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*Review*

# Parenting and Children's Screen Use (2010–2025): A Bibliometric Mapping of Trends, Intellectual Structure, and Cross-Cultural Research Gaps

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## Abstract

This study maps the global scholarly landscape on digital parenting and children's digital device use through bibliometric analysis of 628 Scopus articles (2010–2025). Using PRISMA-guided screening and science-mapping visualisations (VOSviewer and CiteSpace), the review identifies publication growth, influential sources, intellectual structures, and thematic clusters shaping the field. The mapped knowledge structure is dominated by health and media-effects traditions, with major research fronts centred on parental mediation, screen-time outcomes, online safety, and digital wellbeing. Crucially, the analysis shows that parenting perspectives remain weakly represented within this global corpus, with limited engagement with faith-based concepts that could shape mediation practices and moral reasoning in households. This underrepresentation contributes to a Western-centric evidence base, indicating a need for Islamically situated digital parenting research that integrates developmental concerns with ethics and culturally grounded mediation strategies. The study concludes by proposing a focused research agenda to strengthen theory building and empirical work in family contexts.

**Keywords:** digital parenting; Islamic parenting; bibliometric analysis; screen time; child

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## 1. Introduction

The use of screens, including smartphones, televisions, and tablets, has significantly increased, particularly in early childhood (ages 0 to 8) [1]. Studies indicate that infants under two years old are exposed to screens frequently [2,3], with some infants exposed as young as four months old [4]. The trend has become prominent, particularly during and after the COVID-19 pandemic [5]. Researchers identify adverse health outcomes like obesity, reduced sleep, aggressive behaviour, and poor dietary habits that are linked to excessive screen time [6]. The World Health Organisation (WHO) recommends that children under one year of age should not have screen time, and that should be limited for children aged 2 to 5 years. However, a study among 340 Malaysian parents revealed that 60% of parents began introducing screen time to their children before they turned 18 months old, and on average, children aged 3 to 5 years spend 2.64 h daily with screens, exceeding the WHO recommendations [7]. Many parents face challenges in managing their children's screen time effectively due to a lack of clear recommendations [2].

Throughout the development of children, the role played by parents is crucial, specifically in the area of digital parenting, due to the swift progress within the technological

infrastructure and constant societal transformation. In recent studies, there has been growing interest in parents' digital journey with their children, highlighting the impact on their kids' digital engagement [8]. Digital parenting comprises a diverse structure indicated by parents' digital competence, mental readiness, moral perceptiveness, and connection with their children [9]. For instance, research conducted by [1], with a sample of more than 2300 parents who have children aged 0–8, demonstrated a strong connection between parents' exposure to screens and their children's screen exposure. This implies that children's media consumption is defined by a combination of aspects associated with both children and parents, with parental attitudes constituting a vital role. Therefore, it is necessary for parents to have sufficient competence in using technology, which can have a beneficial impact on the development of their children.

From the parents' perspective, opinions regarding digital use can vary from optimistic (seen as 'educational tools') to pessimistic (considered 'distractions') and reflect cultural variances [10]. When complemented by effective parental supervision, digital devices can facilitate the development of emergent literacy skills [11], which in turn advance children's academic progress and shape their future in an era dominated by digital technology. Despite the educational benefits of digital technology, its rapid proliferation has led to a notable increase in its overuse among young children, posing a significant risk to their physical and mental health [12]. This overuse is correlated with sleep difficulties, obesity, vision impairments, attention disorder, cognitive function difficulties, and socio-emotional development challenges [13]. Cultural variations also substantially contribute to parental perceptions; for instance, Dardanou et al. [14] identified that 90% of Japanese parents had a negative perception regarding children's early use of digital devices, whereas comparatively fewer Portuguese (51%) and Norwegian parents (50%) shared this perception. However, in a survey of 500 parents of 4- to 6-year-olds from the U.S.A., Turkey, China, and Korea, Isikoglu Erdogan et al. [15] found that Turkish and Chinese parents prioritise digital play more than parents in South Korea and America. Hence, effective digital parenting strategies are essential for shaping how digital influences affect children's outcomes and mitigate potential risks, with components including parental scaffolding, mediation, parenting style, and guidance that support the comprehensive development of the child [10]. Notably, research indicates that parents' media usage significantly influences children's digital habits, potentially increasing the risk of excessive digital engagement [16]; moreover, parents with higher education levels often use online learning as an effective medium for their children's social interaction and language development [17]. Despite a growing body of research on screen-use guidelines, the surge in daily screen time has raised concerns among parents, researchers, and public health organisations [12]. Studies identify a significant percentage (28.1%) of screen addiction among children aged 18 months to 12 years [18], highlighting a growing concern that requires urgent global attention and collaborative research efforts.

Although a complex body of literature reviews exists regarding parenting in the modern age, a more structured approach using bibliometric analytics is worthwhile. Consequently, an extensive interpretation focused on strengthening this field of study is pressing and crucial. Researchers have highlighted that bibliometric analysis is a constructive statistical procedure based on quantitative assessment, contributing a thorough overview of a particular research domain from a broad perspective [19,20]. One major advantage of bibliometric analysis lies in its ability to highlight the structure, status, and trends within a given research area. Hence, the outcome of the systematic bibliometric analysis can direct future research and evolution in the field [19]. However, to our knowledge, previous bibliometric studies were limited to trend analysis of parent–child communication [21] and parents' interactions with online parenting resources [22]. Thus, the objective of this study is to offer a comprehensive synthesis of the current literature by using a wide-ranging

bibliometric analysis of research on parenting in the digital age. The relationship between children's digital use and digital parenting is complex and interconnected; however, the scholarly findings on the effects of digital technologies on children's well-being are mixed, leaving parents to navigate concerns without clear guidance. This creates a concrete gap: we still do not have a clear map of how digital parenting is assessed, including an analysis of which aspects require significant scientific focus, and which have been neglected, nor do we know which themes dominate, which concepts are missing, and where the most influential intellectual clusters sit.

This study addresses that gap through a bibliometric analysis that maps publication trends, influential sources, and the intellectual structure of the digital parenting literature. This analysis utilised a sample of 628 articles from Scopus, encompassing the period from 2010 to 2025, and will use bibliometric software tools, particularly VosViewer version 1.6.20 and CiteSpace 6.3.R1 Basic version. The study will investigate the research questions listed below by utilising the bibliometric methods.

The findings of this study provide a holistic bibliometric overview of the digital parenting literature, encompassing publication trends across journals and citation patterns, accentuating extensively studied journals, authors, institutions, and countries. Furthermore, it illustrates co-authorship among institutions and countries, co-occurrence of keywords, and bibliometric coupling analysis to identify the associations between scholarly works within the research domain. Moreover, this study not only aims to map generic digital parenting scholarship but also to advance debates that are specific to digital parenting practices and how they operate. In this way, the study contributes to digital parenting research while also identifying concrete gaps, such as parental stress associated with frequent use of screen media, that future work can address.

## 2. Research Methodology

Among the available science-mapping techniques, citation and co-citation analyses are the most widely used in bibliometric studies of the social sciences [23]. The bibliometrics analysis method falls into two sections: performance analysis, where the significance of research contribution to a particular subject area is considered, and clustering, which creates thematic clusters. Similarly, this study has employed publication trends and co-citation analysis [24]. Additionally, keyword analysis, bibliographic coupling are also conducted [25] using VOSviewer software to illustrate the relatedness of items based on their proximity through a graphical map. The method is based on the "visualisation of similarities" (VOS) concept, where items are more related to each other when they are closer [26]. CiteSpace is another bibliometric tool that enables researchers to understand the status and evolution of a specific field [27]; hence, we used CiteSpace for the study to identify new research trends and potential shifts in digital parenting through burst detection and timeline view analysis. These methods are favoured because they are relatively transparent, replicable and scalable for large databases such as Scopus, allowing researchers to map how a field evolves over time and to identify its core knowledge base in a systematic way [28–30]. The retrieved sample articles were in comma-separated values (CSV) file formats, as required by the software. Figure 1 illustrates the methodology used in this study.

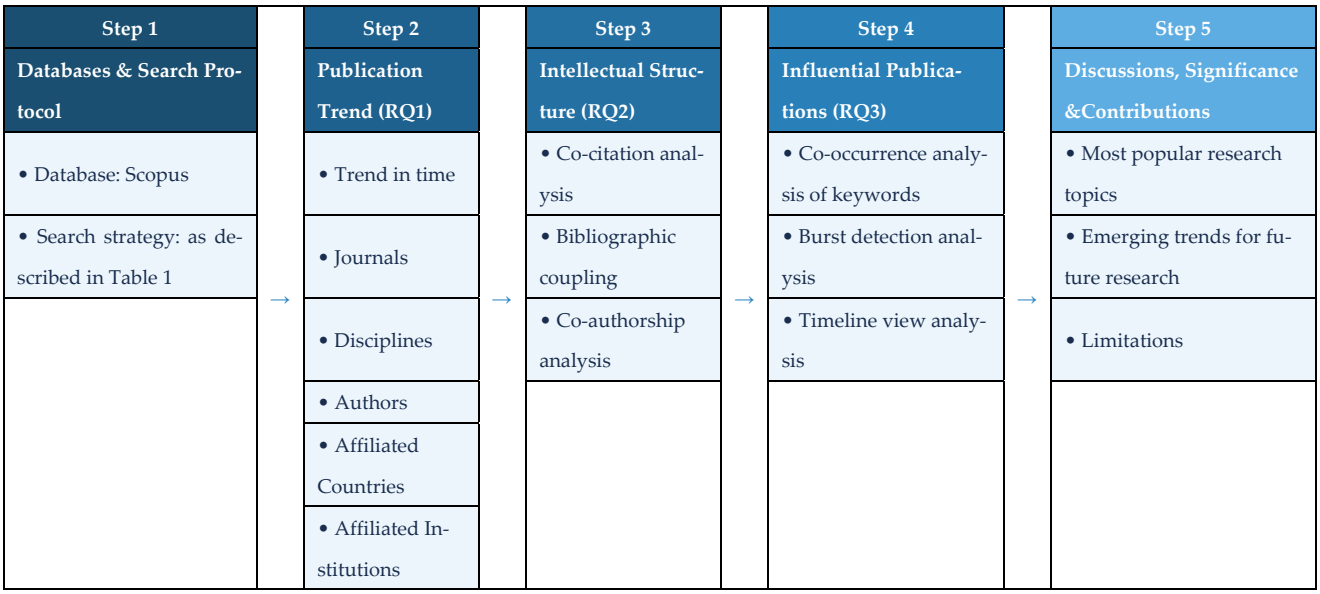



**Figure 1.** Research framework of the methodology. Source: Created by the author and adapted from [25].

*Database, Keywords, and Inclusion Criteria*

Indexed journal articles can be accessed through several database, which include Elsevier's Scopus, Web of Science (WoS), Google Scholar, IEEE Xplore, ScienceDirect, the Association for Computing Machinery (ACM), and Springer. However, WoS, Scopus, and Google Scholar can only facilitate data that is relevant to literature searches [31,32]. As a pioneer database, WoS supports bibliometric analysis, containing literature from as early as 1900 [32]. Conversely, Scopus offers the largest abstract and citation database, including peer-reviewed research literature across various fields, including science, technology, medicine, the social sciences, and the arts and humanities [33], and has gained popularity in research, including both ISI and Scopus-indexed papers for literature reviews and research analysis [34,35]. Previous researchers have stated that the coverage pattern of Scopus is similar to that of WoS, with higher citation counts [36]. However, Google Scholar provides valuable results but lacks quality control, which affects citation counts that differ from those of the other two databases [36]. Hence, considering the above factors and institutional accessibility, we selected the Scopus database for keyword searches in this study.

We have followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method for data extraction from Page et al. [37]. This guideline provides transparency and a precise approach to developing systematic reviews and meta-analyses to enable readers to understand the purpose of the review, the methods followed by the author and their findings [37,38]. The PRISMA flowchart used in this study is shown in Figure 2.

The aim of this review is to explore the publication trend, influential publications, intellectual domain and emerging future trend of digital parenting. Using the Scopus database, our search started on 5 August 2025, and concluded on 2 September 2025. Previous researchers [25] highlighted that the reliability of bibliometric studies is influenced by the accuracy of the search criteria. Hence, we have compiled a list of all possible term related to parents' screen time journey with their children, such as "screen time", "screen use", "screen exposure", "electronic device", "child", "children", "adolescent", "kid", "parent", "parents", and "digital parenting". The selected keywords must be present in the titles, abstracts, or keywords of the articles to ensure the study's inclusive nature. The selected Scopus dataset of literature comprises 3187 published documents as of August 2025. We have implemented several exclusion criteria. Hence, the sample included only

articles that were in the final publication stage and written in English, related to the fields of psychology, social science, multidisciplinary studies, and the arts and humanities, which helps to exclude a set of related articles published in out-of-area journals. The result at this stage comprised 720 articles. In the next stage, the articles were evaluated to assess their quality and verify that all selected articles related to screen media parenting [39]. Therefore, 92 articles were excluded as they were deemed irrelevant, and the remaining 628 articles were included in this review.

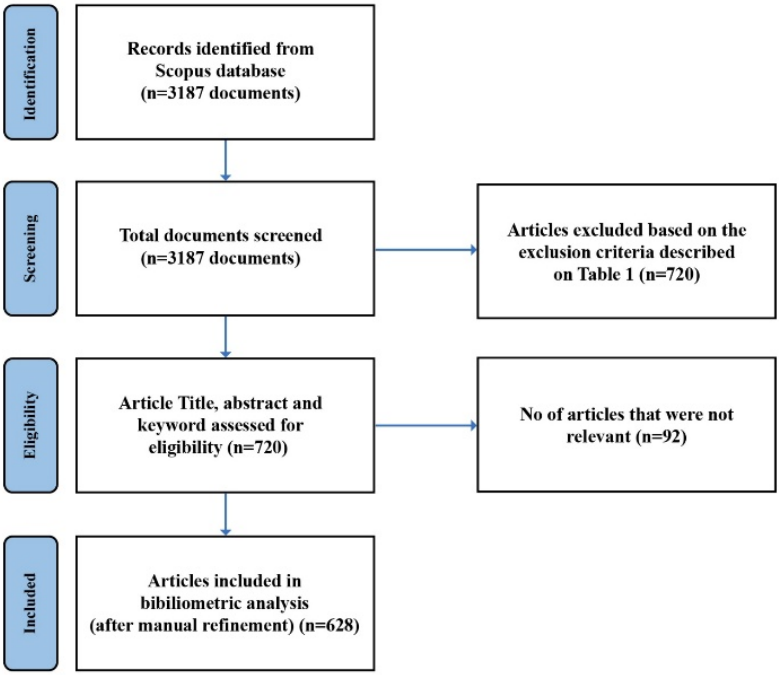



**Figure 2.** Systematic review reporting item. Source: Compiled by the author.

Table 1 provides an overview of the search protocol used in this study. On the final sample list, the first article on digital parenting was published in *Health Education Research* in 2010 [40]. In that publication, ref. [40] emphasised the importance of raising awareness about the risks linked to excessive engagement in screen-based activities, as well as how parental influence shapes this behaviour. We limited the time frame to publications from 2010 to 2025. The year 2010 roughly marks the beginning of the current mobile and app based ecosystem, when smartphones and tablets became mainstream and children's media practices shifted from shared televisions and desktop computers to personal, interactive touch screen devices. In parallel, the term "digital parenting" began to appear more consistently in the academic literature. We restricted the corpus to peer-reviewed journal articles. Review papers, conference proceedings, book chapters, dissertations and other grey literature were excluded following the guidelines of Ngo et al. [41].

**Table 1.** Search protocol for the study.

| Category | Criteria | No. of Articles |
| --- | --- | --- |
| **Search string** | Title, Abstract, Keyword: ("screen time" OR "screen use" OR "screen exposure" OR "electronic device").<br>Title, Abstract, Keyword: ("child" OR "children" OR "adolescent" OR "kid").<br>Title, Abstract, Keyword: ("parent" OR "parents" OR "digital parenting"). | 3187 |

**Table 1.** *Cont.*

| Category | Criteria | No. of Articles |
|---|---|---|
| **Period (years)** | From 2010 to 2025. | |
| **Area of study** | The search was limited to Scopus categories: Psychology (240); Social Sciences (185); Multidisciplinary (69); Arts and Humanities (22). | |
| **Types of documents** | The search was limited to articles. Therefore, documents such as review, proceedings paper, book, book review, and meeting abstract were excluded. | |
| **Language** | Articles published in languages other than English were excluded. | 720 |
| **Number of articles after manual refinement** | | 628 |

## 3. Findings

Following the methodology described earlier, this section demonstrates the findings of a bibliometric analysis of scholarly papers on digital parenting. They are organised by papers, authors, journals, and research clusters. The purpose is to present an outline of previous, present, and evolving trends in this field.

### *3.1. Publication Trend in Time*

The dataset contains 628 articles from 2010 to 2025, and the publication trends over the period are illustrated in Figure 3. Although these articles were published throughout an extended period (15 years), the scholarly research in this field has started to exhibit significant growth in the last five years (2021–2025). This growing trend of publications continues to increase, with the highest number of publications, 76 articles, in 2024, compared to 11 articles published in 2018. Since 2019, digital parenting research has increased significantly due to a radical increase in screen time resulting from lockdowns and distance learning, making digital devices the primary medium for children's interaction and entertainment [42,43]. Increasing screen time among adolescents leads to significant negative effects such as eye strain, mental health problems, and behavioural issues [44,45]. The necessity to manage the heightened screen exposure and its consequences has driven researchers to explore effective parenting strategies and develop guidelines to promote healthier digital habits for children and adolescents [42,43,46]. This finding indicates that research on digital parenting will become increasingly important as digital technology remains integral to modern life.

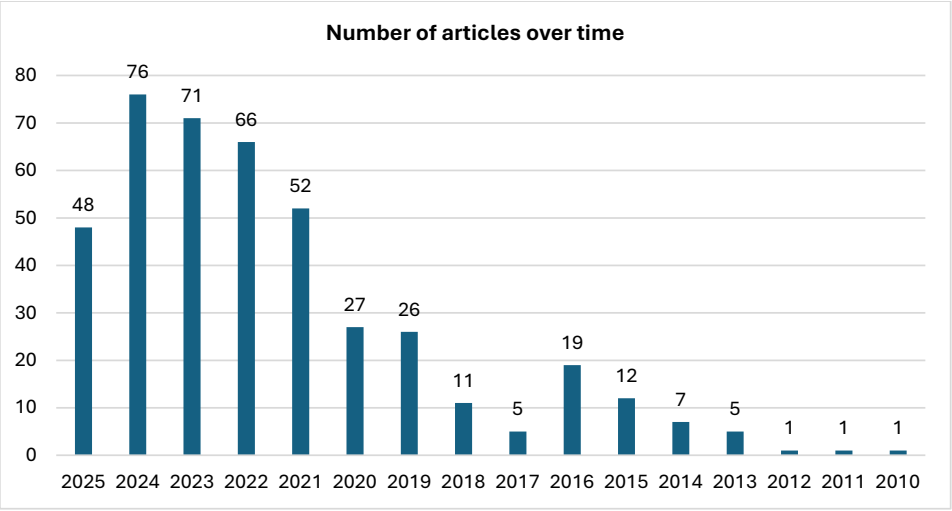



**Figure 3.** Publication trend of 628 articles retrieved from SCOPUS (2010–2025). Source: Created by the author.

### 3.2. Authors and Their Institutions and Countries of Affiliation

Table 2 presents the list of top institutional affiliations of authors, and the leading institution on digital parenting research is Inserm, with 11 publications, followed by Universiteit van Amsterdam, University of Wollongong, the University of Michigan, Ann Arbor, and the University of Oxford, with 10 publications each. The top countries affiliated with authors are the United States (143 articles), Australia (43 articles), and the United Kingdom (42 articles). The United States dominates in the highest publications, indicating that research on digital parenting is Western-centric, which further highlights a gap between research in the United States and in other regions.

**Table 2.** Top authors' institutional affiliations and countries publishing on digital parenting.

| Top Authors | | | | Top Institutions | | Top Countries | |
|---|---|---|---|---|---|---|---|
| **Author** | **Total Publications** | **h-Index** | **Total Citation** | **Affiliations** | **No. of Articles** | **Countries** | **No. of Articles** |
| Bernard, Jonathan Y. | 132 | 38 | 3677 | Inserm | 11 | United States | 143 |
| Forehand, Rex Lloyd | 430 | 69 | 17,199 | Universiteitvan Amsterdam | 10 | Australia | 43 |
| Ip, Pak Keung Patrick | 9529 | 48 | 9529 | University of Wollongong | 10 | United Kingdom | 42 |
| Okely, Anthony D. | 455 | 78 | 23,836 | University of Michigan, Ann Arbor | 10 | Canada | 35 |
| Barr, Rachel | 43 | 139 | 6177 | University of Oxford | 10 | China | 30 |
| Cerbara, Loredana | 38 | 10 | 250 | Helsingin Yliopisto | 9 | Germany | 21 |
| Chan, Ko Ling | 209 | 43 | 6371 | University of Toronto | 9 | Netherlands | 20 |
| Ciancimino, Giulia | 15 | 7 | 173 | Universidade do Porto | 8 | Brazil | 18 |
| Fitzpatrick, Caroline | 87 | 21 | 1985 | CNRS Centre National de la Recherche Scientifique | 8 | Portugal | 17 |
| Harrison, Kristen | 76 | 33 | 4098 | University of Minnesota Twin Cities | 8 | Turkey | 17 |
| Hendry, Alexandra | 43 | 16 | 679 | The University of Hong Kong | 7 | Hong Kong | 16 |
| Horowitz-Kraus, Tzipi | 124 | 28 | 2715 | The University of Vermont | 7 | Italy | 16 |
| Lumeng, Julie C | 184 | 46 | 8104 | University of Michigan School of Public Health | 7 | France | 15 |
| Miller, Alison L | 260 | 46 | 6997 | Deakin University | 7 | Israel | 15 |
| Parent, Justin M. | 91 | 27 | 2481 | University of Michigan Medical School | 7 | Spain | 15 |

### 3.3. Co-Citation Analysis

Co-citation analysis uncovers fundamental themes in a research field by evaluating scientific publications' references. This method identifies publications that are frequently co-cited, indicating their significance [47]. In our sample of 628 articles, we identified 4337 cited references, where the minimum threshold was set at 5 citations, resulting in 126 references. Figure 4 presents the network diagram that visualises the co-citation network of digital parenting authors.

Figure 4 describe the top cited and co-citation structure from complementary angles and visualises these ties as a network of nodes and clusters. In this context, a "link" indicates how many other references are co-cited together with a given work, and "total link strength" reflects how frequently those co-citations occur across the dataset. Works such as Radesky's [48] policy statement on media and young minds, which record the highest number of links and the greatest total link strength, occupy central positions in the map because they are repeatedly cited alongside a wide range of other studies. In Figure 4, these references appear as larger, more centrally located nodes, often acting as bridges between clusters focused on screen-time guidelines, developmental outcomes, and parental mediation. Taken together, the network figure indicates that these core publications function as conceptual anchors for subsequent digital parenting research. Moreover, Figure 4 shows three major clusters of reference citation: the dominant cluster (red) comprising 26 cited references, followed by the second cluster (green) containing 23, and the third cluster (blue) featuring 21. Specifically, the references included in the red cluster primarily focused on children's digital media use, parents' perceptions, and the effects of screen time on children.

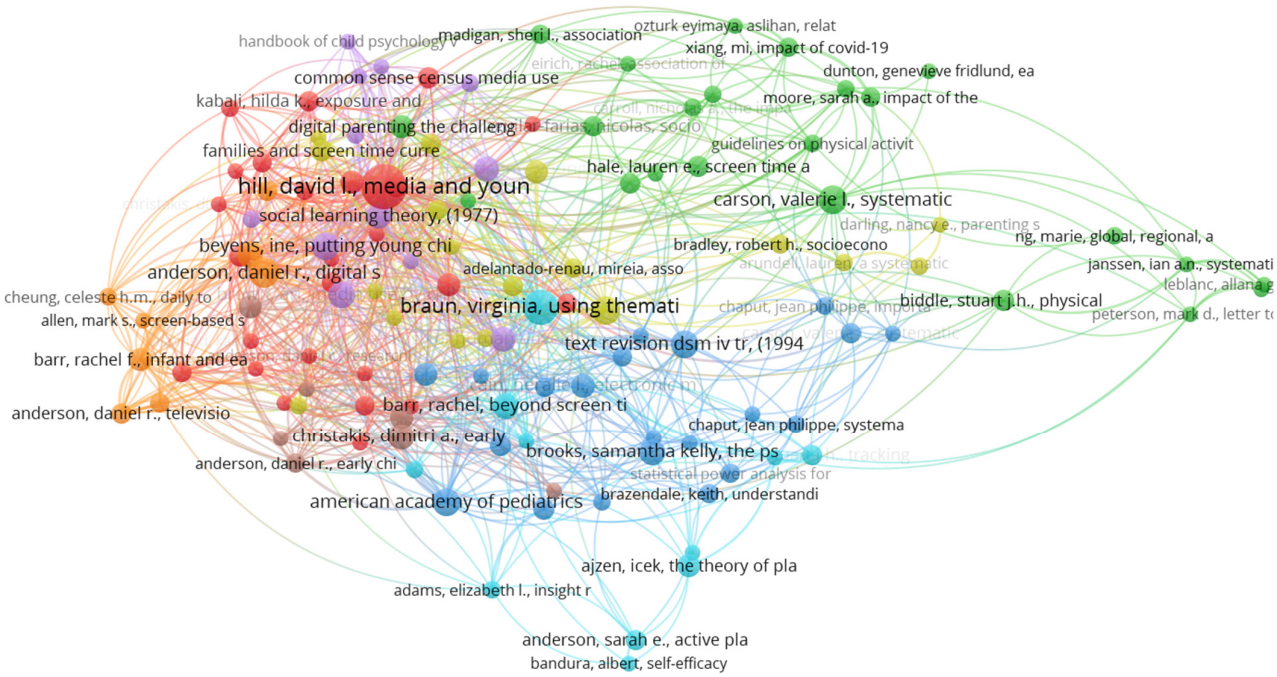



**Figure 4.** Co-citation network diagram. Source: Created by the author (VOSviewer analysis).

### *3.4. Co-Authorship Analysis*

The dynamics of interaction among researchers within a specific field are analysed by co-authorship analysis, which underscores the collaboration among authors and their institutional affiliation and countries [28]. As research methodologies and theories become increasingly complex, collaborations among scholars have become more common [49]. In our analysis of a sample of 628 articles, we identified 2509 authors. After setting a minimum threshold of three publications per author, we found 93 authors who met this criterion.

Table 3 presents the collaboration of authors using the strength of their co-authorship links. Among the 628 analysed articles, the top six authors made significant contributions to this research area. They utilise the Multi-Process Action Control (M-PAC) framework to explore why many parents often fail to support their children's health behaviours corresponding to physical movement, sleep, and screen time. A survey of 1208 Canadian parents of children aged 5–17 reveals that intentions are strongest for sleep support, moderate for reducing screen time, and weakest for promoting physical activity. Successfully turning intentions into actions relies on varying combinations of reflective (attitudes), regulatory (planning), and reflexive (habit, identity) processes. The paper highlights that bridging the "intention–behaviour gap" requires more than just motivation. While most parents have good intentions to support the health behaviours of their children and youth, many struggle to put that support into action. The successful translation of intention into action is linked to various factors, including attitudes, controlling ability to support, and self-regulatory capacity, as well as parental habits.

**Table 3.** Top 10 most collaborative authors in the 628 articles (VOSviewer analysis).

| Author | Documents | Citations | Total Link Strength |
|---|---|---|---|
| Tremblay, Mark | 9 | 377 | 31 |
| Rhodes, Ryan | 5 | 110 | 21 |
| Berry, Tanya | 3 | 75 | 20 |
| Faulkner, Guy | 4 | 77 | 20 |
| Latimer-Cheung, Amy | 3 | 75 | 20 |

**Table 3.** *Cont.*

| Author | Documents | Citations | Total Link Strength |
|---|---|---|---|
| O'Reilly, Norm | 3 | 75 | 20 |
| Spence, John | 3 | 75 | 20 |
| Tung, Keith | 4 | 208 | 17 |
| Wong, Rosa sze man | 4 | 208 | 17 |
| Vanderloo, Leigh | 3 | 71 | 15 |

Note: Link strength indicates the strength of co-authorship connections between authors.

### 3.5. Bibliographic Coupling

Bibliometric coupling analyses the association with citing works to develop the research themes. According to [50], it occurs when two papers reference a common third paper, indicating a shared topic and providing perceptions of network roles of publications within the dataset.

To analyse the journals' bibliographic coupling, a minimum requirement of two articles from each journal was determined; the final data included 104 journals with this criterion. The top ten journals ranked by link strength are shown in Table 4. It is important to note that Infant Behavior and Development stands apart from other significant journals in this area of research.

**Table 4.** Top 10 journals of bibliographic coupling link strength (VOSviewer analysis).

| Source | Documents | Citations | Total Link Strength |
|---|---|---|---|
| *Infant Behavior and Development* | 13 | 255 | 433 |
| *PloS One* | 40 | 1252 | 374 |
| *Journal of Children and Media* | 13 | 169 | 341 |
| *Journal of Child and Family Studies* | 14 | 222 | 293 |
| *Journal of Developmental and Behavioural Paediatrics* | 21 | 489 | 256 |
| *Frontiers in Psychology* | 20 | 241 | 231 |
| *Child: Care, Health and Development* | 17 | 150 | 213 |
| *Journal of Applied Developmental Psychology* | 5 | 549 | 160 |
| *Cognitive and Behavioural Practice* | 2 | 13 | 129 |
| *Journal of Early Childhood Research* | 4 | 104 | 125 |

Note: the total link strength exhibits the bibliographic coupling links between a given journal and others.

From the authors' perspective, with a minimum threshold of three publications per author, 93 authors were identified, which reflects their significant contributions to this subject area. Table 5 shows the highest bibliographic coupling link strengths among authors. Bibliographic coupling links specify greater centrality for authors in citation networks and their active participation [50]. Centrality shows the number of connections a researcher has within a network. For example, if an author collaborates with four different individuals, their degree of centrality is four. The weighted degree of centrality further considers the strength; for instance, if an author has two publications with one collaborator and one each with two others, their weighted degree would be four. While these measures are straightforward, they do not indicate the researcher's specific role within their field [28].

**Table 5.** Bibliographic coupling link strength among top 10 authors (VOSviewer analysis).

| Author | Documents | Citations | Total Link Strength |
|---|---|---|---|
| Tremblay, Mark | 9 | 377 | 418 |
| Rhodes, Ryan | 5 | 110 | 327 |
| Faulkner, Guy | 4 | 77 | 299 |
| Domoff, Sarah | 8 | 291 | 287 |

**Table 5.** *Cont.*

| Author | Documents | Citations | Total Link Strength |
|---|---|---|---|
| Berry, Tanya | 3 | 75 | 286 |
| Latimer-Cheung, Amy | 3 | 75 | 286 |
| O'Reilly, Norm | 3 | 75 | 286 |
| Spence, John | 3 | 75 | 286 |
| Carson, Valerie | 11 | 221 | 272 |
| Vanderloo, Leigh | 3 | 71 | 271 |

Note: The total link strength exhibits the total strength of the bibliographic coupling links between a given author with others.

When analysing the data in Table 5 in conjunction with that in Table 3, the researchers who engage in the most collaboration in this research domain also exhibit the highest centrality; therefore, they establish the most crucial connections in terms of coupling. Figure 5 displays the bibliographic coupling network of authors working in the digital parenting field. It is worth mentioning that five of the listed authors have created a unified cluster. After setting up a minimum citation threshold of five per document in the chosen dataset, 367 articles qualified. Table 6 shows the top 10 papers with the highest bibliographic coupling index, 8 of which were published between 2020 and 2022.

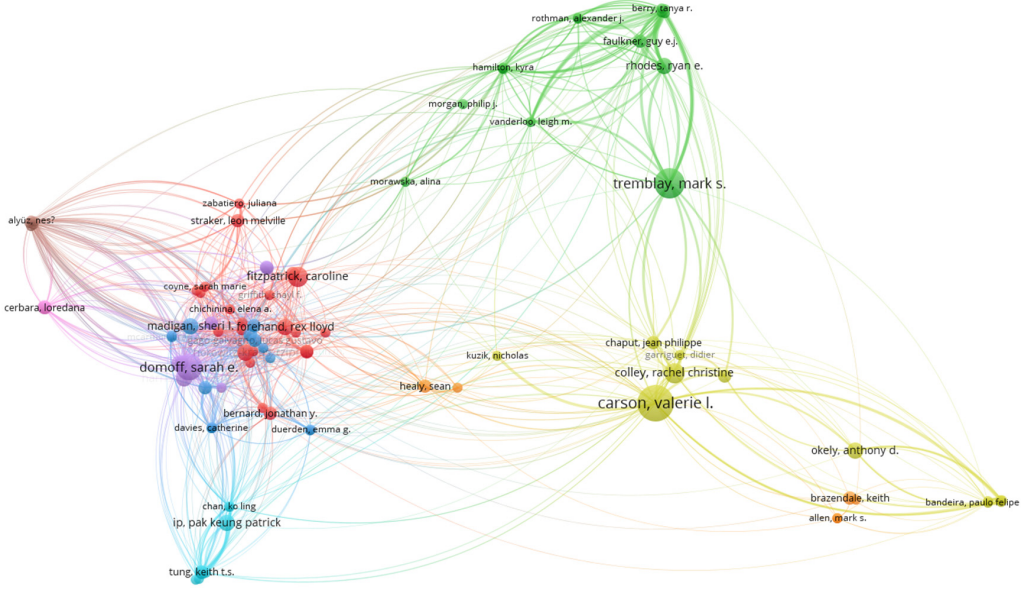



**Figure 5.** The bibliographic coupling network diagram. Source: Created by the author (VOSviewer analysis).

**Table 6.** Top 10 articles in terms of bibliographic coupling link strength (VOSviewer analysis).

| Document | Citations | Total Link Strength |
|---|---|---|
| Young children's screen time: The complex role of parent and child factors. *Journal of Applied Developmental Psychology.* [1] | 451 | 57 |
| Associations between touchscreen exposure and hot and cool inhibitory control in 10-month-old infants. *Infant Behavior and Development*. | 19 | 67 |
| Media Use, Sleep Quality, and ADHD Symptoms in a Community Sample and a Sample of ADHD Patients Aged 8 to 18 Years. *Journal of Attention Disorders*. | 35 | 62 |

**Table 6.** *Cont.*

| Document | Citations | Total Link Strength |
|---|---|---|
| Why do parents use screen media with toddlers? The role of child temperament and parenting stress in early screen use. *Infant Behavior and Development*. | 40 | 59 |
| Parental decision-making: infant engagement with smartphones. *Infant Behavior and Development*. | 16 | 57 |
| PCIT-Health: Preventing Childhood Obesity by Strengthening the Parent–Child Relationship. *Cognitive and Behavioral Practice*. | 10 | 53 |
| Infant screen exposure links to toddlers' inhibition, but not other EF constructs: A propensity score study. *Infancy* | 11 | 53 |
| Parenting style and family type, but not child temperament, are associated with television viewing time in children at two years of age. *PloS one*. | 39 | 53 |
| Predictors of television at bedtime and associations with toddler sleep. *Infant Behavior and Development*. | 7 | 50 |
| Associations between child mobile use and digital parenting style in Hungarian families. *Journal of Children and Media*. | 64 | 49 |

Note: the total link strength exhibits the strength of the bibliographic coupling links between a given article and other articles.

### *3.6. Co-Occurrence Analysis of Keywords*

While the first three methods focus on publications, co-word analysis focuses on "words" [28]. These words usually come from "author keywords," which can be derived from "journal titles," "abstracts," and "full texts." Like co-citation analysis, co-word analysis assumes that words that occur are conceptually related [51,52]. Consequently, it can provide the future direction of the research field [28]. Considering the minimum threshold, 184 keywords were identified from 628 articles. The five most frequent keywords were screen time (319 occurrences), child (288 occurrences), child–parent relation (175 occurrences), pre-school child (158 occurrences), and parents (152 occurrences). Figure 6 illustrates the cluster density of keywords, displaying density separately for each keyword cluster to enhance understanding of their co-occurrence.

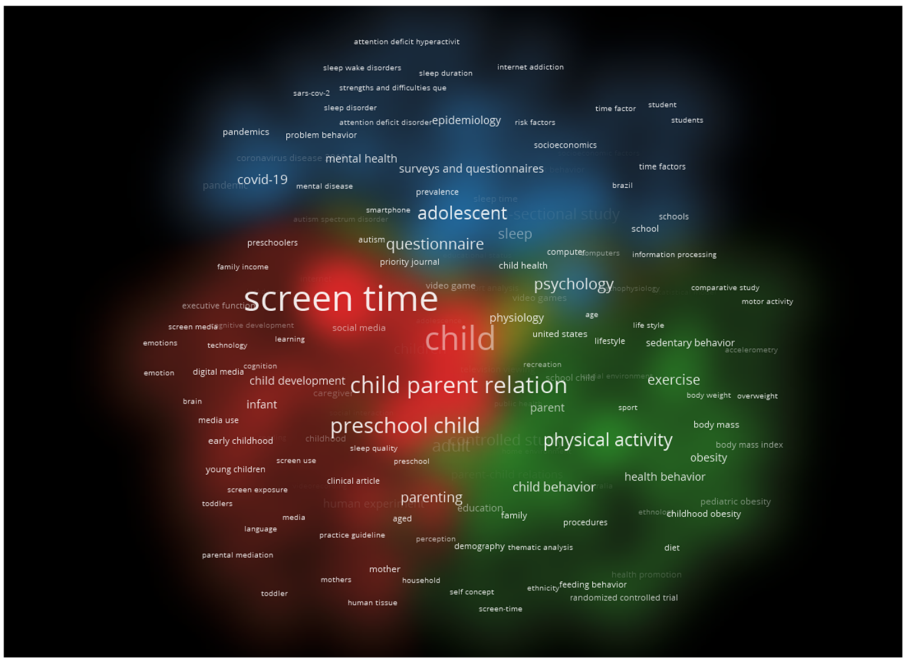



**Figure 6.** Cluster density diagram. Source: Created by the author (VOSviewer analysis).

The overlay visualisation illustrates the spreading of keywords in each cluster (Figure 7). According to the colour code, the keywords represent the average year of occurrence, from blue (oldest) to yellow (most recent). Analysis has identified that digital parenting research has shifted over time from topics related to childhood obesity, child behaviour, and sedentary behaviour to more complex themes such as screen time, child–parent relations, preschool children, and social media use. Parents became habituated to using digital devices as a substitute for physical learning during the COVID-19 period, which remains in the post-pandemic era. Nevertheless, this trend poses challenges in this research field, as many parents still have a knowledge gap in navigating the advantages and disadvantages of digital devices.

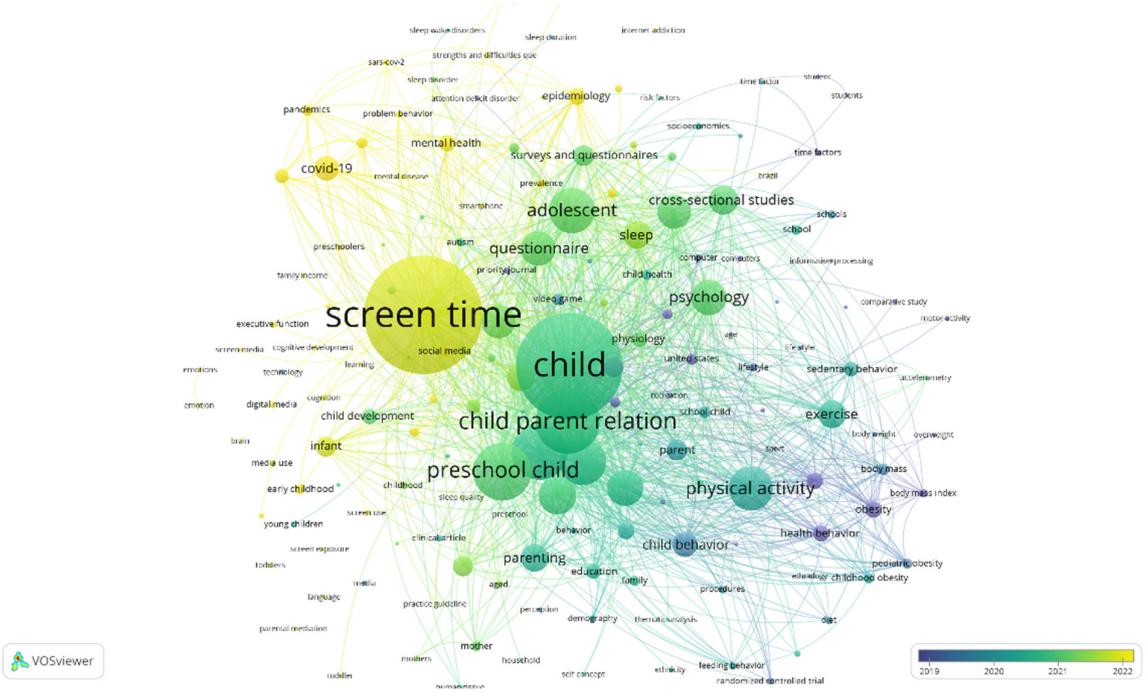



**Figure 7.** Co-occurrence of keywords visualised with an overlay diagram. Source: Created by the author (VOSviewer analysis).

### *3.7. Emerging Trends for Future Research*

To understand how parents can efficiently navigate their children's screen time journey, it is crucial to explore the transformative changes and emerging trends. Hence, we used CiteSpace tool to map scientific literature, which is a Java-based application for co-citation network analysis [28,53]. To illustrate the current and emerging trends in digital parenting research, we have conducted burst detection and timeline view analysis.

#### 3.7.1. Burst Detection Analysis

Burst detection analysis identifies articles within a specific period which receive scientific communities' attention. The keyword usage pattern reveals significant trends that help to detect whether there is a sudden burst in a specific keyword or term in citations [28]. We utilise the Citespace tool to illustrate the evolution of keywords in digital parenting research over time.

The top nine keywords that have received significant attention are shown in Table 7, highlighting the emerging research topic in digital parenting research. Each keyword with a burst signifies its unique attributes during its respective timeframe. Keywords like "pandemic," "television," "coronavirus disease 2019," "video games," and "parent" have been key research topics over the past decade. In Table 7, the observed time intervals

are represented by blue lines, while the duration of the burst period associated with the keyword is denoted by a segment illustrated in red. The high centrality and start and end time of this field in this table can better clarify the research context of this field, analyse the latest research trends, and provide references for researchers in this field to discover new directions and issues. Based on the information presented in Table 7, the keyword that initially experienced a surge in citations is "television" (9.77), and this burst period extended over a continuous span of 5 years (2015–2020). Then, it is followed by "video games" (2015–2018) and "childhood obesity" (2016–2020). This is understandable because, starting in this period, global trends have begun to pay increasing attention to the impact of screen time use among children, so more attention has been focused on "sedentary behaviour" (2018–2020) and "attention deficit disorder" (2018–2020). Moreover, recent data shows that the keyword burst patterns indicate an increased focus on research themes concerning "pandemic" (2021–2023) and "coronavirus disease 2019" (2021–2025). The COVID-19 pandemic period obliged parents to give freedom to their children to use smartphones, which tends to adapt parenting styles to overcome the adverse effects of these digital devices. This issue gained attention among researchers as insufficient support for parents, along with demanding work schedules and limited time spent interacting with their children, all of which can influence parenting in this era. These research themes have made significant contributions and will continue to provide insights into digital parenting research.

**Table 7.** Top 9 keywords on citation burst (CiteSpace analysis).

| Keywords | Year | Strength | Begin | End | 2015–2025 |
|---|---|---|---|---|---|
| Television | 2015 | 9.77 | 2015 | 2020 | |
| Video games | 2015 | 7.06 | 2015 | 2018 | |
| Parent | 2015 | 6.18 | 2015 | 2017 | |
| Sedentary lifestyle | 2015 | 4.16 | 2015 | 2017 | |
| Childhood obesity | 2016 | 4.05 | 2016 | 2020 | |
| Sedentary behaviour | 2018 | 5.7 | 2018 | 2020 | |
| Attention deficit disorder | 2018 | 4.29 | 2018 | 2020 | |
| Pandemic | 2021 | 10.07 | 2021 | 2023 | |
| Coronavirus disease 2019 | 2021 | 7.19 | 2021 | 2025 | |

#### 3.7.2. Timeline View Analysis

Figure 8 presents a timeline view analysis, which identified nine major developments of trend clusters with core labels. Based on the CiteSpace guidelines, the clusters are displayed by size starting with the largest (#0) [28]. Each line's colour depicts the occurrence of keywords in the time slice, and the curves denote the associated relationships between the specific terms [54]. The largest area (Cluster #0) with high-frequency keywords in the selected sample is 'screen media parenting', followed by 'sedentary lifestyle', 'COVID-19', 'autism spectrum', 'sleep pattern', 'Bayes theorem', 'parental stress', 'qualitative analysis' and 'affect'. It can be noted that the longest duration belongs to Cluster #0 (screen media parenting), Cluster #1 (sedentary lifestyle) and Cluster #2 (COVID-19). Interestingly, Clusters #1 (sedentary lifestyle) and #7 (qualitative analysis) appear to have lost interest in the last 2 years. Most keywords broke out after 2015. From 2015 to 2019, research topics such as child–parent relations, early childhood issues, i.e., children's obesity, sleep quality, emotional problems due to screen exposure, hyperactivity/impulsivity, and parental stress emerged and continued. During and after the COVID-19 pandemic (2019–2025), research topics focused on distance learning, family conflict, the mental health of adolescents, sedentary lifestyle, and epidemiology.

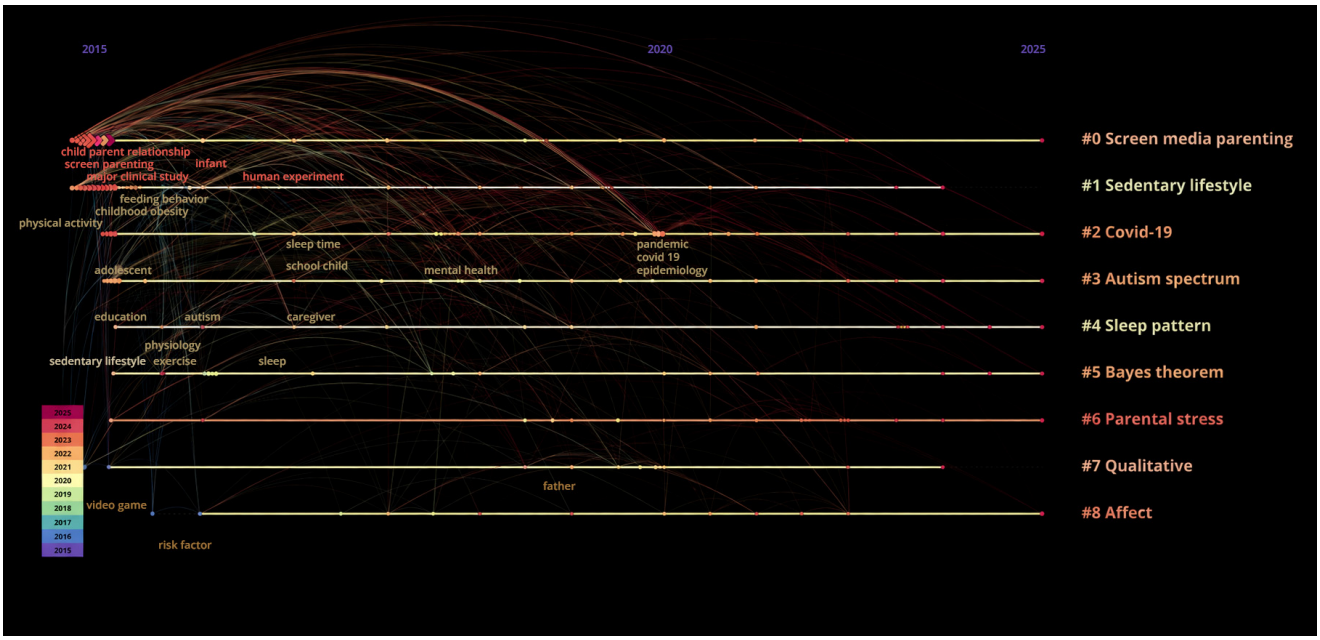



**Figure 8.** Timeline view analysis of keywords in different clusters. Source: Created by the author (Citespace analysis).

### *3.8. Content Analysis: Most Popular Research Topics*

The thematic clustering of author keywords indicates that research on digital parenting and children's digital device use has so far concentrated on three broad areas: screen media parenting practices, patterns of screen media use, and the impact of the COVID-19 pandemic on children's screen time. Determinants, for instance parent's digital literacy, standards about technology use, and the risks of overexposure, have played a role in many of today's research priorities being centred on promoting well-functioning digital parenting. By conducting a comprehensive analysis of keyword co-occurrence and clusters, utilising burst detection and timeline visualisation, three significant areas were identified as worthy of further scholarly investigation in current and prospective research agendas.

#### 3.8.1. Screen Media Parenting

Screen media parenting, which is also known as digital parenting, constitutes the central and most prominent research field across most of most relevant keywords. In this widely recognised subject area, an emerging body of literature has attracted notable interest from both academics and practitioners. Nonetheless, multiple gaps in this existing research within crucial areas hinder the development of impactive, accessible, and context-appropriate digital parenting initiatives [55]. The majority of studies related to digital parenting have concentrated on parental mediation approaches aimed at regulating or explaining children's media content within the household [56]. Prior studies in this subject matter focused on watching television [57]. Although previous studies evaluated mediation strategies in conventional settings, these methods have emerged to explore emerging digital environments including tablets, smartphones and social media platforms [58,59].

Digital parenting extends conventional parenting approaches by incorporating the digital setting and responding to the difficulties related to parental guidance [60]. It demands a strong understanding of technology, cultivation of expertise, and up-to-date resources to achieve a balanced integration of digital and conventional parenting. Moqbel [61] points out that parental control applications play a crucial role in moderating children's digital activities. Nevertheless, numerous conventional applications prioritise tight monitoring, which may undermine trust and independence. To support effective digital parenting,

there is a requirement for collaborative tools which emphasise education, trust and shared decision-making in digital parenting.

Digital parenting in communities facing socioeconomic hardship, particularly practices related to supervision and support of children's online engagement, has received limited scholarly attention, as noted by Huang et al. [62]. Parents' perceived competence in digital parenting is strongly associated with factors like single motherhood and the availability of home internet service, while engagement in children's educational activities also contributes meaningfully. Since numerous parents within these communities have limited or even elementary digital skills [63], interventions designed to improve these core competencies may be substantially beneficial. Moreover, educational institutions and parent–teacher associations can bolster parents' perceived competence by encouraging more participation in school-related activities.

To support early childhood development (ECD), parenting interventions are especially impactful, notably in low- and middle-income countries (LMICs), where they tend to be more effective than in high-income countries (HICs) [64]. Conventional approaches are commonly associated with high cost and easily disrupted, underscoring the requirement for remote alternatives. Digital tools, including mobile applications and smartphones, are increasingly being utilised to improve parenting skills and support early childhood development (ECD), contributing to the diminution of global educational disparities [65]. Although digital solutions are realistic in LMICs, hurdles persist in effective execution and in ensuring access for marginalised families. Nevertheless, much of the existing evidence comes from studies having limited scope with inconsistent findings and there is a need for rigorous research to establish impact and improve strategic approaches prior to wider implementation [66].

Numerous digital parenting resources provide limited culturally sensitive guidance which is consistent with Islamic principles. The majority of research concentrates on Western contexts, creating a gap in understanding Muslim parents' experiences, where socioreligious and cultural expectations influence digital parenting in distinct ways. This gap contributes to obstacles in moderating screen time and digital concerns, with digital literacy inequalities further aggravating these. Research remains insufficient on ethically grounded digital parenting frameworks in accordance with Islamic values that emphasise trust, transparency and shared engagement rather than high-control supervision while supporting overall child development in the digital era [67].

Nichols & Selim [68] contend that parents typically use restrictive mediation to regulate their children's online activities; this approach is shaped by factors, for instance age of the child, gender, and susceptibility, as well as parents' technological expertise. Disparities in perceptions of online activities frequently arise between parents and children. Moreover, parents' online behaviours influence children's conduct, indicating the significance of investigating alternative mediation practices. Continuing research ought to prioritise assessing constructive uses of digital technologies, the reciprocal influences among parents and children, and within-family diversity [60].

#### 3.8.2. Screen Media Usage

The "screen media usage" cluster encompasses studies that describe how often and for what purposes children use digital devices, and how these patterns relate to developmental outcomes. The growing pervasiveness of screen-based media has widened reach to information and facilitated more expedited communication. Nevertheless, excessive usage of these platforms can entail significant health risks, especially among children and adolescents who may be more vulnerable to negative outcomes. The associated physical, cognitive, and

behavioural difficulties may endure into adulthood, stressing the requirement of efficient strategies to reduce excessive screen media use and its adverse outcomes [69].

Screen media usage is associated with shorter sleep duration and suboptimal sleep quality [70]. Although it is often portrayed as detrimental, this correlation may be reciprocal. Magee, Lee, & Vella [71] reported that higher screen time is associated with reduced sleep duration, and reduced sleep is related to greater screen use, with television viewing in particular. This cyclical pattern may arise due to fatigue, which in turn encourages increased screen usage. In terms of children's cognitive development, screen media use may yield both beneficial and adverse implications. Screen-based media devices may contribute to both advantageous and harmful influences on learning and educational outcomes. Despite these concerns, evidence suggests potential benefits that game-based learning applications, learn-to-read applications, and electronic books can enhance children's emergent literacy skills [72]. In contrast, research also reports deleterious influences of screen media on cognitive progression, including weaker sensorimotor skills, reduced self-regulatory functioning, and poorer academic attainment [72]. Prolonged screen time may potentially contribute to obesity, cardiovascular complications, ocular fatigue, and musculoskeletal discomfort in the neck and spine [73,74]. For children in early childhood, high levels of screen time may impede language acquisition and speech development and lead to elevated hyperactivity and impulsivity [75].

Prolonged screen use may lead to negative outcomes, highlighting the significance for rigorous studies that design and assess strategies to reduce screen time and alleviate its negative outcomes. Additionally, it requires robust measurement tolls to identify screen-related addictive behaviours, particularly among young children. Subsequent studies need to focus on analysing the way different forms of screen content (academically oriented versus entertainment-based) influence cognitive and behavioural outcomes [76].

#### 3.8.3. Influence of COVID-19 on Digital Parenting

The COVID-19 pandemic triggered an extraordinary shift in family life, predominantly influenced by the rapid growth of digitalisation in education, work, and social interaction. As educational institutions closed and social distancing became standard practice, families worldwide increasingly adapted to digital platforms for remote learning, contact, and entertainment. Although this transition created new pathways for connectivity and improved learning settings, it also introduced intricate challenges for parents, who abruptly had to manage heightened digital parenting demands alongside declining social backing and increasing psychological strain [77].

Alongside shifts in parental guidance behaviours prior to, during, and following the COVID-19 pandemic, researchers have explored young children's propensities toward compulsive digital play. The results indicate that compulsive digital play among children escalated during the pandemic and declined afterwards. Nevertheless, it did not revert to pre-pandemic levels [78]. Further research needs to examine the extended implications of this trend and how parental management strategies change over time [78]. Digital parenting strategies varied substantially within countries and social and economic backgrounds. Parents in marginalised areas encounter heightened difficulties because of reduced access to devices, reliable internet connectivity and accessible support services [79]. Van Ijzendoorn et al. [80] report that supportive parenting resources and apps created throughout the COVID-19 pandemic appeared feasible and were widely welcomed. These resources were associated with enhancements in parenting competencies and produced favourable outcomes for children. Nevertheless, more extensive and longer-duration assessments are required, specifically across cross-cultural and socioeconomic environment.

## 4. Future Research Direction

Although there has been an increasing body of academic literature focusing on digital parenting, gaps remain that require further analysis. We provide an outline for future research directions based on the emerging research themes in digital parenting in Table 8.

**Table 8.** Future research directions.

| Streams | Future Research Themes | References |
| --- | --- | --- |
| Screen media parenting | • Conceptual clarity of reducing problematic use of screen media through rule-setting and trust-building | [8] |
| | • Further exploration of how parents' digital literacy affects mediation strategies and children's online safety | [81] |
| | • Comparison between the effectiveness of digital and face-to-face parenting programs | [66] |
| | • More emphasis on digital parenting frameworks that associate with Islamic values, trust generation, clarity, and association | [67] |
| | • Community-guided digital assistance applications for vulnerable inhabitants | [62] |
| | • More investigation on parents' practices for supervising cyberbullying, breach of privacy, and screen time | [82] |
| Effects of Excessive Screen Time | • Influences of screen time based on age and gender | [83] |
| | • Experimental analysis of sensorimotor stimulation in children during screen media use | [72] |
| | • Development of guidelines for screen time reflecting the advanced digital societies | [84] |
| | • Focus on certified and trustworthy tools to ascertain screen-related interdependence among young children | [75] |
| Influence of COVID-19 on Digital Parenting | • Analyse the long-term effectiveness of online parenting mediations with traditional parenting | [80] |
| | • Further investigation on probable threats and gain of digital conduct | [5] |
| | • Focus on the development of customised applications for the unique needs of each family | [85] |
| | • More research on validating guidelines to safeguard sensitive information | [85] |

## 5. Conclusions and Limitations

This bibliometric study set out to map the evolution of digital parenting scholarship. By using Scopus data and science-mapping techniques, the analysis identified leading countries, journals, authors, and collaboration networks and organised the field into major thematic clusters. Beyond these technical contributions, the review shows that digital parenting is not only about managing children's media exposure but is also closely tied to how parents understand their responsibilities and digital literacy.

The outcomes of this study indicate that global research on digital parenting underlines the psychological, social, and technological factors and is heavily influenced by Western nations. Also, parental stress associated with frequent use of screen media is a salient issue in global research. Socioeconomic burden and job pressure typically lead to stress and result in negative effects on the parent–child relationship. However, from the Islamic point of view, tawakal or trust in Allah's plan can ease this stress. Hence, it is worth exploring how Islamic values can be effectively incorporated into today's digital age. Previous research indicates that parents who had been involved with Muslim communities and received support often manage stress more efficiently [86]. We have noticed a significant gap in

keyword clusters regarding Islamic parenting and limited studies in Muslim majority countries, highlighting a need for further attention in this area of research.

This study carries both theoretical and practical implications for the field of digital parenting. From a theoretical standpoint, the bibliometric mapping reveals that existing digital parenting frameworks are predominantly rooted in Western socio-cultural paradigms, suggesting a need to expand foundational models of parental mediation and family media ecology to incorporate cultural aspects in parenting. From a practical perspective, the findings highlight an urgent need for policymakers, educators, and technology designers to develop culturally sensitive digital parenting guidelines and intervention programmes that resonate with diverse family contexts, particularly in low- and middle-income countries where digital device adoption is rapidly increasing yet evidence-based resources remain scarce. Practitioners working in early childhood development can leverage the thematic clusters and emerging trends identified in this study to design targeted parenting support tools that address not only screen time management but also the psychosocial stressors, such as parental stress and socioeconomic pressures, that influence digital parenting practices.

As with any bibliometric analysis, this study has limitations. It relied solely on Scopus, which, although extensive, does not index all relevant regional or non-English-language journals. Finally, bibliometric techniques provide an overview of structures and trends rather than fine-grained explanations of lived experience. Future work, beyond that discussed above, could be built on the gaps identified here through in-depth empirical studies of Muslim digital parenting in diverse cultural settings, including longitudinal designs and cross-country comparisons that can capture how Islamic values are negotiated over time in a rapidly changing media environment. Furthermore, there is a need for future studies that integrate Islamic constructs such as tarbiyah, tawhid, amanah and digital adab into established models of parental mediation and family media ecology, and that treat religious practices as outcomes of interest alongside cognitive or socio-emotional indicators. Methodologically, combining bibliometric mapping with qualitative and mixed-methods designs would allow deeper exploration of how Muslim parents negotiate tensions between digital convenience, social pressures, and their aspirations to raise morally grounded, spiritually connected children.

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