SBE
DOI 10.2478/sbe-2025-0051
Studies in Business and Economics: no. 20(3) 2025

MEDIA USE: A DEVELOPMENTAL PERSPECTIVE USING THE BIBLIOMETRIC APPROACH

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Abstract:

This bibliometric analysis examines research trends, thematic developments, and collaborative patterns in the study of digital media use among children and adolescents over the past decade. By leveraging comprehensive searches within the Web of Science database, the study identifies a dynamic and rapidly evolving field, evidenced by a high annual growth rate and a predominance of recently published works. Key research themes center on mental health—particularly depression and anxiety—social media engagement, screen time, and the behavioral and developmental impacts of digital technologies. The analysis highlights a shift from broad associative studies to more nuanced investigations addressing underlying mechanisms, population-specific effects, and methodological rigor. The network of authorship demonstrates a strong collaborative culture, marked by large research teams and a low proportion of single-authored publications, underscoring the importance of interdisciplinary approaches. Pivotal studies, including influential systematic reviews, have shaped the direction of inquiry and established foundational knowledge. Limitations include reliance on a single database and potential citation lag for recent publications. The findings underscore the need for continued monitoring of emerging trends, incorporation of diverse data sources, and qualitative insights to capture the complexity of digital media's impact on youth well-being.

Key words: *media use, digital media, children, adolescents*

1. Introduction

Digital content is now integral to the lives of children and adolescents. Over the past few decades, researchers have investigated the wide-ranging effects of digital media on young users. This research points to both positive and negative impacts on development, well-being, and academic performance, underscoring the need for a comprehensive understanding (Gull & Ruth Sravani, 2024; Jun et al., 2025).

Recognizing the importance of digital media's effects, notable policy statements from the American Academy of Pediatrics (2016) and the Canadian Paediatric Society (2017) call for clinicians and families to collaborate on guiding children's and adolescents' digital media use.

Different concepts describe how children and adolescents interact with media. Traditional media involve passive consumption, while digital platforms encourage interaction and content creation, exemplified by devices like smartphones and tablets (Arumugam et al., 2021).

In the early part of the last decade (2015-2015), the term "screen time" described the period spent using electronic or digital media devices, such as smartphones, tablets, televisions, video games, computers, and wearable technology (Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario, 2019; Qi et al., 2023).

Media use has evolved from general exposure (COUNCIL ON COMMUNICATIONS AND MEDIA, 2016) to a layered concept involving various digital technologies (television, tablets, smartphones, computers) starting in early childhood (Swider-Cios et al., 2023). Media use now encompasses not only time spent but also content type, usage mode (passive or interactive), and social context, such as parental involvement (Swider-Cios et al., 2023).

Despite continued research, we still lack a full understanding of how media use affects young people's development and well-being. As technologies change rapidly, ongoing assessment is crucial. A bibliometric review can reveal key themes, frameworks, and gaps—helping inform future research, interventions, and policies to better protect children and adolescents.

This study comprehensively reviews current knowledge on screen-based media use by children and adolescents. It identifies literature gaps and offers insights for policymakers, practitioners, and researchers by addressing these research questions:

RQ1: What is the current publication trend?

RQ2: Which are the most influential articles?

RQ3: Which themes are the most popular among scholars?

RQ4: Is there a research gap in the field?

This research consists of a broad review of scholarly literature on media use among children and adolescents, drawing on studies published worldwide between 2015 and 2025. Through bibliometric analysis, the study identifies and summarizes leading research trends.

2. Literature review

The pervasive presence of digital media in the lives of children and adolescents raises important research questions about its long-term effects. Although we know that these youths use digital media for education, leisure, and social interaction, a significant gap exists in understanding how this exposure impacts their developmental trajectory.

In the early '90s, scholars were mainly concerned with the changes in media with which children interacted. They focused on TV and video exposure and highlighted the technical features and content of each technology (Dorr & Kunkel, 1990). In a well-known paper, Dietz and Strasburger (1991) highlighted the main implications for children and adolescents of watching TV. They based these findings on data collected starting in 1970. They pointed out that children spend more time watching TV than doing any other activity, except sleeping. An important preocuipation that time had a medical background, as

evidenced by papers on the topic published in Current Problems in Pediatrics. Not only was the time spent in front of the TV analyzed, but also the commercial relationship of television to children. According to the US Department of Education (Anderson, D.R., & Collins, P.A., 1988), television has a detrimental effect on children's cognitive development, particularly on their creativity and imagination. Other studies (Lemish & Rice, 1986; Rice & Woodsmall, 1988) emphasize the role of television in children's vocabulary and language development. Other adverse factors were identified. These factors were obesity and physical fitness. The prevalence of obesity increased in the analyzed period. The period was from 1971 to 1991. The prevalence of physical fitness decreased in the analyzed period. This information is from Updyke & Willet (1989) and Gortmaker (1987). The impact of television on viewers has been identified as having a negative effect, particularly with regard to the consumption of violent content. A significant relationship was demonstrated between aggressive behavior at age 19 and watching TV violence in the third grade, as shown by Liebert & Sprafkin (1988). Advertisements for alcohol have highlighted important effects of television since the average American teenager views between 1,000 and 2,000 beer and wine commercials per year (Strasburger, 1989). Given all these facts, important measures were implemented in order to control and monitorize the children`s time spent in front of TV but also content, advertising, and media consumption (Action for Children`s Television -ACT, American Academy of Pediatrics – AAP, Harvard Alcohol Project, Home Box Office, Federal Communications Commission) (Dietz & Strasburger, 1991)

By the early 2000s, studies linked diverse media exposure (TV, video games, and the internet) to behavior such as aggression and substance use, and found high weekly viewing times. The introduction of the internet marked a transition from passive viewing to interactive engagement for youth. Villani (2001) highlighted the transition from a passive role of watching TV to an active role of engaging with diverse content, noting shifts in children's and adolescents' media consumption habits. (Villani, 2001). 2001). The preoccupation for exploring these habits had a practical reason, given the role of media exposure on children in the diagnosis and treatment of behavioral problems. The core change in highlighting these issues was the shift from a pediatric approach to children to a psychiatric approach regarding media consumption. Still, the American Academy of Pediatrics AAP continued to be involved by publishing five policy statements, with a major impact on understanding media consumption in children and adolescents. Felderman (1996, 1997, 1998) released three volumes of a study regarding the content of American television. The major findings were that television violence contributes to antisocial effects on viewers, which can lead to negative outcomes for both individuals and society as a whole. Viewing violence on TV can cause three primary problems:learning aggressive behaviors and attitudes, becoming desensitized to violence, and fear of being victimized. Not all violence is equally dangerous. The novelty of the decade is the analysis of the use of computers and the internet. The Princeton Survey Research Center reported in 1997 that 89% of adolescents use a computer, and 61% report surfing the net. The preoccupation lies in finding ways to prevent the harmful effects of the media. A media history should be included in the standard evaluation of children and adolescents by healthcare professionals, especially child and adolescent psychiatrists (Villani, 2001).

By 2013, with expanded digital infrastructure, 78% of American teens aged 12 to 17 had a cell phone, and 47% used smartphones (Madden et al., 2013). Research began to examine parental media habits and attitudes, recognizing how parents influence children's technology use, regardless of their own media habits (Lauricella et al., 2015). The biggest change is the shift from watching television and program content to screen media, screen time, and a multidimensional approach to multiple types of media at the same time - television, computers, smartphones, and tablet computers. A novel factor taken into account is parents' media use and its impact on children's and adolescents' media use. Villani's study on media use among children aged 0 to 8 yielded three key conclusions. The study found that media technology use increases with age. It also found that parental time spent using technology is strongly associated with their children's screen time. Finally, the study determined that parents' attitudes toward media use play a crucial role in determining their children's screen time. With widespread digital technology use, adolescents became immersed in social media. A 2015 Pew Research Center report found that most teens use social media and technology daily, and some use them constantly. Teens are using multiple social media sites, with most reporting at least 7. The most prevalent platforms are Facebook, Google+, Instagram, and Snapchat (Lenhardt et al., 2015). AAP (American Academy of Pediatrics) remains concerned about media use and released in 2016 a policy statement about media use patterns, benefits, risks, and social media and mental health of children and adolescents 5 through 18 years of age (COUNCIL ON COMMUNICATIONS AND MEDIA, 2016). Research then highlighted links between social media use and mental health issues in adolescents, examining variables such as time spent, activity type, and social media addiction. However, findings sometimes contradicted one another, revealing the field's complexity (Keles et al., 2020).

In a recent study, Navalón-González et al. (2025) highlighted the relationship between SN (social network) use and sleep-related problems among Spanish adolescents. The authors found that addictive behaviors related to SN were strongly associated with sleep problems than simple SN use. To clarify, 'addictive behaviors' in this context refer to compulsive use of social networks characterized by excessive or uncontrollable engagement, whereas 'simple SN use' involves routine engagement without significant negative impacts on daily life. Differentiating these two patterns is crucial for accurately interpreting the study's findings in the context of adolescent development. Disrupted sleep among adolescents can interfere with their cognitive and emotional development, affecting concentration, memory, and mood regulation. By linking sleep disruption with potential cognitive and emotional outcomes in this age group, this study underscores the importance of addressing addictive social network behaviors among adolescents to mitigate developmental risks.

Given all these findings, further research is needed to understand the nuanced relationships between media use and outcomes in children and adolescents.

3. Methodology

The first step in the bibliometric analysis was to identify keywords for the research using the most comprehensive databases, namely Web of Science (WoS) and Scopus. Given the diverse and multidimensional use of the concepts, we chose a query to identify

relevant documents. The initial query ("media use" OR "media consumption" OR "digital media" OR "social media use" OR "screen time" OR "internet use" OR "digital skills" OR "digital competence" OR "digital literacy" OR "media literacy" AND "child*" OR "adolescent*" OR "school-aged" OR "young people" OR "youth" OR "teen*") was carried out in November 2025 in both databases. There were 2,855,211 documents identified in WoS and 217,567 in Scopus. Therefore, we chose to continue the analysis within the WoS database.

Several filters were applied to improve the accuracy of the search and to ensure an optimal analysis. The publication years were set to 2015-2025 (1,716,279 documents), and only articles and article reviews were selected (1,482,877). Another filter was applied to the fields of psychology and developmental psychology, reflecting the focus on children and adolescents. This resulted in 47,180 documents. Within these documents, a refined search was conducted using only "digital media use," "social media use," and "screen time." A final list of 3,950 documents was established.

Data were analyzed quantitatively using bibliometric methods to investigate trends in publications, average citations per publication, top keywords, and the most prolific countries.

Table 1. Summary of collected data

Description	Results
Timespan	2015:2025
Sources (Journals, Books, etc)	214
Documents **(articles, review articles)**	3944
Annual Growth Rate %	14.13
Document Average Age	3.76
Average citations per doc	21.58
DOCUMENT CONTENTS	
Keywords Plus (ID)	6709
Author's Keywords (DE)	8600
AUTHORS	
Authors	18695
Authors of single-authored docs	135
AUTHORS COLLABORATION	
Single-authored docs	137
Co-Authors per Doc	5.74
International co-authorships %	23.86

4. Results/findings

The data were rigorously analyzed to identify publication trends, the most prolific authors, and the development of research topics.

Publication trends and average citation over year

Figure 1 shows the linear increase in publications over the last ten years, with 171 articles published in 2015 and 671 in 2025. The figure covers a relatively recent 11-year period, indicating a focus on contemporary research. A total of 3,944 documents represents a substantial body of work, providing a solid foundation for identifying trends and patterns within the research area. A high annual growth rate suggests a rapidly expanding field of study, possibly driven by increased funding, emerging technologies, growing researcher interest, or a combination of these factors. This growth warrants further investigation into the specific areas driving the expansion.

An average of 21.58 citations per document (see Figure 2) is a good indicator of impact. This suggests the research is being referenced by other scholars and contributing to the overall knowledge base. The average document age is 3.76 years. This relatively young average age suggests the collection is heavily weighted toward recent publications, which aligns with the 2015-2025 timespan. It also implies that the research's impact may still be unfolding, as older papers typically have more time to accrue citations.

Figure 1

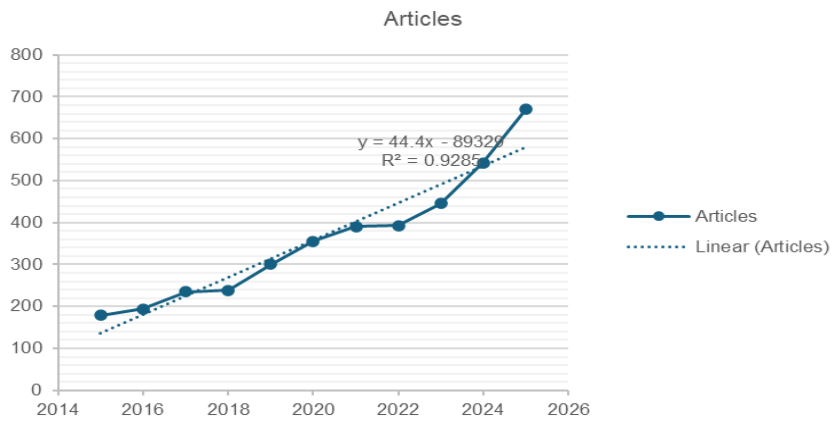
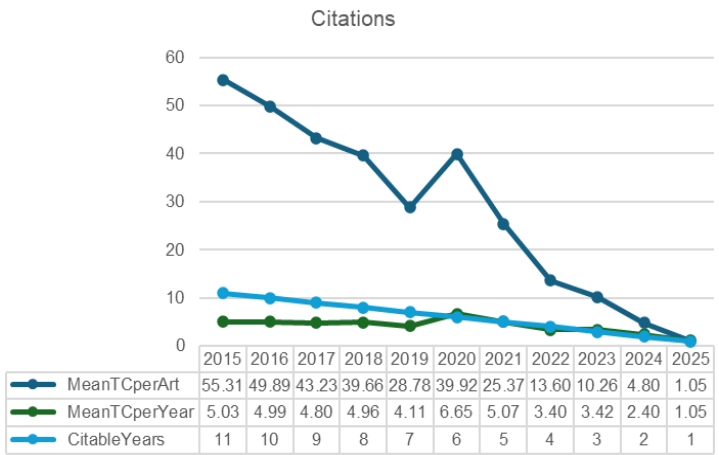


Figure 2



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
MeanTCperArt	55.31	49.89	43.23	39.66	28.78	39.92	25.37	13.60	10.26	4.80	1.05
MeanTCperYear	5.03	4.99	4.80	4.96	4.11	6.65	5.07	3.40	3.42	2.40	1.05
CitableYears	11	10	9	8	7	6	5	4	3	2	1

A large number of authors (18,695) contributed to the collection, highlighting a collaborative research environment. Of these, only 135 are single-authored, underscoring the collaborative nature of the field. An average of 5.74 co-authors per document indicates a high degree of collaboration. Large research teams are common in some disciplines, often driven by the complexity of the research questions or the need for diverse expertise. The presence of 23.86% international co-authorships suggests a globalized research effort, which often leads to greater impact and broader knowledge dissemination.

The next analysis focused on the life cycle of scientific production, illustrating the temporal dynamics of research topics. This approach, grounded in the theory of scientific paradigms and innovation diffusion, enables the identification of a field's current developmental stage, the prediction of future trends, and the estimation of when a topic will reach maturity or saturation.

According to Figures 3 and 4, the plots indicate a classic logistic growth pattern. We observe an initial period of slow growth, followed by rapid acceleration, and finally a trend towards saturation. The annual publication plot (Fig. 3) shows a bell-shaped curve characteristic of logistic growth. The cumulative publication plot (Fig. 4) shows an S-shaped curve, a hallmark of logistic growth, with a clear flattening as it approaches the carrying capacity. The inflection point, where the growth rate transitions from increasing to decreasing, is a crucial milestone. In this case, the year 2038 is estimated to be the peak year.

Figure 3

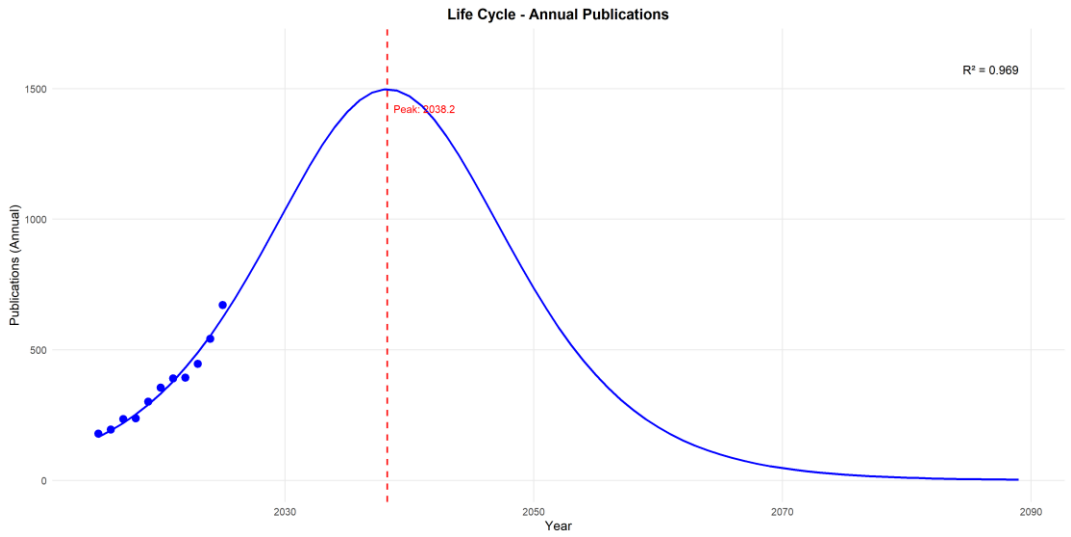
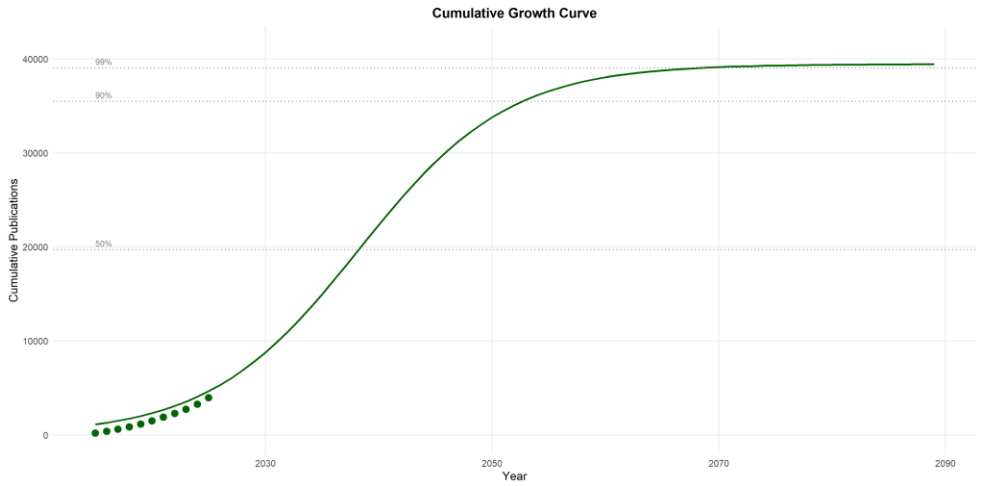


Figure 4.

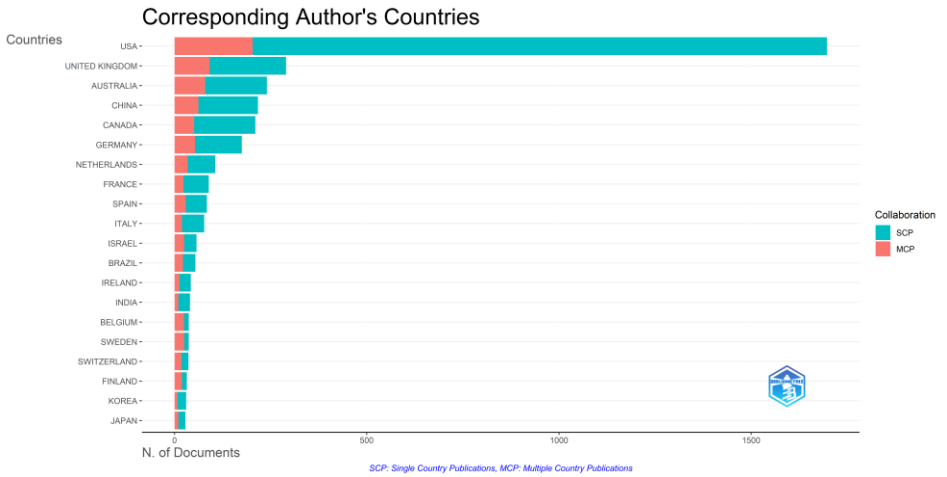


The R^2 value of 0.969 suggests a very strong fit between the logistic model and the observed data. This indicates that the logistic model effectively captures the overall trend in the publication data.

Coresponding authors`country

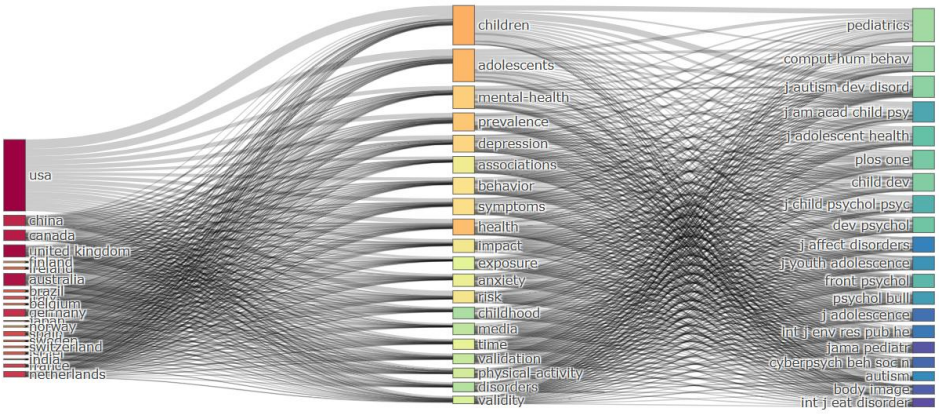
The United States (USA) is the clear leader in the number of publications by corresponding authors, dwarfing all other countries. This suggests a strong research infrastructure and a significant contribution to the field represented by the WOS dataset. There's a distinct drop-off after the USA, with the United Kingdom, Australia, China, and Canada forming the next tier. After this tier, the document counts decrease more gradually. The proportion of Multiple Country Publications (MCP) to Single Country Publications (SCP) varies widely across countries, suggesting different approaches to international collaboration.

Figure 5.



The next results focus on the link between the most prolific countries, the top keywords in the field, and the top journals – see Figure 5.

Figure 6.



The Sankey diagram (Figure 6) visually represents the flow of relationships between these three metadata fields. The width of each stream (the connecting lines) indicates the strength or frequency of the association between items in each field. A wider stream suggests a stronger link.

On the left side, the column shows the countries where the authors of the publications are based. The height of each bar indicates the number of publications originating from that country in the dataset. The USA has a dominant position, followed by other developed countries such as China, Canada, Finland, and the United Kingdom.

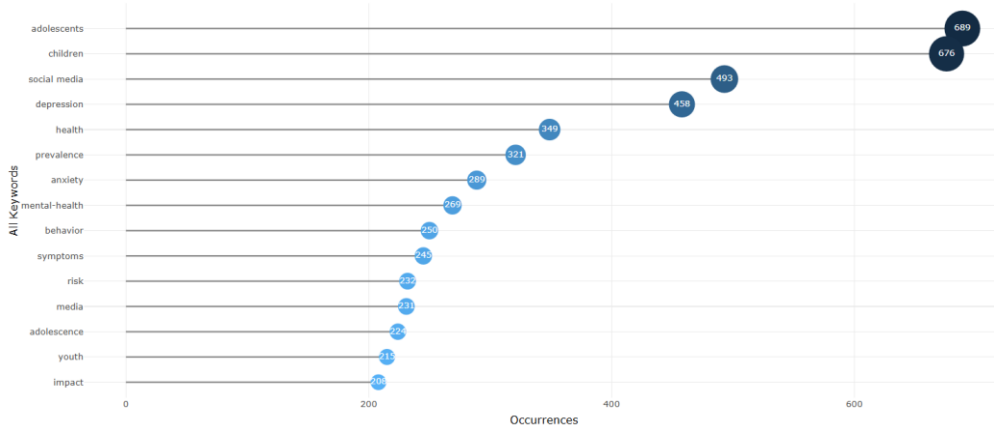
The central column lists keywords assigned to the publications. The bar height indicates the frequency of each keyword within the dataset. Children and Adolescents are the most frequent keywords, suggesting a strong focus on research related to those age groups. Keywords like Mental-health, Prevalence, and Depression also appear to be prominent, implying a significant portion of the research deals with mental health issues in children and adolescents.

The right column displays the cited sources in the publications. The height of each bar represents how often a particular source is cited within the dataset. Pediatrics seems to be the most cited source, followed by journals specializing in child and adolescent psychology and mental health

Key-words co-occurance

The most relevant keywords in this analysis are children and adolescents, followed by social media and a range of clinical terms related to the effects and impact of digital/social media use on different populations (Figure 7).

Figure 7.



The Louvain algorithm has identified distinct communities within the network, represented by different colors (red, blue, green). This suggests the presence of several sub-themes or research areas within the broader topic covered by the WOS dataset.

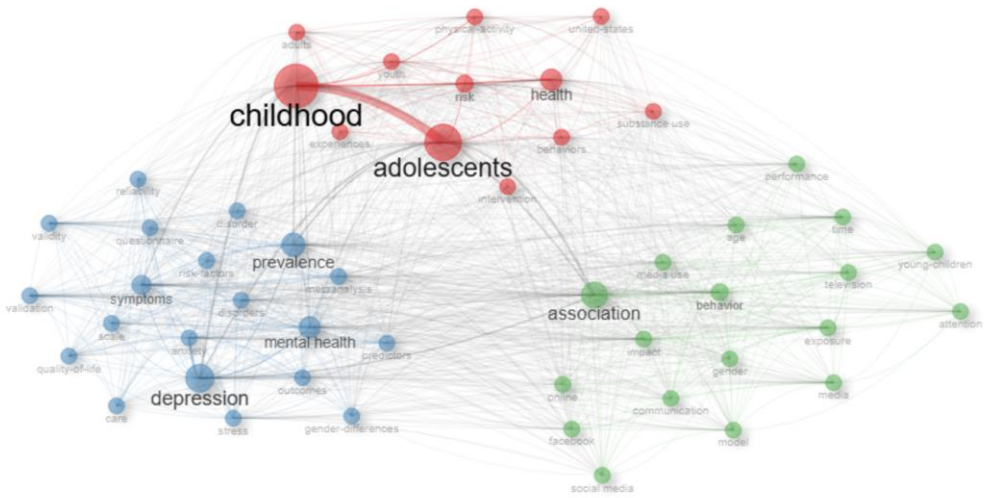
The red cluster (top) appears to revolve around the themes of childhood, adolescence, health, risk, youth, and possibly adults. The prominent connections suggest that this community focuses on health risks, behaviors, and experiences specific to childhood and adolescence. Terms like physical activity, substance use, and the United States suggest potential sub-themes related to lifestyle factors, health behaviors, and geographical context.

The blue cluster (left) seems centered around depression, mental health, prevalence, and symptoms. The presence of terms such as questionnaire, validity, reliability, and meta-analysis suggests a focus on methodological aspects of studying these conditions, as well as on the measurement and assessment of mental health.

The key terms in the green cluster (right) seem to be association, behavior, social media, media use, and potentially attention. The connections imply a focus on the relationship between social media use, behavior, and related outcomes. Terms such as impact, communication, and model suggest investigations into the mechanisms and effects of social media across various aspects of behavior.

The central hubs in the network are the terms' childhood' and 'adolescence,' suggesting that the dataset covers research on these developmental stages extensively. The prominence of the term association in the green cluster suggests a strong focus on identifying relationships between variables, a fundamental goal in many research areas represented in this data. The words depression and mental health indicate a significant body of research dedicated to this particular area (Figure 8)

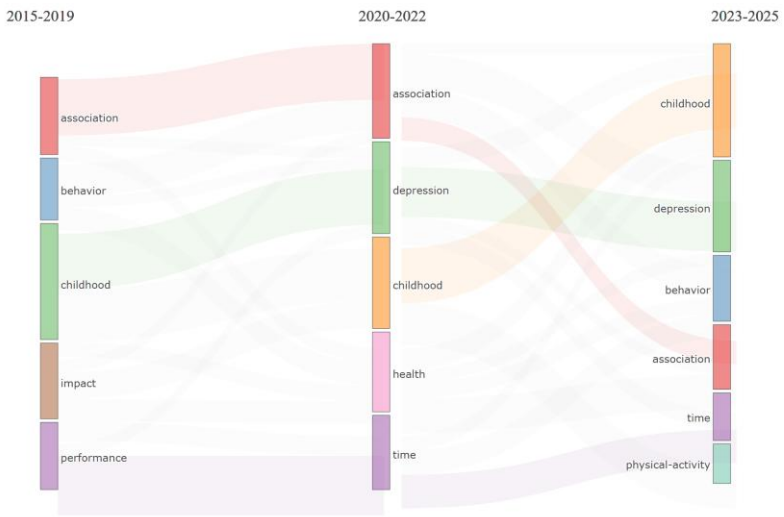
Figure 8.



To observe trends and the evolution of themes over the last ten years, we conducted a thematic evolution analysis that also highlights contributions from the field's most prolific authors. Although the three subsequent periods cover a relatively short time span, some notable evolutions can be visualized in Figure 9.

During the first period, 2015 to 2019, research topics focused on associations between digital media use and negative outcomes such as depressive symptoms and depression (McCrae et al., 2017; Twenge et al., 2018; Woods & Scott, 2016). The second period, 2020 to 2022, coincided with the core of the pandemic. During this time, systematic reviews and meta-analyses were conducted to better understand digital media use and its implications, with loneliness emerging as a major theme (Buecker et al., 2021; Loades et al., 2020). New themes included cyberbullying (Craig et al., 2020), eating disorders (Wilksch et al., 2020), and more nuanced analyses of individual differences such as gender (Twenge & Martin, 2020) and age groups like young adults (Buecker et al., 2021). The final period, from 2023 to 2025, highlights terms related to problematic device use—mobile phones, smartphones (Bradley & Howard, 2023; Girela-Serrano et al., 2024)—and emerging platforms like TikTok (Conte et al., 2025). New concepts such as media awareness (Krafft et al., 2023), the utility of social media for pharmacovigilance (Bremmer & Hendershot, 2023), and digital methods for health research (Schick et al., 2023) also appear, reflecting ongoing evolution in the field

Figure 9



To better understand the evolution of specific themes, a thematic evolution map was created for each period, along with a general thematic map for the entire ten-year span. This analysis reveals dynamic shifts in research interests over time, with themes moving between different quadrants of the strategic maps, reflecting changes in centrality (relevance) and density (development). The strategic maps show that certain topics shift from being motor themes (well-developed and central) to more basic or niche themes, or vice versa, indicating changing research priorities or saturation of particular areas. The evolution of these strategic maps is illustrated in Figures 10, 11, 12, and 13.

Figure 10 (Strategic map for the period 2015-2019)

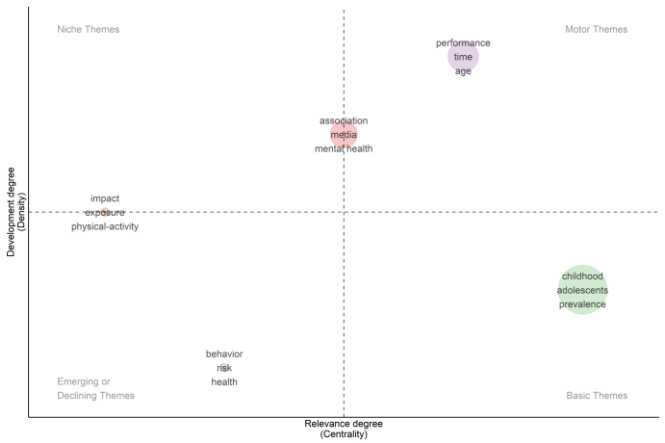


Figure 11 (Strategic map for the period 2020-2022)

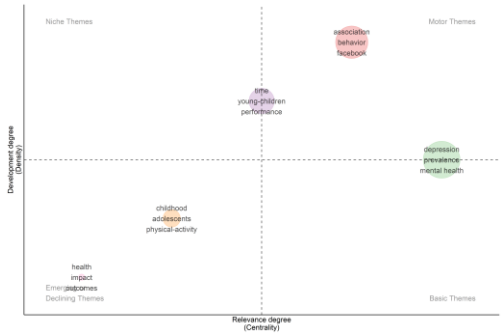


Figure 12 (Strategic map for the period 2023-2025)

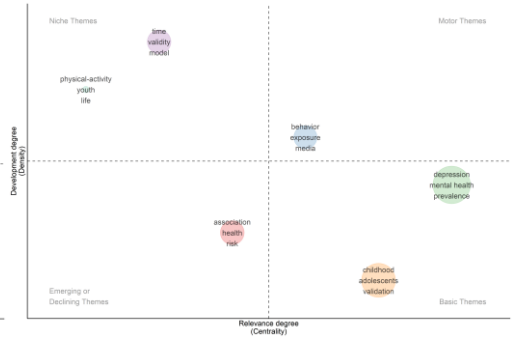
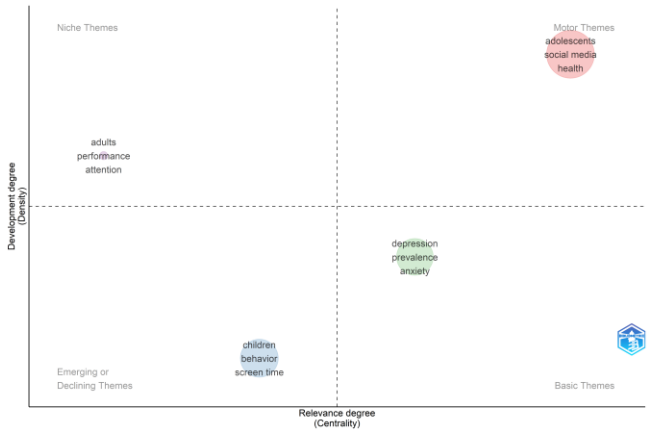


Figure 13 (Strategic map for the period 2015-2025)

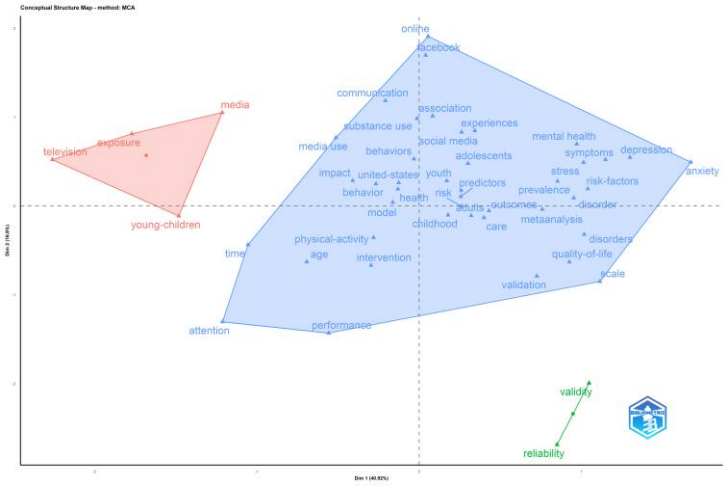


Over the entire period, themes have shifted across quadrants, highlighting the field's dynamic nature. The motor themes throughout the decade are adolescents, social media, and health, as reflected in the majority of publications. Basic themes illustrate a concentration on specific symptoms and mental health issues, such as depression and anxiety. Niche themes suggest possible directions for further research, including other age groups (young adults, adults). The emerging or declining theme is screen time, which may be redefined with more specific terms. Additionally, the evolving perspective on the term 'children' may indicate conceptual restructuring, with increasingly specific topics.

Factorial analysis

A Multiple Correspondence Analysis (MCA) was conducted to explore relationships between categorical variables—in this case, keywords from the 'ID' field. The positions of terms on the map reflect their co-occurrence patterns. Terms that appear closer together are more likely to be used together in the same publications, as shown in Figure 14.

Figure 14.



The map is displayed in two dimensions, Dim 1 and Dim 2. Dim 1 explains 40.92% of the variance, and Dim 2 explains 16.8%. Dim 1 seems to be the most important in differentiating the concepts in the dataset.

The analysis identified three clusters, each represented by a different color and a polygon outlining its members. These clusters correspond to distinct themes or research areas within the dataset. The red cluster (on the left) includes terms such as television, exposure, media, and young children. This cluster centers on the impact of traditional media (particularly television) exposure on young children, likely encompassing research on the effects of screen time and media content on development, behavior, and other outcomes in early childhood. Negative values on Dim1 may indicate an inverse relationship between this cluster and others. The blue cluster (center and right) encompasses terms such as online, Facebook, communication, association, media use, impact, behaviors, adolescents, model, childhood, outcomes, meta-analysis, mental health, depression, anxiety, prevalence, disorders, validation, scale, time, age, intervention, attention, and performance. This blue cluster is the largest and most diverse, encompassing a broad spectrum of research focused on mental health—particularly among adolescents and children—and the various factors that influence it. Key aspects include:

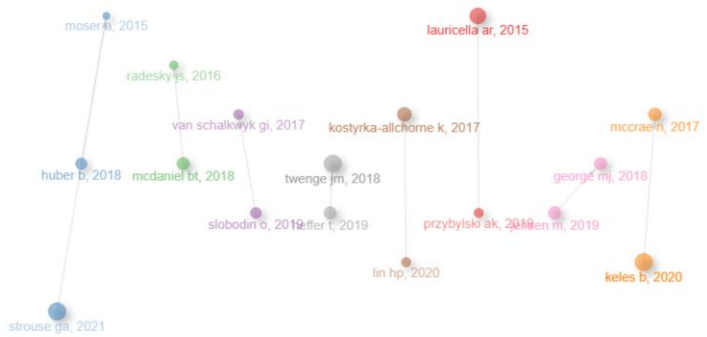
- Social media and communication: this theme includes terms such as online, Facebook, communication, and media use, highlighting the influence of digital platforms on mental health.
- Mental health outcomes: core concepts like mental health, depression, anxiety, prevalence, and disorders represent research efforts to quantify and characterize these conditions.
- Developmental aspects: keywords such as adolescents, childhood, age, and time emphasize a developmental perspective, exploring how mental health changes throughout different life stages.
- Associations and impacts: this area examines the relationships and effects of digital engagement on mental health outcomes.

Additionally, the green cluster (bottom right) represents research focused on methodological rigor, particularly studies evaluating the validity and reliability of instruments used to assess mental health or related constructs. This focus underscores the importance of ensuring high quality and trustworthiness in research findings.

Historiograph

Another analysis reveals the connections between authors, the time span of their work, and the evolution of the main research themes. Figure 15 illustrates the clusters of authors and how their focus has developed over the past decade.

Figure 15.



The network covers research from 2015 to 2021, highlighting a period of recent and active scholarly engagement. There is a notable increase in publication density between 2017 and 2019, indicating heightened interest and research activity during these years. Several key themes emerge from this body of work:

- Social media and mental health: A significant portion of research investigates the relationship between social media use and mental health outcomes, including depression, anxiety, and psychological distress among adolescents.
- Screen time and child development: Another major area of focus is the impact of screen time on children's cognitive development, executive functioning, and behavior.
- Parental role and technology: Some studies examine the influence of parents' technology use (technoference) and their perspectives on child behavior and development.
- Autism spectrum disorder: Additional research specifically addresses media use in adolescents diagnosed with autism spectrum disorder.

Tabel 2 reflects the description of each node, as well as its implications.

Table 2. The description of each node

Cluster	Description	Nodes	Interpretation	Temporal evolution
1. leftmost, light blue	appears to center on the more general effects of screen time and video on learning in young children	(Huber et al., 2018; Moser et al., 2015; Radesky et al., 2016; Strouse & Samson, 2021)	(Moser et al., 2015) investigates transfer learning from touchscreens and television. (Huber et al., 2018) builds on this, focusing on screen media content and executive function, while (Radesky et al., 2016) could be exploring parent perspectives on using mobile technology. (Strouse & Samson, 2021) is the most recent in this cluster, its title indicating a meta-analysis about children learning from video.	This cluster exhibits a progression from early investigations of learning from screens to more specific aspects of executive function and broader meta-analyses.
2. middle left, green, purple, grey	appears to be revolving around social media, mental health, and developmental disorders.	(Heffer et al., 2019; McDaniel & Radesky, 2018; Slobodin et al., 2019; Twenge et al., 2018, 2018)	Twenge's (2018) work on increased depressive symptoms and screen time seems central here, potentially acting as a catalyst for further research and debate (as suggested by Heffer's (2019) empirical reply. The cluster connects this general concern with studies on specific populations like adolescents with autism (van Schalkwyk, 2017; Slobodin, 2019), and parental technology distractions (technoference) (McDaniel, 2018).	This cluster shows a trend from broad associations (Twenge) to more nuanced investigations of specific populations and potential mediating factors.

3. right, red, brown, orange, pink	examines social media, screen time, and mental health symptoms more generally.	(George, 2019; Keles et al., 2020; Kostyrka-Allchorne et al., 2023; Lauricella et al., 2015; McCrae et al., 2017; Przybylski & Weinstein, 2019)	The early research by Lauricella (2015) sets the stage by exploring children's screen time. Kostyrka-Allchorne (2017) looks into TV exposure effects, while McCrae (2017) and Keles (2020) conduct systematic reviews on social media and depression. George (2018) and Jensen (2019) explore longitudinal and daily associations. Przybylski (2019) and Lin (2020) investigate digital screen time limits and emotional problems.	This cluster moves from initial explorations of screen time to systematic reviews and more nuanced longitudinal studies, potentially seeking to establish causal relationships.

5. Discussions

Media use among children and adolescents has undergone dynamic changes and developed specific characteristics over the past decade, in response to the global digital shift. The present study aimed to highlight the main research trends, the most prominent topics, the networks, and regional scientific productivity.

The results answering to the RQ1 revlealed the high annual growth rate and the relatively recent publication dates of documents, showing the dynamic and fast-paced nature of this research field. For researchers, staying up to date with the latest studies and emerging trends is crucial to maintaining relevance and advancing ongoing research. The field is also characterized by a strong culture of collaboration, as reflected in the large pool of contributing authors, the low incidence of single-authored publications, and the high average number of co-authors per paper. This collective approach underscores the value of interdisciplinary teamwork in driving innovation and progress within the area.

The substantial percentage of international co-authorships reflects a globalized research community, indicating opportunities for cross-border collaboration and knowledge exchange. Average citations per document suggest the research is having a reasonable impact, but further analysis of citation distribution is needed.

The observed logistic growth pattern (Figures 3 and 4) carries several scientific implications: The current saturation is about 10%, indicating that the topic is in a rapid growth phase, with 90% of its publication potential still ahead. This signals a promising emerging field attracting growing scholarly attention. The rapid growth phase may be

linked to factors such as increased funding, technological breakthroughs, the emergence of new theoretical frameworks, or a combination of these. If the trend continues, we can expect a slower rate of increase in publications, potentially reaching a plateau at around 39,440. However, it is important to note that the logistic model is a simplification of a complex system. External factors, such as new technologies or paradigm shifts, could disrupt the predicted trajectory, leading to renewed growth or a faster decline. The predicted peak in annual production in 2038 is noteworthy, suggesting the field will remain highly productive for some time, although new researchers might experience slower growth and fewer job opportunities.

The connections shown in Figures 4 and 5 indicate a dominant contribution from the USA, suggesting that a large portion of the research in this area originates from US-based researchers. The connections between countries and keywords/cited sources suggest the specific areas each country focuses on, but further analysis is required. The prominent keywords (children, adolescents, mental-health, prevalence, depression) and frequently cited sources (Pediatrics, Computers in Human Behavior, Journal of Autism and Developmental Disorders, Journal of the American Academy of Child and Adolescent Psychiatry, Journal of Adolescent Health) suggest a strong research focus on child and adolescent health, particularly mental health and developmental disorders in direct relatio to media use, social media usedigital media use.

Regarding RQ2, using the historiography, several pivotal works stand out. The first is by Twenge J.M. (2018), which appears to be a foundational paper in the network. Its prominent placement and connections suggest it sparked considerable discussion and further research due to its claims about the link between new media and adolescent mental health. Heffer's (2019) presence indicates that there was debate and/or replication attempts following Twenge's findings. Other pivotal works include McCrae (2017) and Keles (2020), both of which are systematic reviews. Systematic reviews often serve as central nodes in citation networks, as they synthesize existing research and provide a foundation for future studies.The review of McCrae (2017) has an impact of the literature in the filed, showing a small but statistically significant correlation between social media use and depressive symptoms in the child and adolescent population. the The review of Keles (2020) examined the impact of social media use on the prevalence of depression, anxiety, and psychological distress among adolescents and concluded that the impact is likely multifactorial. The key findings of the included studies were classified into four categories of social media exposure: time spent on social media, social media activities, social media investment, and social media addiction. All of these categories were found to be correlated with depression, anxiety, and psychological distress, which acknowledges the complexity of these relationships. While some studies have investigated potential mediating and moderating factors that could contribute to or exacerbate this relationship, several mediators and moderators remain under-explored and could help clarify its direction.

In respect with RQ3, we used the bibliometroc indicator TCpY – meaning Total Citations per Year, calculated after the formula TCpY = TC (total citations a publication has received)/ Y (number of years since publications). This indicator normalizes citation impact by time, allows fairer comparision between older and newr publications, and highlits citation intensity, not just a rae citations count. Given this indicator, the marcant's authors

in the field are: Coyne S.M., active since 2016. The paper Bored and Online: Reasons for Using Social Media... (2020, TCpY= 26.8) has a high impact. Also, the number of citations per year is elevated for Does Parental Mediation of Media Influence Child Outcomes? (2016, TCpY = 21.2) Moreno M.A., with a strong contribution between 2016 and 2020. The Cyberbullying Prevalence Among Us Middle And High School-Aged Adolescents article (2016, TCpY = 19.6) had a significant impact; Prinstein M.J.'s publication Using Social Media For Social Comparison And Feedback-Seeking (2015, TCpY = 40.8) stands out as highly influential. The more recent paper, Annual Research Review: Adolescent Social Media Use Is Not A Monolith (2025, TCpY = 13), may gain even more citations over time.

Even if the country of the corresponding authors was not by itself a separately research question, the results showed that the United States (USA) is the clear leader in the number of publications by corresponding authors, dwarfing all other countries. This suggests a robust research infrastructure and a significant contribution to the field, as represented by the present WOS dataset. There's a distinct drop-off after the USA, with the United Kingdom, Australia, China, and Canada forming the next tier. After this tier, the document counts decrease more gradually.

In order to address RQ 4, a word co-occurance network was performed. This suggests that the dataset focuses on research related to child and adolescent health, mental health (particularly depression), and the impact of social media on behavior, but also possible further directions, given research gaps. In the evolution of the strategic map, mental health has emerged as a core theme in recent years, possibly reflecting increased public awareness and research funding. The shift of behavior to motor theme status in later periods may indicate a greater emphasis on understanding behaviors related to the other identified themes. While consistently present, the prominence of childhood/adolescence fluctuates. The increase in importance during 2023-2025 could suggest renewed attention to these age groups, higliting developmental perspectives. Association appears relatively consistently, but its gradual movement toward the emerging/declining quadrant by 2023-2025 may mean that simply establishing associations is no longer sufficient; researchers need to delve deeper into mechanisms or interventions. The emergence of new themes such as depression, physical activity, media, validation, and youth indicates ongoing evolution in the research. Another topic yet to be addressed could be the relation between the media use in children and adolescents and media litarcy, digital media competences and media awrnes among these age gropus.

The research strongly reflects growing concern about the potential negative impacts of social media and digital technology on the mental health of children and adolescents. The network shows a move toward more nuanced research, considering specific populations (e.g., children with ASD), different types of screen time (e.g., TV vs. social media), and potential mediating factors such as parental involvement and friendship quality. The presence of systematic reviews highlights the importance of synthesizing evidence and addressing methodological limitations. Longitudinal studies are also emerging, aiming to establish causality rather than mere correlation.

The present study has some limitations. Only one database was included in the analysis. Future research should incorporate other significant databases in the field, such

as Scopus, to provide a more diverse perspective. Additionally, since the analysis focused on the last decade, the citation impact for the most recent years is limited. A qualitative approach could also capture more nuanced directions and research trends.

The most recent publications suggest ongoing interest in the long-term effects of screen time, the role of parental influence, and the need for evidence-based guidelines on screen time limits. Further research should investigate how funding policies, technological advancements, and societal trends have influenced the field's growth.

6. Conclusions

Through bibliometric analysis, this study has identified trends, average citations per year, top keywords, countries of corresponding authors, and leading journals for 3,944 articles extracted from the Web of Science (WOS) database. The findings indicate that the majority of research related to media use in children and adolescents from 2015 to 2025 has focused on the negative effects on mental health.

By examining the concept of media use in relation to two developmental periods – childhood and adolescence - this study offers a comprehensive look at the research on this topic. Furthermore, by identifying research gaps and desired up-to-date topics, it is possible to take essential steps toward advancing future research in this field.

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