteem.

5. Conclusions

In conclusion, our study makes a significant contribution to the advancement of knowledge in the field of social psychology and the relationship between social media use and self-esteem. By focusing on self-esteem as a state rather than a trait, we provide a more dynamic and contextualized view of how social media influences individuals' self-perceptions in the present moment. This approach allows for a more accurate understanding of the fluctuations in self-esteem that can result from daily social media use and the constant pursuit of external validation.

Our findings highlight the importance of considering contextual and temporal differences in self-esteem, as well as the impact of social media addiction on various dimensions of self-esteem. The validation of the SMAS-SF and SSES instruments in the Ecuadorian population also supports their cross-cultural applicability, which is crucial for future research in different cultural contexts.

Regarding practical recommendations, mental health professionals should develop and apply

interventions that help individuals manage their social media use, minimizing emotional dependence on external validation. Additionally, educational programs that teach young people to use social media healthily and consciously can be beneficial in mitigating the adverse effects on self-esteem.

Additionally, it is essential to promote the self-regulation of content and use on social media to reduce exposure to unrealistic aesthetic standards and encourage healthier use of these platforms. Moreover, educational and workplace institutions should offer resources and support to manage social media use and promote a positive digital culture.

For future research, longitudinal studies that assess the long-term effects of social media addiction on self-esteem and other psychological aspects are essential. Furthermore, research that includes greater cultural diversity can provide a broader and more global understanding of the impact of social media on self-esteem. It is also essential to evaluate the effectiveness of various interventions designed to reduce emotional dependence on external validation and improve self-perception in social media users.

In summary, this study provides valuable insights into the relationship between social media and self-esteem. It offers a solid foundation for future research and the development of policies and practices that can mitigate the adverse effects of excessive social media use.

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AUTHORS:**Daniel Oleas Rodríguez**

Universidad Ecotec.

Associate Professor in Research Design in Psychology at the Faculty of Communication, Humanities, and Creativity. Holds responsibility for the research area of the Psychology program at Ecotec University. Leadership for the research project "Techniques for Emotional Care and Self-Care".

daoleas@ecotec.edu.ec

Índice H: 2

Orcid ID: <https://orcid.org/0000-0002-7347-814X>

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=57211180450>

Google Scholar: <https://scholar.google.com/ec/citations?user=PpXezfEAAAAJ&hl=es>

Gonzalo López-Barranco Pardo

Universidad Ecotec.

Universidad de Valladolid.

Associate Professor in Special Topics in Communication at the Faculty of Communication, Humanities and Creativity. Director of Internationalization Department at Ecotec University. Member of the research project "Techniques for Emotional Care and Self-Care". PhD. (c) at University of Valladolid.

glopezbarranco@ecotec.edu.ec

Orcid ID: <https://orcid.org/my-orcid?orcid=0009-0008-2463-4338>

Google Scholar: <https://scholar.google.com/citations?user=ZxbqgScAAAAJ&hl=es>