

Classification of the main risk factors for problematic social network use in adolescents: A systematic review

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Received:

September 10, 2025

Accepted:

October 22, 2025

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Cite as:

Wöbbecking, S., Melero, A.
R., Gómez-Martínez, M. A.,
& Wöbbecking, M. (2026).
Classification of the main risk
factors for problematic social
network use in adolescents:
A systematic review.
*Revista de Psicología Clínica
con Niños y Adolescentes*
/ *Journal of Clinical
Psychology in Childhood and
Adolescence*, 13(2), 15–26.
[https://doi.org/10.21134/
rpcna.2026.13.2.2](https://doi.org/10.21134/rpcna.2026.13.2.2)

Abstract

There has been a growing interest in the scientific literature surrounding problematic social media use (PSMU) in adolescents due to its potential impact on mental health. It is crucial to identify associated risk factors to design effective, evidence-based preventive strategies. This systematic review aimed to identify the main risk factors associated with problematic social network use in adolescents. The PRISMA 2020 protocol guidelines were followed. A search of the databases PubMed, PsycINFO, Web of Science, Scopus and MEDLINE was conducted from December 2024 to June 2025. A total of 36 studies were included in the qualitative synthesis. The synthesis yielded four categories into which risk factors could be organised; Individual psychological variables (e.g. low self-esteem, elevated anxiety levels, or depressive symptoms); Variables related to social network use (e.g. FOMO or time spent online); Socio-demographic variables (e.g. gender and age); Family context variables (e.g. poor parental supervision, family conflict, or permissive/authoritarian parenting style). The findings provide evidence of the multifactorial nature of problematic social network use in adolescents, emphasising the importance of considering individual and contextual factors in prevention strategies. The implicated factors include emotional variables, age, gender, and childhood parenting style, all of which significantly influence vulnerability to PSMU. The importance of considering these factors in prevention strategies is highlighted.

Keywords: problematic social media use, adolescents, contributing factors, prevention.

Clasificación de factores de riesgo del uso problemático de redes sociales en adolescentes: una revisión sistemática

Resumen

Ha habido un creciente interés en la literatura científica sobre el uso problemático de las redes sociales (PSMU) en adolescentes debido a su posible impacto en la salud mental. Es fundamental identificar los factores de riesgo asociados para diseñar estrategias preventivas eficaces y basadas en la evidencia. Esta revisión sistemática tuvo como objetivo identificar los principales factores de riesgo asociados con el uso problemático de las redes sociales en adolescentes. Se siguieron las directrices del protocolo PRISMA 2020. Se realizó una búsqueda en las bases de datos PubMed, PsycINFO, Web of Science, Scopus y MEDLINE entre diciembre de 2024 y junio de 2025. Se incluyeron un total de 36 estudios en la síntesis cualitativa. La síntesis dio como resultado cuatro categorías en las que se podían organizar los factores de riesgo: variables psicológicas individuales (por ejemplo, baja autoestima, niveles elevados de ansiedad o síntomas depresivos); variables relacionadas con el uso de las redes sociales (por ejemplo, FOMO o tiempo pasado en línea); variables sociodemográficas (por ejemplo, género y edad); Variables del contexto familiar (por ejemplo, supervisión parental deficiente, conflictos familiares o estilo de crianza permisivo/autoritario). Los resultados proporcionan pruebas de la naturaleza multifactorial del uso problemático de las redes sociales en los adolescentes, lo que pone de relieve la importancia de tener en cuenta los factores individuales y contextuales en las estrategias de prevención. Entre los factores implicados se encuentran las variables emocionales, la edad, el género y el estilo de crianza durante la infancia, todos los cuales influyen significativamente en la vulnerabilidad al PSMU.

Palabras clave: uso problemático de las redes sociales, adolescentes, factores contribuyentes, prevención.

In recent decades, significant technological advancements have led to a corresponding increase in internet usage via mobile devices and other digital platforms. This is linked to more people using social media, especially among adolescents. A recent study (Nagata et al., 2025) found that 69.5% of 11–15 years-old in the USA had social network accounts, with TikTok, YouTube and Instagram being the most popular. Age and gender also influence the types of networks used, with younger children preferring TikTok and older children and adolescents preferring YouTube, Reddit, Instagram and Snapchat. Usage increases with age, with 95% of 13–17 years old reporting that they use these virtual environments (Vogels et al., 2022). As a result, it can be said that social media has become the predominant form of social interaction for this population, who are at a critical stage of physical, psychological, and social development (Hidalgo & González-Fierro, 2014).

Adolescents are increasingly using social media. This has raised concerns about possible harmful use patterns. Problematic social media use (PSMU) is described as excessive and uncontrolled use of social networking platforms that interferes with daily life. Key indicators include preoccupation, mood modification, tolerance, withdrawal and conflicts.

Research has reported various benefits for adolescents using social media. These include increased social connectedness and reduced loneliness, as well as providing a safe space for marginalised groups (e.g., LGBTQ+). Excessive use of social media is more likely to cause psychosocial health problems than limited use (Brand et al., 2024). Scientific literature addresses the potential for addiction and adverse developmental consequences (Chen, 2023).

Social media use has been linked to suicidal behaviour, increasing by 56% between 2019 and 2021 (Vázquez et al., 2023). A review by Sedgwick et al. (2019) found an increased risk of suicide in seven studies, but findings are contradictory, highlighting social connectivity risks (Castillo et al., 2023).

In terms of age, gender, and time of use, adolescent girls exhibit more problematic usage than boys (ESTUDES, 2024). The reasons for excessive usage include avoiding emotional issues such as stress, depression, and anxiety; seeking safety and entertainment; and using it as a social strategy to avoid negative experiences and anxiety in large groups (Kardfelt-Winther, 2014). They are also used for social reward and gratification (Cha & Seo, 2018).

Two associated phenomena with excessive social media use should be considered. Firstly, there's FOMO (fear of missing out), i.e., the need to stay connected to avoid missing out on important information. Studies have linked this to feelings of loneliness and impaired well-being, particularly among young people (O'Brien et al., 2022). The second issue is people using their phones during face-to-face conversations, known as 'phubbing' (Fang et al., 2020).

Additionally, it is important to note that recent studies, such as Montag et al. (2024), highlight the need for further research into the risk factors and profiles associated with problematic social media use in childhood and adolescence. In the same sense, a systematic review exclusively selecting longitudinal studies on risk factors for problematic social network use in adolescents has recently been published (Pazdur et al., 2025). While this review provides very relevant information, it is restricted to longitudinal studies from a methodological perspective.

This review aims to synthesize information on problematic use of social networks in adolescents following the PRISMA methodology. This will increase the evidence and offer a more holistic understanding of the risk factors, with the aim of improving prevention strategies and promoting healthy digital environments. The review includes both cross-sectional and longitudinal studies.

Methods

Search Strategy and Data Sources

This review was developed following the PRISMA 2020 protocol (Page et al., 2021) and was registered in the PROSPERO database (ID: CRD42024622351). No changes were made to the information provided in the original record or protocol. The search was conducted across five electronic databases: PsycINFO, Scopus, Web of Science, MEDLINE, and PubMed. Publications from 2019 to 2024 were included in the search. As prior to 2019 most studies addressed the phenomenon more generally, focusing on Internet addiction or problematic technology use (Kuss & Griffiths, 2011; Spada, 2014) without distinguishing social networking as a specific addictive behavior. The additional search and selection process for the present study was conducted between December 2024 and May 2025. Following the publication of the systematic review focusing on longitudinal studies (Pazdur et al., 2025), a supplementary manual search was conducted in June 2025 to identify longitudinal studies included in the aforementioned review that also met the present review's inclusion criteria. The last search update was therefore completed in June 2025. The final search strategy combined the following terms: 'addiction social media' or 'problematic use of social media', 'vulnerability factors' or 'prevention', and 'adolescent*'. The following filters were applied: studies published in English or Spanish between 2019 and 2024; empirical studies; and studies for which the full text is available.

Eligibility Criteria

To be included in this review, studies had to meet a series of eligibility criteria that were previously defined in line with the review's objective. Applying these criteria rigorously enabled us to include studies focusing specifically on the adolescent population and analysing relevant variables from a biopsychosocial perspective. Similarly, it was deemed crucial to limit the selection to research published in recent years to guarantee the timeliness and relevance of the collected data. We included studies that explicitly addressed problematic social media use among 12- to 18-year-old adolescents, provided they assessed risk or protective factors related to such use. Studies were considered to have comprehensively analysed social media use when they employed validated assessment instruments or when they explored multiple dimensions of use, such as frequency, time spent, emotional regulation, motivation, and the psychological or family correlates of this behaviour. We considered research that analysed widely used social media at this developmental stage of life, such as TikTok, Instagram and YouTube, and that took into account individual, family or contextual variables that could be related to problematic use of these networks.

Empirical studies with a cross-sectional, longitudinal, experimental or quasi-experimental design were accepted. Only open-access publications in English or Spanish with full text were included. Studies whose sample did not fit the established age range were excluded, as were theoretical articles that did not provide empirical data. Publications that were not available in open access or were written in a language other than English or Spanish were also discarded.

Selection of Studies

The search results were uploaded to the Rayyan web system (Ouzzani et al., 2016), an online tool that facilitates collaboration among reviewers during the screening process of systematic reviews by enabling blind decisions, tagging, and duplicate removal. Duplicates were identified and removed. The initial screening stage involved reviewing titles and abstracts against the eligibility criteria. Full-text screening enabled the selection of relevant studies (i.e. those that met the inclusion criteria or where eligibility was uncertain). Titles and abstracts were selected by pairs of authors. The full texts retrieved after selection were independently verified by the same pairs using Rayyan. Any discrepancies between reviewers were discussed until consensus was reached, and when necessary, a third researcher was consulted to resolve disagreements.

Data Extraction

Once the selection process for the included studies had been completed, a narrative synthesis was carried out to systematically extract the relevant data. The data were extracted manually using a Microsoft Excel matrix designed specifically to collect all the key variables present in the selected articles in detail. Each study was subject to the following data registration: name of author(s), year of publication, methodological design (e.g. cross-sectional, longitudinal studies...), and sample size. Information on the main variables explored in each study was also extracted, with special attention paid to individual, socio-demographic, family and contextual risk factors associated with problematic use of social networks. Finally, the most important results about the problematic use of social networks and their connection to the variables studied were documented, including any possible mediating or moderating relationships identified by the authors. This process enabled us to organise the studies into thematic groups, facilitating subsequent categorisation and interpretation of the findings while respecting the principles of methodological rigour and transparency. A meta-analysis was not conducted due to the heterogeneity of study designs and variables; therefore, a narrative synthesis was considered the most suitable approach.

Methodological Quality Assessment

The quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT) version 2018 (Hong et al., 2018). This information can be found in the supplementary material (see Table 1). Most of the studies assessed met between four and five of the established criteria, reflecting moderate to high methodological quality. This information enables us to evaluate the strength of the evidence collected

and contextualise the review's findings, incorporating a rigorous analysis of the risk of bias. Therefore, while the studies showed acceptable methodological quality, limitations related to the representativeness of the sample and the justification of the sampling strategy were frequent.

Table 1. Quality assessment table of studies: MMAT

Study	S1	S2	4.1	4.2	4.3	4.4	4.5
Akbari et al.(2023)	●	●	●	●	●	●	●
Arrivillaga et al. (2022)	●	●	●	●	●	●	●
Calandri et al. (2021)	●	●	●	●	●	●	●
Castrén et al. (2022)	●	●	●	●	●	●	●
Cerniglia et al. (2019)	●	●	●	●	●	●	●
Demers et al. (2024)	●	●	●	●	●	●	●
Favini et al. (2024)	●	●	●	●	●	●	●
Flannery et al. (2024)	●	●	●	●	●	●	●
Geurts et al. (2022)	●	●	●	●	●	●	●
Geurts et al. (2023)	●	●	●	●	●	●	●
Iannattone et al. (2024)	●	●	●	●	●	●	●
Jiang et al.(2023)	●	●	●	●	●	●	●
Klimanska et al. (2023)	●	●	●	●	●	●	●
Kumkronglek et al. (2023)	●	●	●	●	●	●	●
Leijse et al. (2023)	●	●	●	●	●	●	●
Lin et al. (2024)	●	●	●	●	●	●	●
Ostendorf et al. (2020)	●	●	●	●	●	●	●
Pace et al. (2022)	●	●	●	●	●	●	●
Pérez-Torres (2024)	●	●	●	●	●	●	●
Philippi et al. (2024)	●	●	●	●	●	●	●
Raudsepp & Kais (2019)	●	●	●	●	●	●	●
Shoshani et al. (2024)	●	●	●	●	●	●	●
Stockdale & Coyne (2020)	●	●	●	●	●	●	●
Tas (2023)	●	●	●	●	●	●	●
Thomasius et al(2024).	●	●	●	●	●	●	●
Tomczyk et al.(2021)	●	●	●	●	●	●	●
Van Duin et al. (2021)	●	●	●	●	●	●	●
Wang et al. (2021)	●	●	●	●	●	●	●
Wang et al. (2022)	●	●	●	●	●	●	●
Wang et al.(2023)	●	●	●	●	●	●	●
Wartberg et al. (2021)	●	●	●	●	●	●	●
Xiao et al. (2022)	●	●	●	●	●	●	●
Xu et al. (2024)	●	●	●	●	●	●	●
Yañez et al. (2020)	●	●	●	●	●	●	●
Yin et al.(2024)	●	●	●	●	●	●	●
Zhang et al. (2024)	●	●	●	●	●	●	●

Results

Search Results

A total of 392 records were retrieved from the selected databases. Specifically, 97 studies were identified in PubMed, 21 in PsycINFO, 162 in Web of Science, 93 in Scopus, and 17 in Medline. This first phase enabled a considerable volume of potentially relevant publications to be gathered. In addition, the 23 studies included in Pazdur et al. (2025) were evaluated. Ultimately, 36 studies that met all the criteria were included in the qualitative synthesis (see figure 1).

Different variables associated with problematic use of social networks were identified in these 36 studies and are listed in the supplementary material. To organise the results, four

main categories were used: individual psychological variables; socio-demographic variables; specific factors related to social media use; and family risk factors. The most relevant results for each category are presented below. By preparing the follow-

ing summary table with the results of the 36 included studies, which presents the main methodological characteristics, study population, type of study and reported outcomes

Figure 1. PRISMA flowchart provides a visual representation of the entire search, screening and selection process

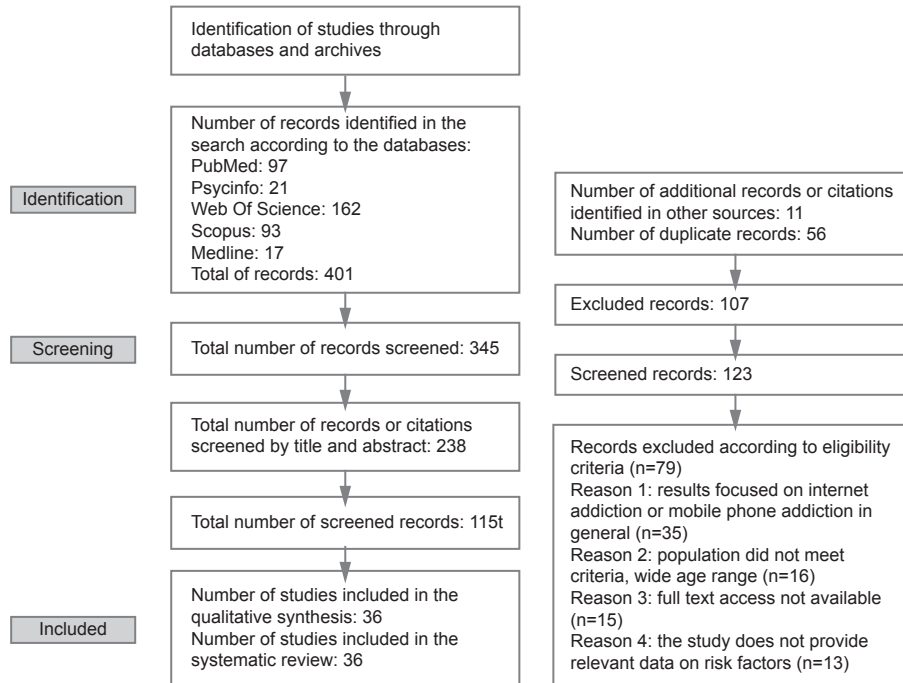


Table 2. Table of results

Author	Date	Type of study	Participants	Variables	Results
Akbari et al.	2023	Cross-sectional study	2,390 (13 to 18)	Psychological variables: anxiety, depression, stress, self-esteem and social anxiety, loneliness, need to belong and strengths and difficulties. Problematic Social Networking Use (PSMU) Internet addiction Pathological gambling addiction Social network addiction	The present study found that lower self-esteem, lower social support, higher sensation seeking, higher social anxiety and internalising symptoms can predict the occurrence of PSMU.
Arrivillaga et al.	2022	Cross-sectional study	597 (12 to 19)	Use of social networks Emotional self-efficacy Depressive symptoms Emotional well-being Life satisfaction	The findings of this study confirm that gender (being female) and having low levels of emotional intelligence are risk factors for the development of social network addiction.
Calandri et al.	2021	Cross-sectional study	336 (M=13)	Use of social networks Emotional self-efficacy Depressive symptoms Emotional well-being Life satisfaction	The main result of this study indicates that girls, compared to boys, spend more time on social networks, report greater depressive feelings, lower affective well-being and lower life satisfaction.
Castrén et al.	2022	Cross-sectional study	4595 (15 to 16)	Social network use Video game use Use of gambling	The findings found in this study indicate that the female sex is identified as a risk factor for presenting higher levels of problematic use of social networks.

Author	Date	Type of study	Participants	Variables	Results
Cerniglia et al.	2019	Cross-sectional study	643 (M = 16.02)	Psychological variables (anxiety, depression, obsessive-compulsive, etc.) Impulsivity Addiction to video games (IGD) Addiction to social networks (AME)	Adolescents belonging to the middle age group (16-17 years) were characterised by higher levels of psychopathological risks (anxiety, somatization and psychoticism) associated with higher levels of social network addiction.
Demers et al.	2024	Longitudinal study	322 (M=12,38)	Parental control measures Conflicts in the family environment Use of social networks Use of chat applications	The results of this study indicate that parental control of adolescents was a protective factor for the development of problematic social network use in youth.
Favini et al.	2024	Longitudinal study	463 (M = 15.2)	Social media addiction Smartphone addiction Individual beliefs about self-regulatory abilities	Adolescent girls who spend more time on social networks and self-regulatory self-efficacy were identified as mediating factors for problematic use of social networks.
Flannery et al.	2024	Longitudinal study	103	Pubertal development Depressive symptoms Symptoms of social network addiction Brain responses	Hyper-reactivity to positive social feedback through the use of social networks prior to puberty may act as a risk factor for problematic social network use.
Geurts et al.	2023	Longitudinal study	400 (9 to 19)	Problematic use of social networks. Specific rule setting. Reactive restraints	The results indicate that social network control and rule-setting guidelines alone did not reduce problematic social network use, but that a supportive family environment is necessary.
Geurts et al.	2022	Cross-sectional study	403 (M = 13.51)	Social network use Parental norms and parenting style Family variables (mental health and parental social network use)	The results showed that, in the parent-child system, Internet-specific rule setting and positive parenting were significantly associated with a lower likelihood of being a risky/problematic user of social networks.
Iannattone et al.	2024	Cross-sectional study	721 (13-19)	Level of boredom Problematic use of social networks Emotional dysregulation	Higher levels of emotional dysregulation are a risk factor for low tolerance of boredom and thus problematic use of social networks.
Jiang et al.	2023	Cross-sectional study	1.380 (M=16,27)	Narcissism Problematic use of social networks (PSMU) FoMO	This study found that adolescents with higher levels of narcissism have higher levels of PSMU. And FoMO is the mediating factor predicting PSMU.
Klimanska et al.	2023	Cross-sectional study	1,085 (14 to 15)	Problematic online activities (video game addiction, internet addiction, problematic use of social networks, etc.) Psychological variables (depressive symptoms, impulsivity and sensation seeking) Family variables	According to the results of this study, depression, impulsivity and sensation seeking are predictors of problematic social network use. On the other hand, the results of this study confirmed the importance of family composition, quality of family relationships (cohesion and expression) and parental supervision (both offline and online) as protective factors.
Kumkronglek et al.	2023	Longitudinal study	48 (N/A)	Social media addiction Social skills	Deficits in social skills are a risk factor for problematic use of social networks.
Lejise et al.	2023	Longitudinal study	1389 (11 to 19)	Use of social networks Family variables Self-control Peer pressure	This study confirms that family and social factors are not risk factors in people with problematic social network use, but in those who were at risk of developing it.

Author	Date	Type of study	Participants	Variables	Results
Lin et al.	2024	Longitudinal study	568 (M = 12.59)	RRSS addiction Aggressive behaviours	The findings indicate, firstly, that gender is a risk factor indicating that females are more likely to develop problematic use of social networks. And, secondly, difficulty with social relationships in early adolescence means a greater likelihood of problematic use of social networking sites.
Ostendorf et al.	2020	Cross-sectional study	466 (10 to 17)	Social network addiction Need to belong Self-regulatory competences	The present study revealed that, in particular girls and adolescents with a high need for belonging and difficulty in self-regulation skills on the internet, showed a high tendency to social network use disorder.
Pace et al.	2022	Longitudinal study	93 (M= 14.94)	Internalising and externalising symptoms RRSS disorder Alexithymia Prevalence of binge eating Expressive suppression	Alexithymia is a risk factor for problematic social network use among adolescents.
Pérez-Torres	2024	Cross-sectional study	820 (14 to 17)	Social network use Nomophobia Problematic internet use	Preference for social interaction and fear of missing out on information (FOMO) are risk factors that contribute to problematic social network use.
Philippi et al.	2024	Longitudinal study	659 (M = 13.11)	Internet gaming Problematic use of social media Time spent on social networks Emotional dysregulation Digital parental self-efficacy	Low digital parental self-efficacy acts as a risk factor for problematic RRSS use in adolescents.
Raudsepp & Kais	2019	Longitudinal study	397 (M = 12.6)	Use of RRSS Depressive symptoms Age	A higher baseline level of depressive symptoms predicted more pronounced increases in problematic RRSS use.
Shoshani et al.	2024	Longitudinal study	1665 (M = 12.10)	Use of social networks Use of video games Compulsive internet use Substance use Psychological variables: Depression, anxiety, somatization, sensation seeking...	High levels of negative emotions, symptomatology in psychological variables and sensation seeking were associated with greater use of social networks. As for the sex variable, women had higher levels of social network use.
Stockdale & Coyne	2020	Longitudinal study	385 (M = 18.01)	Reasons for use of social media Use of social media Satisfaction with life, anxiety, symptoms of depression, delinquency, empathy, among others.	The time spent on social media is a risk factor, in addition to the fact that the motivation for use is boredom or social interaction.
Tas	2023	Cross-sectional study	456 (14 to 16)	Level of social isolation Satisfaction with family life Use of social networks	The findings showed that social isolation and low satisfaction with family life significantly predicted social network addiction.
Thomasius et al.	2024	Cross-sectional study	659 M= 13,11	Problematic video game use Problematic social network use (PSMU) Parental emotional dysregulation	Depression or difficulty in emotional regulation act as mediators for PSMU and problematic video game use.
Tomczyk et al.	2021	Cross-sectional study	979 (13-18)	FoMO	FOMO is found to be a risk factor for problematic use of social media. In addition, gender is a risk factor, with girls being found to have higher levels of FOMO than boys.

Author	Date	Type of study	Participants	Variables	Results
Van Duin et al.	2021	Cross-sectional study	8,687 (11 to 18)	Problematic use of social networks (PSMU) Perceived stress Family support	The findings indicate that variables studied such as stress, preference for online interaction, psychosomatic disorders and intensity of electronic media use act as risk factors for the development of PSMU in adolescents.
Wang et al.	2021	Cross-sectional study	688 adolescents (11 to 16)	Childhood perception of parental conflict Self-esteem Adolescent maladaptive cognitions Problematic social network use (PSMU)	This study revealed that higher levels of perceived parental conflict are related to more problematic use of social networks. Self-esteem and maladaptive cognitions are mediating factors in this negative relationship.
Wang et al.	2022	Cross-sectional study	842 (12-18)	Emotional neglect in childhood Problematic use of social networks (PSMU) Negative outlook towards the future (FNTP)	Parental emotional neglect (weak family support) is associated with problematic social network use.
Wang et al.	2023	Longitudinal study	858 (10 to 15)	Parental disciplinary norms Emotional dysregulation of adolescents Short video addiction (SFVA)	Parents' hard discipline of their children leads to emotional dysregulation in their children and this acts as a predictor of addiction to short videos. And in turn, this emotional dysregulation explains how adolescents use short videos to manage unpleasant emotions through short-term relief.
Wartberg et al.	2021	Cross-sectional study	1221 (10 to 17)	Social media use Emotional regulation Procrastination Perceived Stress	Emotional regulation (lack of impulse control and goal-oriented behavior), procrastination, perceived stress and younger age were found to be risk factors for the development of problematic social network use.
Xiao et al.	2022	Cross-sectional study	1,652 (12-18)	Attentional biases Social-emotional competence Anxiety Depression Mobile phone use Social network use	Attentional biases play a mediating role between social network addiction and depression in adolescents. In this study, gender is shown to be a risk factor, finding that girls are more prone to social network addiction.
Xu et al.	2024	Longitudinal study	1,1439 (14 - 17)	Adverse childhood experiences Screen time Household income	Adverse childhood experiences and poverty are risk factors for PSMU.
Yañez et al.	2020	Longitudinal study	695 (M = 14.5)	Use of social media Personality traits Parenting style	Low levels of responsibility, high levels of extraversion and being a girl are risk factors for PSMU.
Yin et al.	2024	Longitudinal study	1,447 M=16,15	Parental Phubbing FoMO Addiction to social media	FOMO was found to mediate between the link between parental phubbing and social network addiction. More specifically, FOMO positively predicted social network addiction, and this in turn predicted parental phubbing.
Zhang et al.	2024	Longitudinal study	1,684 (M = 16.66)	Use of social media Social anxiety School connection	Low school connectedness and high social anxiety are predictors of problematic use of social media.

Individual Psychological Variables

Several studies have analysed the psychological variables that may act as risk factors for problematic social media use in adolescents. The most frequently identified variables are anxiety, self-esteem and mood, all of which are related to

behavioural regulation. The results of studies addressing these variables are presented below, with the most relevant findings highlighted.

First, the results suggest that anxiety is a significant risk factor and is consistently associated with dysfunctional social media use. For instance, Cerniglia et al. (2019) discovered that

adolescents exhibiting higher levels of PSMU displayed elevated levels of anxiety, depression, emotional regulation difficulties, and impaired impulse control. In this case, anxiety is conceptualised as an internal factor that prompts individuals to seek immediate relief from perceived discomfort through social networks. Akbari et al. (2023) developed a more complex model that includes anxiety as a mediating variable between alexithymia (the inability to identify and express emotions) and social network addiction. In this sense, Pace et al. (2022) identify alexithymia as a factor that hinders social relationships and therefore favours the problematic use of social media as an alternative means of social interaction.

Self-esteem has been investigated in the included studies. There is limited research on this variable, but the results suggest that low self-esteem is associated with problematic social network use among adolescents. Martínez-Ferrer et al. (2021), for example, conducted a study with Spanish adolescents. They found that those with low self-esteem used social networks to seek external validation. The study identified a relationship between low self-esteem and compulsive social media use, particularly among females.

A further psychological variable that has been examined is mood. Calandri et al. (2021) found that adolescents in a low mood resorted to social networks to avoid facing their problems, seeking distraction instead.

Once this review was updated, studies addressing the role of social skills as potential risk factors were incorporated. Kumkronglek et al. (2023) and Lin et al. (2024) emphasise that social skill difficulties are linked to a greater reliance on social networks for interaction, particularly during early adolescence.

Sociodemographic Variables

In general, the results suggest that there are significant gender differences in social network usage. Several authors (Favini et al., 2024; Lin et al., 2024; Shoshani et al., 2024; Yáñez et al., 2020) have found that girls exhibit higher levels of emotional dependence, FOMO and anxiety in relation to social network use. Similarly, Akbari et al. (2023) found that adolescent girls scored significantly higher than boys on social network addiction.

Several studies have highlighted the relevance of age as a factor. For example, the study by Cerniglia et al. (2019) found that adolescents in the middle age group (16–17 years) exhibited higher levels of psychopathological symptoms (such as anxiety and psychoticism), which were associated with greater social media usage.

Variables Related to Social Media Use

FOMO is one of the most widely researched variables in recent literature on problematic social media use. This review examines multiple studies that have explicitly addressed the relationship between FOMO levels and excessive or maladaptive social network use (e.g., Akbari et al., 2023; Fabris et al., 2020; Klimanska et al., 2023; Shoshani et al., 2024; Xiao et al., 2022). Xiao et al. (2022) found that FOMO significantly mediates the relationship between social network use and psychological well-being, indicating a strong association between high FOMO scores and greater addictive symptomatology. Similarly, Fabris et al. (2020) demonstrated that adolescents

with high FOMO tended to check their mobile phones and social networks more frequently, including during academic or social activities.

Variables Related to the Family Context

The family context is presented as a key factor in most studies analysing problematic social network use in adolescents. In this review, ten studies found that a family variable intervened as a predictor or mediator. The most frequently observed variables were parental supervision, parental phubbing, family support, severe discipline, and rule setting. Demers et al. (2024), for example, found that parental control had a protective effect, reducing the likelihood of adolescents developing a problematic relationship with social networks.

Discussion

This systematic review identified and synthesised the main risk factors associated with the PSMU by adolescents, which are categorised into four main groups. Overall, the results demonstrate that dysfunctional use of these platforms is not the result of a single cause, but rather a complex interaction between the aforementioned variables.

The most prominent risk factors are anxiety and a depressed mood, both of which have been linked to the misuse of social networks. These findings are consistent with those of previous meta-analyses by other authors (e.g., Andreassen et al., 2017; Keles et al., 2020), which suggest that adolescents may use social networks as an outlet for negative emotions.

Studies included in this review, such as those by Cerniglia et al. (2019) and Calandri et al. (2021), suggest that anxiety and emotional distress can be both a precursor to and a consequence of problematic use, creating a cycle of negative reinforcement. Regarding self-esteem, the findings of this systematic review align with previous research, such as that by Andreassen et al. (2017) and Marengo et al. (2018), which suggests that self-esteem acts as a modulating factor in problematic use, particularly among adolescents experiencing high levels of social anxiety or pressure regarding their digital image.

Socio-demographic factors, like age, show similar results as studies including Orben et al. (2022). This research used longitudinal data from the UK, showing critical periods that differ by gender and age. For girls aged 11–13 and boys aged 14–15, increased network usage was linked to a drop in life satisfaction the next year.

Similarly, Orben et al. (2020) found similar effects at different stages of puberty. This evidence further supports the idea that age is not merely a descriptive variable, but a significant mediator of risk, with distinct stages of vulnerability throughout adolescence. This emphasises the importance of designing tailored preventive interventions for specific developmental stages. Following this review, we found studies (Favini et al., 2024; Lin et al., 2024) that show gender as a moderating variable in problematic social network use. For example, Simon et al. (2022) examined Instagram addiction, physical appearance perfectionism and body self-esteem in 902 university students. They found significant gender-based differences in the relationship between Instagram addiction and body self-esteem, with females being markedly more affected than males. This

result reinforces our observations, showing that body perfectionism is a specific mechanism that makes women more vulnerable to the problematic use of visual networks.

One of the most prominent variables identified in the included studies is FOMO. This variable has been recognised as a key factor in the development of compulsive connection. These results are consistent with those of Przybylski et al. (2013), who defined FOMO as the main motivation behind the frequent and unregulated use of digital platforms, particularly among adolescents. In contrast, although phubbing has received less research attention, recent studies such as those by Chotpitayasunondh and Douglas (2018) have revealed that phubbing is a common behaviour among adolescents and is associated with impaired interpersonal relationships, reduced social satisfaction, and increased compulsive mobile phone use. Regarding family variables, this review's results align with those of Van den Eijnden et al. (2010), who discovered that parental supervision without excessive control correlates with lower levels of internet addiction among adolescents.

This review provides relevant information on psychosocial risk factors associated with PSMU. It introduces significant methodological differences that enrich and expand the results. Firstly, it incorporates both longitudinal and cross-sectional studies, allowing for a more comprehensive understanding. Additionally, it provides a structured classification of risk factors into four categories. This update makes the review more comprehensive, facilitating the precise identification of risk factors and providing a more complete framework for prevention and clinical intervention.

While the review conducted by Pazdur et al. (2025) focused exclusively on longitudinal studies, the present review broadens the scope by integrating both cross-sectional and longitudinal designs, thereby offering a more inclusive and up-to-date synthesis of the evidence on adolescent problematic social media use.

Limitations and Future Perspectives

The evidence has limitations that affect the findings. Most studies used cross-sectional designs, preventing causal relationships. Methodological differences in instruments for assessing problematic social network use make direct comparison difficult. Many studies focused on samples from specific cultural contexts, limiting generalisability.

This review followed the PRISMA protocol, but there were limitations. The search was restricted to specific languages and databases, which may have introduced publication bias. The absence of a meta-analysis limits the possibility of quantifying the reported effects. The methodological quality of the studies was evaluated using the MMAT tool, but no formal strategy such as GRADE was used to ascertain the overall reliability of the evidence. Therefore, future research should employ longitudinal and cross-sectional designs to analyse the directionality of relationships between variables. Work should also be done to validate and standardise assessment instruments. Further work is also recommended to identify protective factors that can mitigate the risk of problematic social network use in adolescence. From clinical and educational perspectives, prevention programmes that strengthen self-esteem, emotional management, and social skills should be implemented in schools.

Conclusions

This systematic review found that problematic social network use in adolescents is determined by multiple interrelated psychological, socio-demographic, familial and digital use-related factors. At the psychological level, variables such as anxiety, low self-esteem and a depressed mood are consistently associated with dysfunctional use. This justifies the importance of including strategies to reinforce emotional regulation and self-esteem in preventive programmes for adolescents.

From a socio-demographic perspective, adolescent girls and middle-aged people appear particularly vulnerable, and interventions should be tailored to take these differences into account. Therefore, interventions should be designed with a gender-sensitive approach, and with consideration for the population group, taking into account the different motivations and social pressures experienced by girls and boys.

On the other hand, FOMO emerges as a key factor in compulsive social media use, highlighting the importance of promoting conscious and self-regulated usage. Educational interventions in schools should promote critical awareness of emotional and social mechanisms. Finally, the family environment plays a significant role: low supervision, emotional neglect, and authoritarian educational styles are all associated with a greater digital risk. Therefore, preventive strategies should include family training, the promotion of clear rules, and the involvement of parents in social media use. In this sense, family-based interventions should promote open communication, joint reflection on social media use, and consistent rule setting adapted to adolescents' developmental stage. Parents should be trained to act as digital role models, encouraging a healthy online–offline balance and monitoring without overcontrol.

In conclusion, prevention programmes should be comprehensive and multi-level, combining school, family, and community efforts. School actions should emphasize emotional and social skills; family programs should encourage digital self-regulation; and public health initiatives should promote awareness of the psychological factors that increase vulnerability to problematic use. Tailoring interventions to gender and developmental stage will increase their effectiveness, ensuring that adolescents build a more balanced and healthy relationship with digital environments.

Acknowledgements

The authors would like to express their sincere gratitude to all the researchers whose previous work contributed to this review.

Funding

No specific grant was received for this review from any funding agency in the public, commercial or not-for-profit sectors.

Conflict of interests

The authors report no conflicts of interest.

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