

# Scrolling Through Parenthood: a systematic literature review on parenting information on social media

Ellen Mertens, Guoquan Ye, Emma Beuckels, Liselot Hudders

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# Scrolling Through Parenthood: a systematic literature review on parenting information on social media

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## Abstract

**Background:** Social media have become extremely popular among parents to seek for parenting information. Despite the rising academic attention for the topic, studies are scattered across various disciplines. Therefore, the current study broadens the scope of the existing reviews by transcending narrow academic subdomains and including all relevant research insights related to parents' information seeking on social media and its' consequent effects.

**Objective:** The aim of this systematic literature review is to (1) identify influential journals and scholars in the field, (2) examine the thematic evolution of research on parenting and social media, and (3) pinpoint research gaps, providing recommendations for future exploration.

**Methods:** Based on the criteria of Kraus and colleagues<sup>1</sup> we selected 338 studies in this systematic literature review. We adopted a bibliometric analysis combined with a content thematic analysis to get data-driven insights with a profound understanding of the predominant themes in the realm of parenting and social media.

**Results:** The analysis reveals a significant increase in research on parenting and social media since 2015, especially in the medical domain. The studies in our scope spanned across 232 different research fields and the most prolific journal is 'Pediatrics and parenting'. The thematic analysis identified four emerging research themes in the studies: parenting motivations to seek information, nature of parenting content on social media, impact of parenting content, and interventions for parents on social media.

**Conclusions:** This study provides critical insights into the current research landscape of parenting and social media. The identified themes, research gaps and future research recommendations provide a foundation for future studies, guiding researchers towards valuable areas for exploration.

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## Original Manuscript

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**Keywords:** Parenting, Social Media, Parenting Information; Systematic Literature Review;

## Bibliometric Literature Review; Thematic Analysis



## Introduction

The experience of transitioning into parenthood often elicits an overwhelming feeling e.g. <sup>2</sup>, whereby parents encounter an intricate transformation of their identity <sup>3</sup>. Achieving a state of balance between their parental obligations, roles as partners, and individual identities presents a difficult challenge for them <sup>4</sup>. In addition, they are confronted with an array of social pressures and prevailing societal norms surrounding parenthood <sup>4</sup>. In today's digital era, social media play an important role in how parents manage the everyday issues they encounter and the decisions they need to make <sup>5,6</sup>. This comes as no surprise, as the popularity of social media is massive with a total of 4.26 billion users worldwide in 2021 <sup>7</sup>. The largest group of social media users are people between 25 and 34 years old <sup>8</sup>, which corresponds to the age group of many young parents <sup>9</sup>. Research shows that parents actively search for social support and parenting information online <sup>6,10,11</sup>. Whereas previous generations often relied on their family and close friends when looking for parenting information, today's parents heavily depend on social media as their primary source of parenting information where they tend to share information and experiences with like-minded others <sup>11</sup>. Obtaining this informational and emotional support empowers parents to feel prepared and confident in their new position, thereby easing the transition to parenthood <sup>12</sup>.

The impact of social media on parents has already been studied in multiple scientific fields and specific subdomains such as health sciences, communication-, or pedagogic research <sup>13,14</sup>. For example, within the field of persuasive communication, momfluencers have been shown to provide feelings of support and understanding among parents, but also cause negative feelings such as stress, less parental efficacy and anxiety <sup>9,15,16</sup>. Within the health information domain, Chan and Chen <sup>17</sup> for instance found that social media represent effective sources to improve maternal health, mental health and knowledge about pregnancy. Hence, various individual studies from different research domains made significant contributions by examining parents' information seeking on social media and its consequent impact on their lives and decision-making <sup>14,18,19</sup>.



While there exists a considerable volume of research on the intersection of parenthood and social media, it is notable that comprehensive review papers summarizing the collective insights in this domain are extremely limited. Within the overall field, we were able to identify merely six review papers that touch upon various subtopics falling under the broader purview of our present study. Two of them evaluate specific social media interventions for parents<sup>17,20</sup>. Two others mainly focus on health information for parents<sup>11,21</sup>, whereas the last two review papers focus on a specific subdomain such as a strongly defined target group (e.g. military families<sup>22</sup>) or a specific variable (e.g. family connectedness<sup>23</sup>). Besides, it is crucial to highlight that a significant proportion of studies exploring the impact of social media on contemporary parenting are predominantly situated within the realm of medical research, e.g.<sup>11,20</sup>. However, despite the notable interest shown by media and communication scholars in this subject e.g.<sup>16,23</sup>, their research endeavors remain notably fragmented. Consequently, we posit that a comprehensive systematic review of parenting information disseminated via social media, approached from a media and communication research perspective, holds the potential to substantially enhance our comprehension of this field.

To address this gap, the current study broadens the scope of the existing reviews by transcending narrow academic subdomains and including all relevant research insights related to parents' information seeking on social media and its' consequent effects. Employing both bibliometric analysis and content thematic analysis, our approach combines objectivity and data-driven insights with a profound understanding of the predominant themes in the realm of parenting and social media<sup>1,24</sup>. This will allow us to provide an overview of the research, detect patterns and delineate topics in the domain, and identify knowledge gaps<sup>24</sup>. The main objectives of this study are to: (1) identify the journals and scholars actively involved in, contributing significantly to, and exerting the most influence in the field; (2) examine the themes explored in the existing body of research on parenting and social media, and how these evolved over time; and (3) highlight the current research gaps and provide recommendations for further exploration in this domain.

## Literature review

There are several review papers in the field of parental information-seeking on social media that are pertinent to our study. Of these, six align within our scope of social media, while one falls outside due to its focus on internet in general. Nevertheless, the findings of this study are deemed relevant, and will therefore be shortly discussed as well. Concretely, it relates to the systematic literature review of Plantin and Daneback<sup>25</sup>, which consolidates research findings on how parents utilize the internet to access child, health, and family-related support and information, as well as how professionals employ the internet to offer support and information to parents. They conclude that parents' tendency to go online in their information-seeking journey is to seek support and information. They argue that this is mostly driven by the anonymous nature of online information-seeking and its around-the-clock accessibility. For professionals, the most important benefits are cost-efficiency and the ability to reach a large audience. Importantly, however, this study was published 14 years ago, and the studies in their sample were mostly conducted in the Web 1.0 era, when the internet predominantly consisted of static and informational websites. Parents' online experiences have significantly evolved since then due to the increased interactivity of the web and the widespread popularity and accessibility of social media. Therefore, we consider it important to reassess and synthesize the research on how parents engage with the wealth of real-time information on social media, which often consists of highly personalized, user-generated advice, leading to interactive and global communities of parents.

The existing 6 review studies that did focus on social media, had a specific thematic focus on interventions<sup>20</sup>, particular subdomains of parenting information e.g. health information;<sup>11</sup>, specific target groups e.g. military families;<sup>22</sup> or demarcated variables e.g. family connectedness;<sup>23</sup>. In the next paragraphs, the current reviews on social media and parenting will be discussed.

Two review papers evaluated the effectiveness of social media interventions for parents. The systematic review of Hamm and colleagues was conducted in 2014 and reviewed 25 studies about

the use and effectiveness of social media in child health interventions <sup>20</sup>. This review gave insights into how social media is used within interventions to promote child health. For instance, to encourage healthy eating and exercise among children and adolescents <sup>20</sup>. They highlight that social media interventions aiming to improve children's health predominantly focus on adolescents rather than children and parents <sup>20</sup>. Additionally, they evaluated the effectiveness of the interventions, and which factors drive their effectiveness <sup>20</sup>. Despite the fact that the interventions implemented through a discussion forum reported a lot of benefits, none of the studies that used a discussion forum to effect change in a health outcome reported significant results <sup>20</sup>. Further, Chan and Chen <sup>17</sup> conducted a meta-analysis of 16 papers that focused on the effectiveness of social media and mobile apps on pregnancy care. In contrast with the systematic review of Hamm and colleagues, this review found that the interventions with mobile apps and social media in the context of pregnancy care were effective with moderate to large effect sizes in regard to maternal health, mental health, and knowledge about pregnancy <sup>17</sup>.

Further, Wood and colleagues <sup>22</sup> conducted a scoping review of the usage of social media and internet-based communication of military families in specific. Their research consisted of 11 papers and identified the most popular social media platforms and the challenges and advantages of social media usage during military deployment <sup>22</sup>. Another systematic review of Tariq and colleagues <sup>23</sup> with a sample of only quantitative studies (n = 14) explored the link between social media usage and family connectedness. They discussed how families are connected through social media and which impact it has on parent-child relations and broader family connectedness <sup>23</sup>.

Lastly, two review papers focused on the use of social media by parents for health information <sup>11,21</sup>. The integrative review of Pretorius and colleagues <sup>21</sup> provides an overview of the existing studies (n = 12) about parents' motivations and use of social media for children's health information with a specific attention to race/ethnicity and region. Frey and colleagues <sup>11</sup> conducted a similar scoping review (n = 42) on parents' motivations, understanding and evaluation of health information

on social media and its' consequent impact. Both studies found that parents obtain valuable health information online and retrieve various ways of support from like-minded others <sup>11,21</sup>. An important difference is that the study by Pretorius and colleagues <sup>21</sup> focused on the differences in motivations and preferences for social media platforms by race and region, while Frey and colleagues <sup>11</sup> had a greater focus on parents' perceptions and sentiments towards health information on social media.

This current bibliometric review builds on, but diverges from these prior reviews by adopting a multidisciplinary perspective that integrates various dimensions and consolidates a comprehensive and holistic understanding of the insights on social media and parenting. In this way, a comprehensive overview of the motivations of parents to seek information, the available parenting information on social media and its impact will be provided.

## **Methods**

### **Literature search and selection**



To collect all relevant papers for this systematic literature review, we adhered to the criteria established by Kraus and colleagues<sup>1</sup> for identifying scholarly publications included in our review. First, we determined the keywords and search formula formation. According to the research scope of this study, the following keywords were identified: ‘parent’, ‘mother’, ‘father’, ‘social media’. Furthermore, the final specific search formula was formulated: TITLE ((Parent\* OR mother\* OR father\* OR maternal OR m?m\* OR dad\* OR paternal OR pregnancy OR conception OR postnatal OR prenatal OR family OR kid\* OR child\*) AND (\*fluencer\* OR Instagram OR youtube OR ?log\* OR facebook OR “social media” OR twitter OR TikTok)). Second, a literature search was conducted with the search formula on the Scopus database. The choice for Scopus was based on two main reasons: Scopus is the largest multi-disciplinary database of science, technology, medicine, social science and arts and humanities, which is useful for mapping a smaller and multi-disciplinary research field, such as parenting and social media research<sup>26,27</sup>. In addition, the database provides various document data formats allowing bibliometric software to process it conveniently. First, all the relevant studies published before June 2023 were identified. A total of 2,600 articles were collected in this initial search and the results were saved in a RIS format. Second, to support the subsequent data analyses, all the necessary information, including title, abstract, author(s), keywords, and references, were exported. Third, we refined the selected articles. The articles collected in the initial search included various document types that were written in a variety of languages. To guarantee the quality of the papers included in the data analysis, we only focused on the full-length and peer-reviewed articles, and therefore, other document types, such as conference proceedings and books, were excluded<sup>1</sup>. Furthermore, considering English is the most common language in research, we decided to include only papers written in English<sup>1</sup>. After this screening, a total of 1,540 articles were remained. In addition, it should be noted that a great number of these remaining papers were out of the scope of our study, despite a careful selection of relevant keywords to conduct literature search. This is due to the search formula which determined that all articles containing these

keywords were retrieved in the initial search. This implied that many unrelated studies, such as studies on ‘kid’ney, were also included in the initial search. Consequently, the authors of this manuscript carefully reviewed the remaining papers’ titles, abstracts, and main texts to determine whether they were actually related to the research topic of parenting and social media. As for doubtful cases of inclusion, there was a discussion between the authors to decide upon the inclusion or exclusion of the article. This procedure left us with a total sample of 338 articles. A more detailed overview of the literature search and refining process can be seen in Figure 1.

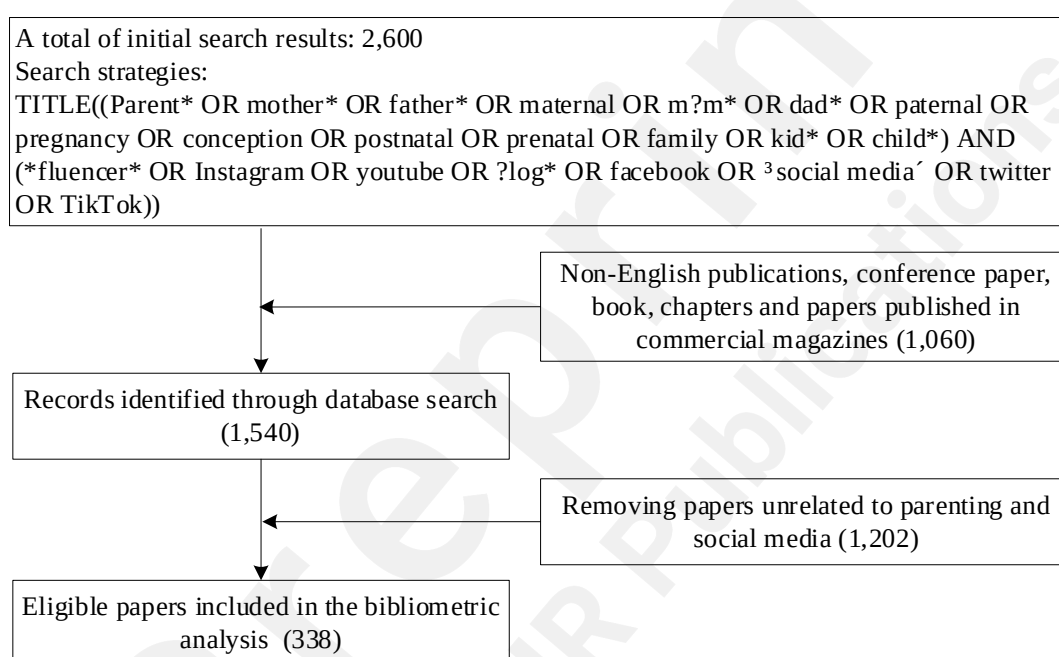


Figure 1. Literature search and refining criteria for bibliometric analysis

## Data analysis

In order to map the development of the parenting and social media research, a bibliometric analysis and a content thematic analysis was adopted.

In the bibliometric analysis, a descriptive overview of the research is provided. Based on author, journal, reference, and publication time, we respectively depicted the evolution of published studies throughout the years, examined the most prolific journals and authors, and detected the most

influential references and authors. BibExcel was used to extract the relevant information (title, abstract, keywords and references) and conduct the data analysis.

In the thematic content analysis, we aimed to further uncover research developments and trends. Initially, a keyword analysis was conducted which involved scrutinizing titles, keywords, and abstracts to reveal the most frequently used words or phrases. Additionally, a co-occurrence analysis was carried out using VOSviewer to visually represent the relationships between these keywords, creating a co-occurrence network. These analyses enabled us to pinpoint the key research topics in previous studies related to parenting and social media. Based on the identified research topics, we further made an in-depth investigation of the content of the studies to categorize them in relation to the research topics. Each study underwent a comprehensive qualitative analysis, involving screening based on scientific domain, primary focus, dependent and independent variables, methodology employed, target audience, and the social media platform utilized.

## Results

### Bibliometric analysis

#### ***The development of parenting and social media research***

As seen in Figure 2, it can be inferred that parenting and social media is a relatively emerging research area. The first parenting and social media study was published in 2009. During the period of 2009 to 2015, less than ten papers were published. Conversely, between 2015 and 2022, there was a remarkable surge in the number of publications on parenting and social media. This period represents 96% of the analyzed papers within this study. Besides, 34 papers were published over the past five months of 2023, indicating that the general trend of parenting and social media research is currently one of rapid growth.



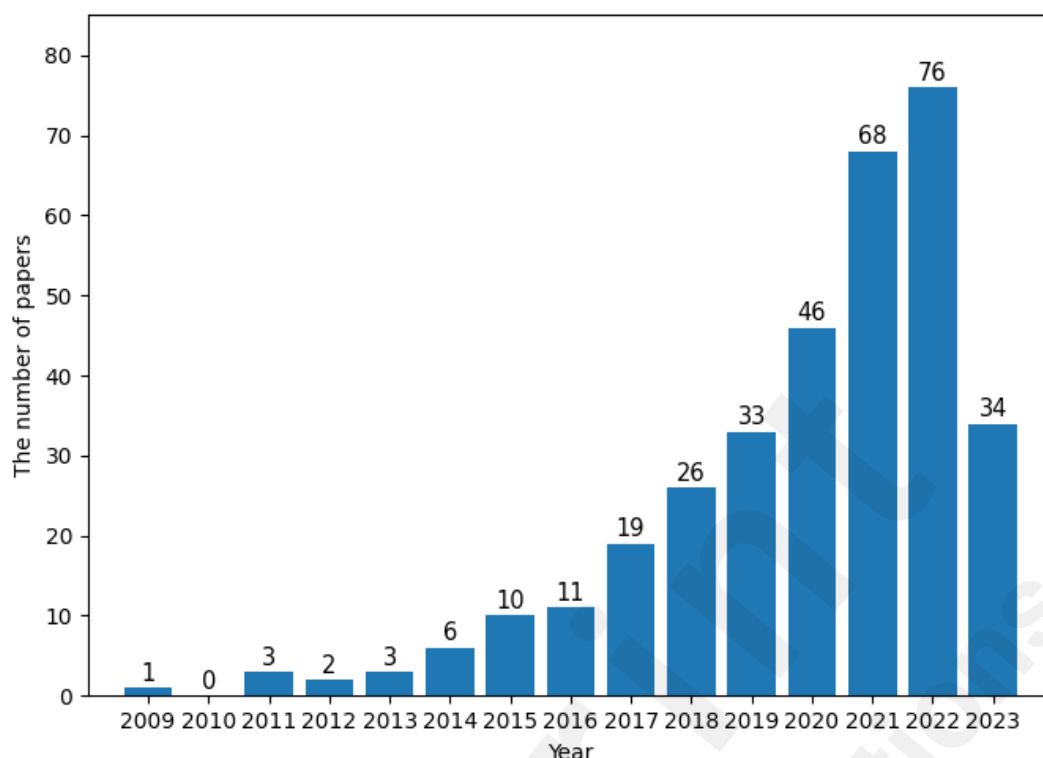


Figure 2. Number of publications on parenting and social media over the years

### ***The most prolific journals and authors***

The articles examined in our study were published in 232 different journals, which underscores the broad scholarly attention dedicated to the topic of parenting and social media topic. Among these, 13 journals have contributed four or more articles, representing 21% of all articles (see Table 1). In particular, the journal with the most publications related to the topic of parenting and social media is *JMIR Pediatrics and Parenting* with 11 articles, followed by *Journal of Medical Internet Research*, *New Media and Society*, *Feminist Media Studies*, *JMIR Research Protocols*, *Human Vaccines and Immunotherapeutics*, and *International Journal of Environmental Research and Public Health*. Upon closer examination of the scholarly domains represented by the journals disseminating research on parenting and social media, it became apparent that they encompass a wide spectrum of academic disciplines as classified by Scopus. These disciplines comprise communication, education, medicine, health science, social science, and immunology and allergy, thus emphasizing the multifaceted research interest in this subject matter.

Table 1. The journals contributing to four or more parenting on social media research

Journal name	Subject	Total number
JMIR Pediatrics and Parenting	Health Sciences; Physical Sciences; Medicine	11
Journal of Medical Internet Research	Health Informatics	9
New Media and Society	Communication; Sociology and Political Science	6
International Journal of Environmental Research and Public Health	Public Health, Environmental and Occupational Health	5
Human Vaccines and Immunotherapeutics	Immunology and Allergy	5
Feminist Media Studies	Communication; Gender Studies	5
JMIR Research Protocols	Health Science; Medicine	5
PLOS One	General Biochemistry, Genetics and Molecular Biology	4
BMC Public Health	Public Health, Environmental and Occupational Health	4
BMC Pediatrics	Pediatrics, Perinatology, and Child Health	4
Family Relations	Education; Social Science; Developmental and Educational Psychology	4
Health Communication	Communication; Health	4
Journal of Child and Family Studies	Developmental and Educational Psychology; Life-span and Life-course Studies	4
Total		70

A total of 1,447 different authors have made contributions to the development of parenting and social media research. The large majority of authors (92.68%) published only one parenting and social media study, whereas the remaining 7.32% (105 authors) published at least two papers that were included in our sample. As Table 2 shows, Casey Scheibling (five articles) published the highest number of parenting and social media studies that are included in our sample, which was followed by Davide Cino, Megan Andreas Moreno, and Yolanda N. Evans with each four publications. The other authors in Table 2, such as Alexander G. Fiks, Rachel S. Gruver, David B. Buller, Audrée-Anne Dumas all have three publications. These results indicates that there is no dominant author in the topic of parenting and social media. However, examining the academic collaborations among these authors reveals that many of them share strong academic relations. For

example, Ari Z Klein, and Graciela Gonzalez-Hernandez co-authored four studies. David B. Buller, Barbara J. Walkosz, Julia Berteletti, Sherry L. Pagoto, Jessica Bibeau, Katie Baker, Joel Hillhouse, Kimberly L. Henry worked together on all their published studies. From the perspective of authors' affiliation, it can be found that authors currently affiliated to the University of Toronto, Università Cattolica del Sacro Cuore, University of Wisconsin-Madison, University of Pennsylvania, Cedars-Sinai Medical Center contributed the most to parenting and social media research.

Table 2. The authors contributing to three or more parenting on social media research

Authors	Current affiliation	Number of publication
Scheibling C.	University of Toronto, Canada	5
Cino D.	Università Cattolica del Sacro Cuore, Italy	4
Moreno M.A.	University of Wisconsin-Madison, USA	4
Evans Y.N.	University of Washington, USA	4
Bryan M.A.	University of Washington, USA	3
Klein A.Z.	University of Pennsylvania, USA	3
Gonzalez-Hernandez G.	Cedars-Sinai Medical Center, USA	3
Buller D.B.	Klein Buendel, USA	3
Berteletti J.	Klein Buendel, USA	3
Walkosz B.J.	Klein Buendel, USA	3
Pagoto S.L.	University of Connecticut, USA	3
Bibeau J.	University of Connecticut, USA	3
Baker K.	East Tennessee State University, USA	3
Hillhouse J.	East Tennessee State University, USA	3
Henry K.L.	Colorado State University, USA	3
Lapointe A.	Université Laval, Canada	3
Provencher V.	Université Laval, Canada	3
Desroches S.	Université Laval, Canada	3
Dumas A.-A.	Université Laval, Canada	3
Robitaille J.	Université Laval, Canada	3
Lemieux S.	Université Laval, Canada	3
Gruver R.S.	The Children's Hospital of Philadelphia, USA	3
Virudachalam S.	University of Pennsylvania, USA	3
Fiks A.G.	University of Pennsylvania, USA	3
Bishop-Gilyard C.T.	University of Pennsylvania, USA	3
Burke-Garcia A.	NORC at the University of Chicago, USA	3
Wright K.B.	George Mason University, USA	3
Manganello J.A.	University at Albany School of Public Health, USA	3
Tabor H.K.	Stanford University, USA	3
Levi J.R.	Boston University, USA	3

*Note.* This table only considers papers published before June 2023. The same colored items mean these authors have a close academic cooperation.

### ***The most influential authors and publications***

A local and global citation analysis was used to identify the most influential authors (cf. Table 3) and publications (cf. Table 4) in our sample. The local citation time refers to the number of citations within the study's sample, while the global citation refers to the number of citations in the Scopus database. Hence, the discrepancy between the global and local citation index refers to the impact a paper or author has in other domains than parenting and social media research. Additionally, authors' local *h*-index was explored which refers to an author's number of parenting and social media papers (*h*) that have each been cited at least (*h*) times by other parenting and social media studies. This index gives an insight into both the quantity (in terms of number of studies in the domain) and quality (in terms of impact on other scholars) of an author's parenting and social media publications. To measure the impact (in terms of shares, discussions and likes) of the parenting and social media research on society, the altmetric score was used. This score gives insight into the number of mentions in online media such as Facebook, Mendeley, Twitter and Wikipedia.

As Table 3 shows, Fiks A.G., Gruver R.S., and Virudachalam S. obtained the highest number of citations within our sample, which indicates that they are the most influential scholars in the parenting and social media domain. Among the prolific authors identified in Table 2, they also have the highest local *h*-index, denoting their substantial body of high-caliber publications. Notably, it is interesting to find that most of the prolific authors (e.g., Scheibling C., Cino D., Moreno M.A., Klein A.Z., and Gonzalez-Hernandez G.) were not yet highly cited authors. A likely explanation is that they were only devoted to this research topic in recent years and their publications had less time to accumulate citations. For instance, Scheibling C., the most prolific author among them, published all studies in the past three years. Furthermore, the high deviation of local and global citations of Sullivan J.M., Bartholomew M.K., Schoppe-Sullivan S.J., Kamp Dush C.M., and Glassman M. indicate that their publications were not only frequently cited within the area of parenting and social

media, but also by papers in other disciplines. Additionally, their work garners a high altmetric score, which indicates that their publications were often discussed and shared online.

Table 3. The twenty most cited authors in parenting on social media area

Authors	Local citation times	Global citation times	Local <i>h</i> -index	Altmetric score
Fiks A.G.	27	84	3	34
Gruver R.S.	27	84	3	34
Virudachalam S.	27	84	3	34
Gerdes M.	23	74	2	18
Kalra G.K.	23	74	2	18
Lieberman A.	23	74	2	18
Berkowitz R.I.	23	74	2	18
Power T.J.	23	74	2	18
Shults J.	23	74	2	18
Suh A.W.	23	74	2	18
Bishop-Gilyard C.T.	23	74	2	18
Lopez L.K.	20	139	1	10
Sullivan J.M.	19	155	1	403
Bartholomew M.K.	19	155	1	403
Schoppe-Sullivan S.J.	19	155	1	403
Kamp Dush C.M.	19	155	1	403
Glassman M.	19	155	1	403
Yang I.	14	70	1	7
Baker B.	14	70	1	7
Orton-Johnson K.	13	48	1	16

*Note.* This table only considers papers published before June 2023. The same colored items mean these authors have a close academic cooperation.

Given the fact that the citation frequency is closely related to the study's publication time, we have compiled a list of the ten most cited studies based on their average local citation count (see Table 4). Among these, the most influential publication in our sample was that of Jorge and colleagues<sup>28</sup>. Their work revealed how mummy influencers reconcile motherhood and career by examining the way in which they portray parenting and family, work-life balance, and the boundaries for privacy and intimacy. In addition, the studies of Moon and colleagues<sup>6</sup>, Baker and Yang<sup>29</sup>, Archer and Kao<sup>30</sup>, Orton-Hohnson<sup>31</sup>, Haslam and colleagues<sup>32</sup>, Pretorius and colleagues<sup>21</sup> are also recognized as highly influential papers due to their substantial amount of local and global citation times. These

papers cover a wide spectrum of topics ranging from the impact of social media use on parental expectations and attitudes<sup>33</sup>, the motivations to seek for parenting information on social media<sup>32</sup> and the effectiveness of social media peer-group interventions for promoting healthy infant growth<sup>34</sup>. Moreover, it is noteworthy that the study of Bartholomew and colleagues<sup>35</sup> has received the highest altmetric score, which indicates that the study has received great online attention.

Table 4. The ten most cited parenting on social media papers

Publications	Average local citation times	Local citation times	Global citation times	Altmetric score	Research topic
Ophir and colleagues <sup>36</sup>	7	7	13	6	Examining the self-presentations of mummy and family influencers on social media.
Wang and Tchernev <sup>37</sup>	3	12	47	34	Parental perceptions of the advantages and disadvantages of the internet and social media as sources of parenting and health information regarding their infant.
Jeong and Fishbein <sup>38</sup>	2.8	14	70	7	Investigating the critical role of social media in providing social support for mothers' lives.
Archer and Kao <sup>30</sup>	2.4	12	33	9	Discussing the both negative and positive aspects of social media use on new mothers.
Brasel and Gips <sup>39</sup>	2.17	13	48	16	Discussing the both liberating and constraining roles in digital terrain of motherhood.
Bowman and colleagues <sup>40</sup>	2	12	48	74	The status of parents' use of social media and the potential factors motivating their use of social media for parenting support.
Rosen and colleagues <sup>41</sup>	2	12	36	9	The effectiveness of Facebook peer-group intervention for low-income mothers to foster behaviours promoting healthy infant

					growth.
Pretorius and colleagues <sup>21</sup>	2	8	16	1	The impacts of social media use in parenting.
Ouvrein <sup>33</sup>	2	2	11	31	The impact of exposure to mommy influencer content on parental self-efficacy.
Carrier and colleagues <sup>42</sup>	1.73	19	155	403	The differences in new parents' Facebook use and parenting satisfaction, parenting self-efficacy, and parenting stress.

*Note.* This table only considers papers published before June 2023.

## Thematic analysis

An analysis of the title, keywords and abstract fields revealed a total of 1,599 title words which occurred 3,620 times, a total of 894 keywords which occurred 1,610 times, and a total of 5,442 abstract words which occurred 42,620 times in our sample. All title words, keywords, and abstract words were then manually screened to group words with similar or identical meaning (e.g., 'blog' and 'blogs'). Based on the result of the word segmentation, a keyword analysis and co-word analysis was conducted to identify the most prominent research themes in the area of parenting and social media.

### *The keyword analysis*

The keyword analysis aimed to analyze the frequency of the words and phrases employed within the titles, keywords, and abstracts of research papers. As illustrated in table 5, a consistent pattern emerges in the utilization of specific words. In particular, the terms *social/media/social media* are the most frequently used words/phrases. This prevalence is primarily attributed to their status as primary search keywords in our study. Similarly, words referred to social media, such as Facebook, YouTube, Blogs, Instagram, Twitter, and Internet, also appear frequently.

Furthermore, it is evident that words associated with familial relationships, including 'mothers', 'parents', 'children', 'child', and 'family', are frequently employed, aligning with their pivotal roles as stakeholders in the realm of parenting. In addition, terms including 'pregnancy', 'parenting', 'motherhood', 'pediatrics', 'Covid-19', 'vaccine', and 'breastfeeding' appear frequently,

which indicates that these topics are the core research concerns in the area of parenting and social media. Moreover, words such as ‘support’, ‘health’, ‘information’, ‘health information’, and ‘social support’, signify the multifaceted purposes for which parents use social media. Finally, the prevalence of terms like ‘Group’ and ‘Intervention’ within the abstracts highlights the substantial body of literature focusing on interventions via social media.

Table 5. The twenty most frequently used words in paper titles, keyword, and abstract

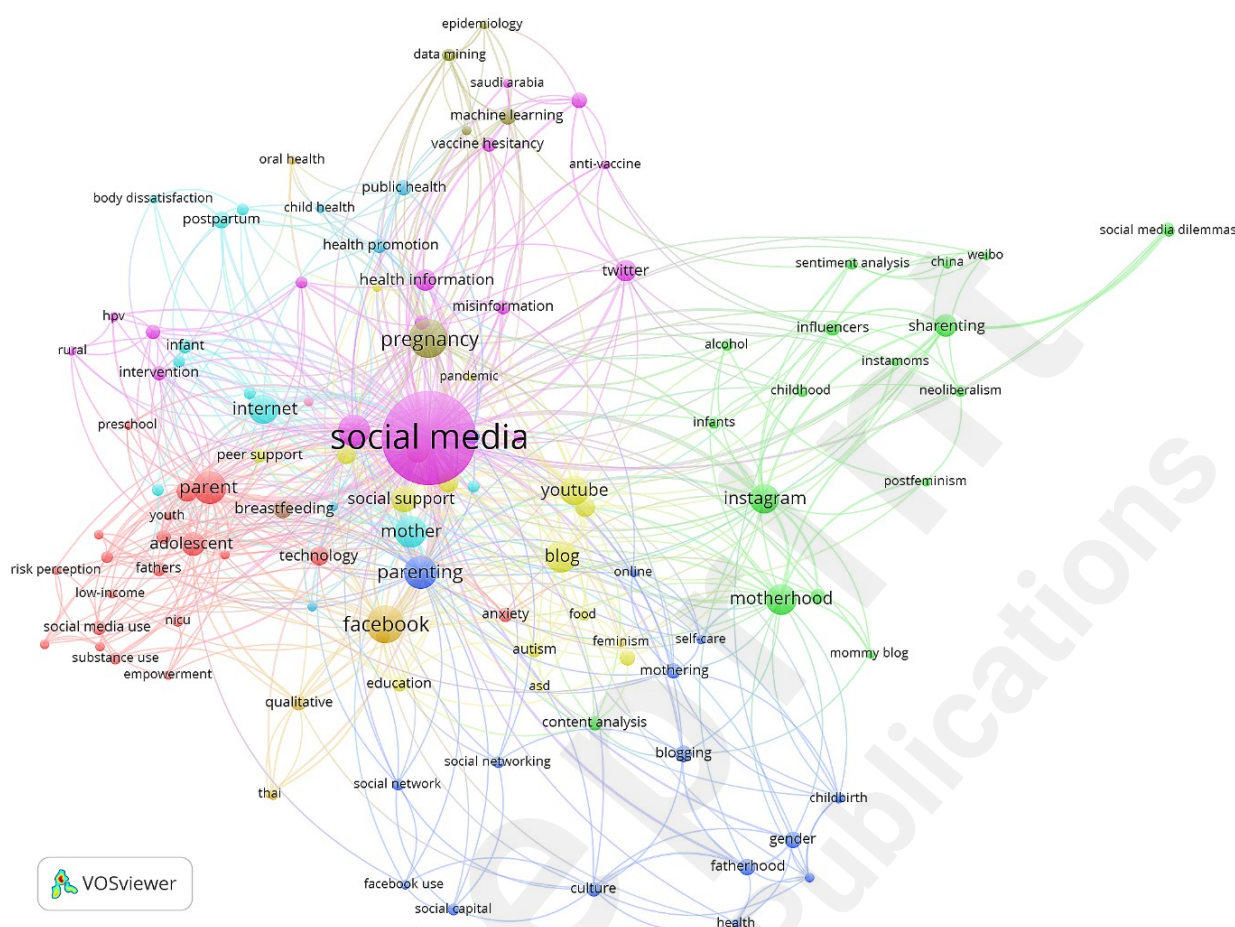
Words in paper titles	Frequency	Words/phrases in keywords	Frequency	Words/phrases in Abstract	Frequency
Social	186	Social media	167	Social	928
Media	157	Pregnancy	31	Media	629
Children	61	Facebook	27	Information	388
Facebook	52	Parenting	22	Parents	330
Mothers	45	Parents	21	Health	311
Parents	43	Covid-19	20	Mothers	282
Information	32	Motherhood	20	Posts	239
Blogs	31	Instagram	18	Facebook	218
Pregnancy	29	Internet	18	Support	215
Health	27	YouTube	17	Children	188
Support	25	Mothers	16	Content	183
Parenting	23	Blogs	15	Online	182
YouTube	22	Social support	14	Videos	176
Content	21	Sharenting	10	Women	171
Instagram	19	Pediatrics	9	Group	164
Group	18	Twitter	8	Parenting	149
Family	18	Health information	8	Pregnancy	145
Group	18	Communication	8	Intervention	113
Parental	18	Breastfeeding	7	Family	112
Covid-19	16	Technology	7	Vaccine	108

### *The co-word analysis*

The co-word analysis aimed to map the co-occurrence of the words that appear in different articles. As Figure 3 shows, a visualization of the keywords that often appear together was performed using VOSviewer. Each node represents an independent keyword, and the size of the nodes is proportional to the frequency in which this keyword appeared in the studies. The lines between the nodes indicate



that the two connected keywords appear together in papers, and the thickness of these lines represents the frequency of their co-occurrence.



Figure

### 3. The visualization of co-word analysis

From Figure 3, it can be inferred that node sizes of 'social media', 'Facebook', 'Instagram', 'YouTube', 'Internet', 'parent', 'parenting', 'mother', 'motherhood', 'pregnancy', and 'adolescent' are bigger than the other keywords, which signifies a strong focus on these topics. The analysis further shows that all keywords can be grouped into ten clusters (cf. ten different node colors in figure 3), which can be further grouped into four thematic research topics, through a cluster labeling process.

The first research theme incorporates studies in clusters three, four, and seven. The reflecting keywords are 'health', 'health communication', 'health promotion', 'self-care', 'social support', and 'peer support'. Consequently, it can be inferred that the first theme involves research on parents'

motives to seek information on social media and the identification of variables that may predict the occurrence of this behaviour. The second research theme includes clusters two, eight, nine and ten, all characterized by keywords closely tied to type of parent-related content on social media and text mining methodologies: 'parenting forum', 'mommy blog', 'instamoms', 'feminism', 'neoliberalism', 'qualitative', 'data mining', 'machine learning', 'natural language processing', 'sentiment analysis'. This research theme centers on the analysis of the online parenting content, aiming to construct meaningful insights from this data. The third research theme covers studies in clusters one and six, as indicated by keywords such as 'mental health', 'postnatal depression', 'risk perception', 'depression', 'anxiety', 'body image', 'body dissatisfaction'. These keywords suggest that researchers have showed interest in the impact of parenting information on social media. Finally, the fourth research theme is encapsulated by cluster five, with keywords such as 'intervention', 'obesity prevention', 'anti-vaccine', 'hvp', and 'vaccine hesitancy'. This research focuses on parenting interventions with the use of social media.

### ***Thematic content analysis***

To get a deeper insight into the research content of each research theme identified through a co-occurrence analysis, a thematic content analysis was conducted. The first theme consolidates articles pertaining to the underlying motivations of parents in seeking information on social media platforms. The second theme encompasses a significant number of articles exploring which parenting-related content can be found on social media. The third theme clusters all the articles about the impact of parenting social media information on parents and the fourth theme contains the articles who evaluated interventions on social media. Given the fact that some articles are related to topics across different research themes, we will discuss those within the multiple clusters they belong to (see appendix A for an overview of the research themes and the included studies). In the following paragraphs, we will discuss the employed methodologies and specific social media platforms utilized in the selected studies. Subsequently, we will provide more insights into the various research

domains and emphasize the key findings within the extensively investigated research areas.

### THEME 1: PARENTAL MOTIVATIONS TO SEEK INFORMATION ON SOCIAL MEDIA

A total of 50 studies in our sample examined parents' motivations to seek information on social media. While various methodologies were employed in these studies, half of the studies ( $n = 23$ ) adopted a quantitative approach, primarily applying surveys to gather data. The qualitative studies ( $n = 22$ ) mainly used focus groups, in-depth interviews and qualitative content analyses to get insight into parents' motivations to use social media as platforms to seek for information. Only a smaller fraction of the studies employed mixed methods approaches ( $n = 5$ ) to explore the motivations of parents, mainly combining surveys, content analyses and/or interviews.

In terms of social media platforms, most of the studies in this scope investigated parents' motivations for seeking information on social media in general ( $n = 27$ ), without a specific focus on one social media platform. These studies investigated the most popular social media platforms among parents and the motivations driving parents to seek information on social media e.g.<sup>43</sup>. Facebook emerged as the most popular platform for parents<sup>43-45</sup>. This is also in line with the keyword and co-occurrence analysis where Facebook comes out as a big note. Not surprisingly, studies that did focus on a specific platform primarily focused on the social media platform Facebook ( $n = 16$ ) e.g.<sup>46,47</sup>. Little attention was given to exploring motivations of parents on other social media platforms, such as blogs, Twitter or fora ( $n = 7$ ).

The motives of parents to seek information on social media received the most attention in the domain of health information and medicine ( $n = 34$ ). Several studies have already investigated parents' motivations for seeking information on social media about general health issues (e.g. physical activities), specific diseases (e.g. cancer, Infants with Cleft Lip, children with Autism Spectrum Disorder) or health related topics (e.g. vaccinations). The three dominant motivations for parents to seek health information on social media are providing and getting support to/from peers, receiving advice and information about their child's diagnosis to guide the health decisions they make for their child, and access to a community with families who experience the same issues<sup>6,11,45,47-</sup>

<sup>51</sup>. Whereas we see a dominant focus on mothers in the other clusters, the studies within cluster one predominantly focus on parents in general, regardless of the gender.

Besides the health information domain, there is also attention for parents' information-seeking motivations within the domain of family studies, pregnancy and childbirth, and child feeding (n = 16) e.g. <sup>52,53,54</sup>. These studies do not solely focus on the broader category of parents as one homogeneous group (encompassing both mothers and fathers), but they also give specific attention to mothers and pregnant women individually. Likewise as in the health-related parenting studies, parents seek for informational and emotional support from peers and seek for advice and information on various parenting topics such as pregnancy, activities for their children, or motherhood <sup>32,53,55-58</sup>. However, the community feeling was less prominently studied as opposed to the studies within the health and medicine domain.

Across the multiple research sub domains, Moon, Mathews, Oden and Carlin <sup>6</sup> and Suminar, Hadisiwi and Zubair <sup>53</sup> discovered that mothers attribute greater value to the information they obtained through social media compared to the information they acquire from their family and friends. One of the biggest affordances of social media, as opposed to more traditional sources of parenting information, is the fact that information is always available and tailored to the parents' interests and needs <sup>6,21,58,59</sup>. Consequently, especially young parents exhibit a high level of trust in the digital information and opinions provided by other parents on social media <sup>6,32</sup>. Given parents' great engagement and their active quest for parenting-related support and information on social media, it is evident that these platforms exert a profound impact on their lives and decision-making processes, subjects that will be discussed in the following themes.

## THEME 2: TYPE OF PARENT-RELATED CONTENT ON SOCIAL MEDIA

The studies in this cluster (n = 174) focused on the type of parental information that is available on social media. More than half of the studies in this scope employed a qualitative approach (n = 113), primarily conducting qualitative content analyses to identify the various parent-related topics that are being discussed on social media. Other qualitative methods like sentiment analysis, interviews, focus

groups and sociolinguistic analyses are applied too, but on a remarkably smaller scale. The quantitative studies within this cluster ( $n = 49$ ) mainly employed quantitative content analyses and a smaller number used surveys to get insights into the parenting information available on social media. Lastly, some studies used a mixed method approach ( $n = 10$ ) where they mainly combined qualitative and quantitative content analyses to investigate the variety of parenting information. Two studies did not define their methodology.

Moreover, to comprehensively analyze the diverse spectrum of parenting-related content on social media, researchers ( $n = 93$ ). A smaller amount of research analysed parenting content from Instagram utilized data from various social media platforms. Most of the data of the studies within this cluster was gathered from blogs, YouTube and Facebook, Twitter or examined content from multiple platforms ( $n = 64$ ). Other platforms such as Weibo, online forums, Reddit, TikTok, and WhatsApp were utilized in a minority of the studies ( $n = 17$ ) s. It is worth noting that in some studies, the specific social media platform from which data was gathered was not explicitly mentioned or defined.

Parenting information on social media has been studied within a variety of research fields, including health and medicine, pregnancy and childbirth, nutrition, influencer marketing, Covid-19 and family studies. However, the fields of health and medicine have garnered the majority of research attention concerning parenting information on social media, followed by the field of pregnancy and childbirth, and the field of family studies. In the following paragraphs, we discuss these domains in detail.

First of all, within the domain of health and medicine two broad categories can be identified: parental health and child health. The studies who focus on parental health encompass diverse topics such as medication usage, general health practices, alcohol consumption, and infertility e.g.<sup>60,61,62</sup>. The studies that focus on child health information for parents on social media covers a range of health related topics: child vaccinations, autism, child diabetes, cancer, child obesity, sun protection

of children, congenital anomalies, elbow fractures, rhizotomy, mouth sores, etc. e.g. <sup>63,64-68</sup>. Across these two categories, several studies also paid attention to the quality and level of trust parents place in information obtained from social media platforms e.g. <sup>67,69,70</sup>.

Secondly, considerable research has been conducted in the domain of family studies. These studies primarily focus on the representation and narratives of motherhood and fatherhood on social media e.g. <sup>71,72</sup>. Various narratives surrounding the ideals of the 'perfect mother' and the notion of a 'bad mother' have been identified. Other topics like the transition into fatherhood, gender fluid parenting, daily life of American families and grief of parents were detected on social media.

Third, within the domain of pregnancy and childbirth, three prominent clusters of information have been identified; childbirth (including birth stories, hypnobirthing video's, information about miscarriage and maternal mortality), health and pregnancy (covering topics such as vaccination, physical activities, alcohol, drugs, Covid-19 and anxiety) and representations of pregnancy on social media e.g. <sup>73,74,75</sup>. While research has also been conducted within other research domains to map the information of parenting on social media (e.g., influencer marketing, nutrition, etc.), the volume of studies is relatively limited.

### THEME 3: THE IMPACT OF PARENTING INFORMATION ON SOCIAL MEDIA

The impact of online parenting content on parents' attitudes, behaviours, well-being and lives were investigated in a total of 73 studies. More than half of the studies (n = 41) used a quantitative methodology, with a majority focusing on surveys to get representative insights into the impact of online parenting information in the everyday lives of parents. A smaller number of studies used a qualitative methodology (n = 17) to gain deeper insights into the potential impact of parenting information on social media platforms. The research methods within the qualitative studies were in-depth interviews, qualitative content analyses or digital ethnographies or reviews. Additionally, two studies conducted a systematic review. Furthermore, ten studies employed mixed methods with different combinations of the following research methods; ethnographies, interviews, focus groups, surveys, content analyses, discourse analyses and social network analyses. In addition, there were

three studies in which the used method was not clearly mentioned.

Regarding the subject of the studies, a substantial portion of the studies ( $n = 38$ ) took a broader approach by examining the impact of parenting information on social media in general, rather than focusing on one specific platform or type of impact. Most of these studies conducted surveys to inquire about the effects of parental information on social media on parents. A variety of depended variables were examined: impact on attitudes towards pregnancy and specific diseases, impact on perceptions towards social media information, impact on mental health of parents, impact child feeding practices of parents, etc.<sup>76</sup>. Among the specific social media platforms, Facebook, and in particular specific Facebook groups emerged as a popular platform for investigation ( $n = 13$ ). Additionally, there have been studies conducted on other platforms such as Instagram, Twitter, YouTube, blogs, or a combination of these platforms ( $n = 22$ ).

The impact of parenting information on social media has been studied within various research domains, such as family studies, education, health and medicine, nutrition, pregnancy and childbirth, advertising, and communication. Most of the studies regarding the impact of parenting information on social media were conducted in the field of family studies, followed by the field of communication and the field of pregnancy and childbirth.

Firstly, a significant portion of the studies ( $n = 18$ ) within this cluster was concentrated on examining the impact of parenting information within the domain of family studies. These studies have explored a wide range of variables such as well-being, anxiety, role of humour in social media posts, quality and credibility of information, family connectedness, perceived parental skills, or involuntary childlessness. Notably, a range of insights on different topics within the field of family studies have been identified. For instance, The study of Germic and colleagues<sup>77</sup> revealed that mothers who sought information from online sources had lower perceived self-efficacy compared to mothers who did not seek online information, regardless of the content they were exposed to. Another study showed that humour plays an important and positive role for parents to reduce

anxieties and distress during the pandemic <sup>78</sup>. Most of these studies within the domain of family studies primarily focused on mothers and parents. There is only one study that specifically focused on fathers.

Secondly, a substantial portion of research (n = 12) examined how social media information impacts upon parents within the domain of communication. The majority of these studies (n = 9) are conducted in the field of influencer marketing and predominantly focused on the effects of momfluencers. Momfluencers are social media influencers who gathered a large amount of followers on social media by actively sharing their everyday lives of motherhood online and often participate in commercial collaborations <sup>9,33</sup>. More specific, these studies showed that these idealized momfluencers on Instagram mainly have a negative impact on the well-being, anxiety levels and, parental self-efficacy of mothers <sup>9,15,33,79</sup>. However, the studies of Kirkpatrick and Lee <sup>15</sup> and Egmore and colleagues <sup>9</sup> indicated that momfluencers also had a positive impact on mothers by providing support and an online community. In addition, the study of Ouvrein <sup>33</sup> indicated that mothers developed a higher perceived parental self-efficacy when they regularly visit profiles of momfluencers. Other studies in the research area of influencer marketing focus more strongly on the promotion of food products or the impact of disclosure and visual brand promotion e.g. <sup>13,80</sup>. Furthermore, there is also a small amount of studies (n = 3) that investigated the role and impact of social media in the communication process between families and military separation or migration <sup>22,81,82</sup>.

Lastly, considerable studies on the impact of parenting information have been conducted within the research area of pregnancy and childbirth (n = 10). Various studies have investigated the impact of social media on pregnant women, exploring different aspects including body satisfaction, childbirth, mental health, and eating disorders. These studies showed that social media content covering pregnancy-related topics can be both helpful and/or harmful to pregnant women e.g. <sup>83,84,85</sup>.

#### THEME 4: PROFESSIONAL PARENTING INTERVENTIONS ON SOCIAL MEDIA

Given the fact that parents regularly consult social media platforms for parenting information <sup>11</sup>,



several studies have developed professional interventions targeting parents through various social media platforms. In particular, 41 studies investigated various professional interventions on social media for parents and their children. These interventions were developed and implemented across multiple social media channels. Most interventions were conducted within specific Facebook groups ( $n = 17$ ). In eight studies, the specific social media platform used for the intervention was not specified. Other platforms utilized for implementing the interventions included blogs ( $n = 5$ ), TikTok ( $n = 1$ ), WeChat ( $n = 2$ ), WhatsApp ( $n = 1$ ) or a combination of these platforms ( $n = 7$ ).

The professional interventions can be categorized into three main research domains including health ( $n = 19$ ), nutrition ( $n = 11$ ) and pregnancy ( $n = 10$ ) studies. The interventions within the health domain focused on diverse health topics such as vaccine concerns, parents of kids with specific diseases, mental health of the parent, breast cancer and infant sleep. Two interventions addressing parental vaccine concerns and hesitance indicated that the interventions were effective in improving parents' attitudes towards vaccination<sup>86,87</sup>. In contrast, the intervention on HPV vaccine of Chodick and colleagues<sup>88</sup> was not effective in improving the uptake of the vaccine among mothers' daughters. Additionally, the interventions targeting children with specific diseases and their parents ( $n = 5$ ) were found effective e.g.<sup>89</sup>. The target audience of the health interventions varied, encompassing parents, caregivers, mothers, and children.

In the research domain of nutrition, the interventions aimed to enhance parents' food-related behaviours and decision-making processes. It is worth noting that all interventions focusing on nutrition were specifically tailored for parents, mothers, or caregivers, which is not surprising given that parents, and particularly mothers, are recognized as key influencers in shaping their children's eating habits<sup>90</sup>. The majority of the interventions were very effective in improving healthy food decisions of parents for their children. For example, a peer-group intervention implemented through social media had a significant impact on specific feeding behaviours within families with infants with high risk of obesity<sup>34</sup>.

Furthermore, the interventions within the research area of pregnancy were designed to improve various aspects, such as anxiety during pregnancy, knowledge about vaccines or pregnancy in general, prenatal stress, maternal mental health and physical health. All interventions pertaining to pregnancy were specifically targeted at the pregnant women themselves and demonstrated positive outcomes. For instance, the self-help mindfulness intervention of Zhang and colleagues<sup>91</sup> was effective in decreasing prenatal stress and negative affect and improving positive affect and mindfulness.

## Discussion: research gaps and future research directions

The area of parenting and social media has received increasing academic attention since 2015, aligning with today's digital turn of information dissemination. Although research on this topic is conducted within various research domains, there is no study currently available that clusters all the information. Within this section, we aim to provide a broader lens for understanding the overall domain of parenting information on social media. Therefore, we will discuss the most important research gaps that we identified, followed by concrete recommendations for future research to help moving forward our understanding of why and how parents consult, and are influenced by, social media. These research gaps and recommendations will follow the structure of the communication model of Lasswell<sup>92</sup>: communicator, message, medium, audience and effect, preceded by the used methodologies. In table 6, an overview is given of the specific research questions specified to set the future research agenda.

Table 6. Future research directions with concrete research questions

Future research directions	Research questions
<b>Communicator</b>	
Sources of parenting content	<ul style="list-style-type: none"><li>• Who shares parenting information on social media and what are their characteristics?</li><li>• How does the nature of parenting content vary depending on the source (e.g., everyday parents, medical experts, parent influencers)?</li><li>• How do different sources interact with each other on social media?</li></ul>

Social media influencers	<ul style="list-style-type: none"> <li>• How do parents weigh the value of personal lived experiences against scientifically supported content shared by social media influencers?</li> <li>• What meaning do parents give to experts parent influencers vs typical parent influencers?</li> <li>• How do parents rely on social media information next to the more traditional sources of parenting information?</li> <li>• How effective are parent influencers as entertainment educators to promote pro social parenting behaviour?</li> </ul>
<b>Message</b>	
Reliability of information	<ul style="list-style-type: none"> <li>• How can parents be educated and equipped to critically evaluate and verify the credibility of parenting-related health information circulating on social media platforms?</li> <li>• How do parents perceive and trust parenting information when it is labeled with expert labels?</li> <li>• What are the prevalent themes, sources, and characteristics of misinformation related to parenthood that circulate on social media platforms?</li> </ul>
Parenting topics	<ul style="list-style-type: none"> <li>• What types of parenting content on parenting styles is shared on social media and how do they vary across different platforms and user demographics?</li> <li>• What types of sponsored content targeting parents are prevalent on social media, and how do they vary in terms of content, platforms, and targeted demographics?</li> <li>• What ethical implications arise from the presence of sponsored content targeting parents on social media, and how can these be addressed to ensure transparent and responsible marketing practices?</li> </ul>
Content of social media influencers	<ul style="list-style-type: none"> <li>• What are the prevalent topics and themes in parenting content shared by social media influencers, and how do they align with the needs and interests of their audience?</li> <li>• How reliable and accurate is the parenting information shared by social media influencers, and what factors contribute to its credibility or lack thereof?</li> </ul>
<b>Medium</b>	
Social media platforms	<ul style="list-style-type: none"> <li>• Why do parents seek for parenting information on Instagram and TikTok and how do these motivations differ from each other?</li> <li>• What are the prominent parenting-related themes and trends on TikTok and Instagram, and how do</li> </ul>

	they differ from those on other social media platforms like Facebook and YouTube?
<b>Audience</b>	
Fathers	<ul style="list-style-type: none"> <li>• How has the evolving role of fathers, including the rise of dad bloggers and dadfluencers, impacted modern family dynamics and parental engagement in caregiving and information-seeking behaviours?</li> <li>• In what ways do dad bloggers and dadfluencers challenge traditional narratives of fatherhood, and how does this influence societal perceptions of parenting roles and responsibilities?</li> </ul>
Information seeking behaviour	<ul style="list-style-type: none"> <li>• What specific types of information-seeking behaviours are exhibited by parents on social media, and how do these behaviours vary based on demographics and parental roles?</li> <li>• How does the two-dimensional model of everyday-life information seeking by McKenzie (2003) apply to parental information seeking in today's digital landscape, and how can it be adapted to capture the nuances of online information seeking by parents?</li> <li>• What is the relationship between the type of information seeking behaviour of parents and their consumer behaviour and the decision-making processes?</li> </ul>
<b>Effects</b>	
Neoliberal parenthood	<ul style="list-style-type: none"> <li>• How do neoliberal parenting ideals influence parenting styles, decision-making, norms, and practices?</li> <li>• What is the impact of internalizing neoliberal parenting ideals from social media on the mental well-being of parents and their perception of their parental role?</li> </ul>
Misinformation	<ul style="list-style-type: none"> <li>• What is the media advertising literacy of parents regarding parenting information on social media and how does it affects their parental decisions?</li> <li>• How does information overload affect parental anxiety, decision-making, and overall well-being, and what coping strategies do parents employ to manage this overload?</li> </ul>
Social media influencers	<ul style="list-style-type: none"> <li>• What is the influence of parent influencers on parental well-being and decision making processes, considering both the positive and negative impacts?</li> <li>• How can parent influencers be employed in intervention studies to promote healthy nutrition among children?</li> <li>• What is the effect of commercial partnerships of</li> </ul>

	parent influencers on the materialistic parenting styles of parents?
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## Methodologies

The minority of the studies in our sample adopted a mixed methods approach to conduct research on parenting information on social media. However, research indicates that the combination of qualitative and quantitative research is very valuable to address complex research problems in social sciences<sup>93,94</sup>. The quantitative part of the study can provide insights into the impact of certain parenting content, while the qualitative part can shed a light on the individual experiences of parents and how it impacts their lives and decisions-making processes for their children. Moreover, the use of a mixed method approach is expanding within various disciplines, including health sciences, nursing, sociology, psychology and education<sup>94</sup>. Considering the extensive coverage of the disciplines in the scope of this study, it would be interesting for future research to apply more mixed methods studies in the domain of parenting and social media to get a holistic understanding of the parental interactions and behaviours on social media.

If we look more into detail to the different themes that have been identified, most of the studies from our sample are categorized in the second theme, which involves all studies analyzing the parent-related content shared on social media. The co-occurrence analysis indeed shows that text mining methodologies, such as qualitative, data mining, machine learning, natural language processing and sentiment analysis are closely related to this cluster of papers. This emphasizes the predominant reliance on qualitative content analyses within the largest part of the analyzed papers within our study. These findings align with previous scholars arguing that, within the domain of family studies, research predominantly focuses on the representation and discourses of motherhood and parenthood<sup>31</sup>. To advance the field, it is thus crucial to address the current methodological imbalance by integrating more quantitative approaches as well. These should not only analyze the content related to parenting on social media but also place significant emphasis on understanding the

perspectives of the audience. This balanced approach will contribute to an exploration of the dynamics within this domain by gaining a more comprehensive understanding of why and how parents engage with social media platforms and how they give meaning to and are affected by the content they encounter there.

## Communicator

Within the collected studies, we identified that little to no attention was attributed to the sources of parenting content on social media. Important to notice is that studies who looked in to the motivations of people to share information on social media were not included in the sample of this scope, because this would lead us to far away from the original objective of this study. Nevertheless, little to no attention was devoted to answering the question of who exactly is sharing parenting information (e.g. everyday parents, medical experts, parent influencers) on social media and which features characterize these individuals. Hence, numerous questions concerning the source characteristics of individuals sharing parenting information on social media remain unexplored and need investigation in future research. Questions such as whether the nature of parenting content varies depending on the source, the dynamics of interaction among these diverse sources within the realm of social media, and the consequent effects on parents remain to be explored. To address these research questions effectively, future studies could consider the adoption of social network analysis. This method aims to delve into both the content and relationship patterns within social networks, enabling a comprehensive understanding of the connections among these various actors and their influence, as demonstrated by <sup>95</sup>. In this way future researchers could clearly map the different actors on social media who share parenting information, the relations between them and their consequent impact on parental attitudes and decision-making. These analysis would represent a highly innovative approach within the field and could be conducted across different social media platforms or on a specific platform.

More specific, we noticed that only a fraction of the studies within our sample focused on

social media influencers as sources of parenting information. However, scholars consistently emphasized that the impact of social media influencers on parents and society in general should not be underestimated<sup>15,96,97</sup>. Specifically, parent influencers provide support and establish a readily accessible and relatable community for parents who want to discuss various parenting topics<sup>97</sup>. Consequently, research reveals that the content produced by parent influencers exerts a substantial influence on various aspects among parents, including individuals' intentions to initiate and sustain breastfeeding<sup>98</sup> and the shaping of parenting ideologies e.g.<sup>99,100</sup>. The latter researchers distinguished two types of momfluencers based on their nutritional expertise: typical momfluencers and expert momfluencers. The difference in the two types of momfluencers is that expert momfluencers create content based on their education and professional background, whereas typical momfluencers create content based on their everyday experiences as a parent<sup>13</sup>. However, insights are necessary on how parents judge and give meaning to the expertise of information sources on social media. For instance, further research is imperative to explore how parents weigh the value of personal lived experiences against scientifically supported content shared on social media platforms. Besides, influencers have additionally been linked to societal changes characterized by a growing skepticism towards institutions, official experts, and established authority<sup>101</sup>. Therefore, insights on how today's parents rely on social media information next to the more traditional sources of parenting information (e.g. pamphlets, pediatricians, etc.) and official communication of experts are needed in order to adequately guide parents through parenthood in today's digital world. Moreover, the literature review of Mertens and Beuckels<sup>102</sup> indicated that momfluencers could operate as entertainment educators to promote breastfeeding among their followers. However, these assumptions remain to be empirically tested. Hence, empirical insights on the effectivity of momfluencers as entertainment educators to promote pro social behaviour, such as healthy feeding behaviours, are necessary and could be implemented into a concrete intervention.

## Message

The studies most closely related to the 'message' construct of the communication model are the ones bundled within theme 2 'type of parent-related content on social media'. These studies were conducted to explore the nature of parenting content disseminated on social media, with a substantial portion of them falling within the realm of medical information. While these studies primarily focus on the health information available on social media, the assessment of the reliability of that information was often overlooked. This might be extremely relevant, however, as scholars have repeatedly raised concerns about the large presence of disinformation on social media channels <sup>103</sup>. More specifically, it is argued that there is an absence of gate watchers to evaluate the information's veracity before dissemination and peers share the available information from both professionals and non-professionals with an unpredictable speed and pattern, making it difficult to distinguish reliable from misinformation <sup>104</sup>. In the context of parenting, research similarly indicated that misinformation is frequently shared on social media e.g. <sup>64</sup>. Future research should delve deeper into this subject, exploring ways to empower parents in identifying misinformation with the ultimate goal to prevent its spreading and mitigate its adverse effects on parents and, by extension, their children.

Potential avenues to consider could include exploring the potential effectiveness of adding expert labels to health professionals' content to enhance the dissemination and signaling of accurate health information to parents. Another avenue for future studies involves identifying prevalent themes, sources and characteristics of misinformation related to parenthood circulating on social media. For example, in the domain of breastfeeding, the series of Lancet Breastfeeding publications raise a high concern about the commercial milk formula industry who spreads misinformation on breastfeeding, actively targets parent's fears and vulnerabilities and offers formula milk as a solution to common infant health and developmental challenges in ways that systematically undermine breastfeeding <sup>105,106</sup>. These insights can be used to raise awareness among (future) parents and offer them clear guidelines on how to recognize and protect themselves and their families against



misinformation on parenting topics.

If we take a closer look at the parenting content, we notice that a variety of parenting topics such as pregnancy, child vaccinations, nutrition, specific diseases, etc. have been investigated so far. This is also reflected in the fact that the articles that are examined in this scope were published in 232 different journals. However, social media content related to parenting styles have not been investigated so far. Considering that mothers actively seek for parenting information online <sup>6,11</sup>, it's crucial to gain insights into the different parenting styles that are shared with peers on social media. For example, future research could employ a content analysis to map the parenting styles content on social media. In addition, little attention is paid to the commercial content available on social media that targets parents. Research already shows that parents are very vulnerable in their early parenthood stage <sup>4</sup> and that there is a variety of sponsored content online <sup>107</sup>. So, an oversight of the available sponsored content on social media that targets parents are very valuable.

Notably, and similarly as in the source cluster, there is little to no existing research on the type of parental information that is shared by social media influencers. However, many research indicates that momfluencers for example are very popular among pregnant women and first-time mothers and they consult their profiles on a regular base <sup>9,15,33</sup>. Given their influential voices, besides investigating the characteristics of influencers as a source, it is also necessary to analyse the type of content these individuals disseminate to their large audiences. A content analysis approach could be used, for example, to map the existing parenting content of social media influencers and to evaluate the reliability of it.

## Medium

This study identified some research gaps related to the social media platforms that have been studied within our sample. The co-word analysis highlights “social media” as the prominent node, followed by “Facebook” and “You Tube”. This indicates that various studies investigated parent-related topics with a specific focus on Facebook groups or YouTube videos e.g. <sup>108,109</sup>. Even though Instagram is

also identified as a frequently used keyword within the collected papers, this platform received significantly less attention compared to Facebook and YouTube. Nevertheless, the second largest group of Instagram users falls within the 25-34 years age range <sup>110</sup>, representing the age demographic of a considerable number of young parents <sup>9</sup>. Besides, recent studies indicate that mothers very frequently visit the profiles of momfluencers on Instagram <sup>15,33</sup>. Considering the platform's popularity, its relevance to the age group of young parents, and the high occurrence of covert advertising techniques and sponsored content on these platforms, future research related to parenting should definitely aim to explore this platform to a greater extent. Another social media platform that is frequently overlooked within the research area of parenting information on social media is TikTok. Only three studies in this scope conducted research on this platform. However, this platform has witnessed a substantial surge in growth in recent years, which could explain the little research attention so far. However, in 2020, TikTok had 465,7 million users worldwide and by 2025, it is estimated to have 955,3 million users worldwide <sup>111</sup>. The platform's popularity extends beyond young demographics, encompassing individuals aged 18 to 34, who make up 36.3% of TikTok's users worldwide <sup>112</sup>. Given that parenting information on TikTok remains largely uncharted in research, it is recommended that future research endeavors encompass a diverse array of methodological approaches, covering all four thematic domains of this study (i.e. motivations, content type, impact and interventions). This multifaceted approach will enable a more comprehensive exploration of this underexplored field.

## Audience

Most of the studies in this scope focus on mothers or parents in general as their respondents. Although mothers are identified as primary online health information seekers and caregivers <sup>113</sup>, it is crucial not to overlook the role of fathers. In the twenty-first century, there has been a discernible increase in fatherly involvement <sup>114,115</sup>. This is also reflected in the rise of dad bloggers <sup>71,116</sup>. Dad bloggers try to counterbalance the stereotypes and narratives of fatherhood that depict fathers as

absent or incapable<sup>116</sup>. Given the scarce academic attention to dad bloggers, dadfluencers and fathers in general as a target audience, it is recommended for future research to explore modern family dynamics in an inclusive manner. For example, while some content analyses suggest that social media information has the potential to shift discourses and to challenge mainstream traditional parental norms<sup>117,118</sup>, audience research is needed to explore the impact of these counternarratives on the perceptions of the audience of these messages.

The results of our review study already indicated that there is a substantial portion of research delving into parental motivations to seek for information on social media (cf. cluster one). Nevertheless, the specific types of seeking behaviours online of parents remain unexplored. According to McKenzie's<sup>119</sup> two dimensional model on everyday-life information seeking, parents seek information in distinct ways and undergo different processes. This represents interesting opportunities for future research to adapt the two dimensional model of McKenzie<sup>119</sup> and explore how this takes place within today's digital context. Furthermore, it would be interesting to investigate if the types of information seeking are associated with parental consumer behaviour and the decision-making processes of parents. Additionally, research could investigate whether certain types of information lead to more informed and confident decisions in parenting.

## Effects

Even though there already exists a substantial amount of studies in our scope on the existing parenting content on social media (n = 174), only a smaller amount of studies focus on the impact of this content on the decision-making process of parents for their children. Future research is necessary in several key areas. Firstly, there is a rise of neoliberal parenting that emphasizes the individual responsibility of parents and the focus on autonomy<sup>101,120</sup>. This is also reflected in the studies of this scope that conduct research on the neoliberal representation of parenthood on social media<sup>121</sup>. However, research did not yet pay attention to the impact of these neoliberal parenting ideals on parenting styles, decisions, norms and practices. Furthermore, it's interesting to investigate if these

neoliberal ideas on parenting have an impact on the mental well-being of parents.

Second, parents devote a significant amount of time to social media, seeking support and information <sup>6,11</sup>. However, research indicates that there is also an overload of misinformation online <sup>64</sup>. Compounded by their non-"digital native" status, parents often grapple with limited digital knowledge, necessitating further research on their media and advertising literacy <sup>122</sup>. While current studies predominantly focus on children and adolescents in this regard e.g. <sup>123</sup>, getting insights into parent's media literacy is equally vital because they are not only spending a lot of time online but also play an important role in the social media literacy of their children <sup>124</sup>. Additionally, the overload of health information available both online and offline has been reported to overwhelm parents, leading to anxiety and confusion <sup>125</sup>. Future research should further investigate these negative effects of information overload on parents in the health domain and other domains such as pregnancy and nutrition as well.

Thirdly, a critical area of future research involves a nuanced analysis of the influence exerted by social media influencers. Present research mainly emphasizes the negative impact of momfluencers, particularly on mothers e.g. <sup>79</sup>. Nevertheless, Loudon and colleagues <sup>12</sup> indicated the role of online and offline peers, especially mothers, as significant sources of parenting information and support due to their maternal instinct and accumulated parenting experience. An inherent limitation of these peers is that they are not always available and mothers feel sometimes ashamed to ask certain parenting questions to family members <sup>12</sup>. In this context, momfluencers emerge as pivotal figures, offering continuous access to parenting content and establishing themselves as perceived experts and role models within the domain of parenting. Studies already indicated that social media influencers in general could be interesting sources to promote pro social behaviour <sup>126,127</sup>. So, leveraging momfluencers as allies to endorse pro-social behaviour, such as advocating for healthy nutrition, is a very interesting avenue for future research. However, it is imperative to exercise caution concerning the potential drawbacks associated with the commercial arrangements

momfluencers engage in. Richins and Chaplin<sup>128</sup> demonstrated that parents seeking to ensure their children's happiness through materialistic parenting inadvertently contribute to the development of materialistic adults in the future. Therefore, future research should scrutinize if the commercial partnerships of momfluencers inadvertently promote materialistic parenting styles and propose strategies to mitigate such effects.

## Conclusion

Research on the role of social media in today's parental information search, attitudes, well-being, and decision-making is extensively growing. Despite the increasing attention to this topic, there exists no comprehensive, multidisciplinary overview of research on the parental education through social media. Therefore, we conducted a bibliometric literature study and included 338 studies in our paper to provide a holistic overview of the research, detect patterns and topics, and identify important research gaps in the literature. This study aims to address three research objectives. The first objective was to identify the journals and scholars actively involved in, contributing significantly to, and exerting the most influence in the field. This paper showed that research on parenting information was conducted in 232 journals, which indicates the broad attention to the topic in various domains. The journal 'pediatrics and parenting' was the most prolific journal and the analysis reveals that there is no dominant author in the domain of parenting and social media. However, the authors identified in our sample share strong academic relation with each other. The second objective was to pin point the central themes in the existing body of research on parenting and social media. Through a keyword and co-word analysis four research themes could be identified in the current research: parental motivations to seek for parenting information, type of parent-related content on social media, the impact of parenting information on social media and professional interventions for parents on social media. Insights from the thematic content analysis of these themes helped us to address research objective three: discovering the research gaps and provide recommendations for future research. Accordingly, a future research agenda based on the research gaps in terms of methodologies, communicator, message, medium, audience and effects was proposed and we hope that this might guide future research in the emerging area of parenting and social media.

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## Conflicts of Interest

None declared.



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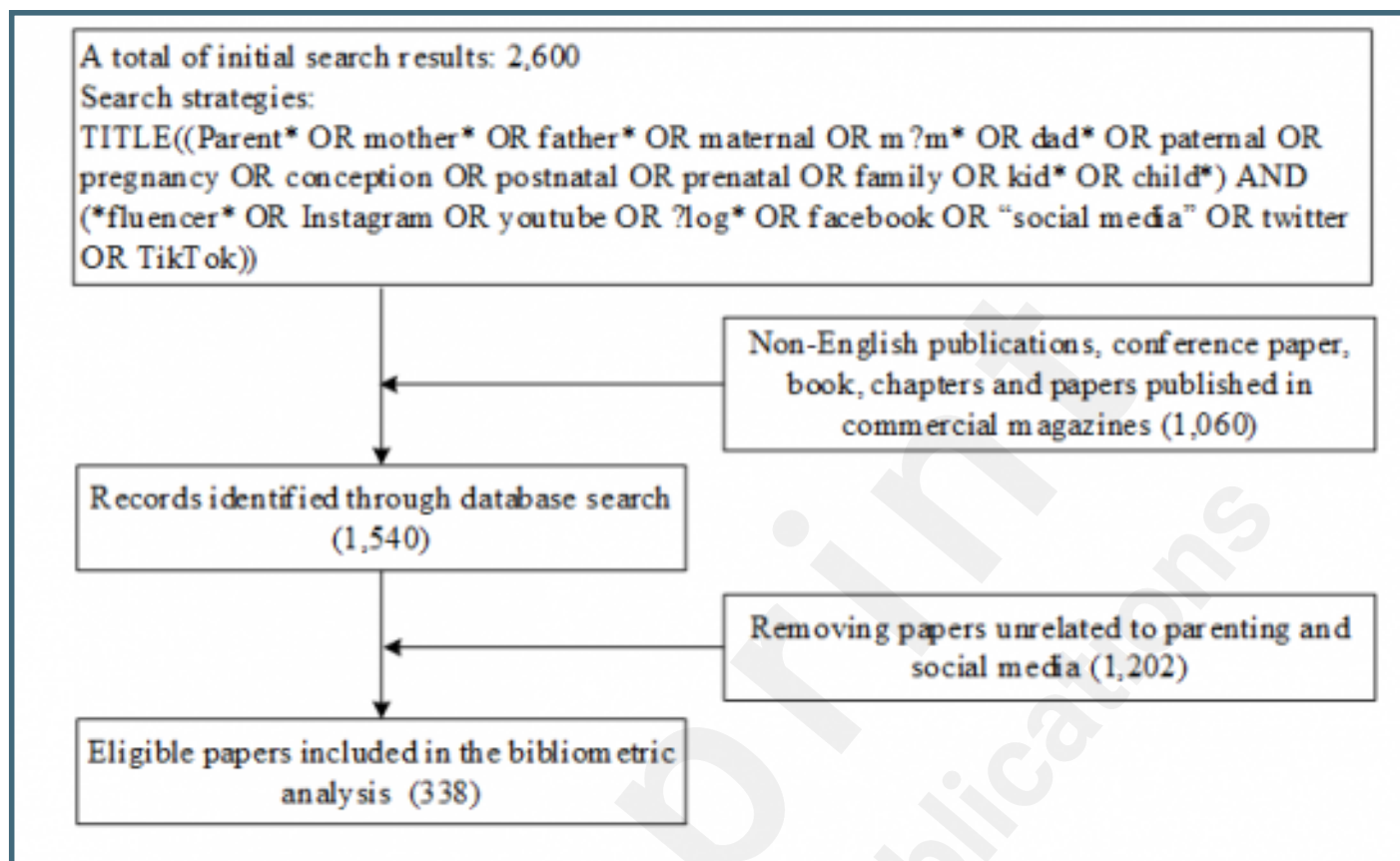
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## Supplementary Files

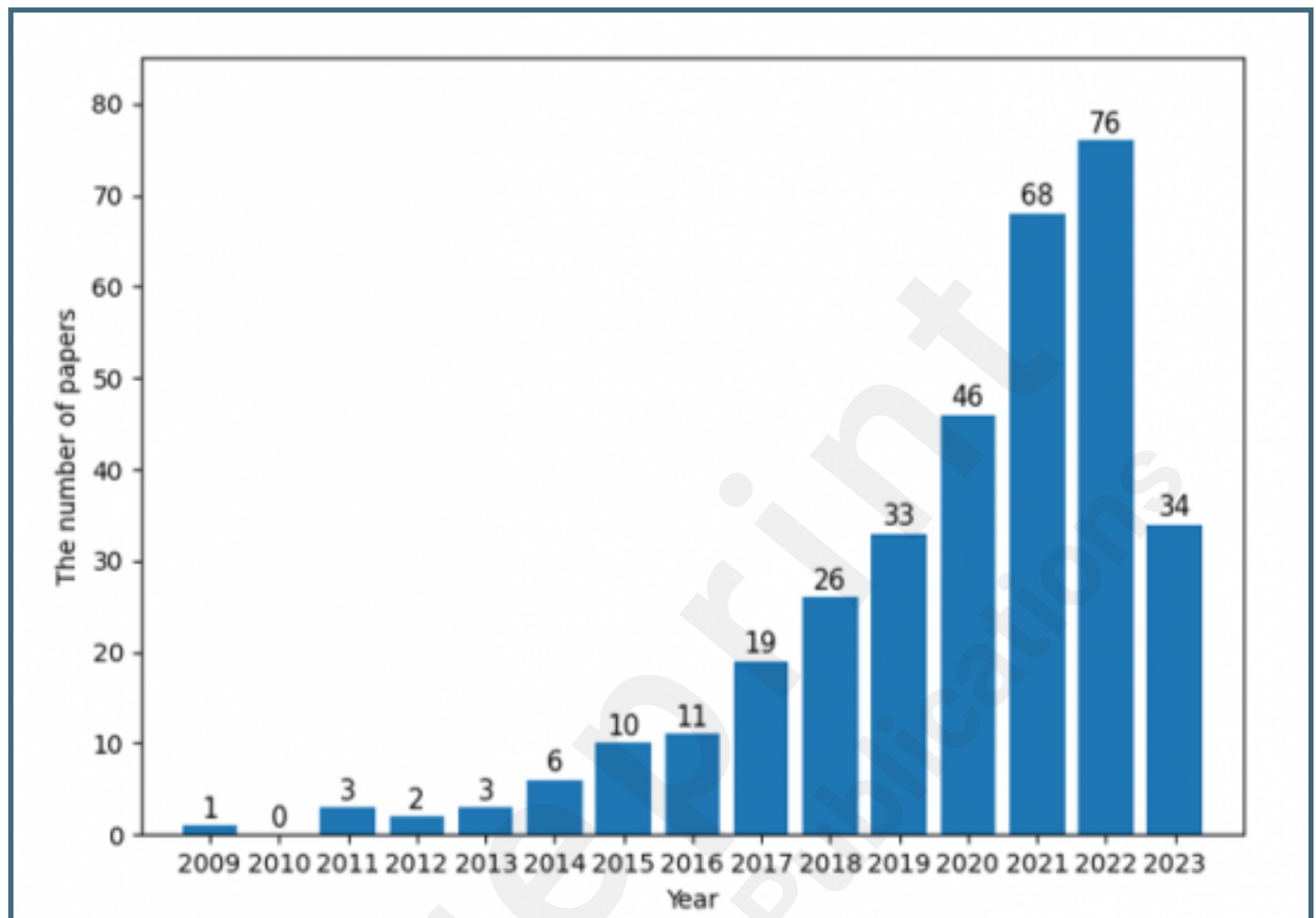
## Figures



Literature search and refining criteria for bibliometric analysis.



Number of publications on parenting and social media over the years.



The visualization of co-word analysis.

