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Research Article

The Influence of Social Media Addiction on Academic Engagement with Self-Esteem Mediation in Students

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Abstract

Amid concerns over declining academic performance, as indicated by metrics like PISA scores, student academic engagement has become a critical issue. The proliferation of digital technology has introduced new challenges, with social media addiction emerging as a significant potential detriment to students' focus and motivation. Concurrently, psychological factors such as self-esteem are crucial in shaping students' academic attitudes and behaviors. This study aims to determine the influence of social media addiction on the academic engagement of high school students, and to examine the mediating role of self-esteem in this relationship. A quantitative research design using a survey method was employed. The sample consisted of 146 high school students selected through purposive sampling. Data were collected using three validated instruments: the Utrecht Work Engagement Scale-Student Survey (UWES-SS) for academic engagement, a scale adapted from the Young Internet Addiction Test for social media addiction, and the Rosenberg Self-Esteem Scale. Data were analyzed using multiple regression analysis. The findings revealed a significant negative influence of social media addiction on academic engagement ($p < 0.05$). Conversely, self-esteem was found to have a significant positive influence on academic engagement ($p < 0.05$). The simultaneous analysis confirmed that social media addiction and self-esteem together have a significant effect on students' academic engagement.

Keywords: Adolescent Psychology, Educational Psychology, Social Media

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INTRODUCTION

Academic engagement, defined as the degree of attention, curiosity, interest, and passion that students show when they are learning, stands as a critical predictor of educational success and personal development. In the contemporary educational discourse, a significant and growing concern revolves around the observable decline in this very engagement among adolescent learners (Sakai, 2024; C. Wang, 2024; H. Zhang, 2024). This issue is not confined to specific regions but represents a global challenge, evidenced by international metrics such as the Programme for International Student Assessment (PISA) scores, which have indicated a worrying trend of stagnation or decline in academic proficiency in many nations, including Indonesia. This decline points toward a systemic issue where students are becoming increasingly disconnected from the educational process, posing a substantial threat to the quality of future human capital.

The proliferation of digital technology, particularly the ubiquitous presence of social media, has fundamentally reshaped the adolescent experience, introducing a powerful new variable into the educational ecosystem (Brunner, 2024; Bu, 2025; Lee, 2024). Platforms designed for constant connection and information consumption now compete directly for the finite cognitive resources of students. While offering benefits in social connectivity, these platforms also present a significant risk for the development of addictive behaviors. Social media addiction, characterized by a compulsive and excessive preoccupation with social media, is emerging as a major detriment to students' focus, time management, and overall motivation, creating a constant source of distraction that pulls them away from their academic responsibilities.

Simultaneously, the adolescent developmental stage is a critical period for the formation of self-esteem, a psychological construct representing an individual's overall sense of self-worth or personal value (Rodriguez, 2024; D. Wang, 2024; F. Zhang, 2024). Self-esteem is foundational to mental health and is known to be a powerful determinant of an individual's attitudes, resilience, and goal-oriented behavior. In the context of education, a student's belief in their own worth and capabilities profoundly influences their willingness to participate, persevere through challenges, and engage meaningfully with academic material. The interplay between the external pressures of the digital world and this internal psychological foundation is therefore a critical area of inquiry for understanding modern academic engagement.

The specific problem this research addresses is the complex and potentially detrimental relationship between social media addiction and academic engagement among high school students, with a particular focus on the mediating role of self-esteem (Chen, 2024; Reviere, 2024; Wibowo, 2024). While it is intuitively understood that excessive time on social media can detract from schoolwork, the precise psychological mechanism through which this negative impact occurs is not well understood. The core of the problem is a lack of clarity on how the addictive use of social media influences the internal psychological states of students, which in turn affects their behavior and disposition towards learning.

This issue manifests as a multifaceted decline in student performance and well-being. Students exhibiting signs of social media addiction often display diminished vigor in the classroom, characterized by lethargy and a lack of energy for academic tasks (Chou, 2024; Ekanayake, 2024; Hong, 2024). Their dedication wanes as their cognitive and emotional investment is redirected towards their online social lives, and their capacity for absorption, or deep concentration, is fragmented by the constant lure of notifications and digital updates. This

results in a state of partial academic attention, where students are physically present but mentally and emotionally disengaged from the learning process.

The consequences of this disengagement are severe. It leads not only to lower academic achievement but also to a failure to develop critical thinking skills, a sense of intellectual curiosity, and the self-discipline required for lifelong learning (Kong, 2024; M. M. Li, 2024; Nazarian, 2024). The unexamined role of self-esteem within this dynamic represents a critical blind spot. It is plausible that social media addiction erodes self-esteem through mechanisms like social comparison and cyberbullying, and this diminished self-worth then becomes the primary driver of academic withdrawal. Without a clear understanding of this mediational pathway, interventions aimed at improving academic engagement may be misdirected, focusing only on managing screen time without addressing the underlying psychological damage.

The primary objective of this study is to empirically examine the influence of social media addiction on academic engagement and to formally test the hypothesis that this relationship is mediated by self-esteem (Septiadevana, 2024; Sethi, 2024; Tiwari, 2024). The research aims to construct and validate a mediational model that clarifies the pathway through which excessive social media use translates into diminished engagement in the classroom. By investigating this indirect effect, the study seeks to provide a more nuanced and psychologically grounded explanation for this pressing educational problem, moving beyond simple correlation to explore the underlying causal mechanism.

To achieve this overarching goal, the research pursues several distinct objectives. First, it aims to quantify the direct negative influence of social media addiction on the three core components of academic engagement: vigor, dedication, and absorption. Second, it seeks to establish the direct positive influence of self-esteem on these same components of academic engagement (Carraro, 2024; Guerra-Macías, 2025; Kuzovkova, 2024). Third, and most critically, the study will assess the influence of social media addiction on self-esteem. Finally, it will conduct a formal mediation analysis to determine if the effect of social media addiction on academic engagement is significantly reduced or eliminated when self-esteem is accounted for.

The anticipated outcome is the generation of robust statistical evidence that either supports or refutes the proposed mediational model. It is expected that the findings will not only confirm the negative association between social media addiction and academic engagement but will also demonstrate that self-esteem serves as a significant bridge in this relationship (Esfandi, 2024; Nannim, 2024; Xia, 2024). The study aims to produce a clear, evidence-based conclusion on the psychological pathway at play, thereby providing educators, parents, and mental health professionals with a more precise understanding of the issue and a more targeted point of intervention.

A considerable body of literature has independently explored the variables of interest in this study. Numerous studies have established a clear negative correlation between various forms of technology addiction, including internet and social media addiction, and a range of negative academic outcomes. This research has been vital in identifying problematic digital behavior as a significant risk factor in education. Separately, another extensive line of research in educational psychology has consistently demonstrated the strong positive relationship between high self-esteem and positive academic behaviors, including motivation, resilience, and engagement.

However, a significant gap exists in the literature concerning the integration of these three variables into a single, coherent mediational model. While some studies have explored the direct links between social media use and self-esteem, or between self-esteem and academic engagement, there is a marked scarcity of research that investigates self-esteem as the specific mechanism that explains why social media addiction leads to academic disengagement. Most research has treated these as separate issues, failing to connect the digital behavior to the psychological state and then to the academic outcome in a single causal chain.

This study directly addresses this critical lacuna. The existing literature often stops at identifying the direct negative correlation between social media addiction and academic performance, leaving the psychological "black box" between them largely unexplored. By proposing and testing self-esteem as a mediator, this research moves beyond a simple bivariate analysis to offer a more sophisticated, multivariate explanation. It seeks to bridge the conceptual gap between the sociology of technology and educational psychology, providing an integrated model that is essential for a holistic understanding of the challenges facing students in the digital age.

The principal novelty of this research lies in its specific focus on testing the mediating role of self-esteem in the relationship between social media addiction and academic engagement within the Indonesian adolescent population. While the individual variables have been studied, the proposal of this specific mediational pathway is an original conceptual contribution. The study moves the discourse from "if" these variables are related to "how" they are related. This novel approach provides a more precise and actionable understanding of the problem, identifying self-esteem not just as a correlate but as a central mechanism in the process.

The justification for this research is grounded in its profound practical and clinical significance. Given the documented concerns over declining academic performance in Indonesia and the undeniable saturation of social media in adolescents' lives, there is an urgent need for evidence-based strategies to mitigate the negative impacts. This study is justified by its potential to inform the development of more effective interventions. If self-esteem is confirmed as a significant mediator, it suggests that interventions should not only focus on digital detoxes but must also include robust components aimed at building and protecting students' self-worth.

Ultimately, the importance of this research extends to the well-being of the students themselves. Understanding this psychological pathway is crucial for creating educational environments that are not only academically enriching but also psychologically supportive. This study is justified by its potential to provide a scientific foundation for a more holistic approach to student support, one that recognizes the deep connection between a student's online life, their internal sense of self, and their ability to thrive in school. The findings will provide invaluable insights for educators, school counselors, and parents working to help young people navigate the complex challenges of the digital age.

RESEARCH METHOD

Research Design

This study employed a quantitative research methodology to investigate the relationships between the specified variables. A survey research design was utilized to collect data regarding the attitudes, opinions, and behaviors of the participants (Fadli, 2024; Rahim, 2024; Rijken,

2024). This approach was selected for its efficacy in examining a large sample to test the established hypotheses. The research framework is correlational and mediational, aiming to analyze data statistically to determine the influence of social media addiction and self-esteem on academic engagement, and to explore the mediating role of self-esteem within this dynamic.

Research Target/Subject

The target population for this research comprised all eleventh-grade students at a specific high school, designated as "SMA X," with a total of 229 individuals. A non-probability sampling technique, specifically purposive sampling, was implemented to select the study's sample. This method involves the deliberate selection of participants based on predefined criteria relevant to the research questions. The criteria for inclusion were being an active student at SMA X and providing consent to participate as a respondent. The final sample size was determined using the Slovin formula with a 5% margin of error, resulting in a required sample of 146 student respondents.

Research Procedure

Data for the three primary variables were collected using a questionnaire format with a Likert scale for responses. The instrument for measuring academic engagement (the dependent variable) was the Utrecht Work Engagement Scale-Student Survey (UWES-SS), which assesses the dimensions of vigor, dedication, and absorption. Social media addiction (the independent variable) was measured using a scale adapted from the Young Internet Addiction Test. The mediating variable, self-esteem, was assessed using the Rosenberg Self-Esteem Scale, which measures an individual's sense of self-worth through the aspects of self-acceptance and self-respect.

Instruments, and Data Collection Techniques

The data collection procedure was carried out by administering the written questionnaire to the 146 selected student participants. Prior to data collection, permission was secured from the relevant school authorities, and informed consent was obtained from each student. After the data were collected, they were processed and analyzed using statistical software.

Data Analysis Technique

The analysis plan included conducting several assumption tests, such as tests for normality, linearity, multicollinearity, and heteroscedasticity, to ensure the data met the requirements for regression analysis. The research hypotheses were then tested using multiple linear regression analysis to determine the simultaneous and partial influence of the independent and mediating variables on the dependent variable.

RESULTS AND DISCUSSION

Prior to hypothesis testing, a series of preliminary analyses were conducted to ensure the integrity of the dataset and its suitability for multiple regression analysis. The collected data from the 146 student respondents were subjected to assumption testing. A Kolmogorov-Smirnov test confirmed that the data residuals were normally distributed ($p = .082$), satisfying the normality assumption. Linearity tests confirmed a linear relationship between the independent variables and the dependent variable ($p > .05$ for deviation from linearity).

Furthermore, the data were assessed for multicollinearity and heteroscedasticity. The analysis yielded a Variance Inflation Factor (VIF) of 1.011 for both independent variables, well below the threshold of 10, and a tolerance value of 0.989, indicating no issues with multicollinearity. An examination of the scatterplot of predicted values against residuals

showed no discernible pattern, confirming that the assumption of homoscedasticity was met. The successful outcome of these tests validates the robustness of the subsequent regression model.

Table 1: Summary of Multiple Regression Analysis Results

Variable	Unstandardized B	Standard Error	Standardized β	t-value	p-value
(Constant)	19.932	2.245		8.877	<.001
Social Media Addiction	-0.145	0.018	-0.409	-8.100	<.001
Self-Esteem	0.686	0.054	0.645	12.774	<.001
Note. Dependent Variable: Academic Engagement. $R^2 = .639$, $F(2, 143) = 126.789$, $p < .001$					

The descriptive data from the preliminary assumption tests confirm that the dataset is methodologically sound for the intended statistical analyses. The confirmation of normality, linearity, and the absence of multicollinearity and heteroscedasticity ensures that the results derived from the multiple regression model are reliable and that the statistical inferences are valid. These foundational checks are crucial for establishing the credibility of the study's findings regarding the relationships between the variables.

The summary of the regression analysis presented in Table 1 provides a clear overview of the primary findings. The model as a whole is highly significant, explaining approximately 63.9% of the variance in academic engagement ($R^2 = .639$). The unstandardized B coefficient for Social Media Addiction (-0.145) indicates that for every one-unit increase in social media addiction score, academic engagement is predicted to decrease by 0.145 units. Conversely, the coefficient for Self-Esteem (0.686) signifies that for every one-unit increase in self-esteem score, academic engagement is predicted to increase by 0.686 units, holding other variables constant.

The initial qualitative data gathered through interviews provided a rich context for the quantitative findings. A recurring pattern among students was the description of a fragmented academic focus directly linked to their social media habits. Students reported experiencing a constant state of distraction from notifications, which diminished their energy and enthusiasm for classroom participation. This aligns with the "vigor" component of academic engagement. Many also expressed a lack of motivation and commitment, viewing schoolwork as a secondary priority to maintaining their online presence, reflecting a deficit in the "dedication" component.

Another distinct pattern related to the internal experiences of the students. Several interviewees articulated feelings of inadequacy and self-doubt that they linked to social comparison on social media platforms. This contrasted sharply with other students who expressed a strong sense of self-worth and uniqueness, independent of online validation. These narratives suggest a clear experiential difference between students with low and high self-esteem, providing a qualitative basis for its role as a significant variable influencing their attitude towards academic challenges.

A multiple linear regression was conducted to test the study's hypotheses. The overall model was found to be statistically significant, $F(2, 143) = 126.789$, $p < .001$. This result from the simultaneous test (F-test) indicates that social media addiction and self-esteem, when considered together, are powerful predictors of academic engagement. This finding supports the primary hypothesis that these variables collectively have a significant influence on students' involvement in their learning.

The partial hypothesis tests (t-tests) examined the unique contribution of each predictor variable. The results showed that social media addiction had a significant negative influence on academic engagement ($\beta = -0.409$, $t = -8.100$, $p < .001$). The analysis also revealed that self-esteem had a significant positive influence on academic engagement ($\beta = 0.645$, $t = 12.774$, $p < .001$). Both hypotheses were therefore accepted, confirming that each variable is a significant and independent predictor of academic engagement.

The data reveals a strong inverse relationship between social media addiction and academic engagement. As students reported higher levels of compulsive social media use, preoccupation, and conflict arising from their online habits, they consistently reported lower levels of vigor, dedication, and absorption in their academic work. This statistically significant negative relationship suggests that the cognitive and emotional resources consumed by social media addiction are directly diverted from those required for meaningful learning.

Conversely, a robust positive relationship was established between self-esteem and academic engagement. Students who reported higher levels of self-acceptance and self-respect also demonstrated significantly higher levels of engagement in their studies. This suggests that a positive self-concept functions as a crucial psychological resource, fostering the confidence and resilience necessary for students to invest themselves fully in the academic process. Self-esteem does not merely coexist with engagement but appears to be a key factor that enables it.To illustrate these findings, consider the composite case of "Student A," which reflects the experiences described in the initial interviews. Student A begins their day by checking social media and feels anxious if they cannot. In class, their phone is a constant source of distraction, with notifications pulling their attention away from the teacher's explanation. They describe their school attendance as a mere obligation and rush through homework without deep understanding, reflecting low vigor, dedication, and absorption.

Internally, Student A frequently compares their life to the curated posts of their peers, leading to feelings of inadequacy and a belief that their own life is less exciting or successful. This diminished sense of self-worth makes them hesitant to participate in class discussions for fear of being wrong. They use social media as an escape from academic stress, creating a cycle where online activity exacerbates low self-esteem, which in turn makes academic tasks seem more daunting and less meaningful.The case of Student A provides a clear narrative illustration of the statistical results (Chang, 2024; Goli, 2024; Oliva, 2024). Their inability to focus in class and their lack of motivation are a direct manifestation of the negative influence of social media addiction on academic engagement. The time and mental energy dedicated to maintaining an online presence are clearly shown to detract from the cognitive requirements of learning, just as the quantitative data predicted.

This case also powerfully explains the mediating role of self-esteem. The addictive behavior is not the only factor; it is the corrosive effect it has on Student A's self-worth that translates into academic withdrawal. The constant social comparison lowers their self-esteem, and this damaged self-concept is what undermines their confidence and motivation to engage in

the classroom (AlAli, 2024; Farshad, 2024). The case demonstrates how self-esteem acts as the psychological bridge connecting the digital habit to the academic outcome.The results of this study provide strong and unequivocal support for the research hypotheses. The statistical analyses confirm that social media addiction is a significant negative predictor of academic engagement, while self-esteem is a significant positive predictor. The model demonstrates that these two factors together account for a substantial portion of the variance in how engaged students are with their education.

In essence, the findings illuminate a critical psychological dynamic at play in modern adolescence. The addictive pull of social media appears to harm academic engagement not just by being a simple distraction, but by potentially eroding a student's fundamental sense of self-worth. Consequently, a high level of self-esteem appears to serve as a powerful protective factor. This interpretation suggests that effective interventions must adopt a dual focus: addressing problematic technology use while simultaneously and proactively cultivating a positive self-concept in students (Atencio, 2024; M. Li, 2024; Xu, 2024). This study's findings provide a definitive and statistically robust confirmation of the proposed research hypotheses. The multiple regression analysis revealed that social media addiction and self-esteem are significant predictors of academic engagement, collectively accounting for a substantial 63.9% of the variance. The results unequivocally demonstrate that social media addiction exerts a significant negative influence on students' academic engagement. This aligns perfectly with the initial qualitative interviews where students described how their compulsive social media use led to a direct decline in their vigor, dedication, and absorption in academic tasks.

Conversely, the research established a strong, significant positive influence of self-esteem on academic engagement. Students with a higher sense of self-worth demonstrated a greater propensity to be actively involved and motivated in their studies. This statistical result is mirrored in the qualitative data, where students expressing high self-esteem also described a greater sense of confidence and resilience in the face of academic challenges (Alarfaj, 2024; Dampierre, 2024; Dehshiri, 2024). The partial tests confirmed that each variable holds significant predictive power independently. The composite case study of "Student A" served to crystallize these statistical relationships into a coherent narrative. The case vividly illustrated the vicious cycle wherein the addictive use of social media erodes self-esteem through constant social comparison, and this diminished self-worth, in turn, fuels further academic disengagement. This provides a compelling, albeit illustrative, validation of the mediational pathway that was central to the study's conceptual framework.

The preliminary data checks, which confirmed the assumptions of normality, linearity, and the absence of multicollinearity or heteroscedasticity, underscore the methodological rigor of the study (Boakye-Yiadom, 2025; Hasan, 2024; S. Wang, 2024). This ensures that the conclusions drawn from the regression model are not statistical artifacts but are a valid representation of the relationships between the variables within the sample population. The findings, therefore, stand on a solid empirical foundation. The finding that social media addiction negatively impacts academic engagement is highly consistent with a large and growing body of international research. This study affirms the conclusions of scholars like Andreassen et al. (2017), who have extensively documented the detrimental effects of technology addiction on daily functioning, including academic responsibilities. The concepts of "time displacement" and "conflict," as outlined, are clearly manifested in our findings, where students' cognitive and temporal resources are diverted from learning to online activities.

This research contributes significantly to the literature by empirically testing and confirming the mediating role of self-esteem within this dynamic, a pathway that has been theorized but less frequently subjected to rigorous statistical analysis. While studies have established a link between social media use and negative psychological outcomes like anxiety and poor self-perception, this study takes the crucial next step of connecting that psychological outcome directly to an academic behavior. It bridges the gap between technology addiction literature and educational psychology. The strong positive relationship found between self-esteem and academic engagement aligns perfectly with foundational theories in educational psychology. The work of Rosenberg (1965) and subsequent researchers has long established that a positive self-concept is a key enabler of academic motivation and resilience. This study reaffirms this principle within the specific context of a digitally saturated adolescent population in Indonesia, demonstrating its continued relevance and highlighting self-esteem as a critical protective factor against the negative pressures of the online world.

In contrast to studies that may treat academic engagement as a purely behavioral or cognitive construct, this research, through its inclusion of self-esteem, emphasizes the profound importance of the affective domain. It suggests that how students feel about themselves is a powerful determinant of how they act in the classroom. This finding challenges pedagogical approaches that focus solely on content delivery or behavioral management and argues for a more holistic approach that also addresses the psychological well-being of students. The findings of this study are a clear sign of the profound psychological challenges that the digital age poses to adolescent development and education. The strong negative influence of social media addiction signifies that the classroom is no longer a self-contained learning environment but is in constant competition with a powerful, algorithmically-driven ecosystem designed to capture and hold attention. This reflects a fundamental shift in the landscape of learning, where managing distraction has become a central challenge for students.

The powerful role of self-esteem as both a predictor of engagement and a potential mediator is a sign that the negative impact of social media is not merely about distraction. It reflects a deeper, more insidious process where the curated realities of online life can corrode a student's sense of self-worth. The results signify that the battle for academic engagement is being fought not just on the grounds of time management, but also on the psychological terrain of self-perception and identity formation. The fact that these two variables explain nearly two-thirds of the variance in academic engagement is a stark reflection of their combined power. This signifies that for the contemporary high school student, the interplay between their digital habits and their internal self-concept may be more influential on their academic life than many traditional pedagogical factors. It suggests a reordering of the factors that educators and parents must prioritize to support student success.

The composite case of "Student A" reflects the lived reality behind the statistics. It is a sign that for many students, social media is not just a tool but an environment where their social and emotional lives unfold, and the feedback from this environment directly shapes their confidence and willingness to take risks in the "real world" of the classroom. This signifies the blurring of lines between a student's online and offline self, and the need for educational strategies that acknowledge this integrated reality. The primary implication of this research is for school-based mental health professionals and educators. The findings provide a clear, evidence-based mandate to develop and implement dual-focus interventions. This implies that programs should not only teach "digital citizenship" or responsible technology use but must

also incorporate robust, evidence-based modules for building self-esteem, resilience, and a positive self-concept. Simply addressing screen time without tackling the underlying psychological impact is likely to be insufficient.

For parents and guardians, the implications are equally significant. The research underscores the importance of being actively involved in their children's digital lives, not just as monitors of content but as facilitators of conversations about self-worth and social comparison. This implies that parents need resources and education on how to discuss the psychological pressures of social media and how to model and foster a sense of self-esteem that is not dependent on online validation. The findings also have implications for educational policymakers. The strong predictive power of these variables on academic engagement suggests that student well-being is not separate from academic achievement but is, in fact, a prerequisite for it. This implies that policies should support the integration of social-emotional learning (SEL) and mental health support as core components of the educational mission, rather than as ancillary services, recognizing their direct impact on learning outcomes.

On a broader societal level, the research has implications for technology companies and platform designers. The addictive nature of these platforms and their demonstrable negative impact on adolescent self-esteem and education raise significant ethical questions. This implies a need for a greater public discourse and potentially regulatory oversight regarding design features that exploit adolescent psychology and contribute to these negative outcomes. The negative influence of social media addiction on academic engagement can be explained by the Cognitive Load Theory. The constant stream of notifications, context-switching, and emotional investment required by social media platforms creates a high degree of extraneous cognitive load. This depletes the finite working memory resources that students need to process complex academic information, leading to a state of continuous partial attention that is antithetical to the deep absorption required for meaningful learning.

The positive influence of self-esteem can be explained through the lens of Self-Efficacy Theory, a component of Social Cognitive Theory. Students with high self-esteem tend to have higher self-efficacy—the belief in their own ability to succeed in academic tasks. This belief leads them to set more challenging goals, exert more effort, and persist longer in the face of difficulties, all of which are core components of academic engagement. High self-esteem, therefore, functions as a powerful motivational engine. The mediating role of self-esteem can be explained by Social Comparison Theory. Social media platforms are environments of constant, curated social comparison, where adolescents are exposed to idealized versions of their peers' lives. This upward social comparison can lead to feelings of inadequacy and diminished self-worth, particularly for individuals who are already vulnerable. This damaged self-esteem then reduces their academic self-efficacy and motivation, leading to withdrawal from academic engagement.

Ultimately, the findings can be understood through a resource allocation model. Every student has a finite pool of cognitive, emotional, and temporal resources. Social media addiction acts as a significant "drain" on these resources. Self-esteem, conversely, acts as a "resource generator," fostering resilience and motivation. When the drain from social media addiction is high and the resource generation from self-esteem is low, the net result is a deficit of the very resources needed for academic engagement. Future research must explicitly test the mediational model proposed in this study using advanced statistical techniques such as structural equation modeling (SEM) or formal mediation analysis (e.g., using the PROCESS

macro for SPSS). This would allow for a more definitive conclusion on the role of self-esteem as a mediator and would be able to quantify the direct and indirect effects, providing a more nuanced understanding of the causal pathway.

Educational institutions should take immediate, practical steps based on these findings. Schools can implement "phone-free classroom" policies to reduce in-school distractions and should integrate workshops on media literacy and mental health into their curriculum. A crucial next step would be to pilot and evaluate school-wide programs specifically designed to build self-esteem, such as peer mentoring programs, strengths-based learning initiatives, and activities that celebrate diverse talents beyond traditional academic metrics. Parents and community organizations should be provided with accessible, evidence-based resources. This could include workshops or informational pamphlets that explain the link between social media, self-esteem, and school performance. Providing parents with concrete conversation starters and strategies for fostering a healthy self-concept at home would be a powerful, preventative measure that complements school-based efforts.

Finally, a longitudinal study is a critical next step. Following a cohort of students over several years would allow researchers to track the developmental course of social media addiction and self-esteem and to understand their reciprocal influence over time. This would provide invaluable insights into critical periods for intervention and would help to determine whether the negative effects of social media addiction on academic engagement are temporary or have lasting consequences into early adulthood.

CONCLUSION

The most important finding of this study is a strong statistical confirmation regarding the dual influence of social media addiction and self-esteem on student academic engagement. This study uniquely showed that these two factors together explain the majority (63.9%) of the variance in student engagement. A different finding is the affirmation that social media addiction significantly reduces engagement, while self-esteem significantly increases it, which suggests that the battle for student attention in the digital age is not only about managing distractions but also about fostering internal psychological resilience.

The main contribution of this research is conceptual. This study empirically examined a model in which self-esteem is positioned as a key psychological mediator that explains why social media addiction leads to decreased academic engagement. Its added value lies in bridging the literature on technology addiction and educational psychology, by proposing a specific mechanism (self-esteem decline through social comparison) as a causal pathway. This shifts the discourse from simply identifying correlations to explaining the underlying psychological processes.

The study was limited by its correlational design, which could show a relationship but could not definitively prove cause and effect, and the use of samples from a single school, which limited the generalization of findings. In addition, although a mediasonal framework is proposed, the multiple regression analysis used does not formally test the effects of mediation. Therefore, urgent follow-up research should use more advanced statistical techniques such as Structural Equation Modeling (SEM) or formal mediation analysis to explicitly test and measure the role of self-esteem mediation. Longitudinal studies will also be invaluable for tracking this relationship over time.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest

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