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THE RELATIONSHIP BETWEEN SOCIAL MEDIA ADDICTION AND ACADEMIC FUNCTIONING IN ADOLESCENTS AND YOUNG ADULTS - A NARRATIVE REVIEW

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ABSTRACT

Introduction: Social media constitutes an important part of the daily functioning of adolescents and young adults. Increasing research focuses on the consequences of their excessive and problematic use. The aim of this study was to review the literature on the relationship between problematic social media use and academic functioning in adolescents and young adults.

Materials and methods: The literature review was conducted based on scientific publications available in the PubMed, Scopus, and Google Scholar databases, covering the years 1998–2025. Empirical studies and review papers concerning problematic social media use, academic performance, academic engagement, procrastination, academic burnout, and mediating factors such as sleep quality were analyzed.

Results: The results show that problematic social media use is in most studies associated with poorer academic functioning, including lower academic performance, reduced academic engagement, and increased procrastination. This relationship is complex and is often influenced by factors such as sleep quality, mental fatigue, and academic burnout. At the same time, findings vary across studies due to differences in definitions and methodologies, as well as the predominance of cross-sectional designs.

Conclusions: Overall, the available evidence confirms the existence of a relationship between problematic social media use and academic functioning, highlighting the need for further longitudinal research and standardization of research methods.

KEYWORDS

Problematic Social Media Use, Academic Performance, Academic Engagement, Procrastination, Academic Burnout

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Introduction

In recent years, the Internet and social media have become an integral part of adolescents' and young adults' lives, influencing how they spend their time, communicate, and acquire information. As of October 2025, 6.04 billion people use the Internet, which accounts for approximately 73% of the global population, and of these, 5.66 billion identify as social media users [1] (for comparison, in April 2022, 5 billion people used the Internet and 4.65 billion used social media [2], indicating an upward trend).

Although the use of platforms such as Instagram, TikTok, and Facebook brings numerous benefits, the number of individuals exhibiting symptoms of excessive or problematic use is also increasing. This issue is increasingly studied because of its impact on mental health, everyday behavior, and academic functioning.

Problematic social media use and Internet addiction currently lack a universally agreed-upon definition [3,4,5]. They are usually defined as excessive, compulsive use of social media that leads to loss of control over time spent online and negative consequences in daily functioning [6]. The concept of problematic Internet use was first introduced by Young, who described excessive Internet use in terms similar to behavioral addictions [7].

Problematic social media use exhibits several characteristics typical of behavioral addictions, such as the dominance of online activities in daily life, difficulty limiting use, an increasing need for more frequent engagement (tolerance), psychological discomfort when access is restricted (withdrawal symptoms), and the continuation of the behavior despite awareness of its negative consequences [8,9]. The term *addiction* in relation to social media is used cautiously, and many authors prefer the term *problematic use*, pointing to the lack of clear diagnostic criteria and the variety of symptoms [6,10,11].

Although problematic social media use has not been formally included in diagnostic classifications such as DSM-5 or ICD-11, it is worth noting that gaming disorder has been included in the ICD-11 classification, which is often cited as a reference point in discussions about the status of other forms of excessive online activity [6,12]. The measurement of problematic social media use in empirical studies is based on psychometric tools, such as the Bergen Social Networking Addiction Scale (BSMAS)/Bergen Social Media Addiction Scale, which are based on the components of behavioral addictions [10,13,14].

Academic functioning is an important area of development in adolescents and young adults, playing a crucial role in future educational paths and later professional and social functioning. This concept extends beyond academic performance alone and includes a range of related components: engagement in the learning process, ability to concentrate, time management, level of academic motivation, tendencies toward procrastination and the risk of academic burnout [15,16,17]. Studies suggest that academic success is a multidimensional construct influenced by individual, environmental, and behavioral factors [15].

As social media becomes more present in the daily lives of young people, increasing attention has been given to its potential impact on academic functioning. Excessive and problematic use of social media may affect the learning process by distracting attention and diverting time allocated for studying to non-educational activities [18], reducing study time, and disrupting circadian rhythms and sleep quality [19]. Additionally, poor sleep quality—one of the consistent consequences of intensive social media use—may negatively affect concentration, cognitive functioning, and overall learning efficiency [19]. Research also suggests that excessive use of social media (outside of educational purposes) may be associated with lower levels of academic engagement and poorer academic performance [20]. These factors may influence academic achievement and may mediate the relationship between social media use and academic outcomes [18,19,20].

Although many empirical studies exist, the findings remain partly inconsistent, which justifies a review of the literature to synthesize current knowledge and identify possible mechanisms. The aim of this study is to review and analyze the available literature on the relationship between social media addiction and academic functioning in adolescents and young adults.

Methodology

The literature review was conducted based on full-text scientific publications available in the PubMed, Scopus and Google Scholar databases. The literature search was based on keywords such as *social media addiction*, *problematic social media use*, *problematic internet use*, *academic performance*, *academic success*, *academic engagement*, and *academic procrastination*, combined using the Boolean operators AND and OR. The analysis included publications published between 1998 and 2025. Publications were selected through screening of titles and abstracts, followed by full-text review. The collected data were analyzed and synthesized. Reports and official materials from international institutions, including the World Health Organization (WHO), as well as statistical data from reliable online sources, were also included.

Results

1. Characteristics of the studies included in the review

The review included empirical and review studies (including systematic reviews and meta-analyses) published between 1998 and 2025, covering populations of adolescents and young adults, primarily high school and university students. Cross-sectional studies were the most common, typically conducted on large samples and often using standardized psychometric tools to measure problematic social media use, such as the Bergen Social Media Addiction Scale (BSMAS) or related scales based on behavioral addiction components.

Academic functioning was analyzed in a multidimensional manner and included academic performance, academic engagement, procrastination, school or academic burnout, as well as mediating factors such as sleep quality and emotion regulation. Some studies used mediation or sequential models to explain how problematic social media use is related to academic functioning.

This review helped organize current knowledge and identify key research areas regarding the relationship between problematic social media use and academic functioning.

2. The relationship between problematic social media use and academic performance

Most of the analyzed studies demonstrated a significant negative relationship between problematic social media use and academic performance. A systematic review conducted by Pyhältö et al. (2025) indicates that the use of social media and smartphones during academic tasks (off-task use) is strongly associated with lower educational achievement and reduced learning efficiency [18].

Similar relationships were observed in studies of university students, where higher levels of social media addiction were correlated with lower self-reported academic performance and greater difficulties in fulfilling academic responsibilities [20].

In population-based studies involving children and adolescents, the results were less consistent. A large Canadian study showed that social media use exceeding two hours per day was associated with poorer academic performance among both secondary and post-secondary students (mostly females) [21]. At the same time, some studies found no significant relationship between the intensity of social media use and academic performance [22, 23].

3. The role of academic engagement as a mediating factor

Academic engagement emerged as one of the key mediators in the relationship between problematic social media use and academic performance. In a study by Mou et al. (2024), it was shown that social media addiction is associated with lower levels of academic engagement, which leads to poorer academic outcomes. Mediation analysis confirmed that academic engagement partially explains the relationship between intensive social media use and educational achievement [20].

These findings are consistent with the view of academic success as a multidimensional construct [15,16], where behavioral and motivational factors play a significant role in educational outcomes. Excessive use of social media may weaken concentration, self-regulation, and the ability to maintain sustained engagement in the learning process.

4. Academic procrastination and off-task social media use

The analyzed studies indicate that problematic social media use promotes procrastination and frequent use of digital devices while studying. The review by Pyhältö et al. (2025) showed that off-task use of social media is one of the most identified factors disrupting the learning process and reducing academic efficiency [18].

Earlier studies also suggest that compulsive use of social networking sites may serve as a form of short-term emotional gratification, encouraging the postponement of academic responsibilities [4, 5].

5. Sleep and academic burnout as mediating mechanisms

Another key finding is the role of sleep and psychological fatigue as mediators in the relationship between social media addiction and academic functioning. Studies by Sümen and Evgin (2021) demonstrated that higher levels of social media addiction among high school students are associated with poorer sleep quality and increased psychological problems [19].

Evers et al. (2020) showed that sleep disturbances related to social media use led to increased school burnout, which negatively affects academic performance [17]. Similar conclusions were made by Lin et al. (2023/2024), where nighttime social media use mediated the relationship between addiction and poorer sleep quality and psychological well-being [11]. These findings suggest that sleep is one of the key mechanisms explaining the negative impact of intensive social media use on the learning process.

6. Inconsistencies in findings and limitations of existing research

Despite numerous reports indicating a negative relationship between problematic social media use and academic functioning, the findings are not entirely consistent and demonstrate considerable heterogeneity. Some of the analyzed studies report only weak or moderate associations, and in certain cases, no statistically significant relationships were found between the intensity of social media use and academic performance [22, 23, 24].

A key reason for these inconsistencies in research on social media use is the diversity of definitions and measurement tools used in the literature. Both the terms “social media addiction” and “problematic social media use” are used, often within different theoretical frameworks and not always defined consistently [25].

A scoping review identified dozens of different tools used to measure this phenomenon, which vary significantly in the number of items, structure, and scope of measured components. Many of these tools also have poorly defined or overlapping dimensions, making comparisons across studies difficult [25].

Empirical studies, such as an analysis of a large sample of adolescents from Hungary using the Bergen Social Media Addiction Scale, indicate that differences in classification criteria and cut-off points may influence who is classified as an “at-risk” user, complicating comparisons across studies [3].

Another limitation is the dominance of cross-sectional studies, which do not allow for conclusions about causal relationships. While most studies demonstrate an association between problematic social media use and poorer academic performance, their cross-sectional design prevents determination of whether excessive social media use leads to poorer academic functioning, or whether academic difficulties and low engagement contribute to increased use of these platforms. For example, a cross-sectional study of students from the Middle East found that lower academic performance was associated with higher levels of problematic social media use measured by BSMAS, but the direction of this relationship could not be established due to its cross-sectional design [26]. Similarly, some studies suggest that problematic social media use may affect academic performance through factors such as stress and exhaustion; however, the lack of longitudinal data prevents causal inference [27].

Another factor limiting interpretation is the broad range of mediating and moderating variables, such as sleep quality, mental health, social anxiety, academic motivation, and personality traits. Depending on whether these variables are included, the observed relationships may be weakened or strengthened, partially explaining inconsistencies in findings [17,20].

In addition, many studies rely on self-reported data, which introduces the risk of bias related to subjective assessment of time spent on social media and academic performance. There is a lack of studies using objective indicators, such as actual usage data or official academic records.

Finally, much research is also based on studies conducted within specific cultural and educational contexts, meaning the results may not apply to all populations. Differences in educational systems, cultural norms, and access to technology may significantly influence the observed relationships between social media use and academic functioning [3,4,26].

Summary of findings

This review shows that problematic social media use is, in most studies, associated with poorer academic functioning in adolescents and young adults. The most observed relationships include lower academic performance, reduced academic engagement, and an increased tendency toward procrastination and off-task social media use.

The analyzed studies emphasize that this relationship is complex and often mediated by variables such as academic engagement, sleep quality, psychological fatigue, and school or academic burnout. In particular, academic engagement and sleep emerge as key mechanisms explaining the negative impact of intensive and problematic social media use on learning processes and educational outcomes.

At the same time, the literature shows considerable differences due to variations in definitions, methods, and cultural contexts. The dominance of cross-sectional studies and reliance on self-reported data limit causal inference. Despite these limitations, the accumulated empirical evidence indicates the existence of significant relationships between problematic social media use and academic functioning, highlighting the need for further research using longitudinal designs and objective measures.

Discussion

The aim of this study was to review the literature on the relationship between problematic social media use and academic functioning among adolescents and young adults. The conducted analysis indicates that, in most empirical studies, problematic social media use is associated with poorer academic functioning, including lower academic performance, reduced academic engagement, increased procrastination, and a higher risk of school or academic burnout.

The findings are consistent with previous literature reviews and empirical studies suggesting that excessive use of social media competes with academic activities for limited cognitive and time resources [18,28,29]. Neurocognitive research indicates that intensive use of multiple media simultaneously may lead to reduced cognitive control and impaired selective attention, which directly translates into difficulties in learning and information processing [29].

An important conclusion drawn from this review is the complex and indirect nature of the relationship between problematic social media use and academic functioning. Many studies have demonstrated that mediating factors such as academic engagement, sleep quality, and emotion regulation play a key role [17,19,20]. These findings suggest that social media use itself does not necessarily lead to poorer academic outcomes; however, its problematic form may trigger indirect mechanisms that negatively affect the learning process.

One of the most strongly supported mediating mechanisms is sleep disturbance. Research indicates that nighttime social media use, sometimes driven by the fear of missing out (FoMO), leads to reduced sleep duration and poorer sleep quality, which negatively affects concentration, executive functions, and emotional regulation [11,17,30]. This mechanism appears to be particularly relevant in adolescent and young adult populations, for whom sleep plays a crucial role in cognitive and emotional development.

At the same time, researchers highlight the need for caution in using the term “addiction” in relation to social media. Authors such as Billieux et al. (2015) and Kardefelt-Winther et al. (2015, 2017) highlight the risk of over-pathologizing common behaviors and point to the lack of clear diagnostic criteria for social media addiction [31,32,33]. In this context, the term *problematic use* is preferred, as it better reflects the heterogeneous nature of symptoms and their varying severity. This position is also reflected in the fact that problematic social media use has not been formally included in diagnostic classifications such as DSM-5 or ICD-11, in contrast to gaming disorder (WHO, 2025).

It is also important to note that not all studies demonstrate clearly negative relationships between social media use and academic functioning, and the collected results may depend, among other factors, on how the analyzed variables are defined and measured [34]. Some authors also point to the role of individual factors, such as self-regulation, time management skills, and learning strategies, which may weaken or strengthen the observed effects [35]. Methodological and definitional differences, including the use of various measurement tools and conceptualizations of problematic use, further complicate comparisons across studies [25].

In summary, the findings of this review indicate that problematic social media use constitutes a significant risk factor for academic functioning among adolescents and young adults; however, this relationship is complex and multifactorial. Future research should focus on longitudinal designs, incorporate objective measures of digital media use and academic outcomes, and identify protective factors that may reduce the negative consequences of intensive social media use.

Conclusions

This review summarizes current research on the relationship between problematic social media use and academic functioning among adolescents and young adults. Studies published between 1998 and 2025 show that this topic has been widely investigated, mainly among high school and university students, with cross-sectional studies being the most common.

Findings indicate that problematic social media use is most examined in relation to academic performance, academic engagement, procrastination, school or academic burnout, and mediating variables such as sleep quality. Most studies report statistically significant associations between higher levels of problematic social media use and poorer academic functioning, although the strength of these relationships varies.

The review also highlights inconsistencies in findings, resulting from differences in definitions, measurement tools, and operationalization of both problematic social media use and academic success. Various theoretical and terminological approaches exist in the literature, making direct comparisons between studies difficult.

Overall, there is a limited ability to draw causal inferences based on the available data, due to the predominance of cross-sectional studies and the frequent use of self-report measures. This underscores the need for further longitudinal and experimental research, as well as the inclusion of objective indicators of social media use and academic functioning.

In conclusion, the literature supports a relationship between problematic social media use and academic functioning, however, the nature and extent of this relationship remain variable and context-dependent. The findings highlight the need for further clarification of terminology and standardization of research methods in future studies.

Author's contribution:

Research concept and design – Maria Torchalska, Martyna Smogór

Data collection and/or compilation – Maria Torchalska, Martyna Smogór

Data analysis and interpretation – Maria Torchalska, Martyna Smogór

Writing – Maria Torchalska, Martyna Smogór

Supervision, project administration – Maria Torchalska

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